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Perceived Discrimination in Health Care and Health Status in a Racially Diverse Sample

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Abstract

Background—Despite the surge of recent research on the association between perceived discrimination and health-related outcomes, few studies have focused on race-based discrimination encountered in health care settings. This study examined the prevalence of such discrimination, and its association with health status, for the three largest race/ethnic groups in the United States.

Methods—Data were drawn from the 2004 Behavioral Risk Factor Surveillance System survey. The primary variables were perceived racial discrimination in health care and self-reported health status. Multivariable logistic regression was used to compare the prevalence of perceived discrimination for Whites, African Americans, and Hispanics, and to examine the association between perceived discrimination and health status, controlling for sex, age, income, education, health care coverage, affordability of medical care, racial salience, and state.

Results—Perceived discrimination was reported by 2, 5.2, and 10.9% of Whites, Hispanics, and African Americans, respectively. Only the difference between African Americans and Whites remained significant in adjusted analyses (OR = 3.22, 95% CI = 2.46, 4.21). Racial/ethnic differences in perceived discrimination depended on income, education, health care coverage, and affordability of medical care. Perceived discrimination was associated with worse health status for the overall sample (OR = 1.71, 95% CI = 1.35,2.16). Stratified analyses revealed that this relationship was significant for Whites (OR = 2.00, 95% CI = 1.45, 2.77) and African Americans (OR = 1.95, 95% CI=1.39, 2.73), but not for Hispanics (OR = 0.55, 95% CI = 0.24, 1.22).

Conclusions—Perceived racial discrimination in health care is much more prevalent for African Americans than for Whites or Hispanics. Furthermore, such discrimination is associated with worse health both for African Americans and for Whites.

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Keywords

discrimination; health inequality; health status; national surveys; race & ethnicity

Introduction

A growing number of studies have examined the potential relevance of perceived discrimination to patients' health[1–21]. Although "discrimination" is seldom defined in these studies,[22] it often refers to members of one group being treated in a way that is inferior or less desirable than how members of another group are treated. This negative treatment can occur in any setting (at work, while shopping, etc.) and can be based on any group membership (race/ethnicity, gender, religion, etc.). There is strong evidence suggesting that people who perceive more discrimination directed at themselves or other members of their group are at greater risk for reduced mental and physical health status.[3, 22]

Previous studies have focused on the health-related outcomes of several types of discrimination.[22] For instance, some studies examine the health correlates of discrimination that is based on a single demographic characteristic, such as race or ethnicity,[4, 8, 9, 17, 19, 23–26] while other studies examine how unfair treatment, in general (i.e., based on no particular characteristic), is associated with health.[1, 15, 27, 28] Furthermore, some studies focus on discrimination that has occurred in a particular setting, such as the workplace or in a health care environment,[6, 27, 29–32] whereas others focus on discrimination that has occurred in multiple or non-specific settings.[1, 2, 5, 7]

Relatively few studies have examined the health correlates of racial discrimination that occurs within a health care setting.[9, 21, 22] Therefore, the primary purpose of this study is to explore the prevalence of perceived racial discrimination in health care across various racial/ethnic groups, and to illuminate how this type of discrimination relates to health status for different groups. To achieve this purpose, we used data from the 2004 Behavioral Risk Factor Surveillance System[33] to examine the prevalence of perceived racial discrimination in health care settings for the three largest racial/ethnic groups in the United States: Non-Hispanic Whites, Non-Hispanic African Americans, and Hispanic Americans. Using the same data, we also examined the association between perceived racial discrimination in health care settings and overall health status, both for the entire sample and for each racial/ethnic subgroup.

Methods

Patient Population

This study utilized data from the 2004 Behavioral Risk Factor Surveillance System (BRFSS).[33] The BRFSS is an annual telephone survey supported by the Centers for Disease Control and Prevention and conducted by individual states and U.S. territories. The purpose of the BRFSS is to monitor health conditions and risk behaviors of U.S. adults aged 18 years and older. State-level sampling plans and data weights are applied so that the each state's sample represents the population of households with telephones within that state. Complete BRFSS data files are publicly available for download on the BRFSS website.[33]

As part of the 2004 BRFSS, 7 states and the District of Columbia administered an optional "Reactions to Race" module that included a question regarding whether respondents perceived racial discrimination while seeking health care in the past 12 months. The states included Arkansas, Colorado, Delaware, Mississippi, Rhode Island, South Carolina, and Wisconsin. Only data from these states and Washington, D.C. were included in the analyses.

