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DISSERTATION

Discrimination and Health Care Utilization

Janice C. Blanchard

This document was submitted as a dissertation in December, 2005 in partial fulfillment of the requirements of the doctoral degree in public policy analysis at the Pardee RAND Graduate School. The faculty committee that supervised and approved the dissertation consisted of Jeannette Rogowski (Chair), Nicole Lurie, and Robert Brook.



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Abstract

Despite improvements in medical technology and increased availability of health care, blacks have continued to suffer excess mortality for a number of common health conditions. Although many factors have been examined to explain the disparities that continue to exist between blacks and whites, less work has evaluated the role of perceived discrimination in contributing to these differences. The purpose of this dissertation is to examine the various ways in which discrimination can impact health care use.

This dissertation uses data from the Commonwealth Fund 2001 Health Care Quality Survey specifically focusing on key measures of perceived discrimination as well as measures of health care utilization. These measures included feelings of being treated with disrespect or being looked down upon, perceptions of receipt of unfair treatment due to race or language spoken, and beliefs that better treatment would have been received had the respondent had been of a different race. Measures of utilization included receipt of a physical exam within the prior year, receipt of optimal cancer screening and recommended elements of chronic disease care, delay of needed care and the decision to not follow the doctor's advice. Minorities were significantly more likely than whites to report being treated with disrespect or being looked down upon in the patient-provider relationship. Persons who thought that they would have received better treatment if they were of a different race were significantly less likely to receive optimal chronic disease screening and more likely not to follow the doctor's advice or put off care. Racial concordance of patient and provider (i.e. concordance being defined as whether a patient and provider were of the same racial background) did not affect whether a patient perceived being treated with respect in the patient-provider setting.

Identifying policy initiatives to reduce rates of perceived discrimination in the health care setting is a challenging goal which must be multifactorial in nature. While improving the numbers of minority providers in the health care setting is critical, the Commonwealth Fund data suggest that this is not the only pathway that must be addressed.

Table of Contents

Abstract	p. 1
Tables and Figures	p. 4
Acknowledgments	p. 13
Chapter One General Overview of Disparities in Health Care Utilization	p. 14
Chapter Two Defining a Conceptual Model of Discrimination's Effects on Health and Health care Utilization	p. 34
Chapter 3 Measuring Discrimination-General Approaches and Available Surveys	p. 69
Chapter Four An Empirical Analysis of the Effect of Perceived Discrimination on Health Care Utilization	p. 95
Chapter Five Exploring the Relationship Between Racial Concordance and Perceptions of Disrespect	p. 132
Chapter Six Policy approaches to Discrimination	p.154
Appendix One Questions Useful for Studying the Link Between Discrimination and Health by Dataset	p. 188
Appendix Two Coefficients from Chapter Four Regressions	p.205
Appendix Three Coefficients from Chapter Five Regressions	p.224
References	p. 246

Tables and Figures

Chapter One

Figure 1.1

Factors Contributing to Disparities in Health care Utilization p.17

Chapter Two

Figure 2.1

Conceptual Model: Categories of Discrimination and Linkage Pathways p.42

Table 2.1

Massey and Denton's classification of segregation with sample measurement variables by category p.67-68

Chapter Three

Table 3.1

Measures of Discrimination in the Dataset p.91

Chapter Four

Table 4.1

Correlation Coefficients for Individual Variables Measuring Discrimination/Negative Perceptions in the Patient-Provider Encounter p.113

Table 4.2

Principal Components Factor Analysis of the Individual Variables Measuring Discrimination/Negative Perceptions in the Patient-Provider Encounter p.114

Table 4.3

Looked Down Upon vs. Treated with Disrespect: Responses by Race; Proportions (Absolute Numbers) p.115

Table 4.4

Differences in Demographic Characteristics of Those Excluded and Included from Analysis of the Question 3—"Treated Unfairly Because of Race" p.116

Table 4.5

Differences in Demographic Characteristics of Those Excluded and Included from Analysis of the Combined Disrespect/Look Down Variable (Combined from Questions 1 and 2) p.117

Table 4.6

Final Grouping of Variables Used in Analysis of Negative Perceptions in the Patient-Provider Relationship p.118

Table 4.7

Demographics/Characteristics and health care utilization of study sample p.119-120

Table 4.8

Unadjusted percentages from chi-squared analysis for demographic groups for whether respondent ever felt looked down upon, treated with disrespect, or would have received better treatment if belonging to a different race. p.121-122

Table 4.9	
Relationship of demographic variables to measures of negative perceptions: Predicted Percentages using multivariate regression	p.123
Table 4.10	
Relationship of demographic variables to measures of negative perceptions: Predicted Percentages Predicted Combinations by Race and Gender, Race and Income and Race and Insurance using multivariate regression (without interaction terms)	p.124
Table 4.11	
Relationship of demographic variables to measures of negative perceptions: Predicted Percentages from Multivariate Regression Model with Interaction Terms for Race and Gender	p.125-126
Table 4.12	
Relationship of demographic variables to measures of negative perceptions: Predicted Percentages from Multivariate Regression Model with Interaction Terms for Race and Income<100% Poverty	p.127-128
Table 4.13	
Relationship of demographic variables to measures of negative perceptions: Predicted Percentages from Multivariate Regression Model with Interaction Terms for Race and Insurance	p.129-130
Table 4.14	
Relationship of negative perceptions to health care outcomes. Predicted percentages using multivariate regression	p.131
Chapter Five	
Table 5.1	
Percent of Respondents in Racially Concordant Relationships	p.145
Table 5.2	
Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Percentages from Bivariate Analysis	p.146
Table 5.3	
Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Multivariate regression on racial groups analyzed individually	p.147
Table 5.4	
Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Percentages from Multivariate Analysis: Evaluation of Entire Sample with Predicted Percentages for Subgroups	p.148
Table 5.5	
Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Percentages from Multivariate Analysis: Evaluation of Entire Sample with Interaction Terms for Race and Provider Concordance	p.149
Table 5.6	
Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Percentages from Bivariate Analysis	p.150

Table 5.7 Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Predicted Percentages from Multivariate Analysis for Entire Group and Individual Race Groups Evaluated Separately	p.151
Table 5.8 Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Predicted Percentages from Multivariate Analysis for Groups and Predicted by Race from Entire Sample	p.152
Table 5.9 Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Percentages from Multivariate Analysis: Evaluation of Entire Sample with Interaction Terms for Race and Staff Concordance	p.153
Chapter Six	
Figure 6.1 Conceptual Model: Categories of Discrimination and Linkage Pathways	p.155
Figure 6.2 Conceptual Model: Approaches to Discrimination	p.156
Appendix Two	
Table A.2.1 Coefficients from Regression: Relationship of demographic variables to Disrespect/Look Down Variable Dependent Variable: Look Down/Disrespect	p.205
Table A.2.2 Coefficients from Regression: Relationship of demographic variables to Treated Unfairly Because of Race Variable Dependent Variable: Treated Unfairly Because of Race	p.205
Table A.2.3 Coefficients from Regression: Relationship of demographic variables to Would Have Received Better Treatment if Belonging to a Different Race Variable Dependent Variable: Would Have Received Better Treatment if Belonging to a Different Race	p.206
Relationship of demographic variables to measures of negative perceptions: Coefficients from linear combinations of Variables: Race and Gender, Race and Income and Race and Insurance using multivariate regression (without interaction terms)	p.207-208
Table A.2.4 Dependent Variable: Look Down/Disrespect	
Table A.2.5 Dependent Variable: Treated Unfairly Because of Race	
Table A.2.6 Dependent Variable: Would Have Received Better Treatment if Belonging to a Different Race	
Relationship of demographic variables to measures of Negative Perceptions with Interaction Terms for Race/Gender	p.209-210

Table A.2.7
Dependent Variable: Look Down/Disrespect

Table A.2.8
Dependent Variable: Treated Unfairly Because of Race

Table A.2.9
Dependent Variable: Would Have Received Better Treatment if Different Race

Coefficients from Regressions: Relationship of Negative Perceptions with Interaction Terms for Race/Income p.211-212

Table A.2.10
Dependent Variable: Look Down/Disrespect

Table A.2.11
Dependent Variable: Treated Unfairly Because of Race

Table A.2.12
Dependent Variable: Would Have Received Better Treatment if Different Race

Coefficients from Regressions: Relationship of Negative Perceptions with Interaction Terms for Race/Insurance p.213-214

Table A.2.13
Dependent Variable: Look Down/Disrespect

Table A.2.14
Dependent Variable: Treated Unfairly Because of Race

Table A.2.15
Dependent Variable: Would Have Received Better Treatment if Different Race

Coefficients from Regressions: Relationship of negative perceptions to health care outcomes. p.215-223

Table A.2.16
Dependent Variable: Exam Within Prior Year
Principal Independent Variable: Treated with Disrespect/Looked Down Upon

Table A.2.17
Dependent Variable: Exam Within Prior Year
Principal Independent Variable: Treated Unfairly Because of Race

Table A.2.18
Dependent Variable: Exam Within Prior Year
Principal Independent Variable: Would Have Received Better Treatment if Different Race

Table A.2.19
Dependent Variable: Optimal Chronic Disease Screening
Principal Independent Variable: Treated with Disrespect/Looked Down Upon

Table A.2.20
Dependent Variable: Optimal Chronic Disease Screening

Principal Independent Variable: Treated Unfairly Because of Race

Table A.2.21

Dependent Variable: Optimal Chronic Disease Screening

Principal Independent Variable: Would Have Received Better Treatment if Different Race

Table A.2.22

Dependent Variable: Optimal Cancer Screening

Principal Independent Variable: Treated with Disrespect/Looked Down Upon

Table A.2.23

Dependent Variable: Optimal Cancer Screening

Principal Independent Variable: Treated Unfairly Because of Race

Table A.2.24

Dependent Variable: Optimal Cancer Screening

Principal Independent Variable: Would Have Received Better Treatment if Different Race

Table A.2.25

Dependent Variable: Not Following Doctor's Advice

Principal Independent Variable: Treated with Disrespect/Looked Down Upon

Table A.2.26

Dependent Variable: Not Following Doctor's Advice

Principal Independent Variable: Treated Unfairly Because of Race

Table A.2.27

Dependent Variable: Not Following Doctor's Advice

Principal Independent Variable: Would Have Received Better Treatment if Different Race

Table A.2.28

Dependent Variable: Delayed Care

Principal Independent Variable: Treated with Disrespect/Looked Down Upon

Table A.2.29

Dependent Variable: Delayed Care

Principal Independent Variable: Treated Unfairly Because of Race

Table A.2.30

Dependent Variable: Delayed Care

Principal Independent Variable: Would Have Received Better Treatment if Different Race

Appendix Three

Coefficients from Regressions: Models Examining Patient-Provider Racial Concordance

p.224-234

Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Entire Sample:

Table A.3.1

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.2

Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.3

Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Provider Racial Concordance

Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups: Whites

Table A.3.4

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.5

Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.6

Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Provider Racial Concordance

Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups: Blacks

Table A.3.7

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.8

Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.9

Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Provider Racial Concordance

Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups: Hispanics

Table A.3.10

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.11

Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.12

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Provider Racial Concordance

Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups: Asians

Table A.3.13

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.14

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.15

Dependent Variable: Perception that better treatment would have been received
if different race

Principal Independent Variable: Patient-Provider Racial Concordance

Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Entire Sample with
Racial Subgroups Included as Independent Variables

Table A.3.16

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.17

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.18

Dependent Variable: Perception that better treatment would have been received
if different race

Principal Independent Variable: Patient-Provider Racial Concordance

Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Entire Sample with Racial Subgroups
Included as Independent Variables and Interaction Terms Between Race and Concordance

Table A.3.19

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.20

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.21

Dependent Variable: Perception that better treatment would have been received
if different race

Principal Independent Variable: Patient-Provider Racial Concordance

Coefficients from Regressions: Models Examining Patient-Staff Racial Concordance

p.235-245

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Entire Sample

Table A.3.22

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.23

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.24

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Staff Racial Concordance

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups as
Separate Samples: Whites

Table A.3.25

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.26

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.27

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Staff Racial Concordance

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Individual Racial
Groups as Separate Samples: Blacks

Table A.3.28

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.29

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.30

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Staff Racial Concordance

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups
as Separate Samples: Hispanics

Table A.3.31

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.32

Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.33

Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Staff Racial Concordance

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups as Separate Samples: Asians

Table A.3.34

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.35

Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.36

Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Staff Racial Concordance

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Entire Sample with Race Variables

Table A.3.37

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.38

Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.39

Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Staff Racial Concordance

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment.
Coefficients from Multivariate Analysis: Evaluation of Entire Sample with Racial Subgroups Included as Independent Variables and Interaction Terms Between Race and Concordance

Table A.3.40

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Staff Racial Concordance

Table A.3.41

Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance

Table A.3.42

Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Provider Racial Concordance

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Chapter One: Background

General Overview of Disparities in Health Care Utilization

Despite dramatic advances in available medical treatments and technologies, members of ethnic and racial minority groups in the United States have excess mortality for a number of common health conditions. Life expectancy for black males, for example, is seven years less than that for white males, and that for black females is five years less than that for white females.¹ A recent Institute of Medicine study found that, compared to whites, members of ethnic and racial minorities also experience disparities in health care for a wide variety of conditions, even when controlling for factors such as income and insurance.²

Many of the health disparities affecting minorities relate to conditions that can be mitigated with adequate primary care and early detection. For example, elevated blood pressure and cholesterol, both treatable with early intervention, have been clearly linked to the risk of coronary artery disease, from which blacks have disproportionate rates of morbidity and mortality.^{3,4,5,6,7} Similarly, despite the efficacy of mammography and cervical smear cytology in reducing the risk of mortality from breast and cervical cancer, black women continue to have

¹ Wagener DK, Molla MT, Crimmins EM et al. Summary Measures of Population Health: addressing the first goal of Healthy People 2010, improving life expectancy. CDC Healthy People 2010 Statistical Notes. Sept, 2001. No. 22.

² Smedley BD, Stith AY, and Nelson AR, eds, Institute of Medicine Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, Board on Health Sciences Policy. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Washington DC: National Academy Press. 2002.

³ East MA, Peterson ED. Understanding racial differences in cardiovascular care and outcomes: Issues for the new millennium. *Am Heart J* 2000;139:764-6.

⁴ Rosamond WD, Chambless LE, Folsom AR et al. Trends in the incidence of myocardial infarction and in mortality due to coronary heart disease, 1987 to 1994. *N Engl J Med* 1998;339:861-867.

⁵ Barnett E. Disparities in premature coronary heart disease mortality by region and urbanicity among black and white adults ages 35-64, 1985-1995. *Public Health Rep.* 2000; 115: 52-64.

⁶ Asher CR, Topol EJ, Moliterno DJ. Insights into the pathophysiology of atherosclerosis and prognosis of Black Americans with acute coronary syndromes. *Am Heart J.* 1999; 138: 1073-81.

higher rates of mortality and advanced presentation of both diseases than do white women.^{8,9,10,11}

At the same time, blacks have been shown to have comparable and even in some cases higher rates of screening for some conditions than do whites.^{12,13} According to recent data from the Behavioral Risk Factor Surveillance Survey, blacks have higher median rates of screening than whites for breast, cervical and colorectal cancer as well as for hypertension and cholesterol.¹⁴

Blacks have rates of primary care comparable to or better than those of whites yet still have been consistently shown to have higher rates of morbidity and mortality for a variety of conditions. This apparent inconsistency between high preventive care rates in the face of persistent healthcare disparities in life expectancy is a question that remains unanswered. A multitude of explanatory factors have been proposed to account for this apparent dichotomy, ranging from differing rates of referral for specific life-saving interventions to patient and provider attitudes affecting treatment decisions.

The Institute of Medicine report, *Unequal Treatment*, highlights many of the component factors that can impact racial disparities in health care utilization. These factors, shown in Figure 1, can occur at the level of the patient, the health care system, or the patient-doctor interaction.¹⁵ This first chapter of the dissertation is designed to present an overview of the literature investigating which factors might play a role in disparities specifically in health care

⁷ Cooper RS, Durazo-Arvizu R. Hypertension detection and control: population and policy implications. *Cardiol Clinics*. 2002; 20: 187.

⁸ Martin LM, Parker SL, Wingo PA; Heath CW. Cervical cancer incidence and screening: status report on women in the United States. *Cancer Pract*. 1996; 4:130-4.

⁹ Shelton D, Paturzo D, Flannery J, Gregorio D. Race, stage of disease, and survival with cervical cancer. *Ethn Dis* 1992; Winter: 47-54.

¹⁰ Wingo PA, Tong T, Bolden S. Cancer statistics. *CA Cancer J Clin*. 1995; 45: 8-30.

¹¹ Simon MS; Severson RK. Racial differences in survival of female breast cancer in the Detroit metropolitan area. *Cancer*. 1996; 77: 308-14.

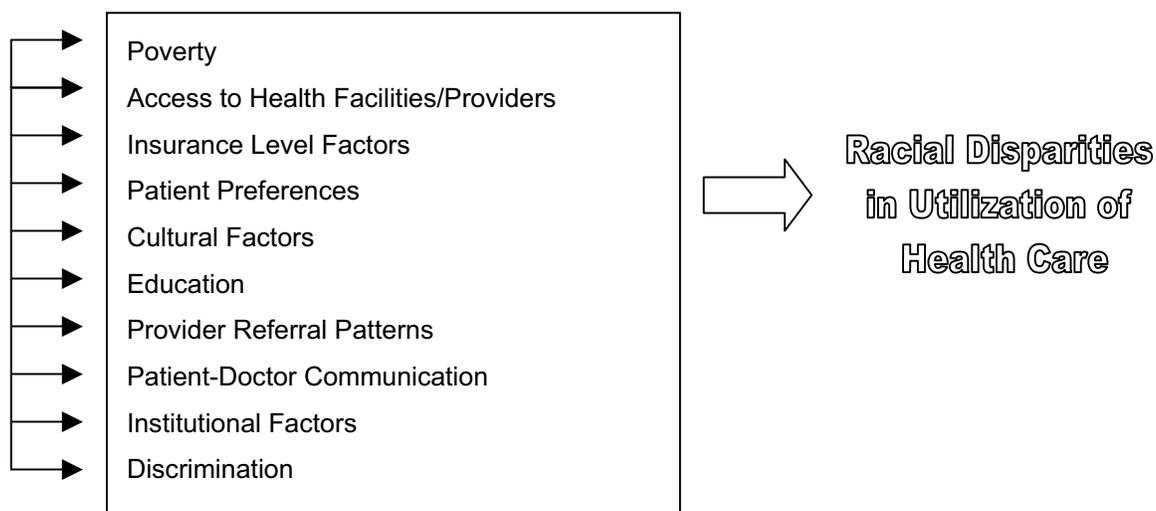
¹² Screening for colorectal cancer- United States, 1997. *MMWR* 1999; 48:116-121.

¹³ Martin LM, Parker SL, Wingo PA; Heath CW.

¹⁴ Behavioral Risk Factor Surveillance Survey. www.cdc.gov

utilization. The remainder of this dissertation further explores the specific role that discrimination plays in contributing to racial disparities. It will also present empirical evidence highlighting the relationship between perceived discrimination and health care utilization.

Figure 1.1: Factors Contributing to Disparities in Health care Utilization



Poverty

Poverty is an obvious predisposing factor contributing to differences in health outcomes and disparities in care. Blacks, Hispanics and Native Americans have higher poverty levels overall than do whites. Median income of black and Hispanic families is half that of whites, while poverty levels among black and Hispanic children are twice those of white children.¹⁶

The high poverty levels, particularly among blacks in the lowest income segments, undoubtedly contribute to racial discrepancies in health status and specifically in health care

¹⁵ Smedley BD, Stith AY, and Nelson AR, eds, Institute of Medicine Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care, Board on Health Sciences Policy. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. Washington DC: National Academy Press. 2002.

utilization. For all races, poverty, as well as education, has been found to be linked with higher mortality rates. For example, mortality for white men with incomes less than \$11,000 is more than 2 ½ times that of white men with incomes above \$11,000. This ratio is similar for black women; however, blacks at all income levels have higher baseline levels of mortality than whites.^{17,18}

Access

Poverty impacts health care utilization largely through its effect on limiting a patient's ability to pay for medical care. African Americans and Hispanics have lower rates of access to a regular provider and to specialist care.¹⁹ In a survey of self-reported access to care, blacks made 33% fewer visits to physicians than whites for all levels of health.²⁰

When blacks do access the health care system, they tend to receive care at facilities that do not emphasize continuity of care, such as hospital emergency rooms, or in other cases, those that don't emphasize quality of care. For example, in one study of diabetic care, blacks were found to be less likely than whites to receive eye examinations. This disparity could be largely attributed to differences in the quality of health care facilities used by members of different races; i.e., those used by blacks provided fewer eye examinations in general.²¹

¹⁶ The Council of Economic Advisors. Changing America: Indicators of Social and Economic Well-Being by Race and Hispanic Origin. The Presidents Initiative on Race. September, 1998.

¹⁷ Pappas G, Queen S, Hadden W, Fisher G. The increasing disparity in mortality between socioeconomic groups in the United States, 1960 and 1980. NEJM. 1993; 329:103-9.

¹⁸ Gerominus AT, Bound J, Waidmann TA, Hillemeier MM, Burns PB. Excess mortality among blacks and Whites in the United States. NEJM. 1996; 335: 1552-8.

¹⁹ Hargraves JL. The insurance gap and minority health care, 1997-2001. Tracking Report. 2003; 2:1-4.

²⁰ Freeman HE, Blendon RJ, Aiken LH, Sudman S, Mullinix CF, Corey CR. Americans report on their access to health care. Health Affairs. Spring, 1987. 6-18.

²¹ Heisler M, Smith DM, Hayward RA, Krein SL, Kerr EA. Racial disparities in diabetes care processes, outcomes, and treatment intensity. Med Care. 2003; 41:1221-32, 2003.

Many of the differences in access are related to cost barriers. One in 11 blacks reports economic hurdles to care versus 1 in 20 whites. Blacks are also less likely to have any insurance coverage, which may contribute to lower likelihood of reporting a usual source of care in this population.²² Seventy six percent of black males and 83% of black females have insurance compared to 84% and 87% of white males and females, respectively. For all races, patients without insurance are significantly more likely to suffer from difficulties in obtaining a usual source care than similar patients with insurance.

Insurance-Level Factors

Although lack of insurance plays a role in disparities in utilization rates, it is not the only predisposing factor. Disparities have been demonstrated even among the insured (both privately and publicly) as outlined below.

Medicare

Varying health care utilization and procedure rates have been demonstrated among black and white Medicare recipients. Using Medicare data from 1993, Marian Gornick and colleagues found that black Medicare beneficiaries have higher mortality rates compared to whites. Among black Medicare recipients, the odds of dying is 1.19 that of whites for males and 1.16 times that of whites for females. Although blacks as a whole have overall higher rates of preventive care, blacks covered by Medicare were less likely to receive a number of important preventive measures, including immunizations and mammography, as well as interventional measures such as angioplasty. Differences persisted even when adjusting for income. The exception to this

trend occurred for amputations and bilateral orchiectomy, both of which occurred in greater frequency among blacks. For example, blacks had 6.7 limb amputations per 1000 versus 1.9 per 1000 for whites. This procedure is directly linked to complications from diabetes; however, differential rates of amputation for blacks and whites far exceed the differential rates of diabetes between the two races, thus suggesting that there may be deficiencies in controlling and preventing this disease.²³

Other studies of Medicare beneficiaries have documented significant differences between blacks and other races in terms of both health care outcomes and treatments. Blacks with lung cancer have higher mortality rates and much lower surgical resection rates than do whites at similar stages of the disease.²⁴ Black Medicare recipients have a lower survival rate for prostate cancer than do white recipients with the disease, with the largest disparity seen among those who undergo surgical resection.²⁵

It is unclear why black Medicare recipients have different patterns of preventive care and procedure use than their white counterparts. Gornick showed that blacks have moderately lower rates of ambulatory care visits than do whites (7.2 visits per person for blacks versus 8.1 for whites) but significantly higher rates of hospital discharges (376 hospital discharges per 1000 individuals for blacks versus 329 per 1000 for whites).²⁶ These findings suggest that, for patients in the Medicare population, there are other factors affecting these differential patterns beyond simply access to the health care system. Overall, blacks may have more morbidities than

²² Blendon RJ, Aiken LH, Freeman HE, Corey CR. Access to medical care for Black and White Americans. *JAMA* 1989; 261: 278-281.

²³ Gornick ME, Eggers PW, Reilly TW et al. Effects of race and income on mortality and use of services among Medicare beneficiaries. *NEJM*. 1996; 335: 791-799.

²⁴ Bach O, Cramer LD, Warren JL, Begg CB. Racial differences in the treatment of early stage lung cancer. *NEJM*. 1999; 341:1198-1205.

²⁵ Godley PA, Schenck AP, Amamoo MA et al. Racial differences in mortality among Medicare recipients after treatment for localized prostate cancer. *Jl Natl Can Inst*. 2003; 95:1702-10.

²⁶ Gornick et al.

whites upon initial eligibility for Medicare due to inequities in insurance status preceding Medicare eligibility. Therefore, despite adequate Medicare coverage, black patients may present with more advanced diseases at a point when complications have occurred that can be treated only through drastic measures (such as leg amputation in the case of severe diabetes.) There is some evidence that once black patients overcome the initial barriers to access, many of these disparities are mitigated. For example, a study of black Medicare recipients with end-stage renal disease showed that differences in procedure rates for blacks compared to those for whites significantly decreased upon diagnosis and within 2 years of Medicare coverage.²⁷ A more recent study by Jha and colleagues showed that from 1992 to 2001 that was no reduction in disparities between Blacks and whites for high cost medical procedures.²⁸

Gaps in morbidity between white and black Medicare recipients may also be due to the differential rates of co-insurance. Blacks have been found to have lower levels of supplemental insurance at all income levels as compared to whites. Thirty-five percent of black versus 20 percent of white Medicare beneficiaries have no supplemental insurance. Blacks are also significantly more likely to pay the non-Medicare-covered portion with out-of-pocket funds.²⁹

Because many procedures as well as medication coverage require an out-of-pocket contribution from Medicare beneficiaries, such costs might disproportionately affect blacks, who may be poorer and therefore might be less likely to use the health care system due to the costs barriers of co-pays. The RAND Health Insurance Experiment showed that an increase in out-of-pocket costs is associated with lower levels of preventive care utilization.³⁰ Medicare

²⁷ Daumit GL, Hermann JA, Coresh J, Powe NR Use of cardiovascular procedures among Black persons and White persons: A 7 year nationwide study in patients with renal disease. *Ann Intern Med.* 1999; 130: 173-182.

²⁸ Jha A, Fisher ES, Li Z, Orav EJ, Epstein AM. Jha A, Fisher ES, Li Z, Orav EJ, Epstein AM. Racial Trends in the Use of Major Procedures Among the Elderly. *NEJM.* 2005; 353: 683-691.

²⁹ Long SH. Who bears the burden of Medicare cost sharing? *Inquiry.* 1982; 19:222-234.

³⁰ Lurie N, Manning WG, Peterson C, Goldberg GA, Phelps CA, Lillard L. Preventive care: Do we practice what we preach? *Am J Public Health.* 1987; 77: 801-804.

beneficiaries who possess supplemental coverage that reduces their out-of-pocket contribution have been shown to have higher rates of preventive care treatments than those without such coverage. For example, an analysis of mammography rates in 1991 (when co-pays were required for Medicare beneficiaries needing mammography) showed that only 14.4% of women without supplemental insurance obtained a mammogram versus 44% of those with employer-sponsored insurance and 24% with Medicaid coverage.³¹

Medicaid

Since Medicaid is a program for the poor and Blacks have disproportionately higher rates of poverty than whites, Blacks have higher rates of Medicaid coverage than whites.³² In general, Medicaid status improves access for poor minorities (as compared to those without any coverage) although not to the level achieved by private insurance. The Robert Wood Johnson Access to Care Survey found that 8.2% of Medicaid patients reported problems in obtaining medical care versus 15.1% of uninsured individuals and 4% of individuals with private insurance.³³ Despite improving access to health care, Medicaid recipients still face significant barriers to care due to such factors as decreased choice of providers as compared to persons who are privately covered.

Among the Medicaid population, there have been disparities in health care utilization based on race. Childhood asthma is one of the most widely studied conditions among Medicaid beneficiaries due to the clear benefits of preventive management and the common interface between asthma patients and the health care system. However, compared to white children,

³¹ Blustein J. Medicare Coverage, Supplemental Insurance, and the use of mammography by older women. *NEJM* 1995; 332: 1138-1143.

³² Ammons L. Demographic profile of health care coverage in America. *J Natl Med Assoc.* 1997; 737-744.

black children with asthma have been found to have fewer primary care visits but more emergency room visits and hospitalizations for acute exacerbations.³⁴ This difference was also found in studies, even in cases when blacks and whites have a similar number of baseline well-child visits.³⁵

The reasons for these disparities in treatment are not entirely clear. It is possible that minority Medicaid beneficiaries are more likely to reside in areas with fewer physicians, which could disproportionately contribute to lower levels of preventive care. Inner city communities may have fewer local specialists and hospital resources. South Central Los Angeles, for example, has 5.1 physicians per 10,000 residents as compared to 22 per 10,000 in the greater Los Angeles County area.³⁶ With ratios such as these, insurance alone will not reduce the gap in health outcomes based on race. Another possible explanation for treatment disparities among the Medicaid population may be due to lower levels of Medicaid benefits in states with higher proportions of black program beneficiaries compared to those with fewer black beneficiaries. Blacks are more likely than whites to live in states, such as those in the south, with less generous Medicaid programs.³⁷

Managed Care

³³ Berk M and Schur CL. Access to care: how much difference does Medicaid make? *Health Affairs*. May/June 1998.

³⁴ Ali S and Osberg JS. Differences in follow-up visits between African-American and white Medicaid children hospitalized with asthma. *J Health Care for the Poor and Underserved*. Feb 1997; 8(1):83-98.

³⁵ Lozano P, Connell FA, Koepsell TD. Use of health services by African-American children on Medicaid. *JAMA* 1995; 274: 469-473.

³⁶ Carlisle DM, Leake BD, Brook RH, Shapiro MF. The effect of race and ethnicity on the use of selected health care procedures: a comparison of South Central Los Angeles and the remainder of Los Angeles county. *J of Health Care for the Poor and Underserved*. 1996; 7:308-322.

³⁷ Blendon RJ, Aiken LH, Freeman HE, Corey CR. Access to medical care for Black and White Americans. *JAMA*. 1989; 261:278-81.

Little data is available for black and white health status comparisons among the managed care population although it appears that the gap in health care utilization is somewhat narrower in this group. Medicare and Medicaid, discussed previously, both have managed care components. In addition, managed care can also apply to the privately insured. Blacks in private HMOs have been shown to have similar rates of access to specialists as white HMO enrollees.³⁸ Black Medicaid HMO beneficiaries with asthma have lower rates of preventive visits and higher rates of emergency department visits than white beneficiaries.³⁹ However, blacks in Medicare managed-care plans have been found to have lower procedure rates than whites for many treatments, including eye exams for diabetes, beta blocker use for myocardial infarction, and follow-up visits after acute mental health hospital stays.⁴⁰

Other Insurance

Privately insured blacks also experience disparities in health care use compared to their white counterparts. Disparities have also been demonstrated across the board in patients with other types of coverage, such as those covered by Veterans Affairs (VA) Healthcare System (VA). Numerous recent studies examining cardiac procedures among blacks and whites have shown disturbing patterns of disparities. White-black differences in angiography, coronary artery bypass surgery and angioplasty have been shown to persist regardless of insurance coverage, suggesting that there are other factors which contribute to disparities in access beyond

³⁸ Clancy CM, Franks P. Utilization of specialty and primary care: the impact of HMO insurance and patient related factors. *J Fam Pract.* 1997; 45: 500-508.

³⁹ Blixen CE, Havstad S, Tilley BC, Zoratti E. A Comparison of asthma related healthcare use between African-Americans and Caucasians belonging to a health maintenance organization. *J Asthma.* 1999; 36(2):195-204.

⁴⁰ Schneider EC, Zaslavsky AM, Epstein AM. Racial disparities in the quality of care for enrollees in medicare managed care. *JAMA.* 2002; 287:1288-94.

economic factors.^{41,42} A study of cardiac disease patients in Massachusetts found that, among patients with private insurance who were candidates for an acute intervention, whites were 1.11 times more likely than blacks to undergo angiography, 2.78 times more likely to undergo angioplasty, and 1.81 times more likely to undergo bypass surgery.⁴³ Similar findings were found in the VA Healthcare System with whites being 1.64 times more likely to receive angiography and 3.17 times more likely to receive coronary artery bypass surgery than blacks with cardiac disease.⁴⁴ Another analysis showed that blacks at a veteran's hospital (but not those at a university hospital) were less likely than whites to be recommended for cardiac revascularization.⁴⁵

Patient Preferences

Given that health disparities exist among blacks and whites of comparable insurance status, factors beyond a basic ability to pay must be examined to explain the racial differences in utilization rates. The determining factors can vary from patient preferences for care to physician characteristics to the nature of the interface between patients and the medical care system.

It has been hypothesized that minority patients may be less likely than whites to utilize care due to patient preferences, whether due to a lack of trust, fear, or perceived discrimination. However, a study of patient's preferences for coronary artery revascularization found that, when

⁴¹ Wenneker MN, Epstein A. Racial inequalities in the use of procedures for patients with ischemic heart disease in Massachusetts. *JAMA*. 1989; 261:251-257

⁴² Carlisle DM, Leake BD, Shapiro MF. Racial and Ethnic Differences in the use of invasive cardiac procedures among cardiac patients in Los Angeles County, 1986 through 1988. *AJPH*. 1995; 85: 352-356.

⁴³ Wenneker et al.

⁴⁴ Whittle J, Conigliaro J, Good CB, Lofgren RP. Racial differences in the use of invasive cardiovascular procedures in the Department of Veterans Affairs medical system. *NEJM*. 1993; 329: 621-627.

⁴⁵ Ibrahim SA, Whittle J, Bean-Mayberry B, Kelley ME, Good C, Conigliaro J. Racial/ethnic variations in physician recommendations for cardiac revascularization. *AJPH*. 2003;. 93:1689-93.

controlling for other factors, patient familiarity with the procedure was more important than race in predicting a patient's acceptance of the procedures.⁴⁶

A study of VA patients with myocardial infarction showed that blacks were less likely than whites to receive coronary artery bypass surgery; however, there were no documented differences in refusal rates, suggesting that patient preferences were not the sole cause of utilization disparities in this case.⁴⁷

Cultural Factors

Cultural factors may also play a role in patient preferences. For example, Blacks and Hispanics have been found to be less likely to accept pharmacotherapy for the treatment of depression and likely to find anti-depressants acceptable.⁴⁸ Similarly cultural differences in end of life care have been documented. Blacks have been shown to be less likely than whites to have living wills or use palliative care.^{49,50} Cultural barriers are also thought to be one factor which may account for disparities in cancer screening, treatment and mortality.^{51,52}

Ingrained in these cultural factors are issues of trust and discrimination. Corbie-Smith and colleagues have shown that trust issues play a prevalent role in Blacks' choices to participate in clinical trials.^{53,54} In focus groups evaluating use of cardiac procedures among VA patients,

⁴⁶ Whittle J, Conigliaro J, Good CB, Joswiak M. Do patient preferences contribute to racial differences in cardiovascular procedure use? *JGIM*. 1997; 12: 267-73.

⁴⁷ Petersen LA, Wright SM, Peterson ED, Daley J. Impact of race on cardiac care and outcomes in veterans with acute myocardial infarction. *Med Care*. 2002; 40(1 Suppl):I86-96.

⁴⁸ Cooper L, Gonzales J, Gallo J. The acceptability of treatment for depression among African-American, Hispanic, and White primary care patients. *Med Care*. 2003;41: 479-89.

⁴⁹ Phipps EJ, True G, Murray GF. Community perspectives on advance care planning: report from the community ethics program. *Jl Cult Div*. 2003; 10: 118-23.

⁵⁰ Winston CA, Leshner P, Kramer J, et al. Overcoming barriers to access and utilization of hospice and palliative care services in African-American communities. *Omega - J of Death Dying*. 2004-2995; 50: 151-63.

⁵¹ Wolff M, Bates T, Beck B, Young S, Ahmed SM, Maurana C. Cancer prevention in underserved African American communities: barriers and effective strategies--a review of the literature. *WMJ*. 2003;102:36-40.

⁵² Guidry JJ, Matthews-Juarez P, Copeland VA. Barriers to breast cancer control for African-American women: the interdependence of culture and psychosocial issues. *Cancer*. 2003; 97:318-23.

⁵³ Corbie-Smith G. The continuing legacy of the Tuskegee Syphilis Study: considerations for clinical investigation. *Amer J Med Sci*. 1999; 317:5-8.

⁵⁴ Corbie-Smith G, Thomas SB, Williams MV, Moody-Ayers S. Attitudes and beliefs of African Americans toward participation in medical research. *Jl Gen Int Med*. 1999; 14:537-46.

researchers found that blacks commonly emphasized the importance of establishing trust with their providers prior to agreeing to a procedure.⁵⁵ Further discussion related to the concepts of trust and discrimination will be presented later in this dissertation (see chapter 2).

Education

Education levels have been associated with patient preferences for utilization of the health care system, with those with lower education often choosing to use the health care system less. Overall, minorities have lower levels of education than whites. Only 73% of blacks and 54% of Hispanics graduate from high school versus 84% of whites. College completion rates show an even greater gap between whites and minorities; 14% of blacks and 9% of Hispanics have a bachelor's degree as compared to 26% of whites.⁵⁶

A study of coronary care unit patients in Baltimore found that patients with lower levels of education were less likely than patients with higher levels of education to choose to receive coronary catheterization. Although race was not an independent predictor of such preferences in multivariate analysis, the authors suggested that the persistent disparities seen in such procedures for blacks and whites might be due to differential levels of education.⁵⁷

Lower levels of education are also associated with lower levels of health literacy, i.e., the ability to perform such functions as reading prescriptions and understanding medical brochures, appointment slips, and other health-related materials. A significant percentage of the population has a low level of health literacy, which can similarly impact health care utilization.^{58,59} A study

⁵⁵ Collins TC, Clark JA, Petersen LA, Kressin NR. Racial differences in how patients perceive physician communication regarding cardiac testing. *Med Care.* 2002 ;40(1 Suppl):I27-34.

⁵⁶ United States Census Educational Attainment. <http://www.census.gov/population/www/socdemo/educ-attn.html>

⁵⁷ Schechter AD, Goldschmidt-Clermont PJ, McKee G et al. Influence of gender, race and education on patient preferences and receipt of cardiac catheterizations among coronary care unit patients. *Amer J Card.* 1996; 78: 996-1000.

⁵⁸ Baker DW, Gazmararian HA, Sudano J, Patterson M. *J Ger B Psch Sci Soc Sci.* 2000; 55: 3368-74.

of two public urban hospitals found that over one-third of English-speaking patients had low levels of health literacy.⁶⁰ An individual's level of health literacy has been linked to both health care system utilization and health outcomes. Persons with lower health literacy levels have been shown to have comparatively worse rates of comprehension of their disease, adherence to treatment, and overall health outcomes for such illnesses as diabetes, hypertension, and HIV.^{61,62,63} Similar findings have been shown for managed care communities as well. Specifically, Medicare managed care enrollees with low health literacy rates have been shown to have lower rates of preventive care use and higher rates of hospitalization than comparable patients with higher levels of health literacy.^{64,65}

Differences in Physician Referral Rates

While previous discussion has focused on the role of the patient in impacting utilization rates, differences in utilization may also arise at the provider level. Providers have been shown to be less likely to refer minority patients for procedures and other acute interventions. The best documented examples of differential referral rates and treatment patterns have been in the area of cardiology. Non-whites with acute cardiac ischemia were two times more likely than whites to

⁵⁹ Gazmararian HA, Parker RM, Baker DM. Reading skills and family planning knowledge and practices in a low-income managed care population. *Obstet Gynecol.* 1999; 93: 239-244.