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Study Measures

The primary variables of interest were perceived racial discrimination in health care and self-reported health status. Perceived racial discrimination in health care was assessed with the following item: "Within the past 12 months when seeking health care, do you feel your experiences were worse than, the same as, or better than for people of other races?" Responses were recorded as "Worse than other races; The same as other races; Better than other races; Worse than some races, better than others; or, Only encountered people of the same race." The latter two responses were excluded from analyses because relatively few people chose these responses (0.3% each) and they did not unambiguously indicate the presence or absence of discrimination. "Worse than other races" responses were coded as having experienced discrimination. "The same as other races" or "Better than other races" responses were coded as not having experienced discrimination.

Self-reported health status was assessed with the following item: "Would you say that in general your health is excellent, very good, good, fair, or poor?" Responses of "excellent," "very good," and "good" were combined into one category and "fair" and "poor" into another.

Additional patient variables included self-reported race/ethnic group, sex, age, annual household income, highest educational attainment, health care coverage, affordability of medical care, and state. Race/ethnicity was categorized as White, African American, Hispanic, Other (including Asian, Native Hawaiian, Pacific Islander, American Indian, or Alaska Native), and Multiple (including those who reported more than one racial or ethnic group). The Other and Multiple racial/ethnic groups were excluded from the main analyses given the relatively small percentage of respondents in each of these groups (3.2% and 1.4%, respectively) and the difficulty of drawing conclusions about them due to their heterogeneous nature. The analyses therefore focused on Non-Hispanic Whites, Non-Hispanic African Americans, and Hispanic Americans. Health care coverage was assessed with the item, "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare? (Yes, No)." Affordability of medical care was assessed with the item, "Was there a time in the past 12 months when you needed to see a doctor but could not because of the cost? (Yes, No)."

An item assessing the frequency with which patients thought about their race was also included in the analyses. Specifically, respondents were asked, "How often do you think about your race? (Never, Once a year, Once a month, Once a week, Once a day, Once an hour, Constantly)." Responses were combined into 3 categories: Once a month or less, Once a week, and Once a day or more. This item was included to explore whether the salience of one's race is associated with perceptions of racial discrimination, and to determine whether the relationship between perceived discrimination and health status persists after controlling for racial salience.

Statistical Analyses

State-level data weights developed by BRFSS were applied to the data prior to all analyses. Respondent characteristics (sex, age, income, education, health care coverage, affordability of medical care, racial salience, and state) were summarized for each racial/ethnic group category and compared using chi-square statistics. We then examined the bivariate association between perceived discrimination and each respondent characteristic, including race/ethnicity. A multivariable logistic regression model was used to assess the adjusted odds ratios of reporting perceived discrimination. We ran additional models to assess for interactions between race/ethnicity and each respondent characteristic. To aid in interpreting

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significant interactions, we conducted separate multivariable logistic regression models for each racial/ethnic group.

Similar analyses were conducted using health status (dichotomized as "fair or poor" vs. "excellent, very good, or good") as the outcome and perceived discrimination as an additional predictor. Specifically, we examined the bivariate associations between health status and perceived discrimination, race/ethnic group, and each additional respondent characteristic. A multivariable logistic regression model was used to assess the relationship between perceived discrimination and health status, adjusting for race/ethnic group and other respondent characteristics. We then tested the interaction between race/ethnic group and perceived discrimination. To aid in interpreting this interaction, we examined the relationship between health status and perceived discrimination separately for each race/ethnic group using multivariable logistic regression models adjusting for respondent characteristics.

State was included as a control variable in all multivariable models. All analyses were done incorporating the BRFSS weighting and design variables into the models using STATA/SE 9.2 for Windows. This study was approved by the VA Pittsburgh Healthcare System Institutional Review Board.

Results

Sample Characteristics

Characteristics of the sample are summarized in Table 1. Briefly, men and women were roughly equally represented in the sample for all three race/ethnic groups. However, Whites and African Americans had slightly more females than males, whereas Hispanics had slightly more males than females. African Americans tended to be younger than Whites, and Hispanics were the youngest of the three groups. Whites had the highest income and educational attainment of all groups. African Americans had the lowest income of all three groups, and Hispanics had the lowest educational attainment. The majority of respondents in all race/ethnic groups reported having some kind of health care coverage, but this was most often the case for Whites (88.3%), followed by African Americans (76.9%), then Hispanics (66.0%). Approximately 20% of African Americans and Hispanics reported that they could not obtain necessary medical care because it was too cost prohibitive, compared to only 11.0% of Whites.

Hispanics and African Americans reported thinking about their race much more frequently than did Whites. Over 30% of Hispanics and African Americans reported thinking about their race once a day or more, compared to only 5.2% of Whites.

Table 1 also displays the racial/ethnic distribution of respondents from each state. To explore the representativeness of the racial distribution of our sample, we compared the racial/ethnic distribution of respondents for each state in our sample with state populations as documented in the 2004 census. The state distributions in our sample were very similar to those in the census (average difference = 1.38 percentage points, standard deviation = 1.54).

Race/Ethnicity and Perceptions of Discrimination in Health Care

Associations between respondent characteristics and reports of racial discrimination in health care are reported in Table 2. Although perceived discrimination was reported by relatively few respondents overall (3.4%), there were significant differences in how often perceived discrimination was reported by respondents in different race/ethnic groups. Only 2% of Whites reported racial discrimination in health care, compared to 5.2% of Hispanics and 10.9% of African Americans. The difference in prevalence of perceived discrimination

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between Whites and Hispanics was significant in the unadjusted model, but not after controlling for sex, age, income, education, health care coverage, affordability of medical care, racial salience, and state (adjusted OR = 1.14, 95% CI = 0.69, 1.89). The difference between African Americans and Whites was significant in both the unadjusted and adjusted analyses. After adjusting for respondent characteristics, African Americans perceived discrimination in health care over 3 times as often as Whites (OR = 3.22, 95% CI = 2.46, 4.21).

Discrimination in health care was also significantly associated with several other respondent characteristics in the adjusted analyses. Discrimination was more often reported by males, those in the middle age categories (vs. 65 or older), and those in the lowest 2 income brackets (vs. > $50,000). For education, high school graduates were more likely to report discrimination than those with a college degree, but those with less than a high school degree or with some college education did not differ significantly from those who had a college degree. Health care coverage was not significantly related to discrimination. However, those who reported that they could not obtain necessary medical care due to cost reported significantly more discrimination. Finally, respondents who reported thinking about their race once a week, or once a day or more, were significantly more likely to report discrimination compared to those who thought about their race once a month or less.

Interactions between race and the respondent characteristics were tested in a series of models in which each interaction term was added to the adjusted model. Race was found to interact with income ($p < .02$), education ($p < .0001$), health care coverage ($p < .02$), and not obtaining medical care due to cost ($p < .0001$). To explore the nature of these interactions, the adjusted model was re-run separately for each race/ethnic group (see Table 3). The stratified analyses suggest that the effects of income and education found for the entire sample were largely driven by the White respondents. Specifically, heightened risk of discrimination for those in the lowest 2 income brackets was only statistically significant among Whites, although African Americans in the lowest income bracket were also significantly more likely to report discrimination than those in the highest income bracket. Although Hispanics in the lowest 2 income brackets also had higher odds of discrimination, the odds ratios for Hispanics were not statistically significant. Similarly, the only significant odds ratios for education were for Whites who had education levels of high school or less than high school. Perceptions of discrimination did not significantly vary across education levels for Hispanics or African Americans. Health care coverage was not significantly related to perceived discrimination for any of the race/ethnic groups. However, not obtaining medical care due to cost was associated with a greater likelihood of perceiving discrimination for all groups. Somewhat surprisingly, this tendency was strongest among Whites, followed by Hispanics and then by African Americans.

In summary, the stratified analyses suggest that the effects of low income, less education, and affordability of medical care on perceived discrimination are most evident among Whites. Affordability of medical care, however, is also a strong and statistically significant predictor of discrimination among Hispanics and African Americans.