⁶⁰ Williams M, Parker R, Baker D et al. Inadequate functional health literacy among patients at two public hospitals. *JAMA.* 1995; 274: 1677-1682.

⁶¹ Kalichman S, Ramachandran B, Catz S. Adherence to combination antiretroviral therapies in HIV patients of low health literacy. *Jl Gen Int med.* 1999; 24: 267-273.

⁶² Schillinger D, Grumbach K, Piette J et al. Association of health literacy with diabetes outcomes. *JAMA.* 2002; 288: 475-482.

⁶³ Williams WV, Baker DW, Parker RM, Nurss JR. Relationship of functional health literacy to patients' knowledge of their chronic disease: a study of patients with hypertension and diabetes. *Arch Int Med.* 1998; 158: 166-172.

⁶⁴ Scott T, Gazmararian J, Williams MV, Baker DW. Health literacy and preventive health care use among medicare enrollees in a managed care organization. *Med Care.* 2002; 40: 395-404.

⁶⁵ Baker DW, Gazmararian JA, Williams MV et al. Functional health literacy and the risk of hospital admission among Medicare managed care enrollees. *Am J Pub Hlth.* 2002; 1278-1283.

be sent home from the emergency department and those with acute myocardial infarction were more than four times more likely to be incorrectly diagnosed.⁶⁶ A review by Sheifer and colleagues examining past studies of intervention for cardiac disease showed consistently lower procedure rates for blacks as compared to whites.^{67,68} Schulman and colleagues conducted a study, which has been frequently cited in the literature, documenting a link between discrimination and rates of cardiac procedure referral. In this study, physicians were presented with male and female actors of various races, all of whom reported identical chest pain case scenarios. The study found that physicians were less likely to refer blacks and women (as compared to white men) for cardiac catheterization.⁶⁹

An alternative hypothesis to explain differing referral rates among blacks and whites, however, is that white patients could be more likely to be referred for procedures inappropriately, resulting in overutilization. Whites have been shown to have higher rates of cardiac revascularization that is not clinically necessary, according to the RAND clinical appropriateness criteria.⁷⁰ Another study found that, among renal patients, whites who were considered inappropriate candidates for kidney transplantation were more likely than blacks to be placed on a waiting list and receive kidney transplants.⁷¹

⁶⁶ Pope JH, Aufderheide TP, Ruthazer R et al. Missed diagnoses of acute cardiac ischemia in the emergency department. *N Engl J Med.* 2000; 342: 1163-70

⁶⁷ Sheifer SE, Escarce JJ, Schulman K. Race and sex differences in the management of coronary artery disease. *Am H J.* 2000. 139: 848-857.

⁶⁹ Schulman K, Berlin JA, Harless W. et al. The effect of race and sex on physicians' recommendations for cardiac catheterization. *NEJM.* 1999; 340: 618-626.

⁷⁰ Epstein AM, Weissman JS, Schneider EC, Gatsonis C, Leape LL, Piana RN. Race and gender disparities in rates of cardiac revascularization: do they reflect appropriate use of procedures or problems in quality of care? *Med Care.*2003; 41::1240-55.

Patient-Doctor Communication

Circumstances surrounding the patient-doctor visit may similarly impact health care utilization rates. For all races, participatory decision-making has become increasingly important in the patient-doctor relationship. Minorities have been found to be less likely than whites to receive adequate information during the doctor's visit and less likely to participate in medical decisions with their providers.^{72,73} Cooper-Patrick and colleagues found that blacks in racially concordant relationships with their physicians are more likely to rate their visits as participatory.⁷⁴

Physicians who spend time communicating with patients about their illnesses and treatment options tend to have more positive responses to care.⁷⁵ For example, evidence has shown that patients who engage in active discussions about their care plan with their providers have higher levels of satisfaction, fewer self-referrals, and overall better compliance with treatment regimens than those patients who do not engage in such discussions.^{76,77,78,79}

Less is known about how patient-doctor communication specifically impacts use of health care services among minorities. In a recent analysis by Saha and colleagues, Hispanics and Asians were more likely to report lower-quality patient-physician interactions, which in turn

⁷¹ Epstein AM, Ayanian JZ, Keogh JH et al. Racial disparities in access to renal transplantation--clinically appropriate or due to underuse or overuse?. *NEJM*. 2000; 343:1537-44.

⁷² Ferguson WJ, Candib LM. Culture, language, and the doctor-patient relationship. *Fam Med* 2002;:353-61

⁷³ Doescher MP, Saver BG, Franks P, Fiscella K. Racial and ethnic disparities in perceptions of physician style and trust. *Arch Fam Med*. 2000; 9; 1156-1163.

⁷⁴ Cooper-Patrick L, Gallo JJ, Gonzales JJ et al. Race, gender, and partnership in the patient-physician relationship. *JAMA*. 1999;282: 583-9.

⁷⁵ Speedling EF, Rose D. Building an effective doctor-patient relationship: from patient satisfaction to patient participation. *Soc Sci Med*. 1985; 21: 115-120.

⁷⁶ Kaplan SH, Greenfield S, Gandek B, Rogers WH, Ware JE. Characteristics of physicians with participatory decision-making styles. *Ann Intern Med*. 1996; 124: 497-504.

⁷⁷ Putnam SM, Stiles WB, Jacob MC, James SA. Patient exposition and physician explanation in initial medical interviews and outcomes of clinical visits. *Med Care*. 1985; 23:74-83.

resulted in lower satisfaction with care. However, the quality of patient-physician interaction did not explain racial disparities in preventive care use.⁸⁰

Language also plays a strong role in the effectiveness of communication within the patient doctor setting and often can be difficult to distinguish from cultural issues. The role of language and interpreter services in impacting racial disparities in care will be further discussed in Chapter 6.

Institutional Factors

Institutional factors also contribute to health care disparities. In addition to access problems that occur for those who are poor or uninsured discussed above, other difficulties in navigating the health care system can disproportionately affect minority populations. For example lack of available interpreter services in a health care environment can make it inaccessible to a non-English speaking individual and therefore contribute to disparities (see chapter 6.) Similarly an institution that has complex administrative processes for referrals and grievances can add further barriers for minority patients. One study found that rates of service utilization declined for minorities after being shifted from Medicaid fee for service to Medicaid managed care. The authors suggested that this decline may have been due to the added administrative barriers associated with managed care plan enrollment, such as the requirement of gatekeeping services and referrals for care.⁸¹

⁷⁸ Little P, Everitt H, Williamson I, et al. Observational study of effect of patient centeredness and positive approach on outcomes of general practice consultations. *BMJ*. 2001;323: 8-11.

⁷⁹ Speedling EF, Rose D.

⁸⁰ Saha S, Arbelaez JJ, Cooper LA. Patient-physician relationships and racial disparities in the quality of health care. *AJPH*. 2003; 93:1713-9.

⁸¹ Tai-Seale M, Freund D, LoSasso A. Racial disparities in service use among Medicaid beneficiaries after mandatory enrollment in managed care: a difference-in-differences approach. *Inquiry*. 2001; 38:49-59.

Discrimination

Although a large number of factors have been examined as playing a potential role in health care disparities among Blacks, less work has evaluated the impact of discrimination. This is an important factor that must be considered in explaining disparities; however, it is a difficult topic not only because of its political sensitivity, but because of the difficulties in evaluating and documenting it. Nevertheless, discrimination must be part of any discussion of racial and ethnic disparities in health because of its pervasiveness within American culture.

Discrimination can affect health from a variety of perspectives. As shown in Figure 1, discrimination not only can impact utilization rates directly but can also impact other factors discussed above, such as access, referral rates and patient preferences. Subconscious discrimination can lead to racial bias, as manifested as differing referral patterns. It can also affect health directly. For example, victims of discrimination can face high levels of stress, which has been associated with a variety of poor health outcomes, such as high rates of depression and hypertension.⁸² Discrimination can also impact health in a more indirect way. A patient's perception of discrimination within the health care system could conceivably impact his or her utilization of the health care system. For example, a patient's initial negative interaction with a health care provider may influence the patient's decision not to seek further health care, thus leading to poor health outcomes in the long-term. Both direct and indirect mechanisms of discrimination are important explanatory factors that have been not been extensively explored in the public health literature.

Overall, the current literature related to the various factors that contribute to disparities has large variations in both quality and quantity. There is a great deal of literature on the

⁸² Williams DR. Racial/Ethnic Discrimination and Health: Findings from community studies. *AJPH*. 2003; 93: 200-208.

objective factors that are correlated with disparities such as poverty, access and insurance. The studies related to these topics often use quantitative analysis of large datasets, such as the Medicare claims data, and are able to adequately control for potential confounding factors. Some of the more subjective contributors to racial disparities, such as patient preferences and cultural factors, lack a great deal of supportive evidence largely in part because these factors are difficult to quantify. It is likely that all of these factors interact to play a role in racial disparities in health and healthcare.

This dissertation investigates the role of discrimination in racial disparities, particularly in the area of health care utilization. It will mainly focus on how the *perception* of discrimination affects care. In doing so, it targets a number of key questions:

- 1) What are the mechanisms through which discrimination can impact health care use?
- 2) How can discrimination be measured?
- 3) How does perceived discrimination influence the use of health care services?
- 4) What role does provider and medical staff race have on perceived discrimination?
- 5) What policy initiatives can be implemented to address the issue of discrimination in the health care environment?

In the chapters that follow, I seek to address these questions. Specifically, I will evaluate discrimination as a causative factor in disparities in health care utilization, with a major focus on African-Americans. I will first define the term “perceived discrimination” and present a conceptual framework to evaluate the differing pathways from which discrimination could potentially impact health care and will review existing literature supporting each pathway (Chapter 2). I will then discuss the challenges related to measuring discrimination, exploring

existing datasets available to investigate the impact of discrimination on health care utilization (Chapter 3). In chapters 4 and 5, I will use the Commonwealth Fund's Quality of Care Survey as the basis for an empirical analysis of how perceived discrimination affects health care utilization. Finally, I will discuss various policy options available to combat discrimination in the health care setting.

Chapter Two: Defining a Conceptual Model of Discrimination’s Effects on Health and Health care Utilization

A major challenge in evaluating the literature on discrimination as it relates to health and health care is breaking down the various definitions of discrimination. In this chapter, I will outline a working definition of discrimination and will describe a conceptual model that will establish the basis for further discussions in the paper. I will then discuss the various pathways through which perceived discrimination can affect health care utilization and will provide examples from previous studies.

Conceptual Model

The terms “discrimination,” “racism,” “perceived discrimination,” “perceived racism,” and “segregation” are often used interchangeably. In disentangling these terms, I will identify a number of important issues concerning the exact nature of how various social forces impact health and health care for minorities

According to *Merriam-Webster’s Collegiate Dictionary*, 10th ed., racism is “the belief that race is a primary determinant of human traits and capacities and that racial differences produce an inherent superiority of a particular race; racial prejudice or discrimination.”⁸³ Discrimination, on the other hand, is a broader concept that can include racial discrimination as a subcategory. Discrimination, as defined by Webster’s, is “prejudiced or prejudicial outlook, action or treatment.”⁸⁴ A useful definition of racial discrimination is provided by the National Institutes of Health Office of Equal Employment Opportunity: “Racial discrimination is present

⁸³ Merriam-Webster’s Collegiate Dictionary. Tenth Edition. Massachusetts: Merriam-Webster, Incorporated. 1998.

when people are treated differently than others who are similarly situated because they are members of a specific race. It can occur when individuals are treated differently because of unalterable characteristics, such as physical features, indigenous to their race.”⁸⁵ According to the National Academy of Science, such differential treatment can be based either on race or on factors other than race that nevertheless result in a “differential effect” on that particular group.⁸⁶

The sociologist Lawrence Bobo also gives a definition of racism and discrimination developed from his work as well as from the work of other scholars such as Wilson, Pettigrew and Fredrickson. He defines racism as “a set of institutional conditions of group inequality and an ideology of racial domination in which the latter is characterized by a set of beliefs holding that the subordinate racial group is biologically or culturally inferior to the dominant racial group.”⁸⁷ Discrimination in turn, is a “complex system of social relations that serve to limit the social, political or economic opportunities of particular groups.”⁸⁹

As indicated by these definitions, *racism* is a *belief* as well as an *act*. *Racial discrimination* is the process through which racist beliefs are transformed into differential treatment of a minority group, but also refers to the broader process of unequal treatment that can be either intentional or unintentional and impacted by either societal or historical factors. Racial discrimination can be an act performed by an individual or one deeply ingrained in an organizational or institutional structure.

⁸⁴ Ibid.

⁸⁵ <http://www.niehs.nih.gov/oeo/race.htm>

⁸⁶ Panel on Methods for Assessing Discrimination. Measuring Racial Discrimination. Prepublication Copy. Blank RM, Dabady M, Citro F, ed. Washington, DC: National Academies Press. 2004.

⁸⁷ Bobo LD, Fox C. Race, Racism, and Discrimination: Bridging Problems, Methods, and Theory in Social Psychological Research. Soc Psych Quar. 2003; 66: 319-33

⁸⁸ Wilson WJ 1973. “Power, Racism, and Privilege: Race Relations in Theoretical and Sociohistorical Perspectives.” in The Declining Significance of Race. Chicago. 1978; Chicago: University of Chicago Press; 1978. cited in Bobo LD, Fox C.

⁸⁹ Pettigrew, Thomas F. and Mary Lee C. Taylor. “Discrimination” p. 498-503 in Encyclopedia of Sociology, vol. 1, edited by Edgar F. Borgatta and Marie L. Borgatta. New York: Macmillan; 1990 cited in Bobo LD, Fox C.

Racial discrimination has been established so firmly in our society that despite many of the legal interventions that have made it less common on an overt level, it continues to impact a number of social sectors. Feagin, in his book *Racist America*, documents the widespread influence discrimination has on society today. Its influence spans all segments of society including housing, employment and the legal system. In addition, the historical legacy of discrimination can lead to internalized attitudes ingrained in both whites and blacks that promote a culture of separatism.⁹⁰ Patricia Devine has discussed the impact that such longstanding racism can have on individuals. A tendency to discriminate can exist even when there is the conscious recognition by a member of a majority group that racism is inherently wrong. Reducing discriminatory behavior not only requires the psychological recognition that it is wrong but also making an active and conscious effort to change this behavior, which can often be much more challenging.^{91,92}

Perceived discrimination, which is the principal form of discrimination addressed in this dissertation, refers to the sentiments of an individual in a minority group about treatment experienced in a particular social setting. Specifically it is defined as an incidence in which a member of a racial minority group perceives mistreatment based on race or ethnicity.

Perceived discrimination, though commonly studied, has a number of limitations. Usually perceived discrimination's measurement is subjective, based on the impression of the person in the minority group. Quantitative measurement is often difficult to obtain. It is also

⁹⁰ Feagin J. *Racist America: Roots, current realities and future reparations*. New York: Routledge. 2001.

⁹¹ Devine PG. The regulation of explicit and implicit race bias: the role of motivations to respond without prejudice. *Jl Pers and Soc Psych.* 2002; 82: 835-48.

⁹² Devine PG. Stereotypes and prejudice: their automatic and controlled components. *Jl Pers and Soc Psych.* 1989; 56:5-18.

subject to a number of biases. For example, a minority member may minimize their perceptions of discrimination to avoid “alienating” the interviewer.^{93 94}

Unfortunately, there is a limited body of literature that evaluates the concept of discrimination, whether perceived or otherwise, in health. I will therefore attempt to build a conceptual model from prior definitions presented from work within the social science literature combined with related work from the health care literature. Sociology is the field through which discrimination has been studied in most detail.

Feagin and Eckberg, in the social science literature, defined a conceptual model of discrimination which identifies subcategories of discrimination based on whether the discrimination is intentional or unintentional and whether it is practiced by an individual or embedded within an organizational structure. According to the framework, discrimination can be described as isolate, small group, direct institutional, and indirect institutional. “Isolate” or “small group” discrimination refers to an intentional negative act by an individual member (isolate) or small group of individuals (such as those involved in a lynching) within a dominant racial or ethnic group against a minority individual or group outside of a formal organizational framework.

Both direct and indirect institutional *discrimination* are embedded within a larger organization. Direct institutional discrimination is the process through which large scale organizations employ intentionally discriminatory practices, which are purposefully carried out by individual representatives acting on the organization’s behalf (an example would be for bank loan officer to deny a mortgage to a person simply because of his or her racial background, a

⁹³ Bobo LD, Fox C.

⁹⁴ Krysan M, Couper MP. Race in the live and the virtual interview: racial deference, social desirability, and activation effects in attitude surveys. Soc Psych Quar. 2003; 66: 364-84.

practice known as “redlining”) Indirect institutionalized discrimination, on the other hand, is not directly meant to be harmful to a group, yet nonetheless has a negative impact on a minority group. For example, organizations that use hiring practices and standards that are traditionally disadvantageous to a group may not be intentionally biased against the group, yet such practices may result in discrimination by presenting unrealistic barriers which cannot be easily be overcome by a group facing historical disadvantage.⁹⁵ In the medical field, the use of board scores to determine the residency candidacy of minorities could be an example of indirect institutionalized discrimination since minorities typically have lower scores on such tests (for a combination of reasons, including historic disadvantage in receiving medical school preparation). Given that there is no strong and consistent association of board scores with clinical performance or quality of care, the use of such scores could potentially serve as an artificial barrier to minorities seeking career advancement.⁹⁶

There have been few attempts in the health literature to develop a conceptual model of discrimination. Camara Jones has developed a model to describe how racism can lead to negative health consequences. Her model includes three categories of racism: 1) institutionalized racism, 2) personally mediated racism, and 3) internalized racism.

According to Jones, institutionalized racism results when individuals have different levels of access to opportunities within society because of race (similar to the model of *indirect institutional discrimination* described by Feagin and Eckberg above). Examples of such institutionalized discrimination include unequal access to housing and job opportunities for minorities. This unequal access may have been embedded within society at large due to historical barriers which made it acceptable for a dominant racial group to deny a minority group

⁹⁵ Feagin JR, Eckberg DL. Discrimination: motivation, action, effects and context. *Ann Rev Soc.* 1980; 6: 1-20.

the ability to attend certain schools, live in certain neighborhoods or obtain certain jobs. This propagates a cycle: for example, limitations in access to quality schools may lead to lack of preparation for jobs even after racial barriers have been lifted. Personally mediated racism is described by Jones as “prejudice and discrimination” involving an individual who, either consciously or unconsciously makes assumptions about or treats another individual unfairly based on race. Internalized racism refers to an individual’s inner feelings of poor self-value and negative beliefs that have resulted from outward racial stigmas. In other words, minorities may accept the negative racist views of society as true.⁹⁷

Jones describes the interaction of these three levels of racism in her paper “A Theoretic Framework and a Gardener’s Tale”. She uses a garden, separated into rich and poor soil as an allegory to present of the types of divisions that can grow because of an initial racist insult. The rich soil, similar to a social environment that fosters privilege and opportunity can lead to the development of a seemingly preferable species of flower. The poor soil, similar to an environment that contains social barriers to performance, leads to the development of a seemingly inferior species of flower (paralleling a racial minority group). The soil represents institutional racism or the social factors that can inhibit an individual’s potential for growth. The series of preferences that result from interpreting the flowers as being inherently better represents the personal racism that occurs when preferences develop disregarding the social environment that may have influenced an individual’s outcome. Internalized racism is paralleled

96 Blanchard J. Board scores and resident performance: is there a link?. *Ann Emerg Med.* 2000; 36:64-7.

⁹⁷ Jones CP. Invited Commentary: Race, Racism and the Practice of Epidemiology. *Am J Epidemiol.* 2001; 154: 299-304.

to the poor soil flowers' belief that they are inferior because of personal characteristics rather than because of the negative contributory environment.⁹⁸

Drawing upon the structural models set up by Jones and Feagin and Eckberg, I have attempted to define a conceptual model for this dissertation that illustrates the various mechanisms through which discrimination can affect health care utilization (see Figure I.) Racial discrimination exists within a larger societal structure which shapes or defines individual actions. So although many of these mechanisms are presented as discreet entities, there is a large degree of overlap since all act in concert.

The model indicates that both the discriminatory practices themselves (depicted as boxes in Figure I) as well as the attitudes and resultant actions that result from these discriminatory practices (shown as arrows in Figure I) can impact health and health care use in various ways. I will now further expand on/explain the definitions in my conceptual model, giving examples of each, and then discuss studies which evaluate the relationship of each of these forms of discrimination to health care use.

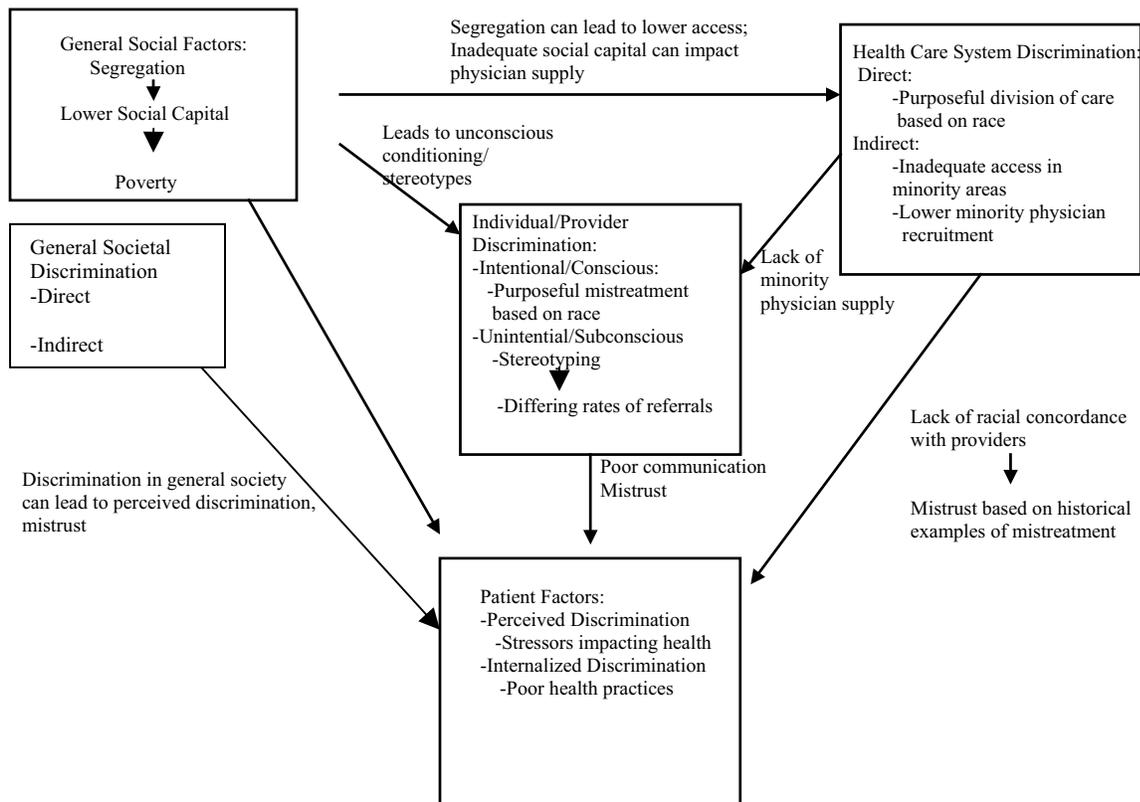
I am therefore grouping discrimination, for the purposes of this dissertation as:

- Discrimination as part of the larger social context (i.e., in non-health care settings)
 - Individual/Isolate or Small Group
 - Institutionalized
 - Direct
 - Indirect

⁹⁸ Jones CP. Levels of Racism: A Theoretic Framework and a Gardener's Tale. P.311-318 cited in Race, Ethnicity and Health, ed. Thomas A. LaVeist. San Francisco: John Riley and Sons, 2002.

- Discrimination within the health care setting. This discrimination can be further defined as:
 - Institutional (health care system-level factors)
 - Direct
 - Indirect
 - Provider level (individual or small group mediated)
 - Intentional/Conscious
 - Unintentional/Subconscious
 - Patient level
 - Perceived discrimination
 - Internalized discrimination

Figure 2.1 Conceptual Model: Categories of Discrimination and Linkage Pathways



General Societal Discrimination

The first part of the model that I will present focuses on discrimination as it exists within the general society. This category can be further classified into individual/isolate or small group and institutional discrimination. Individual/isolate or small group discrimination builds upon Feagin and Eckberg's definition described above, that is, an intentional negative act by an individual or small group of individuals of a dominant racial or ethnic group against a minority group that is not a part of an organizational structure. Institutional discrimination, on the other hand, builds upon both the definition of Feagin and Eckberg as well as Jones. Direct institutional discrimination involves obvious mistreatment based on race as part of an organized entity.

Individual/Isolate or Small Group Discrimination

General social discrimination in this conceptual model can be mediated by both individuals (in isolation) or by small groups. Both types of discrimination involve direct harmful activity towards an individual through day-to-day interactions in locations such as the workplace. Since it is the focus of my dissertation, I am excluding the patient-provider relationship within health care settings from this category for the purposes of my conceptual model. Instead, health care settings will be described as a separate subentity in order to expand upon the definitions in more detail.

Institutional discrimination

Institutional discrimination has been well documented in the non-health literature. Blacks and other ethnic minorities have been found to receive unfair treatment in mortgage

acquisition, wages, and job opportunities--all examples of direct institutional discrimination.^{99,100}

Indirect institutional discrimination, similar to Jones's concept of "institutionalized racism" involves historical limitations in access to opportunity that in turn foster unequal access to various opportunities. Indirect institutional discrimination is closely linked to the concepts of segregation and limited social capital, which will be discussed later.

Health Care System Discrimination

Drawing from Feagin and Eckberg's classification of institutional discrimination as direct or indirect, I classify discrimination within the overall health care system according to the same distinction.

Direct Health Care System Discrimination

Direct health care system discrimination refers to purposeful institution-sanctioned practices which are intentionally harmful to a minority racial group. In the report *Unequal Treatment*, the Institute of Medicine outlines several cases of discrimination in the health care system as documented by the Office of Civil Rights. Such cases involve a wide spectrum of health care institutions, including pharmacies, home health agencies, and hospitals.¹⁰¹ An example of direct institutionalized health care system discrimination would be a hospital policy that divides wards based on race, a practice quite common in the earlier part of the 20th century.¹⁰²

⁹⁹ Holloway SR. Exploring the neighborhood contingency of race discrimination in Columbus, Ohio. *Ann Ass Amer Geograph* 1998; 88:252-276.

¹⁰⁰ Kantor AS, Nystuen JD. Defacto Redlining A Geographic View. *Econ Geog* 1982; 58: 309-328

¹⁰¹ *Unequal Treatment: Confronting ethnic and racial disparities in healthcare.* Ed, Smedley BD, Stith AY, Nelson AR. Washington DC: The National Academies Press, 2003.

¹⁰² Gamble VN, *Making a Place for Ourselves. The Black Hospital Movement.* New York: Oxford University Press. 1995.

Indirect Health Care System Discrimination

Indirect health care discrimination results from factors that are not intentionally meant to be harmful but that nonetheless have a negative impact on minorities. For example, although urban areas typically have higher than average numbers of teaching hospitals than non-urban areas, other health care resources are often limited in minority communities, leading to low rates to access to health care resources, such as regular providers. Many inner city residents may have fewer opportunities to be treated by physicians and other health care providers within the community.¹⁰³ Similarly, the impact of poverty on health and health care (described in Chapter One) is likely to be more severe for minorities, who are more likely to have lower incomes.

Minority physicians are more likely to practice in minority and underserved areas; this in turn can further impact access to care (which will be discussed in more detail later in this chapter).¹⁰⁴ Because minority physicians play a large role in access to care for minority patients, relatively low numbers of trained minority physicians compared to numbers of minorities in the general population can result in another example of indirect discrimination. As discussed, certain well-established medical school practices, such as using board scores for medical school advancement and residency interviews are disadvantageous to minorities and can impact rates of minority physicians who can later practice in minority communities.¹⁰⁵

¹⁰³ Carlisle DM et al. The effect of race and ethnicity on the use of selected health care procedures: a comparison of South Central Los Angeles and the remainder of Los Angeles county. *J of Health Care for the Poor and Underserved*. 1996; 7(4):308-322.

¹⁰⁴ Komaromy M, Grumbach K, Drake M. The role of black and Hispanic patients in providing health care for underserved populations. *New England Journal of Medicine*. 1996; 334: 20. 1305-1310.

¹⁰⁵ Edmond MB, Sechenes JL, Eckler M, Wenzel RP. Racial bias in using USMLE step I scores to grant internal residency interviews. *Acad Med*. 2001; 76: 1253-1256.

Provider-Level Discrimination

Provider-level discrimination parallels the concept of isolate or small group discrimination presented above and can be either conscious or subconscious. This subcategory, however, refers to discrimination mediated by an individual specifically within the health care setting.

Conscious/Intentional Provider-Level Discrimination

Conscious/intentional provider-level discrimination occurs when an individual provider or small group of providers (for example, a health care staff) purposely mistreats an individual patient based on his or her race or ethnicity. This is rarely reported in the literature since it is difficult to quantify.

Subconscious Provider-Level Discrimination

According to Michelle Van Ryn, providers, reflecting attitudes that may exist among members of society as a whole, are likely to have a subconscious belief system which leads them to view an individual of a particular racial/ethnic group or class based on associated stereotypes. Although physicians are trained to be objective and fair in approaching patients of all races and backgrounds, this subconscious belief system is based on the provider's previous knowledge of or experience with a general population of individuals (such as "blacks.") The provider may assume that this general knowledge would apply to a specific individual within that population. This method of applying assumptions about a general population to a specific individual may in turn affect how the physician interprets his or her patient's complaints and further impact clinical decision-making, including decisions to refer patients for particular treatments or procedures.

This process can manifest itself, for example, as differing rates of referral by race or gender¹⁰⁶ and can lead to what Van Ryn calls a “self-fulfilling prophecy” in which subconscious behavior by the physician subsequently affects how that patient views the provider, and both patient and provider may develop less positive opinions of each other.¹⁰⁷

Patient-level factors

Perceived Discrimination

Perceived discrimination refers to the patient’s belief that he/she is being treated unfairly due to race or ethnicity in the health care setting. The term can refer to a patient’s opinions of a particular patient-provider contact or reflect a general belief system of a patient towards the health system. It is often subjective in nature, and can reflect preconceived biases and perceptions of a racial minority group. Despite this subjective nature, perceived discrimination can affect a patient’s experience with the entire health care system and is may therefore represent an important determinant of health care utilization.

Patients can perceive discrimination in the health setting through their interactions with providers (through a process such as that described by Van Ryn above, through which unconscious stereotypes mediated by providers affect patient attitudes), through prior interactions within the health care setting, or through prior interactions with society in general. In one survey, two thirds of African-Americans reported perceiving discrimination due to race or socioeconomic status in their interactions with health care providers.¹⁰⁸ Perceived

¹⁰⁶ Van Ryn M. Research on the provider contribution to race/ethnicity disparities in medical care. *Med Care.* 2002; 40: I150-I151.

¹⁰⁷ Van Ryn M. Understanding and addressing provider contribution to disparities. Grantmakers in Health Powerpoint presentation 11/6/03.

¹⁰⁸ Bird ST, Bogart LM. Perceived race based and socioeconomic based discrimination with interactions with health care providers. *Eth Dis.* 2001; 11: 554-563.

discrimination, and its correlate perceived racism, has been shown to be correlated with lower levels of satisfaction with the health system.¹⁰⁹

Because it is difficult to conduct field studies directly evaluating episodes of overt provider initiated discrimination within the patient-provider setting, most datasets are able to measure only perceived discrimination from the perspective of the patient. The data from the Commonwealth Fund, used for Chapters 4 and 5 of this dissertation, similarly measures discrimination from the patient's perspective. Although experimental field studies, (discussed more in the next chapter) are perhaps the best ways to objectively document cases of actual discrimination in the social science literature, this method is not practical in the health care arena. For one it would be expensive and difficult to ethically justify use of often invasive healthcare services on an actual patient simply to document an experimental point. In addition, multiple other factors impact a patient's interaction with a doctor and receipt of health care services such as comorbid conditions, communication styles of both the patient and doctor, insurance status and the health care environment.

Because of the subjective nature of perceived discrimination and difficulty in correlating it with institutional discrimination, it does face a challenge in gaining consistent and widespread credibility in order for policy changes to occur. Perceptions of discrimination may be viewed as stereotypical and automated responses by an ethnic minority group in response to a general view of society rather than associated with a particular real life experience.¹¹⁰ This belief has led to many disparate views on the validity of discriminatory complaints.

It is often difficult to impose legal sanctions on an individual based on perceptions of discrimination without actual confirmatory and documented cases of actual differential behavior.

¹⁰⁹ 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;57 Suppl 1:146-61.

As Feagin and McKinney discuss in their book, “The Many Costs of Racism”, court cases involving racial discrimination require a much stricter burden of proof than cases than involve other forms of discrimination, such as sexual harassment cases. The individual must prove severe psychological injury. This results in a culture of “blaming the victim” rather than placing focus on the work environment. ¹¹¹

Conservative writers such as Sally Satel argue that these perceptions of discrimination do not realistically translate into actual differences in health outcomes and therefore can be negated.¹¹² This viewpoint oversimplifies the impact of discrimination on health and health care utilization and ignores the many complex pathways that are involved, as described in my conceptual model.

Regardless of these challenges, perceived discrimination still has significant importance and warrants academic merit beyond the fact that it is the most practical type of discrimination to measure in health care. If a perception of discrimination causes negative consequences in health, or impacts utilization of a health care service such that disparities result, then it holds important policy implications. Perceptions of discrimination can also serve as a policy impetus by identifying areas in which further formal legal investigation of differential behavior may be warranted. This will be discussed further in Chapter 6.

Internalized Discrimination

Drawing from the definition provided by Jones, the model defines internalized discrimination as the process through which a patient adopts poor health habits as a result of internalized feelings of poor self-value resulting from racial stigma (i.e., negative views from

¹¹⁰ Bobo LD

¹¹¹ Feagin JR, McKinney KD. The Many Costs of Racism. Maryland: Rowman and Littlefield. 2003.

society reflected on him/her.) Such habits can include substance abuse as well as poor preventive care behavior, which can similarly be impacted by perceived discrimination if a patient's perception of negative interaction with health care personnel leads to low rates of future health care system use. This element of discrimination is important to mention but will not be extensively discussed for the purposes of this dissertation because it involves complex policy approaches somewhat divergent from what I am discussing here. Such approaches involve policies which promote racial self-empowerment, building self-esteem and other psychological interventions.

Interaction of Health System, Provider-Level and Patient-Level Discriminatory Factors

The three major classes of discrimination discussed – health system, provider-level, and patient-level – are closely linked with each other. As indicated by the arrows on Figure I, various mechanisms play a role in producing these relationships.

David Williams has discussed the differing ways in which these categories of discrimination can interact to impact an individual's health care use. First, societal discrimination can create race-based barriers for a patient despite otherwise equivalent socioeconomic status. For example, minorities may face additional barriers despite similar educational backgrounds to whites. Second, it can impact access to health care for minorities, who often live in areas where health care facilities may be sparse or inferior. Finally, racism and perceived discrimination may have direct impacts on physiology, which in turn can affect health.^{113,114}

¹¹² Ibid.

¹¹³ Williams DR, Collins C. US Socioeconomic and Racial Differences in Health: Patterns and Explanations. *Ann Rev Soc.* 1995; 21: 349-386.

Discrimination as related to the Broader Social Construct

Discrimination both in the health care and non-health care settings exists within the broader social context. Within this larger social context are other factors that are so deeply embedded in society that they can globally impact all levels of discrimination. These factors are demonstrated in a separate box in Figure I.

Segregation is perhaps the largest social construct which directly impacts discrimination. It can be measured in a variety of ways: Massey and Denton have identified five kinds of measurement variables that can be used to characterize the level of segregation in an area: evenness, exposure, concentration, centralization, and clustering (see Table II.)¹¹⁵ These categories are useful for social sciences purposes of measuring the impact of segregation on various outcomes, including health. By allowing researchers to identify levels of segregation present in a particular geographical index, these indices can be used to examine the relationship of spatial characteristics to health care outcomes.

Segregation can exist in a wide variety of forms. It can exist based on racial, class/economic lines or both. Racial residential segregation is specifically defined as the tendency of members of two or more racial groups to cluster together in separate special areas.¹¹⁶ Discrimination can be one factor that leads to racial residential segregation, for example, unfair housing practices can limit a group's access to a given neighborhood. However segregation can also be impacted by other factors such as income, housing affordability and minority group

¹¹⁴ Harrell J, Hall S, Taliaferro J. Physiological responses to racism and discrimination: an assessment of the evidence. *AJPH*. 2003; 93: 243-248.

¹¹⁵ Massey DS, Denton NA. The dimensions of residential segregation. *Soc Forces* 1988; 67: 281-315

¹¹⁶ Residential segregation and health in *Neighborhoods and Health*, ed. Ichiro Kawachi and Lisa B. Berkman, ed. Oxford University Press, 2001.

preferences.¹¹⁷ African Americans, regardless of income tend to be more segregated than other racial groups. In other groups, such as among Hispanics and Asian immigrants, segregation tends to cluster around individual ethnic enclaves.¹¹⁸ Although poverty does impact segregation, race tends to be the biggest factor that segregates individuals rather than class. Impoverished individuals still tend to cluster together based on race rather than based on income alone.¹¹⁹

Racial integration has transformed segregation in many respects causing segregation and poverty to be more closely linked. What was once an “institutional ghetto” that was racially segregated yet still served the social and functional needs of a black community has now become a ghetto of poverty with high rates of unemployment and the social ills that follow. Rates of black male employment in one area in Chicago, for example, decreased from 69% in 1950 to 37% in 1990.¹²⁰ William Julius Wilson has proposed that this change is due to the decline of social networks existing in black communities occurring with the out flux of many upper and middle class blacks to the suburbs and other areas as these neighborhoods became less segregated. Whereas black individuals of all professions previously may have lived in close contact with each other with class separation limited to single blocks or buildings within an enclave, blacks now have increased spatial separation. In the period from 1970 to 1980 population in the five largest US cities decreased by 9 percent; however, individuals living in extremely concentrated poverty areas (greater than 40%) increased by 182%.¹²¹ According to one study, the proportion of blacks in a sample of suburbs across the United States increased

¹¹⁷ Ibid

¹¹⁸ Bobo L, Zubrinsky. Attitudes on residential integration: perceived status differences, mere in-group preference, or racial prejudice? *Soc Forces*. 1996; 74: 883-909.

¹¹⁹ Krzewinski LM. Section 8's failure to integrate: the interaction of class based and racial discrimination. *Bos Coll Third World Law JI*. 2001; 21: 315-332.