Relationship Between Perceived Discrimination and Health Status

Associations of perceived discrimination, race/ethnic group, and other respondent characteristics with health status are given in Table 4. Perceived racial discrimination was associated with worse health status, even after controlling for respondents' race/ethnic group, sex, age, income, education, health care coverage, affordability of medical care, racial salience, and state (OR = 1.71, 95% CI = 1.35,2.16). Hispanic ethnicity was also associated with worse health status compared to Whites (OR = 1.35, 95% CI = 1.05,1.73). African American race was associated with worse health status in the unadjusted model, but

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not in the adjusted model (OR = 0.95, 95% CI = 0.81,1.11). Additional respondent characteristics associated with worse health status in the adjusted model were older age, lower income, less education, having health care coverage, not being able to obtain necessary medical care due to cost, and thinking about one's race once a day or more.

To explore the possibility that the association between perceived discrimination and health status may depend on one's race or ethnicity, the interaction between race/ethnic group and perceived discrimination was tested by adding the appropriate interaction terms to the adjusted model. This interaction was significant ($p < .0001$). Stratified analyses revealed that perceived discrimination was associated with worse health status for Whites (OR = 2.00, 95% CI = 1.45, 2.77) and African Americans (OR = 1.95, 95% CI=1.39, 2.73), but not for Hispanics (OR = 0.55, 95% CI = 0.24, 1.22). Full details of the stratified analyses are provided in Table 5.

Discussion

This study found that, although the prevalence of perceived racial discrimination in health care is low, the risk of exposure to discrimination and its relevance to one's health status vary across race and ethnic groups. African Americans were more than 3 times as likely as Whites to perceive racial discrimination while seeking health care, after controlling for a variety of background characteristics. Hispanics in this sample, in contrast, were not significantly more likely than Whites to perceive such discrimination.

These results are consistent with previous research that has shown the prevalence of perceived racial discrimination in health care settings to be low.[29, 34] This study is also consistent with research that shows African Americans to be more likely than Whites to report racial discrimination in health care settings.[35–40] However, the lack of difference between Hispanics and Whites in the current study conflicts with past studies in which Hispanics have reported more discrimination in health care than Whites.[35–37, 39, 40] The lack of difference in the current study may be due to unique characteristics of this study's sample. Data were available from only 7 states and the District of Columbia, and the majority of Hispanic respondents were drawn from a single state (Colorado). It is possible that Hispanic patients in the states included in this analysis do not perceive more discrimination in health care settings compared to Whites, even if such a difference exists at a national level. Some studies with data from single states or regions have failed to find a difference between racial/ethnic groups in prevalence of perceived racial/ethnic discrimination in health care.[29, 32, 34, 41]

Another possible explanation for the low prevalence of perceived discrimination among Hispanics may be due to the wording of the discrimination item. The item asks patients to compare their experiences to people of other races. Because Hispanic origin refers to one's ethnic, rather than racial, background, it is unclear which races Hispanic respondents use as comparisons. Differences in perceived discrimination between Hispanics and Whites might not be expected if both Hispanics and Whites compare themselves to African Americans.

This study also explored how the prevalence of perceived discrimination varied according to different sociodemographic characteristics for different racial/ethnic groups. We found that higher prevalence of discrimination among people with lower incomes or less education was mostly restricted to the Whites in our sample. This suggests that, at least among Whites, having lower income or less education are additional risk factors for perceiving racial discrimination in health care. Existing literature is mixed with regard to the relationships between income, education, and perceived racial discrimination. One review paper concluded that most, but not all, relevant studies show higher income or education level to

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be associated with more perceived discrimination[22], which is counter to our findings. These relationships may depend on the race of the respondents, however, and most studies do not examine these relationships stratified by race. Some studies that examined these relationships specifically among Whites found that more discrimination was associated with lower income and/or education, as in the current study.[26, 42] Although reasons for this are unclear, one possible explanation is that Whites with lower income or education may face difficulties obtaining medical care in general, and that they attribute some of this difficulty to the possibility that health care resources are being given to minority patients more often than to Whites with similar needs.

In the current study, discrimination was more prevalent among patients who reported not obtaining medical care because it was too costly. This was true for all racial/ethnic groups, although it was most evident among Whites, possibly for the reason given above. Nevertheless, not being able to afford medical care puts Whites, African Americans, and Hispanics at greater risk of perceiving racial discrimination while seeking health care.

This study also found that patients who perceived racial discrimination while seeking health care in the past year were at greater risk for poor health. Previous research on the potential health consequences of perceived discrimination has rarely focused specifically on health correlates of racial discrimination in health care settings in particular, so this study contributes much-needed data on this issue.[9, 21, 22]

This study is unique in that it explored differences in the association between perceived discrimination and health outcomes across racial/ethnic groups.[22] Although perceived discrimination was significantly associated with poor health among African Americans and Whites, this was not true among Hispanics. Why the link between discrimination and health status was not significant for Hispanics is not clear. It is possible that something within the Hispanic culture buffers its members from negative health effects of discrimination. It is also possible that the type of discrimination experienced by Hispanics in the health care system is qualitatively different from that experienced by Whites and African Americans, and that it is somehow less relevant to health outcomes. For instance, perhaps most of the discriminatory acts experienced by Hispanics in health care settings stem from language barriers. Hispanics who experience such discrimination may attribute it to language barriers and do their best to compensate for it rather than allow it to have negative effects on the care they receive.

It may seem surprising that the association between discrimination and health was roughly equivalent for Whites and African Americans, even though African Americans have a higher prevalence of discrimination. However, this is not the first study to show that perceived racism is associated with poor health among Whites.[5] Some studies have even shown a stronger association between perceived racial discrimination and health outcomes among Whites compared to racial/ethnic minorities. [7, 43] That Whites who perceive racial discrimination suffer ill health is consistent with the view that experiencing racism can cause health-eroding stress, regardless of the race or ethnicity of the person experiencing the racism.[44–46] Furthermore, given that those who are exposed to racism on a regular basis may develop health-protective coping skills[47, 48], one might actually expect the link between racism and health to be particularly strong for Whites. This is because most Whites are not frequently exposed to racism, so when it does occur they may find it to be particularly stressful.

Study Limitations

As a secondary analysis of existing data, this study is limited by the data available to address the aims of the research. The Reactions to Race module containing the discrimination in

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health care item was optional and was not administered to respondents in the majority of states. The generalizability of the findings should therefore be constrained to the states that contributed data.

The single-item measure of health care discrimination available in the BRFSS data set was also not ideal. There is little information available on the psychometric properties of this measure, other than it was pilot tested in some states in 2002 before being officially introduced in the BRFSS in 2004. The information assessed by this item is constrained by the item's wording, as well, in that it assesses the presence of discrimination rather than the frequency or severity of discriminatory experiences. Furthermore, its reference to experiences "while seeking health care," could, if taken literally, constrain responses to experiences with gaining access to health care (e.g., scheduling appointments), rather than to experiences with the health care system once access has been obtained (e.g., interacting with doctors, filling prescriptions, etc.). We did show that this item predicted lower health status for two of three race/ethnic groups, however, which suggests that it may still be a useful measure, despite its limitations.

A related limitation is that the study relied on self-report data. This may not be a significant problem for the measure of health status, which is commonly used in medical research and has demonstrated reliability and validity.[49–51] However, there is some debate as to whether measuring discrimination using subjective assessments is appropriate.[46] There are many reasons why people may fail to perceive and/or report acts of discrimination. In spite of this, we are confident that self-report is one acceptable research tool for studying the health correlates of discrimination, especially given that there are several self-report measures of perceived discrimination with sound psychometric properties.[10, 43, 52]

That discrimination and health status were measured at the same point in time precludes conclusions about the direction of causality between the variables. A few longitudinal studies that have examined the temporal relationship between discrimination and health outcomes suggest, however, that perceived discrimination causes poor health, rather than vice versa.[11, 14, 16, 18, 20, 27] Including measures of perceived discrimination in more longitudinal studies of health would be helpful in further clarifying the nature of this relationship.

Health Care Policy Implications

This study underscores a major reason why efforts should be made to reduce racial or ethnic discrimination in health care, which is that those who perceive such discrimination are at greater risk for lower health status. Future efforts should focus on implementing culturally-appropriate interventions to reduce perceived discrimination in health care settings and alleviate its negative health correlates. Such efforts may be most effective if they target populations that are most at risk for experiencing discrimination, which, according to this study, are African Americans, Whites with lower income or education levels, and patients who cannot afford medical care, regardless of race or ethnicity.