¹²⁰ Wilson WJ. *When Work Disappears: The World of the New Urban Poor*. New York: Alfred A. Knopf Publishers, 1996.

from 6.3% to 8.5% from 1980 to 1990, with the highest increase reported in suburbs in the South Atlantic region, which rose from 14.7 to 22% in these 10 years.¹²² This shift of higher income blacks to the suburbs leaves a greater concentration of lower income, socioeconomically disadvantaged blacks in urban areas, resulting in what Wilson calls a “culture of social isolation.”¹²³

Many traditional black “ghetto” neighborhoods developed increased concentrations of poverty as higher income individuals moved out. Blacks in these segregated “poverty ghettos” have worse outcomes such as higher rates of single motherhood and unemployment, compared to blacks in areas of low segregation.

Consequently, segregation particularly that based on racial and class distinctions, can also lead to an environment where discrimination can develop. For example, indirect institutional discrimination develops in racially segregated areas where economic development may be limited leading to fewer employment opportunities. Segregation also lowers the effective tax base from which many social services, such as schools, derive funding and therefore can further contribute to such discrimination.¹²⁴

Segregation has been linked directly to poor health and poor health care outcomes among minorities; however, it can also indirectly impact health through various mechanisms—i.e., through the general health care system, through individual providers, and through the individual patient’s perceptions and attitudes. The degree of segregation which individuals (both majority and minority) experience can influence how much contact they have with members of other racial groups. If a provider has less contact with minorities during the course of his/her lifetime,

¹²¹ Wilson WJ. *The Truly Disadvantaged*. 1987; Chicago: The University of Chicago Press.

¹²² Schneider M, Phelan T. Black Suburbanization in the 1980s. *Demography*. 1993; 30:2. 269-279.

¹²³ Cutler DM, Glaeser EL. *Ghettos Good or Bad?* NBER Working Paper No. W5163. Massachusetts: National Bureau of Economic Research. 1995.

it can likely lead to the development of subconscious stereotyping of individual racial groups and undoubtedly impact how he/she behaves in the health care setting. Similarly, segregation can lead to cultural isolation when minority groups are less likely to trust practitioners from the majority group/race.

Segregation also can also impact health care at the system level since it can affect access to health care providers (to be discussed in Chapter 6.) Segregation has also been linked to poorer quality schools, lower rates of employment, and therefore lower levels of social capital, (i.e., the potential pool of resources available in a community to foster collective beneficial change for the group as a whole.) This lower rate of social capital can impact the health system in a number of ways. For example, poorer quality schools in minority areas may result in fewer minorities available to enter the medical school pipeline to become physicians

Studies of Discrimination's Impact on Health and Health Care

Studies have also examined the role that discrimination plays on health care outcomes. The discussion that follows presents these studies by the individual categories presented in my model.

General Societal Discrimination

There are very few studies that link measures of general social discrimination, either individual or institutional, with health consequences. Gee attempted to study how experiences with discrimination within the general society could impact health among Chinese Americans. To do so, he geocoded responses from the Chinese American Psychiatric Epidemiologic Study

¹²⁴ Walters, PB. Educational access and the state: historical continuities and discontinuities in racial inequality in America. *Sociology of Education Extra Issue*. 2001: 35-49.

with data from the 1990 Census and the 1995 Home Mortgage Disclosure Act database (HMDA). The linkage allowed Gee to evaluate the relationship of mortgage discrimination (i.e., “redlining” of home mortgage applications) to self-reported psychological health and segregation indices. A positive relationship was found between redlining and mental health, which the author suggested may have been due to the positive effects of living in proximity to others of the same race (as opposed to living among members of different races if redlining had not occurred) or possibly related to better baseline health in persons who tended to settle in such areas.¹²⁵

Health Care System Discrimination

Direct Health Care System Discrimination

Most evidence of direct health care discrimination is based on data from the Office of Civil Rights. These include obvious cases of discrimination along a wide spectrum of health care institutions ranging from medical wards to community pharmacies in which there are documented, objective incidences of differential treatment based on race (see Chapter 6 of this dissertation for a more extensive discussion of such cases.)^{126,127}

Indirect Health Care System Discrimination

Numerous studies have documented the impact of access to care on health and health care outcomes. As outlined in Chapter 1, blacks have lower levels of access to the health care

¹²⁵ Gee GC. A Multilevel analysis of the relationship between institutional and individual racial discrimination and health status. *AJPH*. 2002; 92: 615-623.

¹²⁶ IOM. *Unequal Treatment*.

¹²⁷ Smith DB. *Health care divided: race and healing a nation*. Michigan: University of Michigan Press, 1999.

system largely as a result of the higher rates of poverty. Blacks are also less likely to have any insurance coverage, which may contribute to their lack of a usual source of care.¹²⁸

Other studies have examined indirect discrimination as manifest through the lower rates of minority physicians available. A study of California physicians found that black and Hispanic physicians were more likely than non-minority physicians to care for minority patients and those who were uninsured or covered by Medicaid. Black doctors cared for six times the number of black patients as cared for by non-black physicians. Blacks also tend to practice in areas with higher concentrations of poor and minority patients.¹²⁹ Just as minority physicians have a higher propensity than white physicians to practice in minority communities, minority patients have a higher likelihood than whites of having minority doctors. A third of minority patients had non-white doctors and specifically 20% of black patients had black doctors. In contrast, only 11% of white patients reported having non-white doctors and only 1% reported having a black doctor.¹³⁰ The likelihood of this relationship is even higher among lower income patients.¹³¹ The propensity of minorities to have relatively higher rates of use of minority physicians (as compared to whites) persists even when controlling for socioeconomic factors.¹³² Although not directly or intentionally discriminatory, the lower numbers of minority physicians mean that less doctors who traditionally treat minority patients are available.

Although few studies have investigated how physician race impacts actual health or health care use, there is some evidence that patients who have same race physicians have higher levels of satisfaction with their health care interaction (to be discussed later in Chapter 5).

¹²⁸ Blendon RJ. et al. Access to medical care for Black and White Americans.

¹²⁹ Komaromy M, Grumbach K, Drake M, et al. The role of black and Hispanic patients in providing health care for underserved populations. *New England Journal of Medicine*. 1996; 334:20. 1305-1310

¹³⁰ Moy E, Bartman B. Physician race and care of minority and medically indigent patients. *JAMA*. 1995; 273: 1515-1520.

¹³¹ *Ibid.*

Provider-Level Discrimination

Conscious/Intentional Provider-Level Discrimination

Studies documenting the impact of conscious or intentional acts of discrimination on health care are rare given that this is particularly difficult to measure. Because it is such a politically charged issue, most providers would not openly admit to intentional discrimination. Often, providers would not even be aware that discrimination is occurring since often decisions are subjective and made on a subconscious level (described below.)

Subconscious Provider-Level Discrimination

Assuming that Michelle Van Ryn's model is correct, i.e., that prior experiences with a racial group can impact a physician's interpretation of a patient's complaint and therefore lead to differences in referral patterns^{133,134}, I am classifying differences in referral patterns as examples of "subconscious" discrimination though conceivably, in some cases, a physician could consciously and intentionally decide not to make a patient referral due to the patient's race or ethnicity.

As discussed in Chapter 1, numerous studies have documented obvious differences in referral and treatment patterns by race. Differential rates of referral and treatment patterns have been documented in a number of settings, including managed care, private fee-for-service and the veterans' medical system, and across a wide range of services such as mammography,

¹³² Gray B, Stoddard J. Patient-Physician pairing: does racial and ethnic congruity influence selection of a regular physician. *Journal of Community Health*. 1997; 22:4. 247-259.

¹³³ Van Ryn M. Research on the provider contribution to race/ethnicity disparities in medical care. *Med Care*. 2002; 40: I150-I151.

¹³⁴ Van Ryn M. Understanding and addressing provider contribution to disparities. Grantmakers in Health Powerpoint presentation 11/6/03.

prenatal care, renal transplantation, and lung cancer resection, among other areas.^{135,136,137} Todd and colleagues studied the effect of patient ethnicity on the administration of pain medication in patients with long-bone extremity fractures, finding that 55% of Hispanic patients, as compared to 26% of non-Hispanic white patients, failed to receive appropriate analgesics.¹³⁸ These differences persisted despite the fact that there was no demonstrable difference in physician ability to assess pain severity in these groups.¹³⁹ More recently, Todd used the same design to compare analgesic administration in black and white patients. He found that white patients were 66 percent more likely than black patients to receive emergency department analgesics.¹⁴⁰

Patient-level factors

Perceived Discrimination

Several studies have evaluated the impact of perceived discrimination on both health and on health care (and within the health care setting.) I will first briefly discuss its impact on health and then discuss studies evaluating perceived discrimination on health care and within the health care setting. The subject of my dissertation is to look at the effect of perceived discrimination specifically on health care utilization, which will be addressed in Chapters 4 and 5.

¹³⁵ Glanz K, Resch N, Lerman C, Rimer BK. Black-white differences in factors influencing mammography use among employed female health maintenance organization members. *Ethn Health*. 1996; 1:207-220.

¹³⁶ Kogan MD, Kotelchuck M, Alexander GR, Johnson WE. Racial disparities in reported prenatal care advice from health care providers. *AJPH*. 1994; 84: 82-88.

¹³⁷ Epstein A, Ayanian JZ, Keogh JH. Racial disparities in access to renal transplantation-clinical appropriate or due to underuse or overuse. *NEJM*. 200; 343:1537-1544

¹³⁸ Todd KH, Samaroo N, Hoffman JR. Ethnicity as a Risk Factor for Inadequate Emergency Department Analgesia. *JAMA*. 1993;269:1537-39.

¹³⁹ Todd KH, Lee T, Hoffman JR. The effect of ethnicity on physician estimates of pain severity in patients with isolated extremity trauma. *JAMA*. 1994;271:925-928.

¹⁴⁰ Todd KH, Deaton C, D'Adamo AP et al. Ethnicity and analgesic practice. *Ann Emerg Med*. 2000;35:11-6.

Perceived discrimination and health

The adverse effects of perceived discrimination on a patient's health may occur through a variety of mechanisms. Perceived discrimination can impact health indirectly through the mechanisms described above (such as lowered access and lower use of the health care system.) Perceived discrimination can also have more direct effects through the stress that it may place on an individual's mental or physical health. The majority of this dissertation focuses on the role of perceived discrimination on health care use. However I will briefly discuss studies that demonstrate its role in health below.

The added stress of societal barriers based on race or ethnicity may cause acute illnesses through the production of higher levels of certain stress hormones such as cortisol. This relationship has been demonstrated in both animal and human models. Monkeys have been shown to have greater risk of atherosclerosis when housed in unstable environments.¹⁴¹ In humans, previous work using NHANES, for example, has demonstrated a relationship between specific illnesses, such as cardiovascular disease, and sociodemographic factors such as race and income.¹⁴² Researchers such as Dr. Teresa Seeman and colleagues have used the term "allostatic load" to refer to the resultant wear and tear occurring in persons who are repeatedly exposed to such stress.¹⁴³ Such stressors have been thought to independently account for the negative health outcomes that may be disproportionately present in certain groups as well as behavioral effects.¹⁴⁴ In addition, such stressors may potentiate the expression of illnesses, such as hypertension, for which a certain group may already be genetically predisposed to have. It has

¹⁴¹ Kaplan JR, Manuck SB. Status, stress and atherosclerosis: the role of environment and individual behavior . Ann N Y Acad Sci. 1999;896:145-61.

¹⁴² Winkleby MA, Cubbin C, Ahn DK, Kraemer HC. Pathways by which SES and ethnicity influence cardiovascular disease risk factors. Ann N Y Acad Sci. 1999;896:191-209.

¹⁴³ McEwen BS, Seeman T. Protective and damaging mediators of stress: elaborating and testing the concepts of allostasis and allogenic load. Ann NY Acad Sci. 1999; 896:30-47.

been proposed that such stressors can affect health in the long term by causing changes in genetic structure that may be passed from generation to generation.

David Williams reviewed 53 studies evaluating perceived discrimination and health, and found mental health to be the most frequent health outcome studied. The majority of studies demonstrated an association between adverse psychological sequelae and perceptions of discrimination.¹⁴⁵ It is important to emphasize that these studies show a correlation—a more precise cause and effect relationship is difficult to show due to other confounding factors existing within the social construct.

Some studies have evaluated the negative effects of discrimination on mental health using the proxy of substance abuse. A study by Yen and colleagues of the University of California, Berkeley, evaluated the relationship between perceived discrimination and alcohol use in a sample of urban transit operators in San Francisco California. Perceived discrimination was measured through questions about unfair treatment, reactions to unfair treatment, and experiences of discrimination based on race. The researchers found that blacks were the most likely to report perceptions of discrimination. These authors argue that discrimination's negative effects on mental health were manifested through increased use of harmful substances, such as alcohol and cigarettes. Non-whites who reported discrimination consumed 13 more alcoholic beverages a month than those who did not report such discrimination. Guthrie also reported higher levels of smoking and perceptions of discrimination among black adolescent girls.¹⁴⁶

¹⁴⁴ Baum A, Garafalo JP, Yali AM. Socioeconomic status and chronic health: does stress account for SES effects on health. *Ann NY Acad Sci.* 1999; 896:131-44.

¹⁴⁵ Williams DR. Racial/Ethnic Discrimination and Health: Findings from community studies. *AJPH.* 2003; 93: 200-208.

¹⁴⁶ Guthrie BJ. African American girls' smoking habits and day to day experiences with racial discrimination. *Nurs Res.* 2002; 51: 183-90.

Mental health is not only a frequently studied outcome but may also be a mechanism through which adverse physical outcomes arise.¹⁴⁷ Many studies have cited stress resulting from discrimination as a contributor to adverse health outcomes. Krieger looked at health outcomes related to perceived discrimination in the CARDIA study, which followed 1974 blacks and 2106 Whites between the ages of 25 and 37. The study found that blacks who not only perceived discrimination but who were less likely to outwardly express discontent were more likely to have baseline higher blood pressures than were those who outwardly expressed problems with discriminatory practices. This is known as the “John Henry” effect, or alternatively, as John Henryism.¹⁴⁸ (John Henryism is an active approach to coping with stress in which an individual tries harder to overcome an often insurmountable obstacle. It is based on the character John Henry from a famous folk ballad, who was a black railroad worker of incredible strength and determination. In a drive to prove his superhuman strength, he boasted that he could build a railroad faster than a machine. He did so, but died of exhaustion in the grueling process.) This study suggests that negative health outcomes are related not only to the presence of discrimination within a social environment, but also how an individual chooses to deal with that discrimination. Other studies have shown that black women who reported discriminatory experiences have higher levels of carotid artery atherosclerosis as well as higher cardiovascular reactivity.^{149,150}

¹⁴⁷ Williams DR. Racial/Ethnic Discrimination and Health: Findings from community studies. *AJPH*. 2003; 93: 200-208.

¹⁴⁸ Krieger N, Signey S. Racial discrimination and blood pressure: the CARDIA Study of young black and white adults. *AM J Pub Health*. 1996; 86: 1370-8.

¹⁴⁹ Troxel WM. Chronic stress burden, discrimination, and subclinical carotid artery disease in African American and Caucasian women. *Health Psychol*. 2003; 22: 300-9

¹⁵⁰ Gyll M. Discrimination and unfair treatment: relationship to cardiovascular reactivity among African American and European American women. *Health Psychol*. 2001; 20: 315-25

Perceived Discrimination and Health Care Utilization

Although several of the studies discussed have shown evidence that perceived discrimination may affect patient satisfaction and may cause stress reactions in patients that lead to adverse health outcomes, less is known about how patient perceptions of discrimination affect health care utilization.

If certain groups are less likely to use the health care system after having negative experiences which they interpret as discriminatory treatment or disrespect, then they might be at additional risk of poor outcomes for otherwise treatable conditions. The relationship between perceived discrimination and health care utilization is the basis for the analytical component of this dissertation. It will be discussed further in Chapter 4 using data from the 2001 Commonwealth Quality of Care Survey.

Discrimination as related to the Broader Social Construct

Segregation

Several studies have found a relationship between segregation and health. As discussed, discrimination is closely related to the concept of segregation. Because segregation remains a pervasive force in the United States, it is important to document studies which establish its relationship to health and health care use. Its pervasiveness makes it difficult to completely disentangle it from perceived discrimination. However an extensive discussion is beyond the scope of this dissertation.

The highly concentrated and segregated poverty areas discussed earlier may have fewer resources for employment and higher rates of violent crime than non-segregated poverty areas,

all of which have been linked to high mortality rates.^{151,152,153} Schulz, Williams, and colleagues have shown that not only is perceived discrimination associated with stress, but that people who reside in such highly concentrated poverty areas can experience negative mental health consequences. The researchers hypothesize that many of the adverse effects seen by race are strongly linked to these socioeconomic dynamics; because blacks are more likely to live in highly concentrated poor urban areas, they will have more stressors.¹⁵⁴

There has been a significant body of research examining the relationship of segregation to health. According to Acevedo-Garcia, segregation can impact health in a number of ways.¹⁵⁵ Isolation, clustering, centralization and concentration can contribute to adverse outcomes by promoting the transmission of infectious diseases. For example, Hart and colleagues showed that blacks and Hispanics in highly segregated zip codes have higher numbers of risk factors for tuberculosis.¹⁵⁶ Acevedo-Garcia did a search of MEDLINE from 1966-2002 and OVID from 1974-2002 to identify all studies containing the term “segregation” or “racial segregation,” finding that segregation was strongly associated with mortality and adverse health outcomes. The majority of these studies used the dissimilarity index (described previously) as the measurement of segregation.¹⁵⁷

¹⁵¹ Williams DR. . Race, socioeconomic status, and health. The added effects of racism and discrimination. *Ann N Y Acad Sci.* 1999; 896: 173-188.

¹⁵² Shihadeh ES, Ousey GC. Metropolitan expansion and Black social dislocation: link between suburbanization and center citycrime. *Soc Forces.* 1996; 75: 649-666.

¹⁵³ Shihadeh ES, Flynn N. Segregation and Crime: The Effect of Black Social Isolation on the Rates of Black Urban Violence *Soc Forces.* 1996; 74: 1325-1352.

¹⁵⁴ Schulz A, Williams D, Israel B et al. Unfair Treatment, Neighborhood Effects, and Mental Health in the Detroit Metropolitan Area. *Jl of Hlth Soc Behav.* 2000; 41:314-332.

¹⁵⁵ Acevedo-Garcia D, Lochner KA, Osypuk TL, Subramanian SV. Future directions in residential segregation and health research: a multilevel approach. *AJPH.* 2003; 93: 215-221.

¹⁵⁶ Hart K, Kunitz S, Sell RR, Mukamel DB. Metropolitan governance, residential segregation and mortality among African Americas, 1998; 88: 434-438.

¹⁵⁷ Acevedo-Garcia D, Lochner KA, Osypuk TL, Subramanian SV. Future directions in residential segregation and health research: a multilevel approach. *AJPH.* 2003; 93: 215-221.

Jackson, in an analysis of data from the National Longitudinal Mortality Survey, linked mortality data to a measure of segregation within census tracts by percentage of black inhabitants. Black men between the ages of 25 and 44 living in the most highly segregated areas had three times the mortality risk of those living in areas of lowest segregation.¹⁵⁸

Income Inequality and Social Capital

There is some evidence that it is not segregation alone, but the income inequality associated with concentrated poverty ghettos that contributes to the adverse affects seen in segregated areas.¹⁵⁹ Minorities living in high poverty ghettos are less likely to be exposed to employed professionals. This can mean that lower-income neighborhoods have fewer human resources available for social networking and can limit the degree of economic stability (and lower the average income) the neighborhood can achieve, thus reducing the amount of social capital available.¹⁶⁰ Research by Ichiro Kawachi and Bruce Kennedy at the Harvard School of Public Health has supported the link between low income, lack of social capital, and poor health. Their studies have found that income inequality, as judged by the Robin Hood Index (which measures the percentage of income that must be redistributed in a population in order to achieve equity) has been linked to higher rates of age-adjusted mortality as well as depression and social anxiety.^{161,162,163,164,165} People with lower levels of social capital also report lower perceived notions of health status.^{166,167}

¹⁵⁸ Jackson SA, Anderson RT, Johnson NJ, Sorlie PD. The relation of residential segregation to all cause mortality: a study in black and white. *AJPH*. 2000; 90: 615-617.

¹⁵⁹ Massy

¹⁶⁰ Wilson WJ. *The Truly Disadvantaged*

¹⁶¹ Waltzman NJ, Smith KJ, Stroup A. The direct and indirect effects of metropolitan area inequality on mortality. *Ann NY Acad Sci*. 1999; 896: 347 - 349.

¹⁶² Kennedy BP, Kawachi I, Prothrow-Stith D. Income Distribution and Mortality: Cross Sectional Ecological Study of the Robin Hood Index in the United States. *British Medical Journal*. 1996; 312: 1004-1007.

¹⁶³ Wilkinson RG. Health, hierarchy and social anxiety. *Ann NY Acad Sci*. 1999; 896:48-63.

Trust

Trust is another concept that can affect an individual's perception of discrimination within the health care setting. Several studies have documented lower levels of trust of the medical establishment by blacks. In a survey of women who failed to respond to a recruitment letter for a cancer trial conducted at the University of Texas, 32.1% of black women versus 4.1% of whites stated that scientists could not be trusted.¹⁶⁸ Boulware and colleagues found that blacks were less likely to trust their physicians and more likely to report concern about experimentation (i.e., that they were being taken advantage of to test experimental treatments or interventions) in hospitals.¹⁶⁹ Another survey found that two-thirds of African-Americans reported perceiving discrimination due to race or socioeconomic status in their interactions with health care providers.¹⁷⁰

Mistrust may impact the patient-physician relationship in myriad ways. Low levels of trust have been correlated with low rates of satisfaction in the patient-provider relationship.¹⁷¹ Blacks have also been shown to be less likely to participate in research trials due to fear of unethical experimentation.^{172,173} In examining barriers to African-American participation in

¹⁶⁴ Lochner KA, Kawachi I, Brennan RT, Buka SL. Social capital and neighborhood mortality rates in Chicago. *Soc Sci & Med*. 56:1797-805, 2003.

¹⁶⁵ Kennedy BP, Kawachi I, Prothrow-Stith D.

¹⁶⁶ Kawachi I, Kennedy BP, Glass R. Social Capital and Self-Rated Health: A Contextual Analysis. *Amer JI Pub Hlth*. 1999; 89: 1187-1193.

¹⁶⁷ Kawachi I et al. Social Capital and Self-Rated Health: A Contextual Analysis. *American Journal of Public Health*. 1999; 89: 1187-1193.

¹⁶⁸ Mouton CP, Harris S, Rovi S, Solorzano P, Johnson MS. Barriers to Black Women's Participation in Cancer Clinical Trials. *J Nat Med Assoc*. 1997; 89:11. 721-727.

¹⁶⁹ Boulware LE, Cooper LA, Ratner LE, LaVeist TA, Powe NR. Race and trust in the health care system. *Public Health Rep*. 2003 Jul-Aug;118(4):358-65.

¹⁷⁰ Bird ST, Bogart LM. Perceived race based and socioeconomic based discrimination with interactions with health care providers. *Eth Dis*. 2001; 11: 554-563.

¹⁷¹ 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; 57 146-161.

¹⁷² Gorelick PB, Harris Y, Burnett B, Bonecutter FJ. The recruitment triangle: reasons why African Americans enroll, refuse to enroll, or voluntarily withdraw from a clinical trial. An interim report from the African-American Antiplatelet Stroke Prevention Study (AAASPS). *J Natl Med Ass*. 90:141-5, 1998 Mar.

research trials through focus group methodology, Corbie-Smith and colleagues found that blacks consistently made reference to experimentation in both research and clinical interactions with physicians.¹⁷⁴ Such perceptions of trust have impacted other aspects of clinical interactions involving African Americans, including AIDS education, end-of-life decisions and organ donation.^{175,176,177,178}

How Well do Perceived Discrimination and Institutional Discrimination Correlate?

Most of the studies looking at discrimination and health have investigated perceived discrimination. Harder to determine is the correlation between perceived discrimination, which is largely a subjective measure, and objective measures of discrimination. Darity, Coleman and Sharpe have used the Multi-City Study of Urban Inequality to evaluate the association between perceived discrimination and discriminatory practices in the workplace. They found that blacks were more likely than whites to report racial discrimination in the workplace as well as less likely to be promoted or receive a raise. These perceptions of wage discrimination as reported by respondents correlated with market wage discrimination estimations for each individual. In fact, the researchers found that even blacks who did not report subjective discrimination also had evidence of such objective wage discrimination.¹⁷⁹

As cited in Darity, one challenge in this area of research is the lack of available data showing a clear link between discrimination and adverse health outcomes. Chapter 3 seeks to

¹⁷³ Shavers-Hornaday VL, Lynch CF, Burmeister LF, Torner JC. Why are African Americans under-represented in medical research studies? Impediments to participation. Review. *Eth & Hlth.* 1997; 2:31-45.

¹⁷⁴ Corbie-Smith G, Thomas SB, Williams MV, Moody-Ayers S. Attitudes and beliefs of African Americans toward participation in medical research. *J Gen Intern Med.* 1999 Sep; 14: 537-46.

¹⁷⁵ Thomas SB, Quinn SC. The Tuskegee Syphilis Study, 1932 to 1972: implications for HIV education and AIDS risk education programs in the black community. *Am JI Pub Hlth.* 1991; 81:1498-505.

¹⁷⁶ Toledo-Pereyra LH. The problem of organ donation in minorities: some facts and incomplete answers. *Transp Proc.* 1992; 24:2162-4.

¹⁷⁷ Krakauer EL, Truog RD. Mistrust, racism, and end-of-life treatment. *Hastings Center Report.* 1997; 27:23-5.

¹⁷⁸ Gamble VN. Under the shadow of Tuskegee: African Americans and health care. *AJPH.* 1997; 87: 1773-1778

address common ways in which researchers have attempted to collect data about discrimination. It also presents existing datasets available to investigate the link between discrimination and health and health care utilization.

¹⁷⁹ Darity WA. Employment discrimination, segregation and health. *AJPH*. 2003; 93: 226-31.

Table 2.1 Massey and Denton’s classification of segregation with sample measurement variables by category¹⁸⁰

Category	Definition	Sample Measurement Variable
Evenness	Distribution of group across a city unit	<ul style="list-style-type: none"> • Index of dissimilarity: 0-1 scale. Measures proportion of minorities that would have to move in order to achieve an even distribution of races in an area • Gini coefficient: 0-1. Mean absolute difference between minority groups weighted across neighborhoods as a proportion of the maximum difference that would occur with complete segregation. • Entropy index: 0-1. Entropy defines the maximum racial diversity in a city (for example 50-50 is maximum diverse.) The entropy index measures deviation from this maximal entropy within a give neighborhood as a proportion of the city’s total amount of entropy. • Atkinson index: 0-1 Similar to gini index but involves variances based on individual neighborhoods
Exposure	Amount of potential interaction between minority and non-minority groups in a city—measures experience of segregation rather than absolute physical space segregation	<ul style="list-style-type: none"> • Interaction index (0-1): measures degree in which members of a racial minority group experience members of the racial majority group. • Isolation index (0-1): measures the extent in which a member of a racial minority group experiences only members of the same minority group.
Concentration	Amount of space occupied by a minority group in an area. Groups which reside in a small section of the city are more concentrated	<ul style="list-style-type: none"> • Correlation ratio: • Delta: Proportion which defines the number of individuals that would have to be redistributed in order to get a uniform distribution of minorities across all units. Numerically is the proportion of individuals of that racial group residing in areas with higher than average concentrations of that racial group.
Centralization	Degree to which a group is located near an urban center	<ul style="list-style-type: none"> • Proportion of individuals living within the central city (PCC): (-1.0 to +1.0) number of individuals of a minority group living within the political bounds of a central city as a fraction of total number in the larger metropolitan area. • Relative centralization index: (-1/0 to 1.0): Relative proportion of one racial group living within a central city unit as compared to another racial group. Positive

¹⁸⁰ Massey DS, Denton NA. The dimensions of residential segregation. Soc Forces 1988; 67: 281-315.

Clustering

Refers to the proximity to which different minority neighborhoods reside to each other.

values indicate that the reference group has a larger number residing within the bounds of the central city.

- Index of absolute clustering within an urban space ($0 < I < 1$): measures average number of members of a particular racial group in nearby neighborhoods as a proportion of total number of members
- Spatial proximity, can be less than, equal to or greater than 1: Measures mean proximity of racial group to members of another racial group.
- Relative clustering (RCL) can be negative, 0 or positive, Compares the mean distance between members of one race to the mean distance of members of another race.

Chapter Three: Measuring Discrimination-General Approaches and Available Surveys

The first part of this chapter will address methods used to measure racial discrimination, outlining strengths and weaknesses of each area. The second half of the chapter highlights existing surveys which have been used by researchers in the past to look at the issue of perceived discrimination.

To reiterate, perceived discrimination refers to a persons' belief that he or she was discriminated against in a particular environment or experience based on inherent physical attributes (race or ethnicity). Perceived discrimination is most commonly studied because of the difficulties in objectively measuring discrimination in the health care setting. The empirical component of this dissertation focuses on this concept of perceived discrimination using data from the Commonwealth Fund Quality of Care Survey. This survey has the benefits of allowing researchers to study both perceived discrimination and health care utilization because it contains responses to both fields of questions. Details about the discrimination variables contained in the Commonwealth Fund Survey are discussed at the end of this chapter.

There are several methodological approaches to measuring racial discrimination. Traditionally most research approaches have used either observational studies (such as datasets) or experimental studies that involve paired tests in either the laboratory or in the natural setting. Each type of research method has advantages and disadvantages. While experimental studies may capture the experience of discrimination more accurately than observational studies, they may be less practical to conduct and may not provide a good measure of how widespread discrimination exists across the population. In contrast, observational studies using datasets such as those collected from surveys can provide a tangible alternative to experiments, one that provides information on the prevalence of discrimination; however, surveys offer information

only from the perspective of the respondents and thus are subject to reporter bias. For example, a survey may provide information about perceived discrimination, but cannot verify experiences of actual discrimination.¹⁸¹

Some researchers argue that the state of discrimination in the United States can be best be assessed through a national report card that relies on field testing across a variety of social measures. If such testing is conducted in a number of metropolitan areas, it will provide a nationwide measure of the prevalence of discriminatory practices spanning multiple settings.¹⁸² The issue of report cards will be further addressed in my discussion of policy options in Chapter 6.

The National Academy of Science, in its publication “Measuring Racial Discrimination”, discusses many of the challenges related to the objective of measuring discrimination. One challenge associated with the development of a national report card is the difficulty of establishing an objective measure of discrimination, in particular one that establishes causality between a discriminatory act and a negative consequence. Experimental studies involving randomized subjects offer the closest thing to a gold standard in establishing causality; however, most discrimination-related studies are likely to occur as “natural experiments” and thus can establish only correlation rather than causality.

As mentioned above, research available to study discrimination falls under two categories—experimental and observational. Chapters 5-8 of the NAS publication outline these two categories with pros and cons of each. A summary of this discussion is presented below.¹⁸³

¹⁸¹ Measuring Racial Discrimination. Prepublication Copy. Panel on Methods for Assessing Discrimination. Ed. Blank RM, Dabady M, Citro CF. Washington DC: National Academies Press. 2004.

¹⁸² A National Report Card on Discrimination in America: The Role of Testing. Ed. Michael Fix, Margery A. Turner. The Urban Institute. 1998. <http://www.urban.org/url.cfm?ID=308024>

¹⁸³ Measuring Racial Discrimination. Prepublication Copy. Panel on Methods for Assessing Discrimination. Ed. Blank RM, Dabady M, Citro CF. Washington DC: National Academies Press. 2004.

Experimental Studies

Experimental studies of discrimination most closely approximate a randomized controlled design since they allow a researcher to vary their experimental subjects in a controlled manner based on race, the main variable of interest. Such experiments can involve making *race* the principal independent variable of interest and evaluating whether a subject would treat a minority person differently than a white person in the same scenario. Alternatively, these experiments can involve making *discrimination* the principal independent variable of interest and seeing whether a person of color reacts differently depending on the presence or absence of discriminatory treatment.

Experimental studies can occur either in the laboratory or field setting. Laboratory experiments occur in a controlled environment as determined by the investigator. For example, a laboratory experiment might study discriminatory reactions in a subject via the use of scripted actors or photos (such as Schulman's study discussed earlier in which researchers presented doctors with pictures of white and black patients and assessed differences in their referral patterns of such simulated patients.)

Laboratory Experiments

In a laboratory experiment, the experimenter can achieve randomized and controlled variation of independent variables of interest. In addition, laboratory experiments can provide a precise measurement of outcomes of interest, such as specific interviewer or applicant behavioral patterns, and can limit the number of confounding factors that may affect behavior and are difficult to control in the setting of a natural experiment. Such characteristics give laboratory

experiments high internal validity, that is, the ability to establish an association between the cause and effect of interest.

However, as outlined by the NAS publication, there are also some negative aspects of laboratory experiments. Because experiments are designed by individual researchers, they are subject to experimenter bias, and outcomes can vary based on subtle variations in how the scenario is presented. In addition, laboratory experiments can test individual aspects of a specific discriminatory action, such as how an individual responds to a person at one point in time, but cannot provide any information about the frequency of the action's occurrence. Thus, although experiments possess a high level of internal validity, they may not be generalizable to real-life situations and therefore lack external validity.

Field Experiments

Field experiments offer the experimenter the possibility of using a randomized design to study discriminatory treatment; however, in this case, the research setting is the natural environment (or "field") rather than the laboratory. Types of field experiments include audit or paired testing. This type of testing involves two sets of actors (auditors), one minority and one white, who are presented to identical scenarios to assess differences in treatment based on race. This approach has been used to evaluate discriminatory practices in a number of settings, such as to assess lending discrimination. In this case, scripted actors of different races but similar supporting documents and behaviors may be sent to a loan officer at a lending institution to apply for a mortgage. The experiment would provide information about the behavior of the loan officer.

As discussed in the NAS publication, an advantage of the field experiment is its ability to achieve randomization as in the laboratory setting. But unlike laboratory experiments, field experiments occur in the natural setting and thus can more accurately mimic real life behavior, increasing generalizability over the more traditional laboratory setting.

Unlike laboratory experiments, field tests don't allow the scientist to evaluate pre-test behavior (i.e., prior to the exposure of interest). Field tests can also be expensive and may be subject to lapses in time between exposures of paired groups during which events may occur that are entirely out of the control of the investigator. For example, in an experiment using paired tests to evaluate housing discrimination, a house may be sold or rented by someone other than the paired assigned subjects before both subjects have completed the experiment.

Field tests also raise questions of external validity, since the experimenter still has some degree of control over the paired subjects, that is, it may be difficult to reproduce the results. Observed differences in the experimental subject's treatment of the paired subjects may also be affected by non-measurable factors other than overt discrimination. For example, auditors may not be accurately matched or representative of real-life characteristics or behaviors of applicants of similar races in the same situation. Similarly, the experimental subject of interest may not actually possess characteristics that are representative of others in the same position (e.g., the loan officer may not act like the majority of other loan officers at a given bank and thus might create a false perception of the predominance of discriminatory behavior at that institution.)¹⁸⁴

¹⁸⁴ Ibid.

Observational Studies

Observational studies rely on data from sources such as surveys and administrative data and use statistical modeling to establish a correlation between discrimination and outcomes. Establishing true causality is more challenging in studies using administrative data than in those using experimental data since, in the former, other factors may have affected an outcome independently of discrimination. Since analysis is based on existing data, observational studies are restricted to those domains that have been already included in the survey tool, which may or may not include all of the important explanatory factors.

Observational data, particularly that which uses surveys, present subjective measures of discrimination, that is, a respondent's report of whether he/she perceived discrimination introducing the possibility of individual bias. Nancy Krieger has identified four principal mechanisms through which such bias can arise. For one, an individual may have internalized discriminatory experiences, believing that he/she *deserves* mistreatment and thus under-reporting his or her experiences of discrimination. Second, different individuals may interpret the same particular action initiated by a majority group as either positive or negative (i.e. what one person finds offensive, the other finds inoffensive), therefore introducing inconsistency to responses to survey questions. Third, an individual may choose to give what he or she believes is a "socially acceptable" answer to a survey question instead of reporting his/her true experiences with discrimination. Finally, individuals may place undue emphasis on discrimination in lieu of taking responsibility for their own actions.¹⁸⁵ Below is a summary of the discussion of observational data surveys and administrative data, as presented in Chapters 5-8 of the NAS publication. The NAS has provided the best summary of these approaches to date; I am

¹⁸⁵ Krieger N. Embodying Inequality: A review of concepts Measures and methods for studying health consequences of discrimination. *Intl J Health Serv.* 1999; 29: 295-352.

highlighting key aspects of this discussion. For a more detailed description, please refer directly to this publication.¹⁸⁶

Surveys

Surveys can be designed to measure individual's perceptions of discrimination. They can be either cross-sectional and/or longitudinal. Examples of prominent surveys with data on discrimination include the General Social Survey (GSS) which includes several questions about discrimination and other socially-related domains. Other surveys are discussed later in this chapter.

Surveys offer a snapshot (or serial snapshots) of an overall population's views of discrimination. Longitudinal surveys offer the added ability of tracing how attitudes change over a period of time. Surveys using a large sample size also allow the scientist to make a general determination of the prevalence of discriminatory attitudes among the general public.

Despite these advantages, however, surveys can also have several disadvantages. For example, as discussed, surveys measure *perceptions* of discrimination rather than actual confirmed discriminatory behavior and may overstate or understate a respondent's actual experiences of discrimination. Surveys do not allow causality to be established, since it is difficult to confirm a direct correlation between expressed attitudes and real-life discriminatory behavior.¹⁸⁷

¹⁸⁶ Ibid.

¹⁸⁷ Measuring Racial Discrimination. Prepublication Copy. Panel on Methods for Assessing Discrimination. Ed, Blank RM, Dabady M, Citro CF. Washington DC: National Academies Press. 2004.

Administrative Data

Studies which use administrative data rely on information collected from governmental or private agencies. For example, the Office of Civil Rights collects data on discriminatory behavior. Since this information is collected as part of government or private reporting requirements, it is often less expensive for the researcher to acquire and is often easy to access given its public nature. Despite these advantages, the major purpose of such data is not for research, and therefore administrative databases may not contain all of the variables of interest and also may lack the academic rigor of surveys and experiments. The completeness of such data can vary depending on thoroughness of the government or private entity collecting and reporting the data. In many cases, available data may not report the full spectrum of discriminatory occurrences.¹⁸⁸ For example, as will be discussed in Chapter 6, the Office of Civil Rights has traditionally not been very aggressive in collecting information about discriminatory occurrences in the health care setting.¹⁸⁹

Observational Datasets with Discrimination Related Questions

Now that I have described the framework outlined in the NAS, I will use this framework to describe various observational datasets available to evaluate the link between discrimination and health.

Observational datasets that accurately measure discrimination are limited in number and scope, particularly ones that provide information on health care outcomes. Few large nationally representative datasets include questions about both discrimination and health. For example, many of the large datasets commonly used to evaluate health and health care utilization on a

¹⁸⁸ Ibid.

¹⁸⁹ Smith DB. Health care divided: race and healing a nation. Michigan: University of Michigan Press, 1999.

national level, such as the National Health Interview Study (NHIS) and the National Health and Examination Survey (NHANES), have extensive information about health but do not include any discrimination-specific measures. (The Hispanic Health and Examination Survey, a substudy of NHANES conducted in 1982-1984, did contain a single question about whether a respondent had been mistreated by a doctor as an explanatory factor for health care utilization, but there was no question about mistreatment based on race.)¹⁹⁰ While these studies could still be useful if linked to other societal measures of discrimination, they cannot in themselves be used to evaluate discrimination specifically in the health care setting. These studies also do not allow us to draw any links between an individual's health care status and his or her experience of discrimination.

There are also a number of datasets addressing discrimination in general society; however, many of these datasets do not include any questions that specifically address health. For example, the Multi-City Study of Urban Inequality (MCSUI) has rich information on both blacks' and whites' attitudes related to discrimination. It was conducted from 1992-1994 and surveyed 8500 households in Detroit, Atlanta, Los Angeles and Boston. It includes information about a wide range of issues such as income, access to jobs, and neighborhood segregation. It also asks respondents about their views of persons from various racial backgrounds, and thus offers perceptions of discrimination from members of both the majority and minority race. Unfortunately, the MCSUI offers no information about health or health status.¹⁹¹

Given that many surveys may include information on discrimination but lack corresponding data on health and health care use, one approach for expanding their usefulness would be to link them with other datasets which have more health-focused information. Such linkages are possible only if different datasets use a common geographic unit, preferably on a

¹⁹⁰ <http://www.cdc.gov/nchs/data/nhanes/hhanes/6521.pdf>

relatively small scale, such as by census tract or zip code. Unfortunately, many of the datasets on discrimination may have information about a particular respondent available only at the state level. In light of this challenge, researchers have often used segregation as a proxy for discrimination. Segregation indices, as described in Chapter 2, can be calculated from census-level data. In fact, many researchers have linked census-level variables with datasets as the NHIS and the NHANES, both of which have rich information on health care status and utilization by geographic area. These linked datasets have been used to examine neighborhood effects, such as segregation, on various health care attributes of respondents.¹⁹²

Segregation and discrimination cannot be assumed to be identical and therefore are not perfect proxies. Segregation, unlike discrimination, can be the result of an active choice of minority individuals to cluster based on race. For example, there are cases where strict racial segregation is actually impacted by individual preferences particularly in the case of segregated high income African American neighborhoods.¹⁹³ However the two are closely related and are often impacted by similar social circumstances. Segregation, particularly that based on class, may be a marker for the disparate opportunities that have occurred as a result of long term discrimination, such as unequal access to housing, economic and employment opportunities.

Although linked datasets can be used to examine the interaction of discrimination with health care, they cannot tell us how individual experiences of discrimination affect health care or health care utilization. This linkage between larger neighborhood effects and individual

¹⁹¹ Inter-University Consortium for Political and Social Research. Documentation for Study No. 2535.
<http://www.icpsr.umich.edu/cgi/cbarchive.prl?study=2535;path=ICPSR>

¹⁹² Krueger PM, Bond Huie SA, Rogers RG, Hummer RA. Neighbourhoods and homicide mortality: an analysis of race/ethnic differences. *J Epidemiol Community Health*. 2004 Mar;58(3):223-30.

¹⁹³ Ross, SL. Segregation and Racial Preferences: New Theoretical and Empirical Approaches, University of Connecticut, Department of Economics Working Papers: 2002-2004.
<http://www.econ.uconn.edu/working/2002-04r.pdf>

outcomes is also subject to two major challenges, as outlined by Nancy Krieger—etiologic period effects and ecologic fallacy. (Although her discussion was directed towards evaluating segregation and health, many of the same concepts apply to evaluating the link between discrimination and health.) Etiologic period effects refer to the issue of residential mobility. Making the link between discrimination, for example, and adverse health outcomes assumes that an individual has been exposed to the same level of discrimination over a prolonged period of time when, in fact, an individual may have encountered various levels of exposure if he/she has moved from one neighborhood or social situation to another. For example, an individual who has lived at one address for 5 years and then moves to another address will likely encounter a different social situation in each address that may lead to variations in the degree of discrimination experienced.

The second issue, ecologic fallacy, refers to the assumption that population- and individual-level factors are consistent, i.e. the conditions that apply to a general population of individuals also apply to a specific representative of that population. Although there may be prevailing associations between neighborhood effects and overall adverse health outcomes, these effects may not persist for a specific individual being evaluated. The larger population level associations may be due to other confounding factors beyond discrimination.¹⁹⁴

Datasets Containing Information on Both Discrimination and Health Care

I will now discuss several datasets that contain questions on both discrimination and health care. The datasets were found through a search of Medline from 1966 to the present (search term: “racial discrimination”) and the University of Michigan database Inter-University Consortium for Political and Social Research (search terms: “discrimination”, “respect,” and

“health”). In addition, I also queried the sociology literature using JSTOR with a specific focus on journals related to African American Studies, Anthropology, Political Science and Public Policy and Administration and Sociology (search terms: “race discrimination,” “racial discrimination,” “discrimination AND surveys”). Other government sites such as the CDC and the National Longitudinal Surveys were similarly queried.

This discussion of surveys below includes only large national surveys that contain items related to discrimination and health or single-site large-sample surveys with public use files available for evaluation with data that has been collected in 1990 or later in the United States. It does not include smaller surveys that evaluate this topic, though some of these were cited in Chapter 2’s discussion of previous work on discrimination and health. . Please see the appendix for a list of survey questions related to discrimination and health for each of the datasets discussed below.

Surveys designed to study discrimination within the larger social context

General Social Survey

The General Social Survey (GSS) is one of the most widely used datasets to evaluate the link between discrimination and outcomes—both those within the dataset as well as though available through linkages with other datasets. The GSS is a biennial survey conducted by the National Opinion Research Center. It was initially fielded in 1972 with its most recent year of data collection occurring in 2002. The GSS has a sample size of 3000 and uses 90-minute in-person interviews. Because it has been in existence for such a long period, it allows researchers to study overall trends in perceptions of discrimination in the United States.¹⁹⁵

¹⁹⁴ Krieger N. *Embodying Inequality*

¹⁹⁵ <http://www.norc.uchicago.edu/projects/gensoc1.asp>. Accessed April 12, 2004.

The GSS asks members of minority groups about their perceptions of discrimination and views of majority groups ; it also asks members of majority groups how they perceive minority groups and anti-discrimination policies. Within the survey are a number of health related questions, such as self-perceived health status, patients' opinions of their doctors, and patient's perceptions of treatment by their doctors. The 1998 survey is the most recent survey available for public use.

A Medline search of GSS's use in the health literature (key word "general social survey") revealed no studies that used the survey to establish a linkage between discrimination and individual health behaviors. Kawachi and colleagues used the GSS to evaluate a link between general levels of discrimination and overall community mortality levels. They found that an overall level of "collective disrespect" of blacks in a given community was associated with higher levels of mortality in both blacks and whites in a given area.¹⁹⁶ Similarly, the authors also used the GSS to establish a link between social capital and mortality as well as with violent crime.¹⁹⁷¹⁹⁸ However, the authors did not control for other factors beyond social capital which could similarly affect mortality, such as access to care and insurance coverage. They also used variables, such as trust and perceived fairness, which were so highly correlated with income inequality that it is difficult to separate out the effects of each on mortality. Moreover, the data allow analysis of social capital only at the state level; however, social capital likely plays the most important role at the neighborhood level.

¹⁹⁶ Kennedy BP, Kawacgu I, Lochner K, Jones C, Prothrow-Stith D. *Eth Dis*1997; 7: 207-214.

¹⁹⁷ Kennedy BP, Kawachi I, Prothrow-Stith D, Lochner K, Gupta V. Social capital, income inequality, and firearm violent crime. *Soc Sci Med.* 1998;46.

Pros and Cons of the GSS

Because the GSS spans several years, it is a good resource for examining nationwide changes in opinions of residents over time. Specifically, it allows researchers to examine individual discrimination as part of a larger social context. Since the GSS is a public use dataset, it is easily accessible. In addition, the survey includes useful questions for the purposes of examining physician-patient relationships and discrimination. For example, it asks respondents whether they trust their physicians and whether the physician “treats you with respect.” One could conceivably use the survey to examine the linkage between patient trust or perceived respect within the health care system and overall views of discrimination in general society. One could also use the survey to link the prevalence of discrimination within a general community to other data about morbidity or mortality. However, the GSS is used mainly to examine national trends. Since the smallest unit of information reported is at the state level, its use is limited for making a link between discrimination and health on a smaller scale.

One disadvantage of the survey is that the 1998 version does not include many questions specifically addressing discrimination within the health care system. There are the questions about trust and respect in the health care setting that may be reasonable proxies but the questions are not specifically targeted to race. The survey also discusses health care utilization only in reference to managed care programs. It would be useful for future research if the survey included questions about health care use in broader settings.

Unfortunately, the questions about health care use as well as health status are limited so the survey cannot be used to establish a correlation between use of the health care system and general perceptions of discrimination within society. (The survey just has one question about

¹⁹⁸ Kawachi I, Kennedy BP, Lochner K, Prothrow-Stith D. Social capital, income inequality, and mortality. *AJPH*; 1997. 87:1491-8.

perceived health status, and it may be difficult to establish a link between discrimination and poor health.) Also, the questions on discrimination ask only about respondents' opinions of blacks and whites—there are no questions about other racial minority groups.

The CARDIA Study

The Coronary Artery Risk Development in Young Adults (CARDIA) study, funded by the National Institutes of Health-National Heart, Lung and Blood Institute (NIH-NHLBI), designed to assess behavioral, socioeconomic, and other risk factors associated with coronary artery disease. The first study was conducted in 1985-1986 and involved 5,115 black and white participants between the ages of 18 and 30 who were recruited from Birmingham, Chicago, Minneapolis and Oakland. Since that time, the study has been administered five additional times to these groups.¹⁹⁹ Participants respond to questionnaires about lifestyle and also undergo physical and laboratory exams to measure skin color, serum lipids, glucose tolerance and a wide range of other testing measures related to coronary disease.

A number of studies have been published using CARDIA data. These studies have investigated the link between health and discrimination in the larger social context both on the individual and institutional level.²⁰⁰ The CARDIA survey not only includes questions on general perceptions of discrimination but also includes questions evaluating how a respondent handles particular life situations such as the “John Henryism” active approach to handling anger, discussed earlier. The most recent CARDIA wave includes a specific form that combines discrimination-related questions with coping strategies (see appendix).

¹⁹⁹ Coronary Artery risk development in young adults. NHLBI Dataset descriptions. www.nhlbi.nih.gov/resources/deca/descriptions/cardia.htm.

Nancy Krieger and colleagues used this dataset to show that blacks who reported that they had never experienced discrimination in social settings and who typically accepted unfair treatment had higher blood pressures than those blacks who acknowledged discrimination and actively dealt with it.²⁰¹ Krieger later studied the impact of the shade/color of skin on individuals' perceptions of discrimination and did not find an association between skin color and blacks' self-reported experiences of discrimination in most social situations. Her findings suggest that skin color is not a good proxy for discrimination and that surveys should instead include questions directly addressing perceived discrimination.²⁰²

Researchers have also used the CARDIA study to evaluate what my model would categorize as indirect discrimination (to reiterate, indirect discrimination refers to factors that are not intentionally meant to be harmful but that nonetheless have a negative impact on minorities.) Karen Matthews and colleagues studied the effects of gains in socioeconomic status over a 10-year period on the development of hypertension among blacks compared to whites. Her analysis assessed socioeconomic status in terms of an individual's educational attainment, income increases, and ability to pay for basic goods. She found that blacks who had difficulty paying and a decline in income had a higher chance of developing hypertension, while there was no relationship between hypertension and educational degree attainment.²⁰³

Diez Roux and colleagues linked neighborhood characteristics such as median household income and other composite factors (e.g., percentage of population who have completed college

²⁰⁰ CARDIA Study Publications, 1987- 2003.http://www.cardia.dopm.uab.edu/p_bopm.htm. Accessed April 18, 2004.

²⁰¹ Krieger N, Sidney S. Racial discrimination and blood pressure: the CARDIA Study of young black and white adults. *AJOH*. 1996; 86: 1370-1378.

²⁰² Krieger N, Sidney S, Coakley R. Racial discrimination and skin color in the CARDIA study: Implications for Public Health Research. *AJPH*. 1998; 88: 1208-1313.

²⁰³ Matthews KA, Kiefe CI, Lewis CE, Liu K, Sidney S, Yunis K. Socioeconomic trajectories and incident hypertension in a biracial cohort of young adults. *Hypertension*. 2002; 39: 772-779.

and percentage in executive positions) with smoking and the development of insulin resistance. They found that living in neighborhoods with lower socioeconomic indicators was associated with the development of insulin resistance. This linkage for smoking was not seen among blacks (except at higher incomes), but was present among whites.^{204,205}

Pros and Cons of the CARDIA Study

As a longitudinal study, the CARDIA study allows researchers to study the impact of exposure to discrimination over time on health consequences of blacks. It is a public use dataset and therefore is easily accessible. It also offers questions about how individuals cope with discriminatory practices. The study offers objective data that can be used to establish a link between discrimination and specific measures of health. The 2000-2001 wave has a specific questionnaire that asks about discrimination in seven different environments including within the health care setting. This allows researchers to study the relationship between health care discrimination and other forms of discrimination in social settings as well as between perceived health care discrimination and health care utilization.

Unfortunately, the questions about discrimination in the health system are generalized, making in-depth evaluation difficult. The survey does not have extensive questions about patient trust or opinions of the physicians within the health care setting. It also does not have any information about the race of the treating physician. Finally, similar to that in the GSS, the study population in the CARDIA study is limited to blacks and whites and therefore the study does not offer information about the impact of discrimination on other ethnic minorities.

²⁰⁴ Diez Roux AV, Jacobs D, Kiefe CI. Neighborhood characteristics and components of the insulin resistance syndrome in young adults: The Coronary Artery Risk Development in Young Adults (CARDIA) Study. *Diabetes Care*. 2002; 25: 1976-1982.

Detroit Area Study, 1995: Social Influences on Health: Stress, Racism, and Health Protective Services

The Detroit Area Study is one of a series of studies designed to evaluate experiences of discrimination within the Detroit Metropolitan area. Designed by James Jackson and David Williams from the University of Michigan, the study surveyed 1,139 individuals in 1995 on issues related to discriminatory stressors and associated health consequences.²⁰⁶

Using data from the Detroit Area study linked with census tract data, Williams showed that black women were more likely than white women to experience stressors in their neighborhood, and that these stressors were often linked to adverse health outcomes.²⁰⁷ The data also revealed an association between neighborhood stressors and substance abuse.²⁰⁸

Pros and Cons of the Detroit Area Study

This survey has an extensive number of questions to assess the prevalence of discrimination among blacks and whites in the Detroit area. The questions ask respondents not only about their views on other races, but about their willingness to live in an area with members of another racial group. Questions are directed to assess general opinions about other races as a whole as well as to get information about specific experiences.

²⁰⁵ Diez Roux AV, Merkin SS, Hannah P, Jacobs DR, Kiefe CI. Area characteristics, individual level socioeconomic indicators and smoking in young adults: the coronary artery disease risk development in young adults study. *Am J Epidemiol.* 2003; 157: 315-326.

²⁰⁶ Jackson, James, and David Williams. Detroit Area Study, 1995: Social Influences on Health: Stress, racism and health protective resources[Computer file]. ICPSR version. Ann Arbor, MI: University of Michigan, Dept. of Sociology, Detroit Area Studies [producer], 2002. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 2002.

²⁰⁷ Schulz A, Israel B, Williams D, Parker E, Becker A, James S. Social inequalities, stressors and self reported health status among African American and white women in the Detroit metropolitan area. *Soc Sci Med.* 2000 Dec;51:1639-53.

The survey includes a range of health questions addressing such issues as personal health problems, mental health stressors, and alcohol and substance abuse. It also includes questions about health care utilization variables, race of physician and perceived treatment within the health care setting. The study allows a linkage not only between individual perceptions of discrimination and health but also between overall neighborhood experiences with discrimination and health.

Unfortunately, most of the discrimination questions are targeted towards experiences in the general social setting. Those which seek to look within the health care setting are limited. Although there are questions related to perceived disrespect in the health care setting, respondents were not asked to distinguish between whether they felt this disrespect was due to their race/ethnicity or other causes.

Because the survey is limited to individuals within the Detroit area, it may not be generalizable to the entire United States population. Finally, similar to the GSS, the questions on discrimination ask only about opinions of blacks and whites—there are no questions about other racial minority groups.

National Survey of Black Americans

The National Survey of Black Americans is a National Institute of Mental Health Study conducted by University of Michigan researchers James Jackson and Harold Neighbors in four waves from 1980 to 1992. The first wave, conducted in 1980, consisted of 2,107 individuals. The most recent wave, conducted in 1992, consisted of 659 respondents, including samples of

²⁰⁸ Boardman JD, Finch BK, Ellison CG, Williams DR, Jackson JS. Neighborhood disadvantage, stress, and drug use among adults. *J Health Soc Behav.* 2001;42:151-65.

persons from prior waves. The original sampling scheme was based on the 1970 census in order to maximize the chance that any black family could be selected for participation.

Thomas LaVeist matched the National Survey of Black Americans with the National Death Index to examine how neighborhood factors affect mortality. He found that segregation was linked to an increased risk of death in the initial cohort of 2,107 individuals studied over the 13-year period. A positive association of segregation and African American mortality was reported.²⁰⁹

Pros and Cons of the National Survey of Black Americans

This survey has questions on both discrimination and health and focuses specifically on blacks. The survey is longitudinal so it can be used to track opinions across time. Health questions related to trust of the medical system are included so that researchers might use it to examine the correlation between discrimination in general society and that perceived by respondents within the health care system.

One disadvantage of the survey is that Wave IV, which is the most recent wave available, is small. Moreover, the responses are somewhat outdated since the last data collection period was in 1992.

Also, the discrimination questions in wave IV are limited and are targeted towards experiences in the general social setting with no health care-specific discrimination questions. Since the survey is restricted to blacks, it cannot be used make inferences about the corresponding opinions of whites or other racial groups.

²⁰⁹ Laveist TA. Racial segregation and longevity among African Americans: an individual-level analysis. : Health Serv Res. 2003;38:1719-33.

The MIDUS Study

The Midlife in the United States (MIDUS) study was fielded in 1995. It sampled adults in the United States between the ages of 25 to 75. A total of 7,189 respondents completed a phone survey and then were mailed a supplemental mail survey. As a correlate, a separate study was initiated for ethnic and racial minorities in urban areas; this study included many of the same questions from the general MIDUS survey.²¹⁰ An analysis of the MIDUS data evaluating all forms of discrimination found no link between racial or gender discrimination and mental health complaints.²¹¹

Pros and Cons of the MIDUS Study

The MIDUS study includes several questions on discrimination and several on health care. Its health care questions include those related to general stresses as well as health care status, access to care and insurance coverage. This allows the researcher to potentially link health care indicators with discrimination in general society. Although one question asks whether an individual's health care was affected by discrimination, the study does not include detailed questions about discrimination as it occurs specifically within the patient-provider setting. In addition, a few of its questions on discrimination lump together all types of discrimination (gender, race, etc.), making it impossible to identify the type of discrimination specifically perceived by the respondent.

Surveys designed to assess discrimination within the health care setting

The Commonwealth Fund Quality of Care Survey

²¹⁰ <http://midmac.med.harvard.edu./research.html>

The Commonwealth Fund Quality of Care Survey, which is used in this dissertation, has a number of domains allowing an exploration of the relationship of perceived discrimination to health care utilization. Respondents form a nationally representative sample of 6,722 adults, age 18 and older, who live in the continental United States and who speak English, Spanish, Mandarin or Cantonese, Vietnamese or Korean. Data were collected between April 30 and November 5, 2001.

The survey relied on data collected through random digit dialing with an oversample of telephone exchanges with higher than average numbers of minority households. In addition to the oversampling based on telephone exchanges, interviews were conducted with members of 394 households, identified from a nationwide demographic tracking survey as having an Asian/Asian American or African American family member. Interviews were conducted in English, Spanish, Mandarin, Cantonese, Vietnamese or Korean depending on the respondent preference. The response rate for the entire sample was 53.1%.

Measures of discrimination in this dataset are presented below in Table I. The next two chapters discuss the discrimination measures of the dataset in more detail and present analysis of the relationship of these measures to health care utilization.

²¹¹ Kessler RC, Mickelson KD, Williams DR. The prevalence, distribution and mental health correlates of perceived discrimination in the United States. *Jl Hlth Soc Beh.* 1999; 40: 208-230.

Table 3.1

Measures of Discrimination in the Dataset

--Did the Doctor treat you with a great deal of respect and dignity, a fair amount, not too much or none at all? (4 point scale)

--Please tell me if you strongly agree, somewhat agree, somewhat disagree or strongly disagree with the statement: I often feel as if my doctor looks down on me and the way I live my life (4 point scale)

--“Thinking about all of the experiences you have had with health care visits in the last two years, have you ever felt that the doctor or medical staff you saw judged you unfairly or treated you with disrespect because of your race or ethnic background?” (yes/no)

--What happened to make you feel you were judged unfairly or treated with disrespect?

-The doctor or staff talked down to me

-Took other patients instead of me/treated other patients better

-Acted negatively or disrespectfully/rude/impolite

-Treated unfairly or unequal

--“Do you think there was ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group?” (yes/no)

Pros/Cons of the Commonwealth Fund’s Quality of Care Survey

Unlike many of the datasets which address discrimination in the general social setting (as outlined in chapter 3), this dataset evaluates perceptions of discrimination specifically in the

health care setting. It also presents measures of general preventive health care utilization. Many prior studies that look at the role of perceived discrimination in the health care setting do not evaluate how such perceptions influence outcomes. The measures of utilization in the Commonwealth Fund dataset allow us to go one step further to describe how such perceptions impact use of health care services.

The survey also includes information about the race of the provider as well as the staff, providing the opportunity to explore the relationship of provider-level factors to patients' perceived discrimination. As a result, the data allow some initial evaluation of the pathways presented in the conceptual model in Chapter 2. (For example, one pathway showed that the lower number of minority physicians available for care within the patient-provider relationship could potentially impact perceived discrimination in the health care setting.)

Although questions in this dataset ask patients about disrespect and unfair treatment, in no place does the actual survey use the word "discrimination." However, the questions included are similar to those found in other surveys addressing discrimination and are reasonable substitutes.

Unlike field studies that directly observe and measure discrimination, this survey relies on self-reported measures of discrimination, i.e., *perceived discrimination*. Therefore, the resulting data do not allow us to identify which specific aspects of the doctor-patient relationship may have influenced the reports of perceived discrimination. As in other observational studies, this survey is subject to the bias of under-reporting or over-reporting of discrimination by individual respondents.

There is also no way to evaluate how the measures of discrimination in the health care setting relate to experiences of discrimination in the larger social setting. Responses may have

been affected by experiences completely outside of the patient-provider relationship, or outside of the health care system. It is difficult to disentangle the influences of general life experiences on perceptions of the health care interaction; for example, respondents who perceive racial bias in other environments, such as the workplace, may also be more likely to perceive it in the health care setting.

Although the Commonwealth Fund Survey has not been used to evaluate the relationship between perceived discrimination and health care utilization, other researchers have investigated related domains using this data. Research by both Saha and LaVeist in the 1994 version of the survey did document patient preference of same race physicians, as well as improved utilization of services and satisfaction of care when patient-physician relationships were race concordant.

²¹²²¹³²¹⁴ This relationship, however, was not demonstrated in the 2001 version of the survey, which was used for this dissertation.²¹⁵ Using the current version of the survey, Johnson and colleagues also looked at measures of perceived respect and found that patient-doctor communication factors also played an additional role in whether minority patients had negative experiences in the patient doctor relationship.²¹⁶

Other than the Commonwealth Survey, there are no studies that have questions on both perceived discrimination as well as utilization measures all combined within one dataset. For this reason, the Commonwealth data represents a unique opportunity to examine the link of perceived discrimination with outcomes. Because of this, the Commonwealth Survey is used as

²¹² Saha S, Taggart SH, Komaromy M, Bindman AB. Do patients choose physicians of their own race? *Health Affairs*. 2000; 19:76-83.

²¹³ LaVeist TA, Nuru-Jeter A, Jones KE. The association of doctor-patient race concordance with health services utilization. *Jl Pub Hlth Pol*. 2003; 24:312-23,.

²¹⁴ Laveist TA, Nuru-Jeter A. Is doctor-patient race concordance associated with greater satisfaction with care?. *Jl of Hllth Soc Behav*. 2002; 43:296-306.

²¹⁵ Saha S, Arbelaez JJ, Cooper LA.

²¹⁶ Johnson RL, Saha S, Arbelaez JJ, Beach MC, Cooper LA. Racial and ethnic differences in patient perceptions of bias and cultural competence in health care. *JGIM*. 2004; 19:101-10.

the focus of my dissertation to address the issue of health care discrimination and utilization, an issue which has not been well studied in the past. In addition, it has data on racial concordance of providers, allowing a targeted analysis of concrete measures that can be impacted through policy interventions that will be discussed in Chapter 6.

Chapter Four: An Empirical Analysis of the Effect of Perceived Discrimination on Health Care Utilization

As earlier chapters in this dissertation have outlined, there are numerous pathways through which discrimination can impact health care utilization. Based on the conceptual model presented in Chapter 2, the patient-provider relationship is one such area in which discrimination can arise. Such discrimination can be initiated by the provider, most often subconsciously as described by Michelle Van Ryn²¹⁷, or can be in turn perceived by the patient in response to prior experiences in health care or other settings.

Prior research has demonstrated a link between perceived discrimination and lower levels of satisfaction with the health care system.²¹⁸ In one survey, two thirds of respondents reported feeling discriminated against in their interactions with health care providers due to their race or socioeconomic status.²¹⁹ There is less evidence examining the relationship between perceived discrimination and quality and outcomes of care.

This chapter seeks to further examine the role that perceived discrimination has on utilization measures. Specifically, I will evaluate who is more likely to feel discriminated against in the health care setting, and how such perceptions impact utilization of various health care services, with a focus on preventive care.

I hypothesize that minority patients and those that do not speak English, more often perceive negative experiences with the health care encounter than do whites or English speakers.

²¹⁷ Van Ryn M. Understanding and addressing provider contribution to disparities. Grantmakers in Health Powerpoint presentation 11/6/03.

²¹⁸ 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;57 Suppl 1:146-61.

²¹⁹ Bird ST, Bogart LM. Perceived race based and socioeconomic based discrimination with interactions with health care providers. *Eth Dis.* 2001; 11: 554-563.

I further hypothesize that patients who report such negative experiences are less likely to seek preventive care or return for follow-up care when needed.

Sample

Data for this analysis comes from the Commonwealth Fund 2001 Quality of Care Survey discussed in the previous chapter. The sample was weighted to correct for the disproportionate sample design (such as oversampling minority racial groups) and to assure that the sample is representative of all adults age 18 and older based on the March 2001 Current Population Survey (CPS). The final weighted sample is therefore representative of the 193 million adults in the United States who have telephones.²²⁰ Analysis was performed using STATA Version 6.0²²¹ on the weighted sample.

Methods

Data from the survey were used first to explore the relationship between sociodemographic measures and measures of perceived discrimination. Next, the impact of perceived discrimination on utilization was evaluated.

Dependent variables:

Negative perceptions of the patient-provider relationship

The measures of discrimination used in this stage of analysis included questions about being treated with respect, feeling looked down upon, feeling that unfair treatment was received

²²⁰ Methodology: Survey on disparities in quality of health care: Spring 2001. Prepared by the Princeton Survey Research Associates for Commonwealth Fund. 2002.

²²¹ STATA Corporation. STATA Version 6.0.

because of race, and feeling that better treatment would have been received had the respondent been of a different race. Items included for evaluation were:

1. “Did the doctor treat you with a great deal of respect and dignity, a fair amount, not too much, or none at all?” (Asked of respondents who visited doctor or clinic or been admitted to hospital in last 2 years; possible responses were: great deal, fair amount, not too much, none at all, don’t know, refused)
2. Please tell me if you strongly agree, somewhat agree, somewhat disagree or strongly disagree with the statement “I often feel as if my doctor looks down on me and the way I live my life.” (Asked of all respondents; possible responses were: strongly agree, somewhat agree, somewhat disagree, strongly disagree, don’t have a doctor, don’t know, refused)
3. “Thinking about all of the experiences you have had with health care visits in the last two years, have you ever felt that the doctor or medical staff you saw judged you unfairly or treated you with disrespect because of your race or ethnic background?” (Asked of respondents who visited doctor or clinic or been admitted to hospital in last 2 years; possible responses were: yes, no, don’t know, refused)
4. “Do you think there was ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group?” (Asked of all respondents; possible responses were: yes, no, don’t know, refused)

I examined a number of options to examine the four principal variables both alone and in concert. This included evaluating correlation coefficients and conducting a series of factor analyses to determine the relationships among these items. In order to do these preliminary tests, variables that were answered on a scale (i.e. did not have simple yes/no answers) were first collapsed into binomial responses for consistency and simplicity of analysis. For example, the variable “treated with disrespect” was considered positive if a respondent answered “strongly agree” or “somewhat agree” to question 1 above: “Please tell me if you strongly agree, somewhat agree, somewhat disagree or strongly disagree with the statement ‘I often feel as if my doctor looks down on me and the way I live my life’”; all other responses to this question were considered negative. Similarly the variable “looked down upon” derived from question 2 above was considered positive if the respondent answered “strongly disagree or somewhat disagree to the statement: “Did the doctor treat you with a great deal of respect and dignity, a fair amount, not too much, or none at all?”; all other responses to this question were considered negative.

The individual items were weakly correlated, with the exception of the variables “being treated unfairly because of race” and “would have gotten better care if belonging to a different race”, which was moderately correlated with a correlation coefficient of 0.42 (see table 4.1 for a detailed table of correlation coefficients).

Principal components factor analysis was also performed to evaluate additional ways to group the variables. Eigenvalues for all factors were less than 1, suggesting no one factor explained more variability than the individual variables did alone (based on Kaiser’s rule). The first factor, which had the highest Eigenvalue of 0.75, had a factor loading of 0.55 and 0.54 with the “being treated unfairly because of race” and “would have gotten better care if belonging to a different race” respectively, suggesting a modest correlation with these two variables. Please

see table 4.2 for list of Eigenvalues and factor loadings. Because of the relatively low degree of variability explained by the factors, individual items were evaluated without the use of these derived factors.

Asians were least likely to report being ‘treated with respect,’ while blacks and Hispanics were more likely to report that the ‘doctor looks down on me.’ Because both response items describe negative perceptions of the health care encounter and so that we could preserve sample size for our analyses, I combined responses indicating that respondents felt they were treated with disrespect and those indicating they felt looked down on to create a single dichotomous variable characterized as “being treated with disrespect” (see table 4.3).

Those who stated that they did not have interactions with a doctor during the prior 2 years were unable to answer 3 and were excluded from analysis relating to this question. Those who were excluded from this question (n=712) were more likely to be minority, male, have incomes less than 100% and were less likely to have a college education or chronic disease. Since it is expected that persons who were minority or lower incomes would be more likely to perceive being treated unfairly in the patient-doctor relationship, the effect of these exclusions could potentially bias our results by minimizing the actual degree of perceived mistreatment that actually existed in these populations. See table 4.4 for a table for of demographics of excluded vs. included participants.

A smaller proportion of respondents were also excluded from the analysis of the combined disrespect/look down variable. This occurred because question 1 (treated with disrespect) was asked only of participants who had been seen by a doctor during the prior 2 years and question 2 (looked down variable) was asked of all participants. Therefore only participants who responded “did not have a doctor” to question 2 were excluded (n=59). Participants who

were excluded from this question were more likely to be Hispanic, uninsured non-English speaking or not report their incomes. They were less likely to be college educated or have a chronic illness (Please see table 4.5).

The final grouping of variables used in analysis, including excluded criteria for each variable, is listed in table 4.6. Refusals and don't know responses were grouped as a negative response in order to be conservative. This grouping could possibly bias the results to minimize the prevalence of perceived discrimination in the patient-doctor relationship.

Utilization and optimal care

Self-reported use of services was examined, including whether respondents had a physical exam within the past year. Although the use of these self-reported measures has several limitations, such as respondent inaccuracies and recall bias (see discussion section), these were the best available outcomes for analysis since no chart review or other objective ways to confirm responses were available. For cancer screening and care for chronic disease, two variables were created to represent 'optimal care' (optimal cancer screening and optimal chronic disease care). For example, optimal cancer screening involves being up to date on *all* tests, based on age and gender based on established practice guidelines²²², for which the individual was eligible. These tests included: colon cancer screening within the prior year (for respondents over age 50), cervical cancer screening within the prior 3 years (all women over age 18), mammography within the prior year (women over age 50), and any history of PSA test or rectal exam for prostate cancer screening (men over age 50). We excluded men less than 50 years of

²²² National Comprehensive Cancer Network, Practice Guidelines in Oncology. http://www.nccn.org/professionals/physician_gls/ Accessed 3/1/2005.

age from this analysis since colon or prostate cancer screenings are not routinely recommended in this age group.

There is some variability in cutoff ages depending on the particular guideline. For example the National Comprehensive Cancer Network recommends that cervical cancer can be discontinued at age 70 and that annual screening for mammography should start at age 40. The United States Preventive Services Task Force recommends mammography every 1-2 years at age 40 and annually at age 50.²²³²²⁴ In order to address this issue, I also examined the effect of lowering the required age of mammography to 40, lowering the required age of prostate screening to age 40 and limiting the upper age for cervical cancer screening to age 65. (see discussion section.)

Respondents were considered to have optimal chronic disease testing if they reported receiving *all* of the appropriate testing relevant for their particular condition. For diabetics, this included having a Hemoglobin A1c level checked within the past 6 months, a blood pressure check, as well as foot and eye exams within the prior year and cholesterol testing within 5 years; for those with heart disease and/or hypertension optimal screening included having had blood pressure checked within the prior year and cholesterol testing within the prior 5 years. This approach for determining “optimal screening” is consistent with that of McBean et al., who have shown that a combination of appropriate tests is more predictive of glycemic control for diabetes.

²²⁵ Because I was interested in different aspects of patient-initiated care seeking, I also evaluated

²²³ National Comprehensive Cancer Network, Practice Guidelines in Oncology. http://www.nccn.org/professionals/physician_gls/ Accessed 3/1/2005.

²²⁴ U.S. Preventive Services Task Force. Screening for breast cancer: recommendations and rationale. *Ann Intern Med* 2002;137:344-6.

²²⁵ McBean M et al. Racial Variation in the Control of Diabetes Among Elderly Medicare Beneficiaries. (submitted for publication.)

delays in seeking care and adherence to physician recommendations as further measures of outcome. I focused on the specific survey questions:

- “During the last 12 months, was there any time when you had a medical problem but put off, postponed or did not seek medical care when you needed to?”
- “Has there been a time in the last two years when you didn’t follow the doctor’s advice, or treatment plan, get a recommended test or see a referred doctor?”
(asked of respondents who had visited a doctor or clinic or had been admitted to the hospital in the last two years.)

Demographic Variables

Demographic variables were included to control for various socioeconomic characteristics that could have potentially affected our analysis (described below.) I dichotomized education into high school graduate or less, and some technical school/college and more. I dichotomized the primary language spoken at home into non-English vs. English, and used federal poverty level groupings, <100%, 100-200% and >200% to categorize household income. Almost 19 percent of respondents did not report their incomes, so I created a dummy variable to account for those with unreported incomes. I classified insurance status as no insurance versus any (both public and private) and race/ethnicity as white, black, Hispanic, Asian, and other (Native American, mixed race or other.)

I also tested the model alternatively dichotomizing income into less than 20,000 a year as well as greater than 20,000 a year instead of using the federal poverty cutoff levels described above. Although bivariate results are presented, the final model utilized the federal poverty

groupings, which was based on an index of the federal poverty level and household size and therefore gave a more accurate view of income.

Analysis

To test the first hypothesis, I examined associations between demographic characteristics, utilization variables, and negative perceptions of the health care encounter using chi-squared tests and multivariate logistic regression. I examined the effect of these variables alone and in concert. For example, I first calculated predicted percentages to evaluate the combined effects of race and gender, as well as race and education, in relationship to our outcome variables without interactions in order to preserve a greater sample size. Using this approach assumes that the combinations had a linear and additive affect but did not alter the slope of the relationship between the dependent and independent variables.

Next I used interaction terms to evaluate the combined effects of race and gender, race and income and race and insurance assuming that these interactions could possibly change the slope of the relationship between the dependent and independent variables, (i.e. the combined independent variables exerted a steeper, or more dramatic impact on the dependent variable than each of the individual independent variables did alone) .

Finally, I used multivariate logistic regression to test the relationship between negative perceptions of the patient-provider relationship and my utilization variables. In these analyses, perceptions were the covariate of interest; I controlled for patient characteristics that could also influence utilization, including education, income, insurance status, presence of a primary physician and existence of a comorbid condition (in this case, hypertension, diabetes, heart

disease, asthma and cancer.) This last variable was, by necessity, excluded from the analysis involving optimal chronic disease testing.

Results

Table 4.7 describes demographic characteristics and utilization measures for our sample. Consistent with prior literature, our analysis found that blacks and Hispanics had lower incomes and higher rates of uninsurance than both whites and Asians. For Blacks, almost 16% lived below 100% of the federal poverty level and over 25% lived between 100-200% of the federal poverty level. For Hispanics, 23% lived under 100% of the federal poverty level and over 23% lived between 100-200% of the federal poverty level. In contrast, less than 8% of whites and 11% of Asians reported incomes less than 100% of poverty; while just over 17% of whites and 16% of Asians reported incomes between 100-200% of poverty. Slightly over 20% of Blacks were uninsured and 32% percent of Hispanics were uninsured versus less than 11% of whites and under 14% of Asians. Eighteen percent of those who were classified as “other race” were uninsured.

Hispanics had the highest rates of respondents for whom English was not the primary language. Only 59% of Hispanics reported that they spoke English primarily at home. Almost 92% of Asians reported speaking English at home. Almost all whites and blacks (over 99%) spoke English at home.

Hispanics and Asians were less likely than whites to have received optimal chronic disease care, while blacks and Hispanics were more likely than whites to have received optimal cancer screening. There were no differences between racial/ethnic groups in not following the doctor’s advice or in putting off care.

Negative perceptions of the patient-provider relationship:

Chi squared analysis examining the bivariate relationship between demographic characteristics and negative perceptions of the patient-provider relationship are shown in table 4.8. As expected, members of racial minority groups were all significantly more likely than whites to report being treated with disrespect, being treated unfairly because of race and that they would have received better care if belonging to a different race. Approximately 19% of Blacks, 23% of Hispanics, 26% of Asians and 16% of individuals belonging to other races were found to report being treated with disrespect versus less than 12% of whites ($p < 0.05$ for all comparisons between each race and whites.) Similarly uninsured respondents and those in the lowest income levels—whether grouped by federal poverty cutoffs or absolute income cutoffs-- were also more likely to report all three perceptions.

Persons for whom English was not the primary language were also more likely to state that they had been treated with disrespect and to report that they believe they would have received better care if they had been of a different race. Men were more likely to report being treated with disrespect as compared to women (approximately 15% of men vs. 12% of women.)

Percentages of respondents who reported negative perceptions controlling for other demographic characteristics were predicted and reported in table 4.9. Actual correlation coefficients used to make these predictions are shown in Appendix 2, tables A.2.1-A.2.3. Bivariate relationships persisted after controlling for other respondent characteristics, including education and income; however income was no longer found to have a significant relationship with the variable “would have received better treatment if belonging to a different race.”