Conclusion

This work represents an important contribution to the literature on the negative health correlates of perceived racial discrimination in health care settings. It demonstrates that the prevalence of perceived discrimination in health care is considerably higher for African Americans compared to Whites and Hispanics, and that perceived racial discrimination in the health care system is associated with worse health both for African Americans and for Whites. Identifying pathways between discrimination and health status and identifying ways

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to reduce experiences in health care settings that are perceived as discriminatory are two major tasks that remain for the field of health services research.

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Table 1

Baseline Characteristics of Each Race/Ethnic Group.*

	White	Hispanic	African American
Unweighted n	28,519	1,682	5,927
Weighted n	12,774,954	951,045	2,245,210
Variable	Column Percent Based on Weighted Data		
Sex			
Female	51.8	46.1	56.0
Male	48.2	53.9	44.0
Age			
18–24	11.9	23.6	18.3
25–34	16.5	28.7	20.1
35–44	19.9	20.3	21.0
45–54	19.6	13.7	18.1
55–64	14.0	6.6	10.6
65 or older	18.0	7.1	11.8
Income			
< $15K	7.7	16.6	21.4
$15K – $25K	14.8	31.4	28.9
$25K – $35K	14.6	17.0	17.4
$35K – $50K	18.5	14.3	15.0
> $50K	44.4	20.7	17.3
Education			
Less than HS	7.7	30.8	17.9
HS Graduate	31.6	35.9	37.2
Some College	26.9	19.2	25.7
College Degree	33.8	14.1	19.2
Health care coverage			
Yes	88.3	66.0	76.9
No	11.7	34.0	23.1
Was medical care cost-prohibitive in last 12 months?			
No	89.0	80.1	79.0
Yes	11.0	19.9	21.0
How often do you think about your race?			
Once a month or less	88.6	53.7	58.6
Once a week	6.2	10.6	7.9
Once a day or more	5.2	35.7	33.5
State			
AK	13.2	6.0	8.0
CO	20.5	58.7	3.4
DE	3.9	2.3	3.8

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	White	Hispanic	African American
DC	1.1	2.5	11.0
MS	10.4	4.4	30.6
RI	5.5	7.7	1.2
SC	16.5	9.7	35.3
WI	29.0	8.7	6.8

[*] *P* values for all comparisons across race/ethnic groups (using chi-square tests) were < .0001.

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Table 2

Unadjusted and Adjusted Odds Ratios of Perceived Racial Discrimination While Seeking Health Care

Variable	Percentage Reporting Discrimination	Unadjusted (CIs)*	Adjusted OR(CIs) (n=11,056,255)**
Race			
White	2.0	Reference	Reference
Hispanic	5.2	2.73(1.88,3.98)	1.14(0.69,1.89)
African American	10.9	6.02(5.03,7.21)	3.22(2.46,4.21)
Sex			
Female	3.1	Reference	Reference
Male	3.8	1.22(1.03,1.44)	1.30(1.06,1.58)
Age			
18–24	3.7	2.30(1.59,3.31)	1.45(0.91,2.33)
25–34	4.1	2.55(1.86,3.50)	1.83(1.21,2.76)
35–44	3.4	2.08(1.54,2.82)	1.68(1.13,2.50)
45–54	4.0	2.48(1.84,3.32)	2.00(1.36,2.96)
55–64	3.5	2.17(1.59,2.96)	1.94(1.31,2.88)
65 or older	1.6	Reference	Reference
Income			
< $15K	8.9	5.63(4.30,7.36)	2.08(1.41,3.07)
$15K – $25K	5.7	3.45(2.64,4.50)	1.54(1.09,2.18)
$25K – $35K	2.8	1.68(1.23,2.29)	1.07(0.74,1.55)
$35K – $50K	3.0	1.75(1.28,2.38)	1.20(0.85,1.69)
> $50K	1.7	Reference	Reference
Education			
Less than HS	5.6	2.81(2.13,3.71)	1.22(0.82,1.82)
HS Graduate	4.6	2.29(1.83,2.87)	1.55(1.17,2.06)
Some College	3.0	1.46(1.13,1.89)	1.00(0.73,1.35)
College Degree	2.1	Reference	Reference
Healthcare coverage			
Yes	2.7	Reference	Reference
No	7.9	3.08(2.56,3.72)	1.15(0.90,1.48)
Was medical care cost-prohibitive in last 12 months?			
No	2.1	Reference	Reference
Yes	12.2	6.32(5.32,7.52)	3.90(3.08,4.96)
How often do you think about your race?			
Once a month or less	2.4	Reference	Reference
Once a week	4.2	1.83(1.36,2.47)	1.47(1.03,2.10)
Once a day or more	10.6	4.93(4.06,5.97)	2.57(1.98,3.33)

*Unadjusted ORs reflect the bivariate associations between perceived discrimination and each variable.