Based on predicted percentages, over fourteen percent of blacks ($p = 0.067$), 19% of Hispanics ($p < 0.001$) 20% of Asians ($p < 0.001$) and 15% of members of other races ($p = 0.032$)

reported that they had been treated with disrespect by their doctor versus only 9% of whites. Members of these groups were also more likely than whites to report that they were treated unfairly because of their race and that they would have received better care if they had belonged to a different race ($p < 0.001$ for all races). (Table 4.9)

As in the bivariate analysis, men were also significantly more likely than women to perceive being treated with disrespect in the patient-provider relationship when controlling for other demographic characteristics (15.9% vs 11.6%),

Education was similarly associated with perceptions of disrespect. Almost 18% of persons without a college education felt that they had been treated with disrespect, versus only 10% of those with a college education. Minorities with lower education appeared to be more likely to have this perception. Twenty nine percent of Asians, 22% of Hispanics and 19% of blacks versus 13% of whites without a college education reported being treated with disrespect or being looked down upon.

I also used the model to evaluate the combined linear effects of race with a number of covariates including gender, income and insurance on the dependent variables of interest. Table 4.10 shows predicted percentages for variables which combined the effects of race and income, race and gender and race and education, and race and insurance. (See Appendix 2, tables A.2.4-A.2.6.) For all combinations, there was a magnified increase in percentages or respondents who reported negative perceptions in the patient-provider relationship when the variables were examined in concert as compared to individually ($p \leq 0.001$ for all linear combinations.) The combined effects of race and insurance had the greatest impact with 22% of uninsured blacks reporting disrespect, 26% of Hispanics, 31% of Asians and 24% of members of other racial groups (see table 4.12.)

Interaction terms were also to examine whether race had a significant interaction with gender, income and insurance. I introduced separate models with interactions for each race and gender, each race and income and each race and insurance. Correlation coefficients are shown in appendix 2, tables A.2.7-A.2.15. See tables 4.11-4.13 for the predictions from these coefficients.

Tables 4.11 shows the percentages for demographic characteristics for the model with interaction terms added for race and gender. There was no significant effect of the interaction between race and gender and perceived disrespect in the patient provider relationship. However the relationship between unfair treatment because of race and the interaction between gender and Asian race, as well as gender and Hispanic race, was significant at $p < 0.10$ suggesting that race and gender exerted a slightly different effect on this perception than did each individual variable alone (ie had a different slope.) The predicted percentages were slightly less than the predicted percentages of the linear combinations noted in table 4.10.

The interaction between race and income was found to be significant only for the variable “would have received better treatment if belonging to a different race”. With the exception of the interaction between Hispanics and income, most of the racial-income interactions showed a more pronounced effect between negative perceptions in the patient-provider relationship for persons at the lowest income level (less than 100% of poverty.) Sixteen percent of Blacks with incomes less than 100% of poverty reported that they would have received better treatment if belonging to a different race, versus 15% of Blacks in general. In contrast, 10% of Hispanics with incomes less than 100% of poverty reported being treated unfairly because of race versus 13% of Hispanics in general. (See table 4.13.)

There was no significant relationship demonstrated between the interaction for race and insurance and any of the negative perceptions with the exception of Asian race and “would have received better treatment if belonging to a different race” ($p=0.095$). This suggests race and insurance did not have a differing relationship with our dependent variables of interest beyond those exerted by each of the variables individually.

Impact on Care:

We examined the relationship between the negative perceptions described above and health care utilization. Appendix 2 shows all coefficients from each individual regression with the negative perceptions described above as the key independent variable of interest and demographic variables as covariates (see tables A.2.16-A.2.30). Table 4.14 shows the predicted percentages from these individual regressions.

Respondents who reported being treated with disrespect were significantly less likely to have had a physical exam within the prior year. Forty one percent of persons reporting being treated with disrespect reported receiving an exam versus almost 49% of those who were not treated with disrespect ($p<0.10$.) Respondents with diabetes, hypertension or heart disease were less likely to have received optimal care (ie having a Hemoglobin A1c level checked within the past 6 months, a blood pressure check, as well as foot and eye exams within the prior year and cholesterol testing within 5 years; for those with heart disease and/or hypertension optimal screening included having had blood pressure checked within the prior year and cholesterol testing within the prior 5 years.) Less than 59% of persons with chronic disease who perceived disrespect in the patient-provider relationship reported receiving these optimal exams versus 76% of those who did not report disrespect. These respondents were also more likely to report

not following the doctor's advice and putting off needed care (Tables 4.14.) This relationship was not seen for optimal cancer screening.

Persons who felt that they had been treated unfairly due to their race and who felt that they would have received better care if they had been a different race, were more likely to ignore the doctor's advice and put off care when medically needed. Almost 47% of persons who felt that they had been treated unfairly due to race reported not following the doctor's advice in the past versus 24% of those who did not have this perception. Similarly 41% had delayed care in the past, versus 20% of others. Those who felt that they would have received better care if they had been of a different race were also less likely to receive optimal chronic disease care. (See table 4.14.)

Discussion

I hypothesized that patients who have negative perceptions of the patient-provider relationship would be less likely to seek needed care, and that reports of such feelings would be more prevalent among minority patients. As anticipated, large proportions of blacks, Hispanics and Asians report that they were treated with disrespect, were treated unfairly or would have received better care if their race had been different. Male gender and lower educational attainment were also associated with perceived disrespect, particularly among minorities.

The finding of greater likelihood of perceived disrespect among minority groups, men, and those with lower levels of education is particularly important in light of the strong relationship between such reports and the quality of care that patients receive. Those who reported that they were treated unfairly because of race were less likely to get a routine physical exam, follow a doctor's advice, or receive appropriate secondary preventive care for diabetes,

heart disease and hypertension. In other words, negative experiences within the health care environment may jeopardize care for medically needy patients. Receipt of suboptimal care, particularly in the context of chronic disease, is likely to be associated with worse health outcomes, and may contribute to disparities.

While the relationships between negative perceptions and receipt of care for chronic disease and receipt of a routine physical examination were strong, the correlation did not persist for cancer screening. Black and Hispanic respondents were *more* likely than whites to receive optimal cancer screening, a finding that has been reported elsewhere.^{226,227} We hypothesize that this is in part because a wide array of community programs (such as health fairs) make special outreach efforts allowing the patient to “bypass” the traditional office environment (i.e., a clinic or doctor’s office).²²⁸ These settings may be more likely to use culturally sensitive approaches or may be transient so that negative perceptions based on race or income may be less likely to form. However, based on our finding that individuals who report negative perceptions of the patient-provider relationship are less likely to get follow-up care (e.g., for diabetes management), I hypothesize that individuals who receive initial cancer screening might be less likely to follow up on abnormal results. It may be the case that in situations requiring long-term patient-provider relationships, such as chronic disease care, patients’ perceptions of discrimination and disrespect may take the greatest toll. This hypothesis is supported by previous literature which has

²²⁶ Screening for colorectal cancer. United States, 1997. MMWR. 1999; 48: 116-121.

²²⁷ Martin LM, Parker SL, Wingo PA, Health CW Jr. Cervical cancer incidence and screening: status report on women in the United States. Cancer Pract. 1996; 4: 130-4.

²²⁸ Coughlin SS, Thompson TD, Hall HI, Logan P, Uhler RJ. Breast and cervical carcinoma screening practices among women in rural and nonrural areas of the United States, 1998-1999. Cancer. 2002;94: 2801-12.

consistently reported excess mortality despite higher cancer screening rates among blacks.^{229,230,231,232,233}

This study has several limitations, many of which were outlined in chapter 3. To briefly reiterate, this survey relies on self-reported measures of discrimination and therefore cannot allow us to identify what specific areas within the patient-doctor relationship affected perceptions. Responses may have been affected by experiences within the general social setting rather than specifically within the health care environment.

In addition, self-reported utilization measures may not always be accurate, particularly regarding cancer screening.^{234,235} Next, despite the deliberate oversampling of major race/ethnic groups, I was limited in my ability to examine important subgroups within them, whether related to ethnicity (e.g., Cuban, Vietnamese) or chronic condition (e.g., asthma, diabetes), even though some groups may differ dramatically from others. There were also insufficient numbers of Native Americans to analyze separately in a manner that would have produced meaningful and methodologically sound results. The small numbers of Native Americans echoes a problem recurrent in disparity research and unfortunately there has been insufficient research extensively evaluating health care issues among this population given these sampling issues in many of the

²²⁹Martin LM, Parker SL, Wingo PA, Heath CW. Cervical cancer incidence and screening: status report on women in the United States. *Cancer Pract.* 1996; 4:130-4.

²³⁰ Shelton D; Paturzo D; Flannery J; Gregorio D. Race, stage of disease, and survival with cervical cancer. *Ethn Dis.* 1992; Winter: 47-54.

²³¹Wingo PA, Tong T, Bolden S. Cancer statistics. *CA Cancer J Clin.* 1995; 45: 8-30.

²³² Simon MS; Severson RK. Racial differences in survival of female breast cancer in the Detroit metropolitan area. *Cancer.* 1996; 77: 308-14.

²³³Behavioral Risk Factor Surveillance Survey. www.cdc.gov. Accessed February 2003.

²³⁴Lipkus IM. Colorectal screening patterns and perceptions of risk among African-American users of a community health center. *J Community Health.* 1996; 21: 409-27.

broader surveys. In the future greater efforts should be made to oversample such underrepresented populations to more effectively assess issues related to health care utilization. I also excluded respondents who did not have a regular doctor because they were unable to answer key questions about the health care encounter. Finally, there is no agreement on the definition of age-appropriate breast and cervical cancer screening^{236,237} I conducted additional analyses that varied the age criteria for testing, including starting the required age for screening at age 40 (for breast cancer) as well as setting the age cut off for required screening at 65 (for both breast and cervical cancer screening), and found that the results were essentially unchanged from those presented. Similarly, the utility of prostate screening has also been questioned. Removing prostate cancer from consideration in composition of optimal cancer screening variable also did not alter results significantly.

Although it is difficult to findings suggest that there may still be a substantial core of individuals who will actively avoid care, perhaps based on previous negative interpersonal experiences in getting care. Interventions aimed at both doctors and potential patients will be required to address this. Future research is needed to focus on which approaches can best improve perceptions of care within the patient-provider relationship and how such interventions can reduce racial disparities in health care. In chapter 6, I will discuss many of the policy approaches that can address issues related to these perceptions.

²³⁵McGovern P, Lurie N, Margolis K, Slater J. Accuracy of Self-Report of Mammography and Pap Smear in a Low-Income Urban Population. *Amer J of Prev Med.* 1998; 14: 201-08.

²³⁶Saslow D, Runowicz CD, Solomon D et al., American Cancer Society guideline for the early detection of cervical neoplasia and cancer. *CA Cancer J Clin* 2002; 52: 342-62.

²³⁷U.S. Preventive Services Task Force. Screening for breast cancer: recommendations and rationale. *Ann Intern Med* 2002;137:344-6.

Table 4.1
Correlation Coefficients for Individual Variables Measuring Discrimination/Negative Perceptions in the Patient-Provider Encounter

	Treated with Disrespect	Looked Down Upon	Treated Unfairly Because of Race	Would Have Been Treated Better if Belonging to A Different Race
Treated with Disrespect	1.000			
Looked Down Upon	0.1769	1.0000		
Treated Unfairly Because of Race	0.1357	0.1208	1.000	
Would Have Been Treated Better if Belonging to A Different Race	0.1117	0.1066	0.4292	1.000

Table 4.2
Principal Components Factor Analysis of the Individual Variables Measuring
Discrimination/Negative Perceptions in the Patient-Provider Encounter

4.2.1 Eigenvalues

Factor	Eigenvalue	Difference	Proportion	Cumulative
1	0.75253	0.62006	1.5400	1.5400
2	0.11246	0.24408	0.2364	1.7765
3	-0.13161	0.10611	-0.2767	1.4998
4	-0.23772	-	-0.4998	1.0000

4.2.2 Factor Loadings

	1	2	Uniqueness
Treated with Disrespect	0.26230	0.21239	0.88609
Looked Down Upon	0.24852	0.21701	0.89114
Treated Unfairly Because of Race	0.55547	-0.08928	0.68348
Would Have Been Treated Better if Belonging to A Different Race	0.54167	-0.11085	0.69430

Table 4.3
Looked Down Upon vs. Treated with Disrespect: Responses by Race;
Proportions (Absolute Numbers)

“Did the doctor treat you with a great deal of respect and dignity, a fair amount, not too much, or none at all?”

	Great Deal	A fair amount	Not too much	None at all	Don't Know	Refused (9)
Total (6008)	.756 (4387)	.216 (1428)	.016 (117)	.007 (44)	.003 (30)	.0003(2)
White (3205)	.767 (2438)	.209(681)	.013(52)	.007(23)	.003(10)	.0004(1)
Black (947)	.749 (693)	.223(234)	.017(12)	.004(4)	.004(4)	0
Hispanic (969)	.758 (706)	.206(227)	.021(19)	.011(11)	.004(6)	0
Asian (561)	.593(318)	.346(207)	.037(24)	.008(3)	.013(8)	.004(1)
Other Race (326)	.743(232)	.215(79)	.029(10)	.012(3)	.0008(2)	0

Please tell me if you strongly agree, somewhat agree, somewhat disagree, or strongly disagree: I often feel as if my doctor looks down on me and the way I live (refused was small-left out this column here for space)

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't have a doctor	Don't Know	Refused
Total (6722)	.050 (311)	.063 (457)	.137(918)	.709 (4735)	0.014(98)	.022 (182)	.003(21)
White (3488)	.036 (106)	.055 (184)	.136(461)	.741 (2615)	0.013(48)	.016 (66)	.003(8)
Black (1037)	.0822(66)	.061(63)	.114(133)	.699(735)	0.008(6)	.035(30)	.001(4)
Hispanic (1153)	.090 (82)	.092(104)	.131(143)	.619(753)	0.030(32)	.033(35)	.004(4)
Asian (669)	.071(35)	.138(83)	.218(117)	.519(396)	.004(3)	.043(32)	.007(3)
Other Race(375)	.080(22)	.062(23)	.143(64)	.643(236)	.022(9)	.044(19)	.005(2)

Table 4.4

Differences in Demographic Characteristics of Those Excluded and Included from Analysis of the Question 3—“Treated Unfairly Because of Race”.^a

	Included <i>(n=6008)</i>	Excluded <i>(n=714)</i>
Race		
Whites	70.2	59.7*
Black	11.1	10.1
Hispanic	9.4	17.2*
Asian	4.0	6.2
Other	5.4	6.8
Gender		
Male	42.7	68.5*
Age (in years)		
18-65	82.8	90.2*
% 65+	17.1	9.8*
Education		
High School Grad or less	44.9	58.5 *
Some College/Technical School or more	55.1	41.5*
Income as Percent of Poverty Level		
<100%	10.1	11.9
100-200%	18.4	18.7
>200%	53.4	44.2*
Unknown	18.1	25.3*
Insurance Status		
No insurance	12.9	27.4*
Medicaid	3.5	2.6
All other insurance	83.9	70.0*
Presence of Chronic Illness^b	54.2	24.3*
English as primary language spoken at home	96.0	90.8*

^aChi squared analysis comparing Groups included and excluded from analysis

^bHypertension, heart disease, diabetes, asthma

* Statistically significant difference detected between included and excluded groups, p<0.05

Table 4.5
Differences in Demographic Characteristics of Those Excluded and Included from Analysis of the Combined Disrespect/Look Down Variable (Combined from Questions 1 and 2)^a

	Included (n=6663)	Excluded (n=59)
Race		
Whites	69.0	64.8
Black	11.0	6.4
Hispanic	10.1	26.9*
Asian	4.3	0
Other	5.6	1.9
Gender		
Male	45.5	58.5
Age (in years)		
18-65	83.7	84.2
% 65+	16.3	15.8
Education		
High School Grad or less	46.2	73.9 *
Some College/Technical School or more	53.8	26.1*
Income as Percent of Poverty Level		
<100%	10.3	16.3
100-200%	18.4	18.7
>200%	52.6	23.9*
Unknown	18.7	41.7*
Insurance Status		
No insurance	14.3	42.3*
Medicaid	3.4	3.6
All other insurance	82.3	54.1*
Presence of Chronic Illness^b	36.0	12.4*
English as primary language spoken at home	95.5	79.8*

^aChi squared analysis comparing Groups included and excluded from analysis

^bHypertension, heart disease, diabetes, asthma

* Statistically significant difference detected between included and excluded groups, p<0.05

Table 4.6 Final Grouping of Variables Used in Analysis of Negative Perceptions in the Patient-Provider Relationship

Variable	Positive Response (coded:1)	Negative Response (coded: 0)	Excluded/Missing
Look Down/Treated with Respect	<p>Responses: “Question 1: Did the doctor treat you with a great deal of respect and dignity, a fair amount, not too much, or none at all?” -Not too Much -None at all AND/OR Question 2: “Please tell me if you strongly agree, somewhat agree, somewhat disagree or strongly disagree with the statement “I often feel as if my doctor looks down on me and the way I live my life.” -Strongly agree -somewhat agree</p>	<p>Responses: Question 1: “Did the doctor treat you with a great deal of respect and dignity, a fair amount, not too much, or none at all?” - Great Deal -fair amount -Don’t Know -Refused AND Question 2: “Please tell me if you strongly agree, somewhat agree, somewhat disagree or strongly disagree with the statement “I often feel as if my doctor looks down on me and the way I live my life.” - Somewhat disagree - -Strongly disagree, don’t have a doctor, don’t know, refused)</p>	<p>Question 1: “Did the doctor treat you with a great deal of respect and dignity, a fair amount, not too much, or none at all?” -Don’t Have a Doctor AND Those Who Had Not Visited a Doctor or clinic or been admitted to the Hospital in the Prior two years so had not been asked Question 2.</p>
Treated Unfairly by Doctor	<p>Question 3: Thinking about all of the experiences you have had with health care visits in the last two years, have you ever felt that the doctor or medical staff you saw judged you unfairly or treated you with disrespect because of your race or ethnic background?” -Yes</p>	<p>Question 3: Thinking about all of the experiences you have had with health care visits in the last two years, have you ever felt that the doctor or medical staff you saw judged you unfairly or treated you with disrespect because of your race or ethnic background?” -No -Don’t Know -Refused</p>	<p>Question 3: Thinking about all of the experiences you have had with health care visits in the last two years, have you ever felt that the doctor or medical staff you saw judged you unfairly or treated you with disrespect because of your race or ethnic background?” -Respondents who were not asked question ie who had not visited doctor or clinic or been admitted to hospital in last 2 years;</p>
Would have gotten better care if belonging to a different race	<p>Question 4: Do you think there was ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group -Yes</p>	<p>Question 4: Do you think there was ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group -No -Don’t Know -Refused</p>	N/A

Table 4.7: Demographics/Characteristics and health care utilization of study sample (n=6722)^a

	Total	Whites (%) (n=3488)	Blacks (%) (n=1037)	Hispanics (%) (n=1153)	Asians (%) (n=669)	Other (%) (n=375)
Overall Sample						
Gender						
%Male	45.7	45.1	41.9	45.9	49.7	56.8*
Age (in years)						
%18-64	83.7	79.9*	86.1*	91.1*	91.2*	87.3*
% 65+	16.3	18.9*	12.5*	8.6*	6.9*	12.7*
Education						
High School Grad Or Less	46.4	44.0	56.0	68.3	25.8	33.2
Some College/Technical School or more	53.5	56.0	44.0*	31.7*	74.2*	66.8*
Income as Percent of Poverty Level						
<100%	10.3	7.7	15.7*	23.0*	10.7	8.5
100-200%	18.4	17.2	25.4*	23.2*	16.5	12.9
>200%	52.3	57.4	40.0*	31.4*	53.9	50.8
Unknown	18.9	17.7	18.9	22.4*	18.8	27.7*
Insurance Status						
No insurance	14.5	10.6*	20.6*	32.8*	13.6	18.0*
Medicaid	3.4	2.4*	8.6*	5.8*	3.3	1.4
All other insurance	82.1	87.0*	70.8*	61.4*	83.1	80.6

Table 1, cont.

Presence of Chronic Illness	35.7	35.9*	44.4*	30.2*	24.5*	35.2
English as primary language spoken at home	93.4	99.9*	99.6*	59.4*	91.7*	98.5
No primary physician	23.2	19.1*	28.6*	41.1*	32.1*	24.5
Had physical exam within prior year	47.9	47.1*	56.8*	48.5	41.0	44.0
Put off care in past year	19.5	19.5	19.4	19.2	16.3	23.0
	(n=6008)	(n=3205)	(n=947)	(n=969)	(n=561)	(n=326)
Not Followed Doctor's Advice	24.2	24.9	21.9	21.7	22.1	25.3
	(n=1794)	(n=974)	(n=367)	(n=258)	(n=111)	(n=94)
Chronic Illness screening						
% Optimal	73.6	76.9*	73.7	54.8*	61.5*	62.2*
	(n=4894)	(n=2648)	(n=821)	(n=774)	(n=408)	(n=243)
Cancer Screening						
% Optimal	52.4	50.2*	62.0*	60.3*	54.0	46.8

^aChi squared analysis compares percentages of each demographic characteristics of Whites as Baseline to Blacks, Hispanics or Asians.

^bHypertension, heart disease, diabetes, asthma

* Statistically significant difference detected between whites and blacks, Hispanics or Asians with chi squared test for $p < 0.05$

Table 4.8:

Unadjusted percentages from chi-squared analysis for demographic groups for whether respondent ever felt looked down upon, treated with disrespect, or would have received better treatment if belonging to a different race.

	Looked Down/Treated With Disrespect (n=6663)	Treated Unfairly Because of Race (n=6008)	Would Have Received Better Care if Different Race (n=6722)
Gender			
Female	10.9%	3.0%	4.9%
Male	14.6%***	3.3%	5.1%
Language			
English	12.5%	2.8%	4.3%
Non-english	16.8%	10.2%****	19.2****
Household Income^a			
Income Groupings:			
<20000/year	18.6%****	5.4 %***	7.7%***
≥20000/year	11.4%***	2.9%***	4.2%***
Federal Poverty Level Groupings^a:			
<100% Federal Poverty	18.9***	6.4****	9.3****
100-200% Federal Poverty	16.3***	5.4****	6.4***
>200% Federal Poverty	9.6	2.2	3.5
Insurance			
Insurance	11.1%	2.2%	3.7%
No Insurance	22.0%***	9.3%***	12.6%****
Race			
White	11.6%	1.2%	1.4%
Black	19.1%**	8.1%***	15.3%****
Hispanic	23.2%***	8.1%**	13.5%****
Asian	25.9%***	5.9%***	13.5%****
Other Race	15.7%**	6.9%****	8.7%****

^a Federal poverty group compares each group to >200% poverty

^b Race compares each group to white

Table 4.8 continued

	Looked Down/Treated With Disrespect (n=6663)	Treated Unfairly Because of Race (n=6008)	Would Have Received Better Care if Different Race (n=6722)
Education			
High School/less	9.2%	3.6	5.3
Some college/tech School or more	16.6%****	2.7	4.7

****Refers to significance level in regression $p < 0.001$

*** Refers to significance level in regression $p < 0.01$

** Refers to significance level in regression $p < 0.05$

* Refers to significance level in regression $p < 0.10$

Table 4.9

Relationship of demographic variables to measures of negative perceptions: Predicted Percentages using multivariate regression^a

	Looked Down/Treated With Disrespect (n=6663)	Treated Unfairly Because of Race: (n=6008)	Would Have Received Better Care if Different Race (n=6722)
Gender			
Female	11.6	4.0	7.0
Male	15.8****	4.3	7.2
Primary language			
English	13.0	3.7	6.0
Non-English	15.9****	9.8	19.5**
Income as % of Poverty Level			
<100%	19.6***	8.4*	12.5
100-200%	17.3**	7.3**	9.5
>200%	10.1	9.9	5.1
Insurance			
Insurance	11.4	2.9	5.3
No Insurance	23.0****	11.4****	16.4****
Race			
White	9.4	1.2	1.4
Black	14.1*	7.9****	15.2****
Hispanic	19.4****	7.9****	13.3****
Asian	20.2****	6.1****	12.2****
Other Race	15.2****	6.8****	8.8****
Education			
High School/less	17.9	5.0	7.8
Some college/tech School or more	10.3****	3.6	6.6**

^aThis table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” The dependent variables were: gender, language, income, insurance, race and education.

Table 4.10

Relationship of demographic variables to measures of negative perceptions: Predicted Percentages Predicted Combinations by Race and Gender, Race and Income and Race and Insurance using multivariate regression (without interaction terms)^a

	Looked Down/Treated With Disrespect (n=6663)	Treated Unfairly Because of Race: (n=6008)	Would Have Received Better Care if Different Race (n=6722)
Race and Gender			
White Male	11.1	1.3	1.5
Black Male	17.0****	8.4****	15.8****
Hispanic Male	22.6****	8.4****	13.3****
Asian Male	23.7****	6.7****	13.1****
Other Race Male	17.5****	7.5****	9.3****
Race and Income			
White Income < 100%		2.0	1.9
Black Income <100%	18.7****	11.0****	18.0****
Hispanic Income <100%	23.6 ****	12.5****	17.9****
Asian Income <100%	27.6****	11.4****	17.9****
Other Race Income <100%	21.2****	12.0****	11.5****
Race and Insurance			
White Uninsured	16.8****	3.3****	3.0****
Black Uninsured	23.3****	16.8****	25.8****
Hispanic Uninsured	26.1****	15.0****	22.1****
Asian Uninsured	31.1****	15.7****	24.6****
Other race Uninsured	23.9****	16.3****	16.5****

^aThis table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” The dependent variables were: gender, language, income, insurance, race and education.

****Refers to significance level in regression p<0.001

*** Refers to significance level in regression p<0.01

** Refers to significance level in regression p<0.05

* Refers to significance level in regression p<0.10

Table 4.11

Relationship of demographic variables to measures of negative perceptions: Predicted Percentages from Multivariate Regression Model with Interaction Terms for Race and Gender^a

	Looked Down/Treated With Disrespect (n=6663)	Treated Unfairly Because of Race: (n=6008)	Would Have Received Better Care if Different Race (n=6722)
Gender			
Female	11.5	3.9	7.2
Male	15.9**	4.1	7.0*
Primary language			
English	13.0	3.6	6.0
Non-English	15.9****	10.0	19.8**
Income as % of Poverty Level			
<100%	19.6***	8.5*	12.6
100-200%	17.2**	7.2**	9.5
>200%	10.1	2.8	5.1
Insurance			
Insurance	11.4	2.9	5.3
No Insurance	22.9****	11.3****	16.5****
Race			
White	9.4	1.2	1.4
Black	14.0	7.6****	15.2****
Hispanic	19.4****	8.2****	13.5****
Asian	20.1****	6.0****	12.2****
Other Race	15.1	7.0****	9.0****
Education			
High School/less	17.9	5.0	7.9
Some college/tech School or more	10.3****	3.5	6.6**

Table 4.11, cont.

Interaction Terms:

Race and Gender:

White Male	10.8	1.6	2.0
Black Male	18.3	10.0	15.8
Hispanic Male	22.5	6.0*	11.6*
Asian Male	24.6	3.5*	11.9
Other Race Male	18.0	7.3	7.9*

^aThis table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” The dependent variables were: gender, language, income, insurance, race, education and interaction terms for race and gender.

****Refers to significance level in regression $p < 0.001$

*** Refers to significance level in regression $p < 0.01$

** Refers to significance level in regression $p < 0.05$

* Refers to significance level in regression $p < 0.10$

Table 4.12

Relationship of demographic variables to measures of negative perceptions: Predicted Percentages from Multivariate Regression Model with Interaction Terms for Race and Income<100% Poverty^a

	Looked Down/Treated With Disrespect (n=6663)	Treated Unfairly Because of Race: (n=6008)	Would Have Received Better Care if Different Race (n=6722)
Gender			
Female	11.6	3.9	7.3
Male	15.8****	4.4	6.9
Primary language			
English	12.9	3.6	6.0
Non-English	16.1***	9.9	20.0***
Income as % of Poverty Level			
<100%	18.9***	8.1*	11.8***
100-200%	17.2**	7.3**	9.4
>200%	10.2	2.9	5.2
Insurance			
Insurance	11.4	2.9	5.3
No Insurance	22.7****	11.2****	16.2****
Race			
White	9.4	1.2	1.4
Black	14.1**	7.9****	15.2****
Hispanic	19.4****	7.9****	13.4****
Asian	20.1****	6.2****	12.3****
Other Race	14.9**	6.9***	8.8**
Education			
High School/less	17.8	5.0	7.8
Some college/tech School or more	10.3****	4.0	6.6**

Table 4.12, cont.

Race and Income<100% Poverty

White <100%	16.5	2.8	4.3
Black <100%	15,6	10.3	16.3**
Hispanic <100%	20.1	9.6	10.4****
Asian <100%	32.8	9.3	16.7*
Other Race<100%	13.4	11.5	8.9*

^aThis table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race” and “would have received better care if different race” The dependent variables were: gender, language, income, insurance, race, education and interaction terms for race and poverty level <100%.

****Refers to significance level in regression $p < 0.001$

*** Refers to significance level in regression $p < 0.01$

** Refers to significance level in regression $p < 0.05$

* Refers to significance level in regression $p < 0.10$

Table 4.13

Relationship of demographic variables to measures of negative perceptions: Predicted Percentages from Multivariate Regression Model with Interaction Terms for Race and Insurance^a

	Looked Down/Treated With Disrespect (n=6663)	Treated Unfairly Because of Race: (n=6008)	Would Have Received Better Care if Different Race (n=6722)
Gender			
Female	11.6	4.0	7.2
Male	15.7****	4.3	7.0
Primary language			
English	13.0	3.7	6.0
Non-English	15.7***	9.6	19.3**
Income as % of Poverty Level			
<100%	19.5***	8.5*	12.3
100-200%	17.1**	7.2**	9.3
>200%	10.2	2.9	5.1
Insurance			
Insurance	11.6	2.9	5.4
No Insurance	22.0****	11.1	15.8***
Race			
White	9.4	1.2	1.4
Black	14.1*	7.8****	15.2****
Hispanic	19.4****	7.9****	13.3****
Asian	20.0****	5.9****	12.1****
Other Race	15.2	6.8****	8.8****
Education			
High School/less	17.9	5.0	7.8
Some college/tech School or more	10.3****	3.5	6.6**

Table 4.13, cont.

<u>Race and Uninsured</u>				
White Uninsured	17.9	2.6	4.2	
Black Uninsured	22.8	18.4	24.5	
Hispanic Uninsured	24.1	15.2	21.8	
Asian Uninsured	22.1	7.5	17.1*	
Other Race Uninsured	29.3	20.8	11.4	

^aThis table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” The dependent variables were: gender, language, income, insurance, race, education and interaction terms for race and insurance.

****Refers to significance level in regression $p < 0.001$

*** Refers to significance level in regression $p < 0.01$

** Refers to significance level in regression $p < 0.05$

* Refers to significance level in regression $p < 0.10$

Table 4.14
Relationship of negative perceptions to health care outcomes. Predicted percentages using multivariate regression^a

	Exam within prior year	Optimal Chronic disease Screening	Optimal Cancer Screening	Not follow doctor's advice	Delayed care
Total Sample:					
Treated with disrespect or looked down upon:	n=6663	n=1790	n=4860	n=6008	n=6663
Yes	41.3 *	58.9 ***	52.8	32.3***	31.1****
No	48.6	76.0	54.2	23.6	18.6
Treated unfairly because of:	n=6008	n=1729	n=4561	n=6008	n=6008
Race					
Yes	52.5	50.7 **	65.0 *	46.5 ****	40.8 ****
No	51.4	75.3	55.3	23.9	20.2
Would Have Received Better Treatment If:	n=6722	n=1794	n=4894	n=6008	n=6722
Different Race					
Yes	46.2	53.6 **	55.4	33.8 **	33.7****
No	47.4	74.3	53.6	24.1	19.2

^bThis table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “exam within prior year”, “optimal chronic disease screening”, “optimal cancer screening”, “did not follow the doctor’s advice” and “delayed care”. The principal dependent variables of interest are “treated with disrespect or looked down upon”, “treated unfairly because of race”, “would have received better treatment if different race.” In each model, we examined the relationship of the principal dependent variable to each of our independent variables controlling for income, insurance, education, presence of a primary physician and chronic disease (excluded from the heart disease/diabetes screening regression.)

^a All results shown using multivariate regression.

****Refers to significance level in regression p<0.001
 *** Refers to significance level in regression p<0.01
 ** Refers to significance level in regression p<0.05
 * Refers to significance level in regression p<0.10

Chapter Five: Exploring the Relationship Between Racial Concordance and Perceptions of Disrespect

The prior analysis demonstrated that minorities are more likely to perceive disrespect and unfair treatment in the patient-provider relationship and that these perceptions impact utilization of certain preventive care measures. This chapter now uses the same data from the Commonwealth Fund 2001 Quality of Care Survey to evaluate the role of provider and staff characteristics on perceptions of disrespect in the patient-provider relationship.

As shown in the conceptual model presented in Chapter 2, physician characteristics can potentially impact a patient's perceptions of discrimination in the health care setting. Evidence from prior studies has supported the link between physician behavior and disparities in health care. As discussed earlier, Shulman and colleagues created an experiment in which physicians who, having examined various patients with identical presentations for heart disease, made different recommendations for care according to the patient's race and gender.²³⁸

For blacks, race concordance between physician and patient has been associated with higher patient satisfaction and greater participatory decision-making, which can impact compliance and possibly outcomes.^{239,240,241} While blacks in racially concordant patient-provider relationships are more likely to report receiving counseling for preventive care and cancer

238. Schulman KA, Berlin JA, Harless W et al. The effect of race and sex on physicians' recommendations for cardiac catheterization. *N Engl J Med.* 1999; 340:618-26.

239. Cooper-Patrick L, Gallo JJ, Gonzales JJ et al. Race, gender, and partnership in the patient-physician relationship. *JAMA.* 1999 Aug 11; 282(6): 583-9.

240. Kaplan SH, Greenfield S, Gandek B, Rogers WH, Ware JE. Characteristics of physicians with participatory decision-making styles. *Ann Intern Med.* 1996; 124: 497-504.

241. Putnam SM, Stiles WB, Jacob MC, James SA. Patient exposition and physician explanation in initial medical interviews and outcomes of clinical visits. *Med Care.* 1985; 23:74-83.

screening,²⁴² concordance does not appear to be independently associated with different patterns of utilization of these services.²⁴³ Other work has suggested that patients' negative experiences with the health care encounter might emanate from sources in addition to the physician, including other personnel, such as ancillary staff.²⁴⁴ A more recent analysis by Saha and colleagues, however, showed that race concordance was not associated with quality of care, as measured according to patient satisfaction and receipt of preventive health care services.²⁴⁵

This chapter seeks to examine the relationship between racial concordance with our measures of discrimination presented in Chapter 4. It looks at concordance not only between patient and provider but between patient and staff to examine what role, if any, these factors may have on a patient's negative experiences within the health care setting.

Based on prior studies examining race concordance and satisfaction of care, I hypothesize that minority respondents who are in racially concordant relationships with providers are less likely than those in non-concordant relationships to perceive disrespect in the health care setting. Similarly, patients who receive their health care from facilities at which at least some of the staff share the patient's racial background will report more positive experiences in the medical setting than those without staff from the same racial background.

Methods

Variables:

²⁴² Saha S, Komaromy M, Koepsell TD, Bindman AB. Patient-physician racial concordance and the perceived quality and use of health care. *Arch Intern Med.* 1999 May 10;159(9):997-1004.

²⁴³ Saha S, Arbalaez JJ and Cooper LA. Influence of physician race vs. patient-physician interactions on the experience of health care. SGIM 2003 Annual Meeting.

²⁴⁴ O'Malley KJ, Haidet P, Sharf B et al. Trust in physician, facility, and system: qualitative differences between ethnic groups. SGIM 2003 Annual Meeting.

²⁴⁵ Saha S, Arbalaez JJ, Cooper LA. Patient-physician relationships and racial disparities in the quality of health care

Negative perceptions of the patient-provider relationship

The same constructed measures of mistreatment in the patient-provider relationship defined in Chapter 4 were used for this stage of analysis. To reiterate, these measures addressed the patient's perception of being treated with disrespect/looked down upon (combined into the variable described as "being treated with disrespect"), the patient's perception of unfair treatment because of race, and the patient's belief that he or she would have received better treatment if he or she belonged to a different race.

Racial concordance measures

Two questions in the dataset addressed racial concordance in patient-provider relationships. Specifically these were:

- What is the race or ethnicity of this person [regular doctor or other health professional, such as a nurse or a midwife] you usually go to when you are sick or need health care? Is this person white, black or African American, Hispanic or Latino, Asian, Native Hawaiian or other Pacific Islander, American Indian or Alaskan Native or some other background? *Asked of persons who reported having a regular doctor.*
- Which best describes the ethnic or racial composition of the staff where you usually go for healthcare—all of the staff are the same ethnicity and race as you, most of the staff are the same ethnicity and race as you, some of the staff are the same ethnicity and race as you, or none of the staff are the same ethnicity and race as you? *Asked of persons who reported having a usual source of care.*

Racially concordant patient-provider and patient-staff pairings were calculated for whites, Blacks, Hispanics, Asians and Native Americans. Provider racial concordance was a dichotomous variable that was considered positive if the race of the provider and race of respondent was the same. Persons who did not have a provider were not included in this analysis. The staff racial concordance variable was considered positive if respondents stated that all, most, or some of the staff where they go for health care were from the same racial or ethnic background. Persons who did not report a usual source of care were excluded from this analysis. In addition, persons identifying themselves as “other race” were also excluded from the analysis of the first dependent variable (racial concordance of providers) because there was no way to determine whether their provider or staff was of the same racial background.

Demographic Variables

Demographic variables were included in the multivariate analysis to control for various socioeconomic characteristics that could have potentially affected our analysis (described below.) Demographic variables which were included in this analysis were constructed as described in chapter 4. To reiterate, education was dichotomized into high school graduate or less, and some technical school/college and more. We dichotomized the primary language spoken at home into non-English vs. English, and used federal poverty level groupings, <100%, 100-200% and >200% to categorize household income, with a dummy variable to account for those with unreported income. Insurance status was classified insurance status as no insurance versus any (both public and private.)

In addition, separate models included race/ethnicity subgroups as independent variables in the multivariate analysis. As in chapter 4, these were divided into white, black, Hispanic, Asian, and other (Native American, mixed race or other.)

Analysis:

The relationship between negative perceptions within the patient-provider relationship and each of the racial concordance variables was first analyzed using chi squared analysis. The relationship between negative perceptions in the patient-doctor relationship and racial concordance of provider as well as racial concordance of staff was then examined controlling for sociodemographic characteristics. Specifically, I controlled for language, income, education, and insurance status. This relationship was examined for the group as a whole as well as for individual subgroups divided by racial groups: White, Black, Hispanic and Asian. Because of the small sample size, Native Americans and Pacific Islanders were excluded from individual multivariate analysis. In the individual racial subgroup analysis, sociodemographic controls were included as above, however language was only included as a control variable for the Hispanic subgroup, since this was the only group with a sizable number of non-English speaking individuals that reported provider race.

I also performed multivariate analysis of the entire sample with race/ethnicity added as additional independent variables. In this case, instead of dividing the group into racial subgroups, I predicted percentages based on the entire model, in order to see if having a larger sample size affected my outcomes of interest. This model was run both with and without interaction terms between the racial subgroups and the concordance variables of interest (Black, Hispanic and Asian).

Results

Sixty five percent of persons reported having a regular provider from the same racial or ethnic background (n=5063). This number was highest for whites (82%) and lowest for Native Americans and Pacific Islanders (combined n=63.) Eighty-six percent of respondents (n=6464) reported that at least some staff members at their usual place of care belonged to the same race as the patient. Results by race are presented in Table 5.1

Table 5.2 shows the results from the bivariate analysis. Hispanic patients in racially concordant relationships with their providers were more likely than those in non-concordant relationships to perceive being treated with disrespect in the patient-provider relationship, more likely to report receiving unfair treatment because of race (31% versus 17%), and more likely to state that they would have received better treatment if they had been of a different race (16% versus 7%.) On the other hand, whites in racially concordant relationships with providers were less likely than those in non-concordant relationships to report being treated unfairly because of race and less likely to report that they would have received better treatment if belonging to a different race. Among other individual minority groups, no significant effect was demonstrated between patient perceptions of mistreatment and provider racial concordance (see table 5.2.)

Multivariate analysis for the entire group as well as individual racial subgroups controlling for income, insurance, education (and language for the entire sample and Hispanic subgroups) is shown in table 5.3. (Associated correlation coefficients are shown in tables A.3.1-A.3.15.) For the entire sample as a whole, persons in racially concordant relationships with their provider were significantly more likely than those in non-concordant relationships to report being treated unfairly because of race or receiving better care if belonging to a different race.

Five percent of persons in non-concordant relationships versus less than 1% of those in concordant relationships reported being treated unfairly because of race. Similarly, almost 8% of persons in non-concordant relationships versus 2% of those in concordant relationships reported that they would have been treated better if they had belonged to a different race ($p < 0.001$.)

In individual analysis by racial subgroups, whites were similarly less likely to report being treated unfairly because of race or receiving better treatment if being in a concordant relationship. Hispanics, however, were *more* likely to report being treated with disrespect if in a concordant relationship (28%) than in a non-concordant one (15%). Over 6% of Asians reported being treated unfairly because of race if in a non-concordant patient-provider relationship versus less than 1% of those who were in concordant relationships (see table 5.3.)

Alternative models included multivariate analysis with race added as independent variables all in one model (instead of analyzing racial subgroups individually.) Appendix 3, tables A.3.16-A.3.19 show the correlation coefficients from these models. Predicted percentages from these coefficients, as well as the predictions of linear combinations of these coefficients by race and staff concordance, are shown in table 5.4.

Using this approach, persons in non-concordant relationships are significantly more likely to feel like they are looked down upon or treated with disrespect with almost 13% of persons with providers of different race reporting this perception versus less than 11% of those with providers of different races ($p < 0.10$.) In addition, persons in patient-provider concordant relationships are less likely to report being treated unfairly because of race (5%) versus those in non-concordant relationships (1%, $p < 0.01$.) In this model, none of the linear combinations by race were found to be significant.

Adding interaction terms to this model, showed that interaction terms for Blacks and provider racial concordance as well as Hispanics and provider racial concordance were significant in the models for being treated unfairly because of race and receiving better care if belonging to a different race; however in these models the race variables were no longer found to be significant. In both cases, blacks and Hispanics in racially concordant relationships with their providers were found to be more likely to report negative perceptions than those in non-concordant ones (table 5.5, appendix A. tables A.3.19-21.)

For a number of racial groups, racial concordance between patient and staff members was found to be significantly associated with lower rates of perceived mistreatment than non-racial concordance. Using bivariate analysis, Blacks and Hispanics who reported having racially concordant health care staff were less likely to perceive being treated with disrespect or looked down upon in the patient-provider relationship than were those patients with non- racially concordant staff. Eleven percent of the entire sample in racially concordant patient-staff relationships, versus 17% of those in non-concordant ones, reported being treated with disrespect or being looked down upon. Similarly less than 14% of Blacks in concordant relationships and less than 19% of Hispanics, reported being treated with disrespect or being looked down upon versus 20% of Blacks and 29% of Hispanics in non-concordant relationships with staff. In addition, for the entire sample, persons in concordant relationships were also less likely to be treated unfairly due to race or reporting that they would have received better care if belonging to a different race when in racially concordant relationships. For minority groups, there was no significant relationship between patient-staff racial concordance and either perceptions of unfair treatment because of race or belief that better treatment would have been received if belonging to a different race (see table 5.6)

These relationships persisted when controlling for income, insurance, education (and language for the entire sample and Hispanics.) By examining the racial groups individually, however, due to the reduced sample size, significance for the relationship between being looked down upon/being treated with disrespect and staff concordance was reduced but still significant at $p < 0.10$; in addition to Hispanics and Blacks, Asians were now found to have a significant relationship between disrespect and concordance (see table 5.7 for predicted percentages, Appendix 3, table A.3.22-A.3.36 for correlation coefficients.) Specifically less than 13% of Blacks, less than 18% of Hispanics and 17% of Asians in racially concordant relationships with staff members versus 20% of Blacks, over 27% of Hispanics and over 26% of Asians in non-concordant relationships, reported being treated with disrespect or being looked down upon during their encounters.

Table 5.8 shows the predicted percentages of the model of the entire sample evaluated as a whole with race/ethnicity added as independent variables (rather than being analyzed individually as above). Appendix 3, tables A.3.37-A.3.39 present the correlation coefficients associated with these percentages. Using this approach, there was a less dramatic difference in perceived disrespect based on staff concordance than in the models evaluated separately by race, although the entire sample was still less likely to perceive being treated with disrespect or being treated unfairly due to race when in concordant relationships (see table 5.8). This may be because race is a stronger predictor of perceptions of disrespect than actual concordance. Linear combinations of race and concordance were found to be significant for the perception of being treated unfairly because of race. Less than 15% of Blacks, 13% of Hispanics and 12% of Asians in concordant relationships with staff members reported being treated unfairly because of race versus 19% of Blacks, 14% of Hispanics and 14% of Asians in non-concordant relationships.

I added interaction terms to this model to see if race and concordance together exerted an additional, non-linear affect on negative perceptions within the patient provider relationship (see table 5.9, Appendix 3 tables A.3.40-A.3.42.) The interaction term for Blacks and concordance was significant in the model examining the perception of unfair treatment because of race, however in this case the coefficient on Blacks was now no longer significant. However in the model examining whether better treatment would have been received if belonging to a different race, the interaction term for Blacks and concordance, Asian and concordance as well as the variables for Black, Asian and racial concordance were all found to be significant suggesting that there may be a non-linear effect that race and staff concordance exert in concert on the perception that better treatment would have been received if belonging to a different race for Blacks and Asians. In this case, 16% of Blacks and 13% of Asians in non-concordant relationships versus 15% of Blacks and 11% of Asians in concordant relationships reported that they would have received better care if belonging to a different race. (See table 5.9.)

Discussion

Contrary to my hypothesis, racial concordance of providers did not appear to be a significant factor in predicting minority patients' perceptions of disrespect. However, as hypothesized, racial concordance between minority patients and staff (as compared to non-concordance) was found to be associated with lower rates of perceptions of disrespect and being looked down upon.

The results of this analysis are surprising given prior evidence demonstrating the positive relationship between satisfaction and racially concordant dyads between patients and providers. In fact, this analysis appeared to be particularly unexpected for Hispanics, with a

higher number reporting negative perceptions within the patient-provider relationship. It may be that, for Hispanics, factors such as language and availability of interpreter services play a bigger role than provider race alone in affecting whether they perceive disrespect or mistreatment in the patient-provider relationship. In a separate analysis, 19% of persons whose primary language was Spanish, Mandarin, Cantonese, Korean or Vietnamese and who reported having a hard time speaking with their doctors reported feeling that they had been treated with disrespect versus only 15% of persons who did not have a difficult time speaking with their doctors. (This difference, however, was not statistically significant largely because of limited sample size.) Unfortunately, there were insignificant numbers of persons in the dataset reporting difficulty with interpreter services to make any useful comments about the relationship of this factor to perceptions of mistreatment.

In addition, we also do not have information about ethnicity of provider. The majority of Hispanics in this datasets were of Mexican origin. We do not know whether their provider had a similar ethnicity; it could be that this is playing an unmeasured effect influencing our results. We also know little about practice setting. If Hispanic patients are being treated in practices that are busier and providers have less time to spend with their patients, they may still perceive disrespect. I did however alter my model and added controls for practice type (community clinic versus hospital outpatient clinic or other clinic type) and did not see any difference in my results.

In analysis presented in Chapter 4, we saw that minorities were significantly more likely to perceive mistreatment within the patient-provider relationship than whites. However, data from this analysis suggest that there are still other unmeasured factors beyond provider race that may affect these perceptions. Perhaps general characteristics of the communication style of providers may play a role in influencing negative experiences. Also, as previously mentioned,

experiences entirely outside of the patient-provider relationship may similarly affect our results. For example, if a respondent feels that he or she is treated unfairly in general society, this perception may be transferred to the patient-provider setting.

In this analysis having a staff with a similar racial/ethnic background appears to play a more significant role in reducing patient perceptions of disrespect than the actual race of the patient. This analysis provides evidence of the need to explore a multifactorial approach to decreasing perceptions of discrimination within the patient-provider relationship. Increasing the number of minority physicians is important, but it is also important to increase the number of minority non-provider staff. Nurses and other ancillary staff may have a key role in making the patient feel comfortable within the health care setting and influence patients' overall impression of the health care experience. It may also be important to provide cultural competency training for non-minority providers and other staff members, especially given the fact that in general, most minorities are in non-concordant relationships.

As presented in both chapters 4 and 5, there are many limitations to the analysis performed in this chapter. For one, a significant number of minorities did not report a regular provider (see table I); for example as many as 41% of Hispanics did not report a regular provider. Of those that did have a regular provider, a relatively small number of minorities were in racially concordant diads, restricting the power of our analysis. Finally, the wording of this question referring to race of regular provider may exclude non-traditional health care providers, such as shamans or cuanderos, who may be more likely to be used by persons from many ethnic backgrounds, such as Hispanics and Native Americans, and may be associated with more positive experiences within the health care setting. Finally, restrictions in sample size also

limited our ability to conduct multivariate analysis to examine of the effect of other factors such as language or interpreter services on our findings.

Table 5.1: Percent of Respondents in Racially Concordant Relationships^a

	Whites n=2851	Blacks n=771	Hispanics n=710	Asians n=265	Native Americans/Pac Isl n=63
Racially Concordant Provider	81.6%	22.9%****	26.4%****	39.3%****	9.5%****
Racially Concordant Staff	91.3%	77.6****	81.2****	60.0****	71.0****

^aChi squared analysis comparing whites to Blacks, Hispanics, Asians or Native Americans

****Refers to significance level in regression p<0.001

*** Refers to significance level in regression p<0.01

** Refers to significance level in regression p<0.05

* Refers to significance level in regression p<0.10

Table 5.2: Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Percentages from Bivariate Analysis

	Looked Down/Treated With Disrespect	Treated Unfairly Because of Race:	Would Have Received Better Care if Different Race
Entire Sample			
	(n=5062)	(n= 4752)	(n=5063)
Concordance	10.2	0.9	2.0
No concordance	12.2*	4.7****	7.3****
Whites			
	(n=2850)	(n=2708)	(n=2851)
Concordance	9.0	0.4	0.8
No concordance	7.6	3.9****	2.8***
Blacks			
	(n=771)	(n=731)	(n=771)
Concordance	15.6	7.4	15.1
No concordance	13.4	6.6	12.5
Hispanics			
	(n=710)	(n=651)	(n=710)
Concordance	30.8**	10.3	16.1
No concordance	17.1	3.3***	7.3**
Asians			
	(n=465)	(n=417)	(n=465)
Concordance	20.8	0.4	10.4
No concordance	16.1	4.3	13.3

****Refers to significance level in regression $p < 0.001$

*** Refers to significance level in regression $p < 0.01$

** Refers to significance level in regression $p < 0.05$

* Refers to significance level in regression $p < 0.10$

Table 5.3: Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Multivariate regression on racial groups analyzed individually^a

	Looked Down/Treated With Disrespect	Treated Unfairly Because of Race:	Would Have Received Better Care if Different Race
Entire Sample			
	(n=5062)	(n= 4752)	(n=5063)
Concordance	9.7	0.9	2.3
No concordance	11.6	5.0****	7.8****
Whites			
	(n=2850)	(n=2708)	(n=2851)
Concordance	8.4	0.3	0.7
No concordance	7.0	3.8****	2.8***
Blacks			
	(n=771)	(n=731)	(n=771)
Concordance	15.0	7.8	15.5
No concordance	12.9	6.8	13.3
Hispanics			
	(n=710)	(n=651)	(n=710)
Concordance	28.2***	9.8	15.8
No concordance	15.3	3.6	7.5
Asians^b			
	(n=465)	(n=378)	(n=465)
Concordance	18.2	0.3	9.7
No concordance	13.9	6.4****	13.2

^a This table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” Model controls for income, insurance, and education; for entire sample and Hispanics-language added as an additional control variable.

^bIncome subgroup 100-200% of poverty excluded as in independent variable for the Asian subgroup in the analysis of “looked down/disrespect” because it predicted the independent variable perfectly.

****Refers to significance level in regression $p < 0.001$

*** Refers to significance level in regression $p < 0.01$

** Refers to significance level in regression $p < 0.05$

* Refers to significance level in regression $p < 0.10$

Table 5.4: Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Percentages from Multivariate Analysis: Evaluation of Entire Sample with Predicted Percentages for Subgroups^a

	Looked Down/Treated With Disrespect	Treated Unfairly Because of Race:	Would Have Received Better Care if Different Race
Entire Sample	(n=5062)	(n= 4752)	(n=5063)
Concordance	10.9	1.1	3.4
No concordance	12.5*	5.3***	8.6
Whites			
Concordance	8.5	0.7	1.1
No concordance	6.5	2.4	1.5
Blacks			
Concordance	16.1****	2.8	10.8***
No concordance	12.3	8.1	14.1
Hispanics			
Concordance	23****	3.2	10.6***
No concordance	18.3	6.0	9.5
Asians			
Concordance	19.4***	0.4	12.9*
No concordance	14.4	4.3	12.7

^aThis table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” Model controls for race, income, insurance, education and language.

****Refers to significance level in regression p<0.001

*** Refers to significance level in regression p<0.01

** Refers to significance level in regression p<0.05

* Refers to significance level in regression p<0.10

Table 5.5: Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Percentages from Multivariate Analysis: Evaluation of Entire Sample with Interaction Terms for Race and Provider Concordance^a

	Looked Down/Treated With Disrespect	Treated Unfairly Because of Race:	Would Have Received Better Care if Different Race
Entire Sample			
	(n=5062)	(n= 4752)	(n=5063)
Concordance	11.1	1.1	3.6
No concordance	12.3	5.3****	8.3***
Whites	8.0	1.2	1.3
Blacks	13.3*	6.9	13.4****
Hispanics	19.6****	5.1	9.7
Asians	16.7***	3.5	12.5****
Interaction Terms:			
Blacks			
Concordance	14.6	7.4 ****	15.0**
No concordance	12.7	6.7	12.8
Hispanics			
Concordance	29.1*	9.7****	15.7***
No concordance	16.2	3.6	7.6
Asian			
Concordance	19.6	2.7	11.2
No concordance	14.3	6.0	13.6

^a This table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” Model controls for Race, Income, Insurance, Language, Education and interaction terms for provider concordance and race (Black*concordance, Hispanic*concordance and Asian*concordance.)

****Refers to significance level in regression p<0.001

*** Refers to significance level in regression p<0.01

** Refers to significance level in regression p<0.05

* Refers to significance level in regression p<0.10

Table 5.6: Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Percentages from Bivariate Analysis

	Looked Down/Treated With Disrespect	Treated Unfairly Because of Race:	Would Have Received Better Care if Different Race
Entire Sample			
	(n=6435)	(n= 5860)	(n=6464)
Concordance	11.0	2.8	4.8
No concordance	17.0****	6.3****	9.4****
Whites			
	(n=3356)	(n=3126)	(n=3367)
Concordance	9.6	1.1	1.1
No concordance	12.1	3.1*	4.7***
Blacks			
	(n=1012)	(n=935)	(n=1016)
Concordance	13.6	8.5	15.2
No concordance	20.0*	7.2	15.9
Hispanics			
	(n=1076)	(n=942)	(n=1088)
Concordance	18.5	7.3	13.6
No concordance	29.1*	9.4	10.5
Asians			
	(n=642)	(n=548)	(n=642)
Concordance	19.2	4.2	12.1
No concordance	27.2	9.2	11.4

****Refers to significance level in regression $p < 0.001$

*** Refers to significance level in regression $p < 0.01$

** Refers to significance level in regression $p < 0.05$

* Refers to significance level in regression $p < 0.10$

Table 5.7: Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Predicted Percentages from Multivariate Analysis for Entire Group and Individual Race Groups Evaluated Separately^a

	Looked Down/Treated With Disrespect	Treated Unfairly Because of Race:	Would Have Received Better Care if Different Race
Entire Sample			
	(n=6435)	(n= 5860)	(n=6464)
Concordance	11.0	2.8	4.8
No concordance	17.0****	17.0****	9.4****
Subsamples:			
Whites			
	(n=3356)	(n=3126)	(n=3367)
Concordance	8.9	0.9	1.0
No concordance	11.3	2.8*	4.4***
Blacks			
	(n=1012)	(n=935)	(n=1016)
Concordance	12.8	8.6	15.5
No concordance	20.0*	6.9	16.0
Hispanics			
	(n=1076)	(n=942)	(n=1088)
Concordance	17.5	7.3	13.5
No concordance	27.7*	9.7	10.5
Asians			
	(n=642)	(n=548)	(n=642)
Concordance	17.0	4.1	11.4
No concordance	26.2*	9.7	11.7

^a This table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race” and “would have received better care if different race” Model controls for Income, Insurance, and Education; for entire sample and Hispanics-language added as an additional control variable.

****Refers to significance level in regression $p < 0.001$

*** Refers to significance level in regression $p < 0.01$

** Refers to significance level in regression $p < 0.05$

* Refers to significance level in regression $p < 0.10$

Table 5.8: Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Predicted Percentages from Multivariate Analysis for Groups and Predicted by Race from Entire Sample^a

	Looked Down/Treated With Disrespect	Treated Unfairly Because of Race:	Would Have Received Better Care if Different Race
Entire Sample			
	(n=6435)	(n= 5860)	(n=6464)
Concordance	12.2	3.5	6.3
No concordance	18.3*	7.1**	10.8
Predicted Percentages for Individual Groups			
Whites			
Concordance	8.8	1.1	1.4
No concordance	12.9	2.0	1.9
Blacks			
Concordance	13.5	7.2****	14.5****
No concordance	17.4	11.7	18.8
Hispanics			
Concordance	19.0**	7.2**	12.8****
No concordance	23.4	9.5	14.1
Asians			
Concordance	18.6***	5.3*	11.6****
No concordance	24.4	7.9	14.2

^a This table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” Model controls for Race, Income, Insurance, Language and Education

****Refers to significance level in regression p<0.001

*** Refers to significance level in regression p<0.01

** Refers to significance level in regression p<0.05

* Refers to significance level in regression p<0.10

Table 5.9: Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Percentages from Multivariate Analysis: Evaluation of Entire Sample with Interaction Terms for Race and Staff Concordance^a

	Looked Down/Treated With Disrespect	Treated Unfairly Because of Race:	Would Have Received Better Care if Different Race
Entire Sample			
	(n=6435)	(n= 5860)	(n=6464)
Concordance	12.0	3.5	6.6
No concordance	18.9	6.9**	10.2**
Whites	9.2	1.2	1.4
Blacks	14.4*	8.2	15.5****
Hispanics	19.5****	7.5**	13.2
Asians	20.1****	5.9*	12.8**
Interaction Terms:			
Blacks and Concordance	12.9	8.5**	15.3
Blacks and No concordance	19.5	7.1	16.1**
Hispanic and Concordance	14.7	7.2	13.7
Hispanic and No concordance	23.0	9.3	10.2 **
Asian and Concordance	17.5	4.3	11.3
Asian and No concordance	26.0	9.6	13.1 *

^a This table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” Model controls for Race, Income, Insurance, Language, Education and interaction terms for staff concordance and race (Black*concordance, Hispanic*concordance and Asian*concordance).

****Refers to significance level in regression p<0.001

*** Refers to significance level in regression p<0.01

** Refers to significance level in regression p<0.05

* Refers to significance level in regression p<0.10

Chapter Six: Policy approaches to Discrimination

Using the theoretical model developed in Chapter 2, I will now evaluate policies which attempt to reduce discrimination in the health care setting. Discussing overall approaches for reducing discrimination in general society is beyond the scope of this dissertation and will be addressed only briefly. I will spend most of the time in this chapter discussing approaches to reducing discrimination specifically within the health care setting.

The flowchart from chapter 2 (reproduced below, Figure 1) indicates the numerous pathways through which discrimination can affect health care utilization. This chapter attempts to outline approaches via each of these described pathways (Figure 2).

In general, approaches for eliminating discrimination fall into three categories: legal, regulatory and educational/policy changes. Legal approaches include sanctions against those who perpetrate illegal discriminatory practices in the workplace or other setting. The government employs legal sanctions mainly through Title VI of the Civil Rights Act (see below.) Regulatory mechanisms targeting discrimination include both governmental regulations as well as regulations instituted by private organizations (such as managed care organizations) that require procedures to be in place to reduce discriminatory practices and encourage cultural competency. An example of a government regulation is associated with the Emergency Medical Treatment and Active Labor Act (EMTALA) which includes a provision stating that interpreter services should be made readily available for persons with limited English proficiency (see below.) Finally, many health care entities such as private managed care organizations or medical schools employ educational mechanisms to decrease discrimination by exposing providers to alternative cultures through cultural competency training or similar means.

Figure 6.1

Conceptual Model: Categories of Discrimination and Linkage Pathways

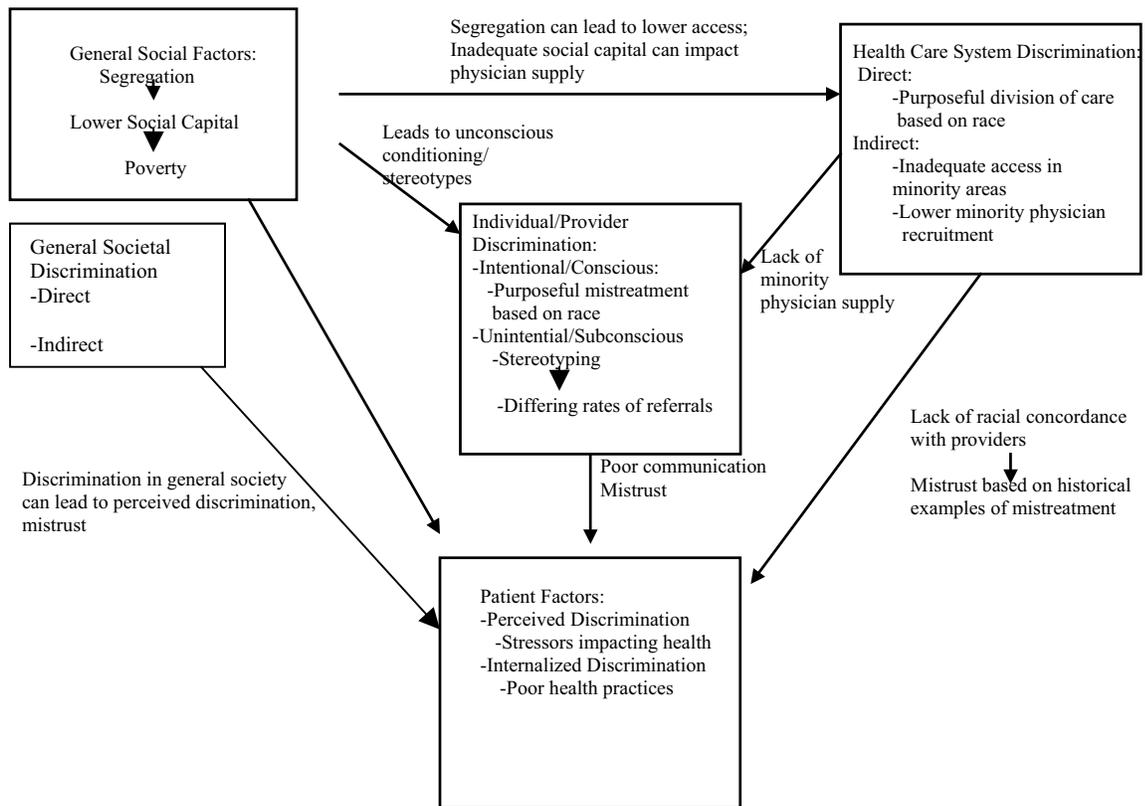
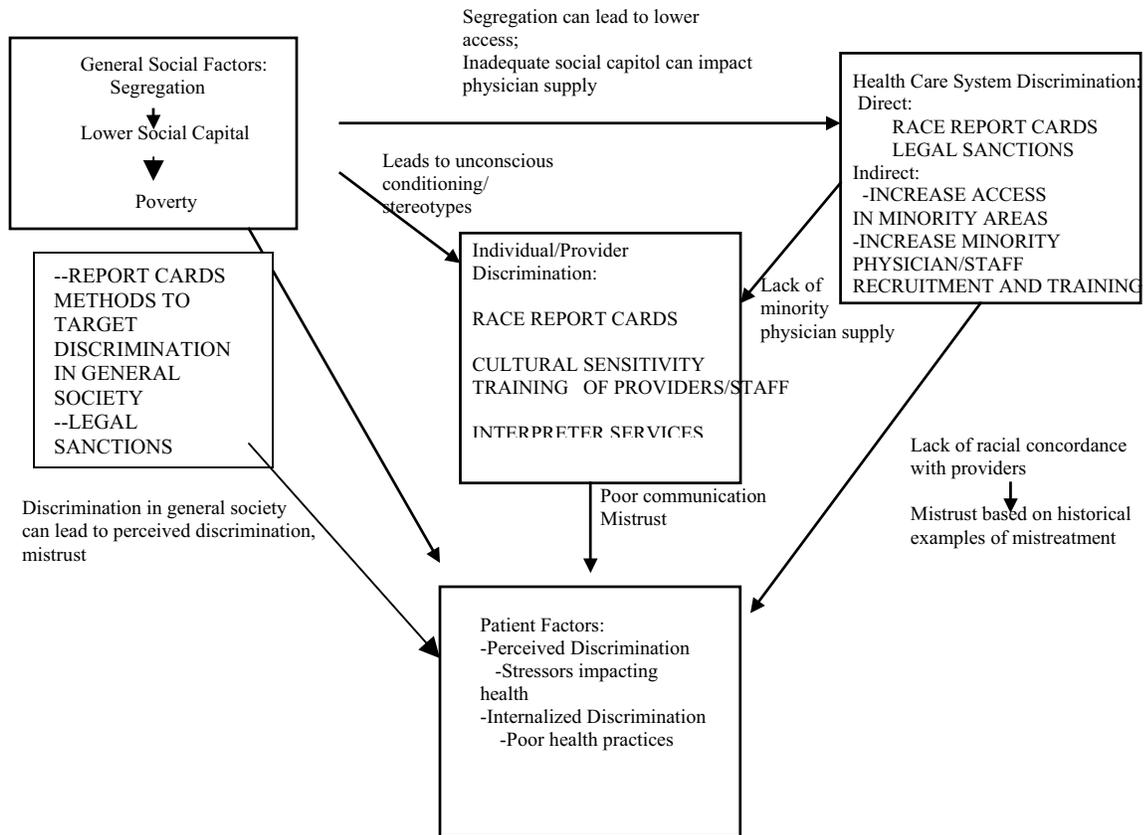


Figure 6.2: Conceptual Model: Approaches to Discrimination



Direct Health Care System Discrimination

Combating Direct Discrimination in the Health Care System-Legal Sanctions

As presented in Chapter 2 and shown in Figure 1, an opportunity exists for direct discrimination based on race to occur within the health care system. In David Smith’s book, *Health Care Divided*, he traces the course of segregation and discrimination in the American health care system and outlines some of the approaches used by the federal government to facilitate change.²⁴⁶

²⁴⁶ Smith DB. Health care divided: race and healing a nation.

Perhaps one of the most historically significant tools used to combat discrimination in the health care setting is Title VI of the Civil Rights Act of 1964. Originally proposed by President Kennedy during the height of the civil rights protests in the 1960's, Title VI prohibits discrimination based on race, color or national origin in any program receiving federal funding. Although not specifically targeted towards health care, Title VI is broad reaching and therefore applies to both institutions and individuals by prohibiting discrimination in a wide range of contexts, including hospital care, managed care plans, and overall access to care.^{247,248}

The Hill-Burton Act is another tool that provides protections against discrimination within the organized health care setting. This law provides funding for non-profit and public health care facilities, with certain provisions attached. Under the community service provision of the Hill-Burton Act, facilities receiving funds under the Act must provide services to persons regardless of race, color or national origin.²⁴⁹

The Institute of Medicine's *Unequal Treatment* outlines a broad range of cases in which Title VI has been used to target discrimination in the health care industry. Such cases include a suit against a hospital that had a segregated maternity ward, a case of redlining by a home health agency which did not provide services to a predominately black housing development, and case of a pharmacy which did not fill the prescription of a black Medicaid recipient.²⁵⁰

Legal sanctions to prohibit discrimination are effective to a certain point, but have several limitations. Title VI, though a potentially effective tool, primarily relies on individual reporting in order to combat discrimination. Cases can go unrecognized if not reported by a responsible

²⁴⁷ Institute of Medicine. *Unequal Treatment*.

²⁴⁸ <http://www.hhs.gov/ocr/part80rg.html>

²⁴⁹ <http://www.hhs.gov/ocr/hburton.html>

²⁵⁰ Institute of Medicine. *Unequal Treatment*

party.²⁵¹ In many cases, it can be challenging to prove that discrimination is a definitive cause because confounding socioeconomic factors can similarly result in differential treatment and outcomes.²⁵² The Office of Civil Rights within the Department of Health and Human Services, which is responsible for enforcing Title VI, is also restricted in budget and staffing to the point that the department cannot usually be aggressive in investigating discrimination in federally funded health care programs.²⁵³ The Office of Civil Rights reports that despite the potential of legal sanctions as a means of enforcing cases of racial discrimination, in the face of rising numbers of discriminatory complaints, budget and staffing for federal offices charged with enforcing such sanctions have declined.²⁵⁴²⁵⁵

In *The Right to Equal Treatment*, Physicians for Human Rights recommend several ways in which sanctions provided under Title VI and the Hill-Burton Act can be strengthened to more effectively reduce racial disparities. These include assigning dedicated staff within the Office of Civil Rights to be responsible for evaluating discrimination specifically within the health care setting. In addition, they recommend that facilities receiving federal funds undertake improved data collection on race, ethnicity, and language in order to more accurately record disparities in health care. Such facilities would include hospitals funded through the Hill-Burton Act. Data should be collected according to uniform standards, such as those defined by the Office of

²⁵¹ Randall VR. Inadequacy of Legal Efforts. *Race, Health Care and the Law: Inadequacy of legal Efforts*. <http://academic.udayton.edu/health/07HumanRights/racial01d.htm>

²⁵² Rosenbaum S, Markus A, Darnell J. U.S. civil rights policy and access to health care by minority Americans: implications for a changing health care system. *Med Care Res Rev*. 2000; 57 Suppl 1:236-59.

²⁵³ Smith DB. *Health Care Divided*. Ann Arbor: University of Michigan Press. 1999.

²⁵⁴ United States Commission on Civil Rights. *The health care challenge: acknowledging disparity, confronting discrimination and ensuring equality*. 1999.

²⁵⁵ United States Commission on Civil Rights. *Funding federal civil rights enforcement: 2000 and beyond*. 2001.

Management and Budget, so that reporting can be consistent and more easily comparable across multiple facilities.²⁵⁶

Combating Direct Discrimination-- Race Report Cards

Another tool which can aid in the evaluation and prevention of cases of direct discrimination within the health care setting is race report cards. The Urban Institute has presented a policy argument in support of a national race report card that uses data collected from paired experiments that measure racial discrimination in a wide variety of social settings. Most paired experiments that have been conducted in the past focus on fair housing and mortgage lending practices; however, the use of similar approaches in other settings has merit not only to present an adequate picture of discrimination in the United States as a central part of a racial report card, but to strengthen the utility of legal sanctions such as Title VI.²⁵⁷ To date, however, there has been little use of race report cards in the health care setting making this an area wide open for development.

One template for such a report card in health care is the Health Employer Data Information Set (HEDIS). HEDIS was initiated by the National Committee on Quality Assurance to measure managed care plan performance across a number of measures, including cancer screening, childhood immunizations and other preventive care services. Since its original initiation, HEDIS has expanded to include measures for both Medicare and Medicaid plans. HEDIS includes information on screening performance by doctors as well as a section evaluating patient satisfaction with health plan attributes.

²⁵⁶ Physicians for Human Rights. The Right to Equal Treatment. www.phrusa.org/research/domestic/race/race_report/index.html

²⁵⁷ Fix ME, Turner MA. A National Report Card on Discrimination in America. 1998. <http://www.urban.org/Template.cfm?NavMenuID=24&template=/TaggedContent/ViewPublication.cfm&PublicationID=5965>

HEDIS data have not been used extensively to report racial disparities in quality of care. Using Medicare HEDIS data combined with a dataset containing demographics conducted from an onsite medical record audit, Epstein and colleagues showed that black Medicare beneficiaries were less likely than white beneficiaries to receive retinal eye exams (for those with diabetes), beta blockers after myocardial infarction, and follow-up for mental illness hospitalization.²⁵⁸ HEDIS has also been used to track quality in plans based on sociodemographic mix. Plans serving higher percentages of persons on public assistance, or persons of black or Hispanic racial origin, have reported lower performance measures than those serving predominately white, privately insured individuals.²⁵⁹

Although HEDIS does not have any information pertaining to perceived discrimination, its domains include some measures of racial disparities in access, satisfaction, and other culturally mediated services such as interpreter services. HEDIS incorporates satisfaction measures from another well established survey, the Consumer Assessment of Health Plans. It includes useful information about a wide variety of topics including consumers opinions of how well doctors communicate, how easily patients can get an appointment with a primary care or a specialist, and whether patients found provider staff to be respectful and courteous. Many of the satisfaction elements of the report card, however, do not adequately reflect how well minorities actually do in health plans, and can't predict perceived discrimination. For example, satisfaction within health plans has been shown to be independent of plan attributes and may instead be

²⁵⁸ Schneider E, Zaslavsky AM, Epstein AM. Racial Disparities in the Quality of Care for Enrollees in Medicare Managed Care. *JAMA*. 287; 1288-1294

²⁵⁹ Zaslavsky AM, Hochheimer JN, Schneider EC. Impact of Sociodemographic Case Mix on the HEDIS Measures of Health Plan Quality. *Med Care*. 2000; 38: 981-992.

dependent on other factors, such as physician choice and cost, as previously shown in other literature.²⁶⁰

One of the major criticisms of HEDIS to date is that it does not routinely report information separately based on race. (This information can be obtained in cases where HEDIS is combined with medical record review such as that conducted in the study cited previously, but is not standard.) Such information could potentially prove valuable for understanding racial disparities by health plan. However, many health plans may be reluctant to collect this information or not rank it as a priority, although there are no federal laws that would prohibit the collection of data on race or ethnicity for HEDIS.²⁶¹

This criticism spurred investigation of the feasibility of a targeted report card with the specific objective of reporting on how well plans perform for racial minorities. Dr. David Nerenz from Michigan State University and collaborators are currently testing a model of a minority health plan report card supported by a grant from the Commonwealth Fund. The report card received input from minorities in the community and was pilot tested among 8 health plans. The card relies on typical HEDIS and CAHPS health measures but also includes items (identified by a community-based advisory panel) designed to capture specific issues of importance in minorities, such as patient-provider communication, provider cultural competence, and provision of interpreter services in the health care setting. Unfortunately, not all of the 8 health plans completed all domains of the survey during the pilot phase. In general, there were mixed results with plans reporting lower quality of care for minorities than whites in some performance domains and some providing higher quality of care. Since there were fewer plans who

²⁶⁰ Blendon

²⁶¹ Nerenz. Health Plans' Use of Data on Race/Ethnicity to Reduce Disparities. Institute of Medicine Power Point Presentation. March 20, 2002. <http://www.iom.edu/includes/DBFile.asp?id=11896>

contributed data related to cultural competence issues, the study reported limited results in this domain.²⁶²

The minority health plan report card, nonetheless, is a good starting point for a more comprehensive report card that could include measures of discrimination and could be expanded to include a variety of health care entities, such as hospitals and individual practitioners. Such a report card could use perceived discrimination as the reporting measure; many of the survey elements used in the datasets outlined in Chapter 3 could be incorporated in a separate survey for racial minorities to evaluate their perceptions of disrespect and perceived discrimination within the health care setting. However, such measures may be subject to many of the biases reported in Chapter 3. In order to present a global assessment of health plan performance for minorities, the results of such a survey should be presented in concert with other more objective measures of disparities of care within a health plan, such as referral rates for specific procedures. The survey should also include measures of how well health plans train their staff members on issues related to cultural sensitivity, encompassing elements similar to those captured in Nerenz's model.

In addition, future health plan report cards could improve the quality of data reported by including patients' reports of discrimination as part of reporting surveys. In this way, researchers can directly link reports of perceived discrimination with actual recorded quality measures from chart data.

Some researchers, such as Thomas LaVeist of Johns Hopkins, advocate a two-tiered report card combining elements of Nerenz's model and the Urban Institute's paired testing model. The first stage would involve reporting from health plans and other health care

²⁶² Nerenz DR, Gunter MJ, Garcia M, Green-Wier RR, Wisom K, and Joseph C. Developing a health plan report card on quality of care for minority populations. Field Report July, 2002. Commonwealth Fund

institutions using a HEDIS-like traditional report card system. When such a report card identifies a “red flag” indicating issues of possible discrimination, paired testing can be used to investigate the alleged institutions in more detail.²⁶³

Although these race-based report cards have been used primarily in the research setting, they can also be an effective policy tool to track performance measures of various health care entities. For such report cards to be most effective, however, providers must be held accountable to standards of performance on race-based measures. Performance data must be made available to the general public and ideally, should be linked to an incentive system. For example, health plans seeking Medicaid or Medicare contracts should be required to have a minimum score on race-related measures to encourage them to seriously consider this as an area of improvement.

Traditionally, report cards have been used to make health plans more accountable to purchasers, such as the government or private employers. This insures some level of quality by managed care organizations and their providers. However, another possible mechanism for managed care plans to further impact quality of care and reduce discrimination is to use race-based report cards to assess and monitor the quality of hospitals and physicians groups that participate as providers in their health plan.

In negotiating with hospitals and physician groups, managed care plans could require such entities to meet some minimal requirements for addressing issues of discrimination. These requirements might include the use of cultural competency mechanisms and reporting on race, or could employ the types of comprehensive report card system suggested by Nerenz and others. Contract renewals with hospitals could be contingent on hospitals having such programs in place.

http://www.cmwf.org/programs/minority/nerenz_reportcard_547.pdf

²⁶³ Institute of Medicine. Unequal Treatment.

²⁶⁴ Such a policy would not only improve patient care, but could potentially place more responsibility on hospitals to recruit minority providers and staff. To date, hospitals have few incentives other than legal sanctions imposed by Title VI to reduce discriminatory practices. Making hospitals more accountable in terms of negotiating power with health plans will add a monetary incentive (i.e., if plans require in contract renewal negotiations that hospitals report health plan data), which can be even more effective.