**Adjusted ORs reflect the association between perceived discrimination and each variable, adjusting for all the other variables. State was included as an additional covariate in the adjusted model.

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Table 3

Adjusted Odds Ratios from Multivariable Models Predicting Perceived Racial Discrimination While Seeking Health Care, by Race/Ethnic Group[*]

Variable	White (n=8,965,395)	Hispanic (n=657,486)	African American (n=1,433,373)
Sex			
Female	Reference	Reference	Reference
Male	1.18(0.90,1.55)	2.72(1.29,5.73)	1.25(0.93,1.68)
Age			
18–24	1.21(0.63,2.32)	0.72(0.14,3.57)	2.28(1.09,4.77)
25–34	1.78(1.01,3.13)	1.36(0.30,6.24)	2.16(1.14,4.08)
35–44	1.26(0.71,2.24)	1.40(0.32,6.09)	2.75(1.51,4.98)
45–54	2.10(1.27,3.49)	1.64(0.32,8.51)	2.22(1.22,4.06)
55–64	1.48(0.88,2.50)	2.73(0.55,13.6)	3.01(1.62,5.58)
65 or older	Reference	Reference	Reference
Income			
< $15K	2.04(1.18,3.51)	2.14(0.47,9.75)	1.82(1.07,3.10)
$15K – $25K	1.58(1.01,2.47)	1.91(0.42,8.71)	1.15(0.71,1.87)
$25K – $35K	1.00(0.61,1.64)	0.76(0.15,3.78)	0.98(0.59,1.64)
$35K – $50K	1.12(0.71,1.79)	0.62(0.15,2.51)	1.14(0.67,1.94)
> $50K	Reference	Reference	Reference
Education			
Less than HS	2.75(1.63,4.64)	0.33(0.07,1.45)	0.78(0.45,1.35)
HS Graduate	2.24(1.49,3.36)	1.08(0.32,3.67)	0.97(0.64,1.47)
Some College	1.32(0.85,2.05)	0.74(0.19,2.85)	0.66(0.43,1.02)
College Degree	Reference	Reference	Reference
Health care coverage			
Yes	Reference	Reference	Reference
No	1.21(0.86,1.70)	0.93(0.34,2.58)	1.12(0.80,1.58)
Was medical care cost-prohibitive in last 12 months?			
No	Reference	Reference	Reference
Yes	5.54(3.94,7.80)	3.59(1.31,9.81)	2.50(1.81,3.46)
How often do you think about your race?			
Once a month or less	Reference	Reference	Reference
Once a week	1.62(0.97,2.70)	1.57(0.47,5.33)	1.13(0.68,1.88)
Once a day or more	3.78(2.56,5.58)	1.45(0.55,3.80)	2.03(1.50,2.73)

[*] ORs reflect the association between perceived discrimination and each variable, adjusting for all the other variables. State was included as an additional covariate.