The PHR Report also recommends incorporating accountability into the accreditation process used by the National Committee on Quality Assurance (NCQA) and the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO).²⁶⁵ Currently these organizations are responsible for providing accreditation to a number of health care entities such as managed care organizations (NCQA and JCAHO) and hospitals (JCAHO) using a vigorous review of a number of quality measures; however, data on racial disparities are not incorporated. The PHR recommends that NCQA and JCAHO require data collection on outcomes by race to insure that organizations meet a uniform standard of care.²⁶⁶

Indirect Health Care Discrimination

Increasing Access to Care

Even more difficult than combating direct discrimination is the challenge of combating indirect discrimination, particularly since its causes are multifactorial in nature. Lack of access to health care facilities is a major cause of indirect, or unintentional, discrimination. Measures

²⁶⁴ Taylor, SL, Lurie N. The Role of Culturally Competent Communication in Reducing Ethnic and Racial Health Care Disparities

²⁶⁵ Physicians for Human Rights. The Right to Equal Treatment. www.phrusa.org/research/domestic/race/race_report/index.html

²⁶⁶ PHR

described above, such as the legal requirements of Title VI and the Hill-Burton Act, can be effective tools to insure that disparities in access to care based on race are minimized.

Addressing the problem of access to care is beyond the scope of this dissertation. However, it must be mentioned that increasing access would likely have an impact in reducing indirect discrimination. There are federal mandates in place to increase access to care in minority areas. The Bush administration launched a five-year initiative to expand health center in 1200 communities by the year 2006.²⁶⁷ The Community Health Center (CHC) Program administers grants to public and private nonprofit organizations that run community-based health centers under Title 330 the Public Health Service Act. Funding is based on designation of an area as a medically underserved area (see below.)

Included in these CHC funded programs are Federally Qualified Health Centers. Federally Qualified Health Centers (FQHC) are federally clinics such as Community Health Centers, Migrant Health Centers, Health Care for the Homeless Programs and Indian Health Service clinics. Although federally qualified health centers receive funding through Title 330 of the Public Health Service Act, other clinics can still be determined as “Federally Qualified Health Center-look alike”, even if they do not receive funding through this mechanism, allowing them to receive special advantages accorded to FQHCs. Both FQHC and FQHC-look alike receive Medicare and Medicaid cost-based reimbursement and improve drug pricing through a federal incentive program.

Federally and state funded safety net facilities have played a key role in access for minorities and vulnerable populations. Of patients who utilize FQHCs for care, 41% are

²⁶⁷ <http://newsroom.hrsa.gov/releases/2002releases/chcgrants030702.htm>

uninsured, 33% have Medicaid and 64% are minorities.²⁶⁸ Safety net facilities may also provide continuity of care for Medicaid patients who otherwise experience barriers to care. One study showed that Medicaid patients who use FQHCs had lower rates of emergency department visits and ambulatory care sensitive hospitalizations than those seeking care elsewhere.²⁶⁹

Increasing physician availability

Minority physicians undoubtedly play a role in increasing access to care for members of vulnerable racial groups. Given lower supplies of physicians in minority communities and the higher propensity of minorities to work in these areas, there is evidence that efforts to increase minority medical student matriculation may help decrease racial and ethnic disparities in health. Increasing the numbers of minority physicians may also impact health care use.²⁷⁰

Several efforts to increase the number of minority physicians have emerged, under the assumption that this will in turn lead to an overall higher level of access for minority communities. The Association of American Medical Colleges (AAMC) has led one of the most visible efforts. The AAMC's 2000 by 3000 initiative is designed to target minorities early in their educational process encouraging them to pursue careers in medicine. The initiative was started in 1991 and was designed to increase the number of minorities in medical school to match percentages of minorities within the general population. There are two principal components of

²⁶⁸ Lewin ME, Altman S., ed. America's health care safety net: intact but endangered. Institute of Medicine: Committee on the changing market, managed care and the future viability of safety net providers. Washington DC: National Academy Press. 2000.

²⁶⁹ Falik M, Needleman J, Wells NL. Ambulatory sensitive hospitalizations and emergency visits: experiences of Medicaid patients using federally qualified health centers. *Med Carre*. 2001; 39: 551-561.

²⁷⁰ Gray B, Stoddard J. Patient-Physician pairing: does racial and ethnic congruity influence selection of a regular physician. *Journal of Community Health*. 1997; 22:4. 247-259.

this program, the Health Professions Partnership and the Minority Medical Education Program.²⁷¹

The Health Professions Partnership was started in 1996, funded jointly by the Kellogg Foundation and the Robert Wood Johnson Foundation. This partnership includes medical schools, undergraduate institutions, elementary and high schools, and community based groups. The idea behind this initiative is to expose minority students to the field of medicine early during their educational process. Although it is too early to determine how effectively these programs are producing trained medical professionals, a qualitative assessment showed that a strong sense of community commitment by medical school officials, as well as the willingness to listen to the input of various community players in devising programs, was a key element in predicting high rates of participation by minority students.²⁷²

The Minority Medical Education Program was initially started by the Robert Wood Johnson Foundation in 1989. It is currently run by the AAMC and consists of an intensive six-week residential program designed to prepare minority college students for medical school acceptance. One study evaluated the effectiveness of the Minority Medical Education Program in improving/raising medical school acceptance rates and showed that almost 49% of applicants from one MMEP cohort were accepted to medical school versus 41% of those minorities who did not participate in a MMEP program.²⁷³

The current political climate has threatened many of the programs designed to recruit minorities to medical school. Several notable rulings have challenged admission processes of both university and graduate schools that appear to favor disadvantaged minorities. In 1978,

²⁷¹ <http://www.aamc.org/newsroom/reporter/sept2000/word.htm>

²⁷² Carline JD, Patterson DG. Characteristics of health professions schools, public school systems, and community-based organizations in successful partnerships to increase the numbers of underrepresented minority students entering health professions education. *Acad Med.* 2003; 78: 467-82.

Robert Bakke sued the Regents of the University of California, alleging that the University's practice of setting aside positions for minority applicants led to a refusal of his admission because he was white. The Supreme Court ruled at that time that affirmative action was allowed but that quotas were not permissible. Affirmative action was again challenged with the Hopwood case in 1996 in which the Fifth United States Court of Appeals ruled that race could not be considered for admission in schools in Texas, Louisiana and Mississippi.²⁷⁴ This was followed by Proposition 209 in California and Proposition 200 in Washington which were voter mandated initiatives that prohibited affirmative action policies in state medical schools.²⁷⁵ The most recent case of affirmative action that reached the Supreme Court involved University of Michigan in the Grutter versus Bollinger that challenged the law school's admission policies and Gratz versus Bollinger, a companion case involving the undergraduate school. In these cases, the Court ruled that schools could consider race as a supplemental factor in admissions if there was a compelling interest but reaffirmed its opinion that quotas were not constitutional.²⁷⁶

Affirmative action adds benefits beyond simply increasing numbers, such as adding to diversity of a medical school class, and often gives otherwise unavailable opportunities to students from disadvantaged backgrounds who may have otherwise not had access to a medical education. As discussed earlier, minorities are more likely to work in underserved areas and therefore offer much needed manpower to areas that would otherwise lack providers. However many people who oppose affirmative action argue theoretically that it does not encourage a merit based approach to admission; a study of University of California Davis medical school

²⁷³ Cantor JC, Bergeisen L, Baker LC. Effect of an intensive educational program for minority college students and recent graduates on the probability of acceptance to medical school. *JAMA*. 1998; 280:772-6.

²⁷⁴ Peterson MR, Kowolik JE, Coleman G et al. Perspectives on affirmative action in academic dental institutions: the U.S. Supreme Court rulings in the University of Michigan cases. *Jl Dental Educ*. 2005; 68:932-7.

²⁷⁵ DeVille K. Defending diversity: affirmative action and medical education. *AJPH*. 1999; 89: 1256-61.

²⁷⁶ Lakhan SE. Diversification of U.S. medical schools via affirmative action implementation. *BMC Med Educ* 2003; 6.

graduates, however, showed no difference in outcomes of persons admitted through preferential policies.²⁷⁷ A great deal has been written about both the potential positive and negative consequences of discrimination and a detailed discussion is beyond the scope of this dissertation.²⁷⁸²⁷⁹ ²⁸⁰²⁸¹ ²⁸² However, the politics that have surrounded many of the affirmative action cases have impacted many of the aforementioned programs which have traditionally sought to increase numbers of minority physicians in the so-called medical school pipeline. In the first year that provisions under California proposition 209 went into effect, the number of Black candidates admitted to University of California Berkeley dropped to 191 as compared to 562 in the prior year; the number of Hispanic students dropped from 1045 to 434.²⁸³ In California medical schools, the number of underrepresented minorities dropped from 17.5% in 1995 (prior to Proposition 209) to 11.6% in 1999 after Proposition 209 was initiated. Similarly in Texas, after Hopwood, the number of underrepresented minorities decreased from 18% to 13% of the medical school class.²⁸⁴ Overall in the five states impacted by the Hopwood decision and Propositions 200 and 209 there was a decline by a total of 11.5% in underrepresented minorities from 1995 to 2001.²⁸⁵

Many of the pipeline initiatives described above were similarly affected by many of the lawsuits that occurred in the nineties. For example one of the reasons the 3000 by 2000

²⁷⁷ Davidson RC. Lewis EL. Affirmative action and other special consideration admissions at the University of California, Davis, School of Medicine. *JAMA*. 1997; 278: 1153-8.

²⁷⁸ Cohen JJ. The consequences of premature abandonment of affirmative action in medical school admissions. *JAMA*. 2003;289:1143-1149.

²⁷⁹ Bollinger LC. The need for diversity in higher education. *Acad Med*. 2003; 78: 431-6.

²⁸⁰ Crosby FJ. Iyer A. Clayton S. Downing RA. Affirmative action. Psychological data and the policy debates. *Amer Psych* 2003; 58: 93-115.

²⁸¹ Frazer RA. Affirmative action policy in medical school admissions. *Jl Hlth Care Poor Underser*. 2005; 16:12-8.

²⁸² Whitla DK. Orfield G. Silen W. Teperow C. Howard C. Reede J. Educational benefits of diversity in medical school: a survey of students. *Acad Med*. 2003. 78: 460-6.

²⁸³ Clawson DK. Challenges and opportunities of racial diversity in medical education. *Clin Orth Rel Res*. 1999; 362: 34-9.

²⁸⁴ Edwards JC. Maldonado FG Jr. Engelgau GR. Beyond affirmative action: one school's experiences with a race-neutral admission process. *Acad Med*. 2000; 75:806-15.

initiative, which technically ended in 2000, did not reach its goal of enrolling 3000 minority medical students was thought to be due to the legal restrictions imposed by many of the court rulings.²⁸⁶ In response to the legal changes, the Robert Wood Johnson Foundation has steered away from promoting programs as exclusively targeting minorities; for instance the MMEP program has now been changed to the Summer Medical and Dental Education Program (SMDEP) and is open to all students. Consideration is given to persons from racially underrepresented backgrounds however it is also given to those who are financially disadvantaged or who intend to practice in underserved communities.²⁸⁷ Many medical schools are changing their admission policies to adjust to the affirmative action challenges in response to the sharp decrease in minority representation after many of the recent legal decisions. Texas A and M, for example, placed more weight on the interview process in lieu of traditionally heavier weight on more quantitative factors which subsequently increased their numbers of minority enrollees.²⁸⁸

Another option for increasing numbers of physicians (both minority and non-minority) available to work in underserved areas is to create incentive programs. The federal government has incentive programs in place designed to encourage providers to choose to practice in certain areas that are designated as federal manpower shortage areas. There are three designated categories which allow for special provider incentives: Health Provider Shortage Area, Medically Underserved Area and Medically Underserved Population.

A Health Professional Service Area (HPSA) is an area, facility or population in which there is either a shortage of primary care physicians, such that the ratio exceeds 3500 persons per

²⁸⁵ Cohen JJ

²⁸⁶ Terrell C. Beaudreau J. 3000 by 2000 and beyond: next steps for promoting diversity in the health professions. JI Dtl Ed. 2003; 67:1048-52.

²⁸⁷ <http://www.smdep.org/>

one primary care physician, or there is a severe barrier to access due to distance (from patient to provider) or overuse of a particular caregiver.²⁸⁹ HPSA incentives include Medicare Physician Incentive Bonus Payments, which pays a 10 percent incentive in Medicare payments to physicians working within a HPSA designated area.

Other incentives for providers working in HPSA areas include the National Health Service Corps scholarship and loan repayment. These programs cover tuition for health care providers in advance or through loan repayment programs if the physician agrees to enter certain primary care fields and serve in an underserved area.

Medically underserved areas (MUA) refer to any defined area—either a county, contiguous group of counties or census tracts—in which inhabitants have decreased access to health care services. Similarly, a medically underserved population (MUP) is a population which does not receive adequate health care due to cultural, linguistic or income barriers. Designation of a MUA and MUP is determined by the Health Resources and Services Administration (HRSA) using a scoring system called the index of medical underservice (IMU), which ranges from 0 to 100, with 0 being no medical service. The IMU takes into consideration the ratio of primary medical care physicians per 1,000 population, the infant mortality rate, percentage of the population living below the poverty level, and percentage of the population over the age of 65. Community Health Center grant funds, such as those funded through the Bush administration’s initiative discussed above, receive funding based on MUA designation. Similarly, federally qualified health centers receive their designation, with special funding priorities, based on MUA/MUP status.²⁹⁰ In addition, the Rural Health Clinic Act allows cost-based reimbursement for providers who care for patients covered by Medicaid or Medicaid.

²⁸⁸ Edwards JC.

²⁸⁹ <http://bhpr.hrsa.gov/shortage/hpsacrit.htm>

Other state-based programs offer additional provider incentives for practice in MUA/MUP areas. The Medically Underserved Community State Matching Incentive Program helps underserved areas recruit providers by providing matching grants to communities to start primary care practices.²⁹¹ Other states have their own loan repayment programs or supplemental incentives to assist primary care providers in establishing practices in underserved areas.

Physician incentive programs have been shown to impact access to care among poor and minority patients. For example, studies have shown that alumnae of the National Health Service Corps are more likely than the general population of medical school graduates to practice in vulnerable populations.^{292,293,294}

State programs have similarly been effective in increasing access to care. In 1996, there were over 1600 providers who practiced in underserved areas through state-based incentive programs such as loan repayment programs and scholarship programs, a number comparable to those providers funded through the National Health Service Corps.²⁹⁵

The data presented in Chapter 5 did not demonstrate a link between patient-provider racial concordance and perceived discrimination among minorities suggesting other factors beyond simply increasing numbers of minority physicians are also important. Although racial

²⁹⁰ <http://bhpr.hrsa.gov/shortage/muaguide.htm>

²⁹¹ <http://www.texmed.org/pmt/pay/rhh/hmm.asp>

²⁹² Probst JC. Samuels ME. Shaw TV. Hart GL. Daly C. The National Health Service Corps and Medicaid inpatient care: experience in a southern state. *South Med J.* 2003; 96:775-83.

²⁹³ Porterfield DS. Konrad TR. Porter CQ. Leysieffer K. Martinez RM. Niska R. Wells B. Potter F. Caring for the underserved: current practice of alumni of the National Health Service Corps. *Jl Hlth Care Poor Underserved.* 2003; 14:256-71.

²⁹⁴ Rabinowitz HK. Diamond JJ. Veloski JJ. Gayle JA. The impact of multiple predictors on generalist physicians' care of underserved populations. *AJPH.* 2000; 90:1225-8.

²⁹⁵ Pathman DE. Taylor DH Jr. Konrad TR. King TS. Harris T. Henderson TM. Bernstein JD. Tucker T. Crook KD. Spaulding C. Koch GG. State scholarship, loan forgiveness, and related programs: the unheralded safety net. *JAMA.* 2000; 284:2084-92.

concordance with providers did not impact perception of disrespect from the Commonwealth sample, there is some evidence that racial concordance with general medical staff can impact perceived discrimination; in chapter 5, there was a significant relationship demonstrated between patient-staff concordance with perceptions of disrespect in the healthcare setting. These findings suggest that increasing workforce diversity beyond the provider level is critical. It is important to also promote programs that train ancillary minority medical staff in order to improve the experience for minority patients within the healthcare system. While many of the grants described above for underrepresented minorities do include nurses, very few if any target other ancillary staff.

Individual/Provider Level Direct Discrimination

Individual level discrimination is another pathway which can affect utilization rates based on our model. Such discrimination can include direct discrimination, representing a purposeful intention to mistreat based on race. Such purposeful actions would likely be mediated through such legal sanctions as described above, such as Title VI of the Civil Rights Act.

Individual/Provider Level Indirect/Unintentional Discrimination

Combating Indirect Individual Level Discrimination: Cultural Competency Training

Individual/provider level discrimination will often present in the form of unintentional discrimination that is unconscious/subconscious. For example, as described in Chapter 2, providers may stereotype patients based on the provider's own lack of awareness or exposure to different cultures. One option for addressing such cases of unintentional/subconscious discrimination is cultural sensitivity training of providers. Chapter 5 showed that ancillary staff

can be as important as physician interactions in affecting patients' reports of disrespect in the healthcare setting. For this reason, such cultural sensitivity training should not only be directed to physicians but all health care staff members. There has been an increasing body of evidence in the literature examining the role of cultural sensitivity training. A number of theories have been developed to define the goal of cultural sensitivity training. Such theories typically assume that training should empower the provider to strive towards achieving a level of *cultural competency*. Levels of cultural competency can vary from lowest level, in which the provider having no insight into cultural competency, to at the very best, in which the provider has achieved cultural "proficiency".^{296,297,298} According to Culhane Pera, a person's level of cultural competency can be present in five gradations: no insight about culture, minimal emphasis on culture in the medical setting, acceptance of the roles of culture on beliefs and treatment, incorporation of culture into daily medical practice and full integration of the awareness of culture into all aspects of professional practice (representing the most proficient level of cultural competency.)^{17,299}

The Lewin group, as part of HRSA's initiative on cultural competence, examined several measurement variables to assess how well cultural competence is being achieved in health care settings. They found that the key measures of how well an institution addresses cultural competency can be grouped into four categories: capacity/structure measures, process measures, impact/outcome measures, and organizational viewpoint measures.

Capacity/structure measures refer to items in an institution's infrastructure that support cultural

²⁹⁶ The Lewin Group, Inc. Health Resources and Services Administration Study on Measuring Cultural Competency on Health Care Delivery Settings. A Review of the Literature. Prepared for HRSA, September 2001.

²⁹⁷ Crandall SJ. George G. Marion GS. Davis S. Applying theory to the design of cultural competency training for medical students: a case study. *Acad Med.* 2003; 78: 588-594.

²⁹⁸ Bennett MJ. Towards ethno-relativism: a developmental model of intercultural sensitivity. In: Paige RM (ed). *Education for the Intercultural Experience.* 2nd ed. Yarmouth, ME: Intercultural Press, 1993:21-71.

competency, such as dedicated resources to interpreter services, availability of advisory committees, and quality improvement initiatives to track how well cultural competency is being achieved. Process measures include measures of quality of interventions targeted towards cultural competency in an organization, such as tracking information about the number of staff trained in cultural competency, the percent of non-English speaking patients who have access to interpreter services and the percent of patients who have language concordance with their providers. Organization/viewpoint measures investigate how well an organization embraces the ideal of cultural competency, such as incorporating this goal as part of its mission statement. Impact/Outcome measures are perhaps the most useful and can show how improvements in the cultural competence of providers and staff can affect patient outcomes. Such measures include patient satisfaction and health care compliance.³⁰⁰ Although outcomes are particularly important, they are also probably the most challenging to track given the difficulty of linking such outcomes solely to cultural competency since many other confounding variables can play a contributory role in determining outcomes.³⁰¹

Achieving cultural competency within an institution begins with individual providers and staff members. Medical school training is one outlet through which physicians can be trained to become culturally competent providers. Cultural competency can be presented in medical school through various settings, such as full courses devoted to cultural competency, lectures integrated as part of larger courses, and specialized rotations and immersion courses designed to place the student in a community-based setting.^{17,302,303,304} Between 1996 and 1998, only 8% of United

²⁹⁹ Culhane-Pera KA, Reif C, Egli E, Baker NJ, Kassekert R. A curriculum for multicultural education in family medicine. *Fam Med.* 1997;29:719–23.

³⁰⁰ The Lewin Group, Inc. Health Resources and Services Administration Study on Measuring Cultural Competency on Health Care Delivery Settings. A Review of the Literature. Prepared for HRSA, September 2001.

³⁰¹ The Lewin Group, Inc.

³⁰² Albritton TA, Wagner PJ. Linking cultural competency and community service: a partnership between students, faculty, and the community. *Acad Med.* 2002; 77:738-9.

States Medical Schools offered an entire course specifically dedicated to issues related to cultural competency. The majority of schools taught this issue in a limited number of lectures integrated as part of another larger course.³⁰⁵ In an evaluation of the cultural competency of 19 schools considered to be likely leaders in the field, Grumbach and colleagues found that only 32% had separate cultural competency courses, although 84% had some type of mandatory instruction in place. The schools used a wide variation in approaches to teaching these skills ranging from cross-cultural mentoring experiences to internships.³⁰⁶

Unfortunately, few studies have examined which educational approach works best or how such cultural competence programs might affect medical students. In a MEDLINE-directed review of the literature on this topic, Champaneria and Axell found only two studies discussing the effectiveness of training programs in cultural competency. One study showed an improvement in various measures of cultural sensitivity reported by students, including better understanding of cultural references from patients and improved interaction with patients via the use of interpreters. Another study identified in Champaneria's review showed no improvement in students' skills in cultural competency with a two-year course. Unfortunately, both studies lacked a true randomly assigned control group limiting what conclusions could be made about each intervention.^{307,308,309}

³⁰³ Takayama JI, Chandran C, Pearl DB. A one-month cultural competency rotation for pediatrics residents. *Acad Med.* 2001; 76:514-5.

³⁰⁴ Kamaka ML. Cultural immersion in a cultural competency curriculum. *Acad Med.* 2001; 76:512.

³⁰⁵ Flores G, Gee D, Kastner B. The teaching of cultural issues in U. S. and Canadian medical schools. *Acad Med.* 2000;75:451-5.

³⁰⁶ Pena Dolhun E, Munoz C, Grumbach K. Cross-cultural education in U.S. medical schools: development of an assessment tool. *Acad Med.* 2003; 78:615-22.

³⁰⁷ Champaneria MC, Axtell S. Cultural competence training in US medical schools. *JAMA.* 2004; 291:2142..

³⁰⁸ Crandall SJ, George G, Marion GS, Davis S. Applying theory to the design of cultural competency training for medical students: a case study. *Acad Med.* 2003;78:588-594.

³⁰⁹ Beagan BL. Teaching social and cultural awareness to medical students: "it's all very nice to talk about it in theory, but ultimately it makes no difference." *Acad Med.* 2003;78:605-614.

One criticism of cultural competency programs is that they use an approach which places undue pressure on the patient by overemphasizing emphasis on learning about inherent patient cultural characteristics; this can lead to stereotyping patients based on assumed behavior based on race or culture. Betancourt instead recommends a more “patient-centered” approach that uses clinical scenarios as a model for teaching cultural competency. Such scenarios should provide an opportunity to learn about social and cultural issues that impact a given case as well as emphasize patient-doctor communication.^{310 311}

While the number of medical schools with cultural competency programs are limited in number, fewer still are the number of programs that train physicians once they have completed medical school. A study by Betancourt of residents showed that most had not had any formal cultural sensitivity training. Many felt that such training was important but could adversely lead to stereotyping of patients. Most noted the biggest barrier to cultural sensitivity training was lack of resources or appropriate role models.³¹²³¹³ The University of Massachusetts offers a unique regional training center designed to train community-based faculty in cultural competency. The Center offers four workshops designed to increase cultural awareness among its faculty members. The course has received positive feedback from its attendees, but no formal evaluation of its effectiveness has been published.³¹⁴

Outside of medical school and specialized training programs, the responsibility for cultural competency training may rest heavily with individual institutions. This is particularly

³¹⁰ Betancourt JR. Cultural competence--marginal or mainstream movement?. *NEJM*. 2004; 351: 953-5.

³¹¹ Betancourt JR. Cross-cultural medical education: conceptual approaches and frameworks for evaluation. *Acad Med*. 2003; 78:560-9.

³¹² Park ER, Betancourt JR, Kim MK, Maina AW, Blumenthal D, Weissman JS. Mixed messages: residents' experiences learning cross-cultural care. *Acad Med*. 2005; 80:874-80.

³¹³³¹³ Weissman JS, Betancourt J, Campbell EG et al. Resident physicians' preparedness to provide cross-cultural care. *JAMA*. 2005; 294:1058-67.

³¹⁴ Ferguson WJ, Keller DM, Haley HL, Quirk M. Developing Culturally Competent Community Faculty: A Model Program. *JAMA*. 2003; 78: 1221-1228.

true for ancillary staff (such as nurses, receptionists and other associated support staff) who may not have received opportunities to learn about cultural competency during their employment training period. As the Commonwealth Fund data showed, perceived disrespect was linked more closely to the race of the staff than the race of the provider alone. Conceivably, having a culturally competent staff would be equally as important as having a culturally competent or racially concordant provider.

Does cultural competence make a difference? From our model, improving patient-provider communication is one pathway to reducing perceived discrimination among minorities. Studies have revealed that poor understanding of cultural beliefs can lead to adverse consequences in a wide variety of settings. In a survey of literature evaluating cultural competency in the pediatric emergency department setting Flores and colleagues revealed a number of poor health outcomes resulting from lack of cultural understanding, including lower levels of patient satisfaction.³¹⁵

Although cultural competency has been recognized as an important element of both medical education and provider training, there is insufficient evidence to suggest that it impacts outcomes. Price, Beach and colleagues conducted a systematic review of the literature evaluating cultural competency programs. Sixty four studies that focused on evaluating culturally competency training initiatives in health care settings were analyzed. Of these studies, most lacked a comparison group and few used a pre-test/post-test analysis making it difficult to

³¹⁵ Flores G. Laws MB. Mayo SJ. Zuckerman B. Abreu M. Medina L. Hardt EJ. Errors in medical interpretation and their potential clinical consequences in pediatric encounters. *Ped.* 2003; 111: 6-14.

assert validity. In addition, most studies used changes in provider attitudes as the endpoint of interest rather than any patient centered outcomes.³¹⁶

There is evidence that incorporating culturally competence in educational materials can affect minorities' interactions with the medical system. Clinical trials that have incorporated culturally sensitive education materials have had better rates of minority participation than traditional trials.³¹⁷

Part of cultural competency includes having adequate interpreter services. Adequate interpreter services have been associated with a number of positive health outcomes ranging from improved levels of satisfaction by both patients and physicians in a wide variety of clinical settings to better levels of patient compliance and understanding of treatment decisions.^{318,319,320} Baker and colleagues studied a cohort of Spanish-speaking patients presenting to Harbor-UCLA Medical Center. They found that in 34% of cases of poor language concordance between provider and patient, an interpreter was not used to provide translation services. Only 38 percent of patients who felt they needed an interpreter but did not get one reported excellent understanding of their condition post-discharge with 90% stating that they would have preferred a better explanation from their provider.³²¹ Even when interpreters are available, their quality can vary significantly. In the health care setting, providers may choose from a wide variety of

³¹⁶ Price EG, Beach MC, Gary TL, Robinson KA, Gozu A, Palacio A, Smarth C, Jenckes M, Feuerstein C, Bass EB, Powe NR, Cooper LA. A systematic review of the methodological rigor of studies evaluating cultural competence training of health professionals.

³¹⁷ Fouad MN, Corbie-Smith G, Curb D, Howard BV, Mouton C, Simon M, Talavera G, Thompson J, Wang CY, White C, Young R. Special populations recruitment for the Women's Health Initiative: successes and limitations. *Controlled Clinical Trials*. 2004; 25:335-52.

³¹⁸ Kuo D, Fagan MJ. Satisfaction with methods of Spanish interpretation in an ambulatory care clinic. *JGIM*. 1999; 14:547-50.

³¹⁹ Rivadeneyra R, Elderkin-Thompson V, Cohen Silver R, Waitzkin H. Patient centeredness in medical encounters requiring an interpreter. *Am J Med*. 2000;108:470-474.

³²⁰ Carrasquillo O, Orav EJ, Brennan TA, Burstin HR. Impact of language barriers on patient satisfaction in an emergency department. *JGIM*. 1999; 14:82-7.

³²¹ Baker D, Parker R, Williams M, Coates W, Pitkin K. Use and Effectiveness of Interpreters in an Emergency Department. *JAMA*. 1996; 275: 783-788

interpreter services ranging from a full-fledged interpreter, which can be expensive, to telephone interpreter services, less formal interpreter sources, and even family member interpreters.³²²

Flores showed that serious flaws in patient-provider communication can occur in the absence of trained interpreters. In an analysis of transcripts recording interactions between patients and providers, he found an overall average of 31 errors per interaction. When providers use so-called “ad hoc” interpreters such as social workers, nurses or siblings, up to 77% of medical errors occurred that could result in potentially serious clinical consequences, such as incorrect directions about medications.³²³ An ideal situation for the non-English speaking patient is to have a provider who has fluency in the patient’s native language. In the absence of a formally trained interpreter present on-site, telephone interpretation services are another option, and satisfaction for patients who use this service during clinic visits was found to be equivalent to that experienced by those using providers who speak the same language and higher than that for interactions which rely on family members or informal interpreters.³²⁴

In addition to its effect on overall patient satisfaction and quality of care, interpreter services may have some impact on costs. One study showed that using interpreter services or having a physician that spoke the same language as the patient, was associated with both a lower number of unnecessary tests ordered and fewer hospital admissions for non-English speaking patients compared to cases involving non-concordance of physician-patient language and no interpreter use.³²⁵ However, because interpreter services can be expensive, the decision to use one might be more accurately viewed as an issue of quality rather than overall cost.

³²² Flores G. Culture and the patient-physician relationship: achieving cultural competency in health care. *Jl Ped.* 2000; 136:14-23.

³²³ Flores G. Laws MB. Mayo SJ. Zuckerman B. Abreu M. Medina L. Hardt EJ.

³²⁴ Lee LJ. Batal HA. Maselli JH. Kutner JS. Effect of Spanish interpretation method on patient satisfaction in an urban walk-in clinic. *JGIM.* 2002; 17: 641-5.

³²⁵ Hampers LC. McNulty JE. Professional interpreters and bilingual physicians in a pediatric emergency department: effect on resource utilization. *Arch Ped Adoles Med.* 2002; 156:1108-13.

Like the legal sanctions for discrimination, legal sanctions also encourage or require the availability of interpreter services for non-English speaking patients when needed. Many federal laws encourage the use of interpreters and many states have more strict mandates.^{326,327} In addition to protections based on language under the Hill-Burton Act and Title VI, EMTALA requires emergency departments that receive Medicare Funding to provide adequate interpreter services or risk civil fines and loss of funding.³²⁸ In 2000, President Bush released an executive order requiring federal agencies and recipients of federal funding to improve access to interpreter services for persons with limited English proficiency.³²⁹

Although there are no legal mandates requiring cultural competency training, the use of cultural competency measures in health care report cards, as described above, can potentially make health care facilities take the need for cultural competency more seriously. The PHR report outlines other ways in which culturally competency can be incorporated into the culture of institutions, as well as into the practices of individual providers. These methods include expanding state licensing tools and board exams to include cultural competency measures as a requirement for provider certifications and mandating medical schools to provide cultural competency courses as a requirement for accreditation.³³⁰

Unfortunately, there is limited, if any, data, on how cultural sensitivity training or interpreter services specifically affect patient's perceptions of discrimination. The Commonwealth Fund Data does not offer a sufficient sample size to make such determinations. Extrapolating from the previously discussed studies on interpreter services that demonstrate a

³²⁶ <http://www.hhs.gov/ocr/lep/appb.html>

³²⁷ Anonymous. Judge orders D.C. to provide interpreters for Latino inmates. *AIDS Policy & Law*. 12:5, 1997 Oct 3.

³²⁸ <http://www.omhrc.gov/cultural/laws.htm>

³²⁹ Executive Order No. 13166: Improving Access to Services for Persons with Limited English Proficiency. <http://www.omhrc.gov/cultural/cultural12.pdf>

³³⁰ Physicians for Human Rights. The Right to Equal Treatment. www.phrusa.org/research/domestic/race/race_report/index.html

positive effect on improved communication between patient and provider, it is likely, based on my model, that cultural competence and interpreter services would also create an environment in which patients are less likely to perceive discrimination.

Even in the presence of interpreters, patients can still have difficulty communicating with their providers. One study showed that Spanish speaking patients using interpreters were still less likely than English-speaking patients to have their comments acknowledged with English physicians.³³¹ Part of this problem may be linked to the increased length of time that using an interpreter adds to a visit causing the physician to rush through topics that otherwise could have been addressed in a more sensitive manner. In a time-motion study of a Seattle Clinic, physicians spent the same amount of time with patients requiring interpreter services as with those who did not, although physicians believed that they had spent more time with the former.³³² Perez Stable showed that Spanish-speaking patients in Seattle whose caregiver spoke the same language reported better overall well-being and functioning, though no differences in satisfaction, than patients who lacked a provider who spoke the same language.³³³ Studies such as these support the prior argument that increasing numbers of minority physicians, particularly those who can provide language concordant interactions, should still be an important priority even in the presence of adequate interpreter services.

Combating Unintentional Provider Level Discrimination through targeting referral patterns

Still another manifestation of unintentional provider level discrimination is differing rates of patient referral. As described earlier, race report cards can be used to evaluate potential

³³¹ Manson A. Language concordance as a determinant of patient compliance and emergency room use in patients with asthma. *Med Care* 1988;26:1119

³³² Tocher TM, Larson E. Do physicians spend more time with non-English-speaking patients? *J Gen Intern Med.* 1999;14:303-309.

discriminatory behaviors of individual practitioners. Another model might be having a central watchdog agency for which individual grievances involving alleged discrimination can be reported and made available to the public, similar to what is done with malpractice. Reporting rates of perceived discrimination or grievances to the public on the individual provider level, however, might be difficult, as well as controversial, similar to those controversies surrounding public access to malpractice claims. For example, past malpractice claims have not been shown to predict future malpractice trends.³³⁴ Similarly, grievances in discrimination might be due to other patient level factors beyond direct discrimination and could have nothing to do with a provider's propensity for disparate treatment.

A more feasible alternative than public reporting by provider might be to establish an internal quality assurance system within a health care organization, such as a managed care plan or hospital, which not only investigates discrimination grievances, but also tracks provider referral levels according to patient race. Cases in which there are wide discrepancies in the number of referrals according to race could be investigated to provide the physician with feedback (since often the physician may be unaware of differential referral patterns). In extreme cases where no improvement has occurred after feedback, unusually high numbers of cases of racial discrepancies by an individual provider could be used for making decisions about retention and promotion.

Patient Level

³³³ Pérez-Stable EJ, Nápoles-Springer A, Miramontes JM. The effect of ethnicity and language on medical outcomes of patients with hypertension or diabetes. *Med Care*. 1997;35:1212-1219.

³³⁴ Rolph JE, Kravitz RL, McGuigan K. Malpractice claims data as a quality improvement tool. II. Is targeting effective?. *JAMA*. 1991; 266:2093-7.

Addressing patient-level factors is perhaps the most challenging task for reducing discrimination in the health care setting. Trying to develop strategies to reduce perceptions of discrimination specifically from the patient level is hard to achieve. Many of the strategies to improve patient's perceptions of discrimination can be more easily achieved by addressing provider and system-level factors, which can be more controllable through policy interventions such as legal sanctions and mandates. Based on Van Ryn's discussion of the "self-fulfilling" prophecy (see chapter 2), provider effects are cyclical, that is, the providers behaviors that reflect subconscious discrimination can impact patients' perceptions. Therefore, policy approaches that help improve a provider's sensitivity not only can reduce the chance of discriminatory behavior elicited by the provider, but can also indirectly lower patient perceptions of disrespect as well.

One strategy might be to give minority patients a greater role in providing feedback for providers and health systems about discriminatory practices. This could involve educating minorities about grievance processes and allowing them to participate in internalized quality assurance initiatives. Nerenz's study used patients from the community to help develop cultural competency indicators for his pilot report card; such community-based patient involvement is one step in this direction. Hospitals can employ minority patients in developing quality improvement strategies to enhance patient-provider communication.

Minority patients can similarly become more participatory in the patient-doctor relationship. Increasingly, organizations are striving to provide the patient-consumer with more tools to use to actively participate in the patient-provider relationship. Such tools can increase overall health literacy rates, which in general are lower among minority patients. Initiatives such as the Ask Me Three Program, funded by Pfizer, are designed to give patients basic tools of what to ask during the health care visit. This program involves patients asking three questions that can

improve the flow of communication with their provider: What is my main problem? What do I need to do? Why is this important for me to do this? It also offers patients strategies to help facilitate this communication available through a publicly accessible website.³³⁵

Another approach might be to involve minority patients in cultural competency initiatives as well. Most of the cultural competency training initiatives focus on training providers. Very few, if any, focus on exposing minority patients to differing cultures. Although this is a difficult task to achieve for every patient in the medical system, such programs could be integrated as part of broader patient-managed programs, and could be conceivably be combined with other patient empowerment initiatives.

Conclusion/Summary

Discrimination can impact health care utilization from a number of different pathways ranging from the health care system as a whole to the individual provider. Patients' experiences in this system can also lead to perceptions of discrimination, which can reduce their desire to use care.

In this dissertation we have seen that discrimination can be particularly challenging to measure. As a result, it can be difficult to implement policies to effectively combat discrimination. This dissertation offers analysis of the Commonwealth Fund's data and shows that perceived discrimination can impact patients' utilization of preventive health care services. It also analyzes the role of patient-provider racial concordance on patients' perceptions of discrimination suggesting that, although concordance is an important pathway, other approaches must be taken in concert to effectively reduce such perceptions in the health care setting. Discrimination must instead be approached from many different angles, ranging from enhanced

³³⁵ <http://www.askme3.org/>

enforcement of legal sanctions to making health care systems accountable via such tools as health care report cards. In addition, discrimination can be approached by improving the patient-doctor interaction through such means as provider education and provision of interpreter services to patients. Such improvements may ultimately decrease the chance that a patient will perceive discrimination and increase their utilization of the health care system, thus while reducing disparities in health care use between whites and minority patients.

Much further research is needed in this area. More quantitative measures are needed to adequately link discrimination with health care utilization. However, trying to build such objective measures by documenting discriminatory practices through traditional routes such as field or laboratory studies is very difficult in the health care setting. Analysis of administrative data is one option, but the data have the limitations discussed above, and do not always possess the rigor of health services research. Another alternative is to build better datasets which report information on perceived discrimination in health care setting, utilization patterns, and referral rates by race. Although perceived discrimination may be subject to its own biases, linking such reports to documented measures of patient health care utilization rates reported by race, such as through the use of health plan report cards, can be of great value. Such information can allow us to better understand how race and perceived discrimination actually impacts health care utilization.

While discrimination is not the only explanatory factor in predicting why racial disparities occur, it is undoubtedly an area that deserves attention. Understanding the role that discrimination plays in health care use and implementing policies that seek to measure and combat it is a huge step in reducing racial disparities in the health care setting.