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Table 4

Unadjusted and Adjusted Odds Ratios Predicting Fair or Poor Health Status

Variable	Unadjusted OR(CIs)*	Adjusted OR(CIs)** (n=11,038,537)
Perceived Health Care Discrimination		
No	Reference	Reference
Yes	2.90(2.45,3.44)	1.71(1.35,2.16)
Race		
White	Reference	Reference
Hispanic	1.71(1.42,2.04)	1.35(1.05,1.73)
African American	1.79(1.63,1.96)	0.95(0.81,1.11)
Sex		
Female	Reference	Reference
Male	0.82(0.76,0.88)	0.97(0.87,1.08)
Age		
18–24	0.19(0.15,0.24)	0.13(0.09,0.19)
25–34	0.19(0.16,0.22)	0.23(0.19,0.29)
35–44	0.27(0.24,0.31)	0.40(0.34,0.48)
45–54	0.44(0.40,0.49)	0.67(0.57,0.80)
55–64	0.65(0.59,0.71)	0.94(0.81,1.11)
65 or older	Reference	Reference
Income		
< $15K	10.4(9.10,11.9)	5.64(4.54,7.00)
$15K – $25K	5.38(4.73,6.11)	3.35(2.79,4.02)
$25K – $35K	3.07(2.65,3.55)	2.43(2.01,2.94)
$35K – $50K	2.03(1.75,2.36)	1.66(1.40,1.99)
> $50K	Reference	Reference
Education		
Less than HS	8.51(7.50,9.66)	3.50(2.88,4.26)
HS Graduate	3.06(2.74,3.41)	1.90(1.63,2.21)
Some College	2.12(1.87,2.39)	1.67(1.42,1.96)
College Degree	Reference	Reference
Health care coverage		
Yes	Reference	Reference
No	1.35(1.21,1.50)	0.72(0.61,0.86)
Was medical care cost-prohibitive in last 12 months?		
No	Reference	Reference
Yes	2.69(2.45,2.94)	2.10(1.81,2.43)
How often do you think about your race?		
Once a month or less	Reference	Reference
Once a week	0.80(0.66,0.97)	1.01(0.81,1.28)
Once a day or more	1.39(1.23,1.58)	1.28(1.07,1.54)

[*] Unadjusted ORs reflect the bivariate associations between health status and each variable.

[**] Adjusted ORs reflect the association between health status and each variable, adjusting for all the other variables. State was included as an additional covariate in the adjusted model.

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Table 5

Adjusted Odds Ratios from Multivariable Models Predicting Fair or Poor Health Status, by Race/Ethnic Group*

Variable	White (n=8,953,666)	Hispanic (n=656,314)	African American (n=1,428,556)
Perceived Health Care Discrimination			
No	Reference	Reference	Reference
Yes	2.00(1.45,2.77)	0.55(0.24,1.22)	1.95(1.39,2.73)
Sex			
Female	Reference	Reference	Reference
Male	1.03(0.91,1.17)	0.51(0.32,0.80)	0.97(0.75,1.26)
Age			
18–24	0.12(0.08,0.20)	0.21(0.08,0.58)	0.14(0.08,0.26)
25–34	0.24(0.18,0.30)	0.47(0.22,1.02)	0.18(0.11,0.27)
35–44	0.38(0.31,0.46)	1.20(0.57,2.49)	0.33(0.22,0.49)
45–54	0.65(0.54,0.78)	2.04(0.93,4.49)	0.56(0.38,0.83)
55–64	0.98(0.83,1.17)	0.57(0.23,1.42)	0.87(0.59,1.28)
65 or older	Reference	Reference	Reference
Income			
< $15K	6.48(5.05,8.32)	2.76(1.13,6.75)	4.23(2.50,7.15)
$15K – $25K	3.65(2.99,4.45)	1.48(0.61,3.64)	2.49(1.50,4.14)
$25K – $35K	2.31(1.88,2.84)	2.98(1.24,7.12)	1.94(1.12,3.39)
$35K – $50K	1.60(1.32,1.94)	1.36(0.55,3.39)	1.82(1.07,3.10)
> $50K	Reference	Reference	Reference
Education			
Less than HS	3.44(2.73,4.34)	8.69(3.32,22.7)	1.96(1.26,3.03)
HS Graduate	1.97(1.66,2.34)	3.04(1.22,7.58)	1.29(0.90,1.86)
Some College	1.75(1.47,2.09)	1.68(0.64,4.37)	1.24(0.83,1.84)
College Degree	Reference	Reference	Reference
Health care coverage			
Yes	Reference	Reference	Reference
No	0.67(0.54,0.83)	0.64(0.36,1.15)	0.83(0.61,1.12)
Was medical care cost-prohibitive in last 12 months?			
No	Reference	Reference	Reference
Yes	2.23(1.86,2.66)	1.85(1.02,3.34)	2.20(1.68,2.87)
How often do you think about your race?			
Once a month or less	Reference	Reference	Reference
Once a week	0.96(0.74,1.25)	0.43(0.18,1.04)	1.45(0.84,2.51)
Once a day or more	1.23(0.93,1.62)	1.53(0.97,2.41)	1.06(0.82,1.37)

*ORs reflect the association between health status and each variable, adjusting for all the other variables. State was included as an additional covariate.