Appendix One: Questions Useful for Studying the Link Between Discrimination and Health by Dataset:

I. General Social Survey (1998)³³⁶

- Health Questions:
 - In general would you say your own health is excellent, good, fair or poor?
 - Now I'm going to ask you about things you did during the last seven days. I'm only interested in what you did during the last seven days. From the last (DAY OF WEEK) to today did you go to see a doctor or receive medical treatment at a clinic or hospital?
 - As you read each of the following statements, please think about the medical care you are now receiving. (scale 1-5)
 - Doctors aren't as thorough as they should
 - Doctors always do their best to keep the patient from worrying.
 - Sometimes doctors take unnecessary risks in treating their patients.
 - Doctors are very careful to check everything when examining their patients.
 - Doctors always treat their patients with respect.
 - I hardly ever see the same doctor when I go for medical care.
 - Doctors always avoid unnecessary patient expenses.
 - Doctors cause people to worry a lot because they don't explain medical problems to patients.

³³⁶ General Social Survey 1998 Codebook. <http://webapp.icpsr.umich.edu/GSS/>

- The medical problems I've had in the past are ignored when I seek care for a new medical problem.
- Doctors never recommend surgery (an operation) unless there is no other way to solve the problem.
- My doctor is willing to refer me to a specialist when needed.
- I worry that my doctor is being prevented from telling me the full range of options for my treatment.
- I worry that I will be denied the treatment or services I need.
- I worry that my doctor will put cost considerations above the care I need.
- Questions about opinions of doctors (asked about agreement on a scale of 1 to 5):
 - I doubt that my doctor really cares about me as a person.
 - I trust my doctor's judgments about my medical care
 - I feel my doctor does not do everything s/he should for my medical care.
 - I trust my doctor to put my medical needs above all other considerations when treating my medical problems.
 - My doctor is a real expert in taking care of medical problems like mine.
 - I trust my doctor to tell me if a mistake was made about my treatment
- Also questions about mental health, use of prozac, and opinions of health plans including health plan use, switching and satisfaction with plans.
- Discrimination Questions:
 - Questions referring to whether a group has been treated with discrimination:

- Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair?
 - What do you think the chances are these days that a white person won't get a job or promotion while an equally or less qualified black person gets one instead? Is this likely, somewhat likely, or not likely to happen these days?
 - In the past few years, do you think conditions for black people have improved, gotten worse, or stayed about the same?
 - On the average (blacks/African-Americans) have worse jobs, income, and housing than white people. Do you think these differences are mainly due to discrimination?
- Questions referring to a group's views of minorities:
- (Blacks/African-Americans) shouldn't push themselves where they're not wanted. (range from strongly agree to strongly disagree)
 - Do you think there should be laws against marriages between (blacks/African-Americans) and whites?
 - On the average (blacks/African-Americans) have worse jobs, income, and housing than white people. Do you think these differences are
 - Mainly due to discrimination?
 - Because most (blacks/African-Americans) have less in-born ability to learn?
 - Because most (blacks/African-Americans) don't have the chance for education that it takes to rise out of poverty?

--Because most (blacks/African-Americans) just don't have the motivation or will power to pull themselves up out of poverty?

- Now I have some questions about different groups in our society. I'm going to show you a seven-point scale on which the characteristics of people in a group can be rated. *Participants are asked about rating whites and blacks on the following based on a 7 point scale:*
 - Rich(1)-Poor(7)
 - Hardworking(1) –Lazy(7)
 - Unintelligent (1)- Intelligent(7)
- Now I'm going to ask you about different types of contact with various groups of people. In each situation would you, please tell me whether you would be very much in favor of it happening, somewhat in favor, neither in favor nor opposed to it happening, somewhat opposed, or very much opposed to it happening? Living in a neighborhood where half of your neighbors were Blacks? (5 point scale)
- What about having a close relative or family member marry a black person? Would you be very in favor of it happening, somewhat in favor, neither in favor or opposed to it happening, somewhat opposed, or very opposed to it happening? (5 point scale)
- Questions referring to a person's views on discrimination policies:
 - Some people say that because of past discrimination, blacks should be given preference in hiring and promotion. Others say that such preference

in hiring and promotion of blacks is wrong because it discriminates against whites. What about your opinion -- are you for or against preferential hiring and promotion of blacks?

- Do you agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, or disagree strongly with the following statement:
Irish, Italians, Jewish and many other minorities overcame prejudice and worked their way up. Blacks should do the same without special favors.
- Questions giving evidence for interaction with other racial groups:
 - Are there any (black/African Americans) living in your neighborhood?
 - (If black) : Are there any whites living in this neighborhood now?
 - Are the people who work where you work all white, mostly white, about half and half, mostly black, or all black?
 - In general, how close do you feel to blacks?
 - And in general how close do you feel to whites?
 - Are any of your good friends that you feel close to black/white?

II. CARDIA Study³³⁷

- Health Questions-CARDIA contains a wide range of questions about health related to general health status, health care utilization , behavior/lifestyle choices (such as smoking) and questions as well as laboratory/testing measures related to cardiac disease.
- Discrimination questions
 - Since your last CARDIA exam have you had any of these things happen to you:
 - Discriminated against on the basis of age, sex or color?

³³⁷ CARDIA Data Collection Forms. http://www.cardia.dopm.uab.edu/em_dacf.htm

- Do you think you have had a fair opportunity to make the most of yourself in life or have you been held back in some ways?(from the Framingham type A/B form)
- From the Discrimination Questionnaire (2000-2001)
 - If you feel you have been treated unfairly, do you usually accept it as a fact of life? Try to do something about it?
 - And if you have been treated unfairly, do you usually: Talk to other people about it? Keep it to yourself?
 - Have you ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior in any of the following seven situations because of your race or color [*also asks about gender in a separate question*]? If Yes, how often?
 - At school
 - Getting a job
 - Getting housing
 - At work
 - At home
 - Getting medical care
 - On the street or in a public setting
 - Have you ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior in any of the following seven situations because of your socioeconomic position or social class? If Yes, how often? (same 7 settings as above)

- Also has other questionnaires to assess individual coping styles and support mechanisms such as the Cook Medley hostility questionnaire, a John Henryism questionnaire and a social support questionnaire. The latest wave also includes a neighborhood cohesion form to evaluate the strength of neighborhood supports.

III. Detroit Area Study, 1995: Social Influences on Health: Stress, Racism, and Health

Protective Services³³⁸

- Health Questions:
 - The survey asks a wide range of health related questions including questions about:
 - General health status, chronic illness
 - Alcohol and substance abuse,
 - Depression
 - Coping strategies
 - Health care access measures (including usual source of care)
 - Preventive care including mammograms, past smears, general check up
 - Race of Doctor
 - Question about treatment and trust:
 - At your last visit for a general check-up, how would you rate the job that your doctor and office staff did in spending enough time with you? Would you say they did an excellent, good, fair or poor

³³⁸ Jackson, James, and David Williams. Detroit Area Study, 1995: Social Influences on Health: Stress, racism and health protective resources[Computer file]. ICPSR version. Ann Arbor, MI: University of Michigan, Dept. of Sociology, Detroit Area Studies [producer], 2002. Ann Arbor, MI: Inter-university Consortium for Political and Social Research , 2002.

job on this? How about treating you with dignity and respect.

(Would you say he or she is doing an excellent, good, fair, or poor job?)

- In general, would you say you trust doctors to be able to help you with your medical problems very much, somewhat, not very much, or not at all?

- Discrimination Questions:
 - Questions referring to whether a group has been treated with discrimination:
 - Do your chances in life depend more on what happens to your racial or ethnic group, or does it depend more on what you do yourself?
 - Thinking over your whole life, do you think that you have ever been treated unfairly or badly because of your race or ethnicity? (at what age
 - Because of the shade of your skin color do you think white people treat you a lot better, somewhat better, no different, somewhat worse, or a lot worse than other blacks?
 - Because of the shade of your skin color do you think black people treat you a lot better, somewhat better, no different, somewhat worse, or a lot worse than other blacks?
 - Do you think you have ever been unfairly fired or denied a promotion? What was the main reason?
 - For unfair reasons, do you think you have ever not been? What was the main reason?

- Do you think you have ever been unfairly stopped, searched, questioned, physically threatened or abused by the police? What was the main reason?
- Do you think you have ever been unfairly prevented from moving into a neighborhood because the landlord or a realtor refused to sell or rent you a house or apartment? What was the main reason?
- Have you ever moved into a neighborhood where neighbors made life difficult for you or your family? What was the main reason? Was it so bad you moved out?
- When you felt you were treated unfairly, how did you usually respond? Did you accept it as a fact of life or did you try to do something about it? Did you talk to other people about it or did you keep it to yourself? Did you lose your temper?
- In your day-to-day life how often have any of the following things happened to you? First, ...
 - You are treated with [*less?*] courtesy than other people. (Would you say very often, fairly often, not too often, hardly ever, or never?)
 - You are treated with less respect than other people
 - You receive poorer service than other people at restaurants or stores
 - People act as if they think you are not smart
 - People act as if they are afraid of you
 - People act as if they think you are dishonest

- People act as if they're better than you are
- You are called names or insulted
- you are threatened or harassed
- In dealing with the *[above]* day-to-day experiences you just told me about, how often do you...
 - think in advance about the kinds of problems you are likely to experience?
 - try to prepare for possible insults before leaving home?
 - feel that you always have to be very careful about your appearance to get good service or avoid being harassed?
 - carefully watch what you say and how you say it?
 - carefully observe what happens around you?
 - try to avoid certain social situations and places?
 - get very angry or mad?
- Would you say over the last five years that Blacks as a group in the United States are economically much better off, a little better off, about the same, worse off, or much worse off than most Whites living here in the United States (asked of blacks)
- Questions referring to a group's views of minorities:
 - Would you say over the last five years that Whites as a group in the United States are economically much better off, a little better off, about

the same, worse off, or much worse off than most blacks living here in the United States. (asked of whites)

- I am going to mention several reasons why blacks may not do as well as whites in the United States. Please tell me how strongly you agree or disagree with each of the following reasons. (range from strongly agree to strongly disagree)
 - Blacks teach their children values and skills that are different from the values and skills that whites teach their children.
 - God made the races different as part of a divine plan.
 - Whites have more in-born ability than blacks.
- What do you think the chances are these days that a white person will not get a job or promotion while an equally or less qualified black person gets one instead? (Is this very likely to happen, somewhat likely, somewhat unlikely, very unlikely to happen, or can't you say one way or the other?)
- Do you feel this way because of something that happened to you personally?
- Have you ever felt the following ways about black people
 - How often have you ever felt sympathy for blacks? (range from very often to hardly ever)
 - How often have you felt admiration for blacks? (Very
- Most whites think that blacks do not work as hard as whites. (strongly agree to strongly disagree)

- I think that blacks do not work as hard as whites. (strongly agree to strongly disagree)
 - Most blacks would not mind giving special preferences in hiring and job promotions to blacks. (strongly agree to strongly disagree)
 - Most blacks think that blacks do not work as hard as whites. (strongly agree to strongly disagree)
 - Discrimination against blacks is no longer a problem in the United States. (strongly agree to strongly disagree)
 - Blacks have a tendency to blame whites too much for problems that are of their own doing (strongly agree to strongly disagree)
 - Over the past few years blacks have gotten more than they deserve. (strongly agree to strongly disagree)
- Questions referring to a person's views on discrimination policies:
- The government should make every effort to improve the social and economic position of blacks living in the United States. (strongly agree to strongly disagree)
 - On the whole, do you think most white people in the Detroit area want to see black people get a better break, or do they want to keep black people down, or don't they care one way or the other?
 - Most whites would not mind giving special preferences in hiring and job promotions to blacks. (strongly agree to strongly disagree)

- I would not mind giving special preferences in hiring and job promotions to blacks. (strongly agree, agree to strongly disagree)
 - Many other groups have come to the United States and overcome prejudice and worked their way up. Blacks should do the same without any special favors. (strongly agree to strongly disagree)
- Questions giving evidence for interaction with other racial groups:
- Do you know any (OPPOSITE RACE--white/black) person who you think of as a good friend--that is, someone to whom you can say what you really think?
 - Most white people would be willing to have romantic relations with a black person (strongly agree to strongly disagree) [Blacks asked the reverse question]
 - I would be willing to have romantic relations with a black person. (strongly agree to strongly disagree) [Blacks asked the reverse question]
 - Black people and white people can never be really comfortable with each other even if they are close friends.
 - I would like you to imagine that you have been looking for a house and have found a nice house you can afford. This house could be located in several different types of neighborhoods as shown on these cards. Some of the neighborhoods have more white families, and others have more black families. Would you look through the cards and rearrange them so that the neighborhood that is most attractive to you is on top, the next most

attractive second, and so on down the line with the least attractive neighborhood on the bottom.

National Survey of Black Americans Wave IV Questions³³⁹

- Health Questions:
 - The survey asks a few questions about health including presence of specific health conditions, usual source of care and access.
 - Also asks about reasons for not using the medical system including trust and lack of confidence in the medical system.

- Discrimination Questions:
 - Questions referring to whether a group has been treated with discrimination:
 - In the United States, if black people don't do well:
 - One, they do not work hard to get ahead.
 - Two, they are kept back because of their race.
 - In this country, if black people do not get a good education or job, it is because...
 - One, they have not had the same chances as whites in this country.
 - Two, they have no one to blame but themselves.

Midlife in the United States (MIDUS)³⁴⁰

- Health Questions:

³³⁹ Laveist TA. Racial segregation and longevity among African Americans: an individual-level analysis. : Health Serv Res. 2003;38:1719-33.

³⁴⁰ <http://midmac.med.harvard.edu./research.html>

- Asks a wide variety of health questions including general health status, usual source of care, mental health, stressors, physical activity, health insurance coverage, substance abuse, and parental health
- Discrimination Questions:
 - How many times in your life have you been discriminated against in each of the following ways because of such things as your race, ethnicity, gender, age, religion, physical appearance, sexual orientation, or other characteristics?
 - a. You were discouraged by a teacher or advisor from seeking higher education?
 - b. You were denied a scholarship?
 - c. You were not hired for a job?
 - d. You were not given a job promotion?
 - e. You were fired?
 - f. You were prevented from renting or buying a home in the neighborhood you wanted?
 - g. You were prevented from remaining in a neighborhood because neighbors made life so uncomfortable?
 - h. You were hassled by the police?
 - i. You were denied a bank loan?
 - j. You were denied or provided inferior medical care?
 - k. You were denied or provided inferior service by a plumber, car mechanic, or other service provider?

- How often on a day-to-day basis do you experience each of the following types of discrimination?
 - a. You are treated with less courtesy than other people.
 - b. You are treated with less respect than other people.
 - c. You receive poorer service than other people at restaurants or stores.
 - d. People act as if they think you are not smart.
 - e. People act as if they are afraid of you.
 - f. People act as if they think you are dishonest.
 - g. People act as if they think you are not as good as they are.
 - h. You are called names or insulted.
 - i. You are threatened or harassed.

- What was the main reason for the discrimination you experienced?
 - 1. Your age
 - 2. Your gender
 - 3. Your race
 - 4. Your ethnicity or nationality
 - 5. Your religion
 - 6. Your height or weight
 - 7. Some other aspect of your appearance
 - 8. A physical disability
 - 9. Your sexual orientation
 - 10. Some other reason for discrimination (Please specify:)

- Overall, how much has discrimination interfered with you having a full and productive life?
- Overall, how much harder has your life been because of discrimination?

Appendix Two: Coefficients from Chapter Four Regressions

Table A.2.1

Coefficients from Regression: Relationship of demographic variables to Disrespect/Look Down Variable
Dependent Variable: Look Down/Disrespect
n=6663

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]
Male	.3886382	.1094781	0.000	.174014, .6032624
NonEnglish	-.7965237	.2448973	0.001	-1.276628, -.3164195
<100% Poverty	.4566627	.1723506	0.008	.1187812, .7945441
100-200% Poverty	.3678964	.1467408	0.012	.0802212, .6555716
Unknown Income	.2979134	.1506985	0.048	.0024794, .5933475
Uninsured	.5947733	.1436513	0.000	.3131549, .8763918
Black	.2717431	.1481676	0.067	-.0187293, .5622155
Hispanic	.7677052	.1671955	0.000	.43993, 1.09548
Asian	1.045652	.1850797	0.000	.6828157, 1.408487
Other Race	.4640163	.2279766	0.042	.0170839, .9109487]
College	-.556368	.1180143	0.000	-.7877268, -.3250091
Constant	-2.330163	.1312039	0.000	-2.587379, -2.072947

Table A.2.2

Coefficients from Regression: Relationship of demographic variables to Treated Unfairly Because of Race Variable
Dependent Variable: Treated Unfairly
Because of Race
n=6008

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]
Male	.1813327	.1967182	0.357	-.2043277, .5669931
Non English	.1989176	.3369117	0.555	-.4615881, .8594233
<100% Poverty	.4873128	.2803033	0.082	-.0622138, 1.036839
100-200% Poverty	.5876568	.2548781	0.021	.0879755, 1.087338
Unknown Income	-.5834183	.3250474	0.073	-1.220665, .0538279
Uninsured	1.114018	.2176994	0.000	.6872242, 1.540811
Black	1.787991	.2837312	0.000	1.231744, 2.344238
Hispanic	1.57754	.3171745	0.000	.9557282, 2.199351
Asian	1.631019	.4022345	0.000	.8424494, 2.419588
Other Race	1.732994	.3614876	0.000	1.024307, 2.44168
College	.1189105	.2169216	0.584	-.3063581, .544179
Constant	-4.841499	.3021052	0.000	-5.433767, -4.24923

Table A.2.3

Coefficients from Regression: Relationship of demographic variables to Would Have Received Better Treatment if Belonging to a Different Race Variable

Dependent Variable: Would Have Received Better Treatment if Belonging to a Different Race

n=6772

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	.0931515	.1462381	0.524	-.1935377	.3798406
Non English	.5952756	.2458023	0.015	.113398	1.077153
<100% Poverty	.3029507	.2340204	0.196	-.1558292	.7617307
100-200% Poverty	.2511738	.1962294	0.201	-.1335198	.6358674
Unknown Income	.0796984	.1930531	0.680	-.2987682	.458165
Uninsured	.9002092	.172816	0.000	.5614159	1.239002
Black	2.465378	.2347935	0.000	2.005082	2.925674
Hispanic	1.926448	.2775066	0.000	1.382416	2.470479
Asian	2.053264	.2812733	0.000	1.501848	2.60468
Other Race	1.776801	.3147358	0.000	1.159785	2.393818
College	.3863538	.1615277	0.017	.0696905	.7030171
Constant	-4.760113	.247465	0.000	-5.24525	-4.274976

Relationship of demographic variables to measures of negative perceptions: Coefficients from linear combinations of Variables: Race and Gender, Race and Income and Race and Insurance using multivariate regression (without interaction terms)

Table A.2.4

**Dependent Variable: Look Down/Disrespect
n=6663**

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]
Race/Gender				
Black Male	.6603813	.1866439	0.000	.2944789, 1.026284
Hispanic Male	1.156343	.1967532	0.000	.7706223, 1.542064
Asian Male	1.43429	.2091438	0.000	1.024278, 1.844302
Other Race Male	0.8526545	.2512163	0.001	.3601624 1.345147
Race/Income				
Black <100% Poverty	.7284058	.212656	0.001	.3115083, 1.145303
Hispanic<100% Poverty	1.224368	.2352468	0.000	0.7631827, 1.685553
Asian <100% Poverty	1.502314	.2540612	0.000	1.004245, 2.000384
Other Race <100% Poverty	0.920679	.2767015	0.001	0.3782247, 1.463133
Race/Insurance				
Black Uninsured	.8665164	.1996226	0.000	.4751701,1.257863
Hispanic Uninsured	1.362478	.2130054	0.000	.9448962, 1.780061
Asian Uninsured	1.640425	.2309871	0.000	1.187591, 2.093259
Other Race Uninsured	1.05879	.2695378	0.000	.5303794, 1.5872

Table A.2.5
Dependent Variable: Treated Unfairly Because of Race
n=6008

	Coefficient.	Standard Error	P> t 	[95% Conf. Interval]
Race/Gender				
Black Male	1.969324	.3515198	0.000	1.280179, 2.658468
Hispanic Male	1.756673	.3553961	0.000	1.062129, 2.455617
Asian Male	1.812351	.4107467	0.000	1.007094, 2.617609
Other Race Male	1.914326	.3992558	0.000	1.131597, 2.697056
Race/Income				
Black <100% Poverty	2.275304	.3528039	0.000	1.583642, 2.966966
Hispanic<100% Poverty	2.064853	.3748687	0.000	1.329933, 2.799772
Asian <100% Poverty	2.118331	.4758493	0.000	1.185442, 3.05122
Other Race <100% Poverty	2.220306	.4587775	0.000	1.320886, 3.119726
Race/Insurance				
Black Uninsured	2.902009	.369145	0.000	.217739,3.626627
Hispanic Uninsured	2.691558	.4036856	0.000	1.900143, 2.482972
Asian Uninsured	2.745036	.467367	0.000	1.828777, 3.661296
Other Race Uninsured	2.847011	.4513632	0.000	1.962127, 3.731896

Table A.2.6

Dependent Variable: Would Have Received Better Treatment if Belonging to a Different Race
n=6772

	Coefficient.	Standard Error	P> t 	[95% Conf. Interval]
Race/Gender				
Black Male	2.558529	.2573726	0.000	2.052969, 3.06309
Hispanic Male	2.019599	.2811536	0.000	1.468418, 2.570781
Asian Male	2.146416	.2811074	0.000	1.595325, 2.697506
Other Race Male	1.869953	.321294	0.000	1.240079, 2.499826
Race/Income				
Black <100% Poverty	2.768329	.2812342	0.000	2.216989, 3.319668
Hispanic<100% Poverty	2.229399	.3176472	0.000	1.606674, 2.852123
Asian <100% Poverty	2.356215	.3337963	0.000	1.701831, 3.010598
Other Race <100% Poverty	2.079752	.3680226	0.000	1.35827, 2.801234
Race/Insurance				
Black Uninsured	3.365587	.2812488	0.000	2.814219, 3.916955
Hispanic Uninsured	2.826657	.3207942	0.000	2.197763, 3.455551
Asian Uninsured	2.953473	.3198952	0.000	2.326342, 3.580605
Other Race Uninsured	2.67701	.3408947	0.000	2.008711, 3.34531

^aThis table reports predicted percentages derived from our multivariate regression. The independent variables of interest are: “looked down/treated with disrespect”, “treated unfairly because of race”, and “would have received better care if different race” The dependent variables were: gender, language, income, insurance, race and education.

****p≤0.001

***p≤0.01

**p≤0.05

*p≤0.1

Coefficients from Regressions: Relationship of Negative Perceptions with Interaction Terms for Race/Gender

Table A.2.7
Dependent Variable: Look Down/Disrespect
n=6663

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	.3343287	.1559725	0.032	.0285553	.6401021
NonEnglish	-.7943867	.2448983	0.001	-1.274493	-.3142805
<100% Poverty	.4584207	.1725717	0.008	.1201058	.7967357
100-200% Poverty	.3690469	.1470999	0.012	.0806677	.6574262
Unknown Income	.2973055	.1506698	0.049	.0019277	.5926833
Uninsured	.5945465	.1434985	0.000	.3132275	.8758655
Black	.1613889	.1945577	0.407	-.2200281	.5428059
Hispanic	.7500867	.2206091	0.001	.3175979	1.18257
Asian	.9573338	.2707003	0.000	.4266445	1.488023
Other Race	.3804842	.3233987	0.239	-.2535166	1.014485
College	-.5545794	.1180109	0.000	-.7859316	-.3232272
Black*Male	.2262484	.291847	0.438	-.3458975	.7983943
Hispanic*Male	.0334468	.2893452	0.908	-.5337944	.600688
Asian*Male	.1632658	.3549641	0.646	-.5326168	.8591484
Other Race*Male	.1422956	.4482232	0.751	-.7364151	1.021006
Constant	-2.303816	.1401758	0.000	-2.578621	-2.029011

Table A.2.8
Dependent Variable: Treated Unfairly Because of Race
n=6008

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	.5424648	.41921	0.196	-.2793844	1.364314
NonEnglish	.1865232	.3354311	0.578	-.4710798	.8441262
<100% Poverty	.5090145	.2834183	0.073	-.0466191	1.064648
100-200% Poverty	.6142652	.2520147	0.015	.1201977	1.108333
Unknown Income	-.571863	.3288363	0.082	-1.216537	.0728112
Uninsured	1.101487	.2168107	0.000	.6764364	1.526539
Black	1.808524	.394901	0.000	1.034332	2.582716
Hispanic	1.968159	.4126899	0.000	1.159092	2.777226
Asian	2.175087	.5225656	0.000	1.150612	3.199562
Other Race	1.969319	.4878412	0.000	1.012921	2.925718
College	.1399751	.2166475	0.518	-.2847562	.5647064
Black*Male	-.001399	.5567363	0.998	-1.092865	1.090067

Asian*Male	-1.441577	.8163756	0.077	-3.042058	.1589037
Hispanic*Male	-.9336033	.5595886	0.095	-2.030661	.1634541
Other Race*Male	-.4552916	.7149589	0.524	-1.856948	.946364
Constant	-5.041121	.3659056	0.000	-5.758468	-4.323773

Table A.2.9
Dependent Variable: Would Have Received Better Treatment if Different Race
n=6722

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	.7121314	.3864238	0.065	-.0454243	1.469687
Non English	.5880597	.2457344	0.017	.1063153	1.069804
<100% Poverty	.3080128	.2364072	0.193	-.1554464	.771472
100-200% Poverty	.2622721	.1965893	0.182	-.1231269	.6476712
Unknown Income	.0765277	.194784	0.694	-.3053322	.4583876
Uninsured	.8947045	.1733989	0.000	.5547685	1.23464
Black	2.800515	.3370758	0.000	2.139702	3.461327
Hispanic	2.384487	.3800793	0.000	1.639369	3.129604
Asian	2.497926	.3976339	0.000	1.718394	3.277459
Other Race	2.338824	.4098529	0.000	1.535337	3.142311
College	.3826438	.1615217	0.018	.0659923	.6992952
Black*Male	-.6200164	.4619515	0.180	-1.525639	.285606
Hispanic*Male	-.8917408	.4761143	0.061	-1.825128	.0416468
Asian*Male	-.8376507	.5477128	0.126	-1.911402	.2361004
Other Race*Male	-1.03106	.6252863	0.099	-2.256888	.1947686
Constant	-5.094739	.3096427	0.000	-5.701771	-4.487707

Coefficients from Regressions: Relationship of Negative Perceptions with Interaction Terms for Race/Income

Table A.2.10
Dependent Variable: Look Down/Disrespect
n=6663

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	.3888244	.1095889	0.000	.1739829	.603666
NonEnglish	-.7685356	.2485717	0.002	-1.255843	-.281228
<100% Poverty	.6568888	.2296657	0.004	.206645	1.107132
100-200% Poverty	.3699948	.1469773	0.012	.081856	.6581336
Unknown Income	.2858715	.1511345	0.059	-.0104173	.5821603
Uninsured	.5912035	.1426684	0.000	.3115119	.8708951
Black	.3428411	.1625587	0.035	.024156	.6615262
Hispanic	.8574409	.1734886	0.000	.5173285	1.197553
Asian	1.025593	.1935381	0.000	.6461754	1.405011
Other Race	.5459441	.2400634	0.023	.0753165	1.016572
College	-.5561061	.1175353	0.000	-.7865259	-.3256863
Black*100% Poverty	-.4749021	.3592847	0.186	-1.179255	.2294507
Hispanic*100% Poverty	-.4590245	.3196611	0.151	-1.085698	.1676491
Asian*100% Poverty	.0916316	.5818235	0.875	-1.048993	1.232256
Other Race * 100% Poverty	-.8376674	.6524163	0.199	-2.116685	.4413498
Constant	-2.350633	.1334356	0.000	-2.612224	-2.089041

Table A.2.11
Dependent Variable: Treated Unfairly Because of Race
n=6008

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	.1773911	.1967678	0.367	-.2083665	.5631487
NonEnglish	.242688	.3233274	0.453	-.3911861	.8765622
<100% Poverty	.9036398	.4896902	0.065	-.0563838	1.863663
100-200% Poverty	.5914498	.2564197	0.021	.0887463	1.094153
Unknown Income	-.6143127	.3265111	0.060	-1.254428	.025803
Uninsured	1.110756	.2158868	0.000	.6875165	1.533996
Black	1.872924	.3076999	0.000	1.269687	2.47616
Hispanic	1.728025	.3469076	0.000	1.047923	2.408127
Asian	1.745951	.4381087	0.000	.8870513	2.604851
Other Race	1.81139	.3936488	0.000	1.039653	2.583127

College	.1086423	.2156158	0.614	-3.140662	.5313508
Black*100% Poverty	-.5183573	.618948	0.402	-1.731787	.6950725
Hispanic*100% Poverty	-.7215072	.5628848	0.200	-1.825027	.3820125
Asian*100% Poverty	-.7098472	.9709253	0.465	-2.613318	1.193624
Other Race * 100% Poverty	-.4827836	.9022886	-0.535	-2.251695	1.286128
Constant	-4.898953	.3113413	0.000	-5.509329	-4.288577

Table A.2.12
Dependent Variable: Would Have Received Better Treatment if Different Race
n=6722

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	.094998	.1464694	0.517	-.1921446	.3821406
NonEnglish	.6745184	.2461258	0.006	.1920066	1.15703
<100% Poverty	1.297174	.4284589	0.002	.4572109	2.137136
100-200% Poverty	.2640159	.1971504	0.181	-.1224831	.6505149
Unknown Income	.0227973	.1962174	0.908	-.3618727	.4074673
Uninsured	1.900626	.1704095	0.000	.5665505	1.234701
Black	2.652178	.2413435	0.000	2.179042	3.125315
Hispanic	2.213067	.2761726	0.000	1.67165	2.754483
Asian	2.225996	.3014598	0.000	1.635006	2.816986
Other Race	1.976163	.3346858	0.000	1.320036	2.632291
College	.372332	.1602294	0.020	.0582139	.6864501
Black*100% Poverty	-1.155969	.506567	0.023	-2.149057	-.1628814
Hispanic*100% Poverty	-1.620778	.4604745	0.000	-2.523505	-.7180509
Asian*100% Poverty	-1.126683	.6812664	0.098	-2.462256	.2088904
Other Race * 100% Poverty	-1.330234	.7969227	0.095	-2.892543	.2320749
Constant	-4.907562	.2511927	0.000	-5.400007	-4.415117

Coefficients from Regressions: Relationship of Negative Perceptions with Interaction Terms for Race/Insurance

Table A.2.13
Dependent Variable: Look Down/Disrespect
n=6663

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	.3881037	.109426	0.000	.1735816	.6026258
NonEnglish	-.7383347	.2557744	0.004	-1.239763	-.2369067
<100% Poverty	.462873	.1710924	0.007	.1274582	.7982879
100-200% Poverty	.364244	.1469784	0.013	.076103	.6523851
Unknown Income	.3025068	.1508946	0.045	.0066884	.5983252
Uninsured	.6866779	.2109645	0.001	.2730965	1.100259
Black	-.2992831	.1671721	0.073	-.0284463	.6270125
Hispanic	.8365715	.178538	0.000	.4865601	1.186583
Asian	1.154087	.1976729	0.000	.7665627	1.541611
Other Race	.3766987	.2650454	0.155	-.1429046	.896302
College	-.5612583	.1182655	0.000	-.7931097	-.3294069
Black*Uninsured	-.1362118	.346771	0.694	-.8160325	.5436088
Hispanic*Uninsured	-.2890563	.3455618	0.403	-.9665064	.3883938
Asian*Uninsured	-.6808757	.4701961	0.148	-1.602663	.2409113
Other Race*Uninsured	.2934616	.5482412	0.592	-.7813275	1.368251
Constant	-2.344109	.1331219	0.000	-2.605085	-2.083132

Table A.2.14
Dependent Variable: Treated Unfairly Because of Race
n=6008

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	1.698959	.1961056	0.386	-.2145636	.5543554
NonEnglish	.2010346	.3621925	0.579	-.5090335	.9111027
<100% Poverty	.5278886	.2813218	0.061	-.0236347	1.079412
100-200% Poverty	.609645	.2529808	0.016	.1136833	1.105607
Unknown Income	-.5674307	.3273225	0.083	-1.209137	.0742756
Uninsured	.8029132	.5208104	0.123	-.2181208	1.823947
Black	1.643673	.3306962	0.000	.9953529	2.291994
Hispanic	1.484327	.332235	0.000	.83299	2.135664
Asian	1.718575	.4280686	0.000	.8793588	2.557791

Other Race	1.470793	.4291104	0.001	.629534	2.312051
College	.1304147	.2212336	0.556	-.3033075	.5641369
Black*Uninsured	.4845128	.6491469	0.455	-.7881212	1.757147
Hispanic*Uninsured	.3324445	.6569748	0.613	-.9555358	1.620425
Asian*Uninsured	-.6982487	1.175192	0.552	-3.00218	1.605682
Other Race*Uninsured	.7948342	.834406	0.341	-.8409949	2.430663
Constant	-4.781534	.3004024	0.000	-5.370465	-4.192604

Table A.2.15
Dependent Variable: Would Have Received Better Treatment if Different Race
n=6722

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Male	.0933771	.1462431	0.523	-.1933218	.3800761
Non English	.6330554	.2573428	0.014	.1285534	1.137557
<100% Poverty	.2965037	.2313308	0.200	-.1570036	.750011
100-200% Poverty	.2432016	.1947279	0.212	-.1385483	.6249514
Unknown Income	.0824647	.193469	0.670	-.2968173	.4617467
Uninsured	1.372291	.434431	0.002	.5206202	2.223961
Black	2.57597	.271193	0.000	2.044315	3.107624
Hispanic	2.056196	.307912	0.000	1.452557	2.659835
Asian	2.297116	.3222699	0.000	1.665329	2.928903
Other Race	2.059201	.3619448	0.000	1.349634	2.768767
College	.3895255	.162828	0.017	.070313	.708738
Black*Uninsured	-.4179131	.5104604	0.413	-1.418634	.5828074
Hispanic*Uninsured	-.5167343	.5257927	0.326	-1.547513	.514044
Asian*Uninsured	-1.067793	.6405634	0.096	-2.323571	.1879851
Other Race*Uninsured	-1.064545	.720031	0.139	-2.476114	.3470232
Constant	-4.886407	.2694979	0.000	-5.414738	-4.358076

Coefficients from Regressions: Relationship of negative perceptions to health care outcomes.

Table A.2.16

Dependent Variable: Exam Within Prior Year

Principal Independent Variable: Treated with Disrespect/Looked Down Upon
n=6663

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated with Disrespect/ Looked Down Upon	.1850035	.1119971	0.099	-.4045661	.034559
<100% Poverty	.0283539	.1296465	0.827	-.2258092	.2825169
100-200% Poverty	.0103318	.1034683	0.920	-.1925107	.2131744
Unknown Income	.0402595	.1014959	0.692	-.1587161	.2392352
Uninsured	-.4407903	.1120912	0.000	-.6605375	-.2210432
Primary Physician	.7238175	.0933026	0.000	.5409042	.9067308
Chronic Illness	.5021219	.0780343	0.000	.3491411	.6551028
College	.0267284	.0793319	0.736	-.1287963	.182253
Constant	-.7606562	.1122686	0.000	-.9807511	-.5405612

Table A.2.17

Dependent Variable: Exam Within Prior Year

Principal Independent Variable: Treated Unfairly Because of Race
n=6008

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated Unfairly Because Of Race	.2523462	.1957615	0.197	-.1314387	.6361311
<100% Poverty	-.0002399	.1354227	0.999	-.2657322	.2652524
100-200% Poverty	.0064943	.1078522	0.952	-.2049469	.2179356
Unknown Income	.0370605	.1070299	0.729	-.1727686	.2468896
Uninsured	-.4775912	.1198263	0.000	-.7125072	-.2426752
Primary Physician	.6101423	.0999563	0.000	.4141808	.8061039
Chronic Illness	.3624191	.0806975	0.000	.2042139	.5206242
College	-.0142375	.0836251	0.865	-.1781821	.1497071
Constant	-.4972209	.1197516	0.000	-.7319905	-.2624513

Table A.2.18
Dependent Variable: Exam Within Prior Year
Principal Independent Variable: Would Have Received Better Treatment if Different Race
n=6627

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Would Have Received Better Treatment If Different Race	.1182932	.1478682	0.424	-.1715915	.408178
<100% Poverty	.008109	.1289985	0.950	-.2447832	.2610013
100-200% Poverty	-.0067304	.1033623	0.948	-.2093648	.1959039
Unknown Income	.0262798	.1009811	0.795	-.1716864	.2242459
Uninsured	-.475655	.1117656	0.000	-.6947634	-.2565466
Primary Physician	.7678917	.0925617	0.000	.5864313	.9493522
Chronic Illness	.4987411	.0777632	0.000	.346292	.6511902
College	.0356248	.0788588	0.651	-.1189722	.1902217
Constant	-.8240806	.1102285	0.000	-1.040176	-.6079856

Table A.2.19
Dependent Variable: Optimal Chronic Disease Screening
Principal Independent Variable: Treated with Disrespect/Looked Down Upon
n=1790

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated with Disrespect/Looked Down Upon	-.5880139	.2083854	0.005	-.996743	-.1792848
<100% Poverty	-.6598992	.2618429	0.012	-1.17348	-.146318
100-200% Poverty	.0067724	.2429987	0.978	-.4698475	.4833923
Unknown Income	-.5498284	.2046254	0.007	-.9511826	-.1484742
Uninsured	-.5935378	.2323545	0.011	-1.04928	-.1377953
Primary Physician	.789725	.2069094	0.000	.383891	1.195559
College	.2524213	.1845041	0.171	-.109467	.6143095
Constant	-.6726405	.2483533	0.007	.1855179	1.159763

Table A.2.20
Dependent Variable: Optimal Chronic Disease Screening
Principal Independent Variable: Treated Unfairly Because of Race
n=1729

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated Unfairly Because Of Race	-.6111798	.3827468	0.111	-1.361921	.1395619
<100% Poverty	-.6426197	.2709756	0.018	-1.174127	-.1111124
100-200% Poverty	-.0759004	.247101	0.759	-.5605786	.4087777
Unknown Income	-.6348032	.2086675	0.002	-1.044096	-.2255108
Uninsured	-.5981437	.2577189	0.020	-1.103649	-.0926389
Primary Physician	.8053595	.2097041	0.000	.3940336	1.216685
College	.2919859	.1870944	0.119	-.0749918	.6589636
Constant	.6498001	.2432929	0.008	.1725912	1.127009

Table A.2.21
Dependent Variable: Optimal Chronic Disease Screening
Principal Independent Variable: Would Have Received Better Treatment if Different Race
n=1794

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Would Have Received Better Treatment If Different Race	-.5564187	.2783293	0.046	-1.102336	-.0105018
<100% Poverty	-.6811356	.2579121	0.008	-1.187006	-.1752653
100-200% Poverty	-.0109755	.2383088	0.963	-.4783957	.4564448
Unknown Income	-.5776437	.203814	0.005	-.9774058	-.1778816
Uninsured	-.5867932	.2376374	0.014	-1.052897	-.1206897
Primary Physician	.84754	.2022515	0.000	.4508427	1.244237
College	.2986754	.1808141	0.099	-.0559744	.6533253
Constant	.5474318	.2356315	0.020	.0852627	1.009601

Table A.2.22

Dependent Variable: Optimal Cancer Screening

**Principal Independent Variable: Treated with Disrespect/Looked Down Upon
n=4860**

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated with Disrespect/ Looked Down Upon	.0787286	.1427583	0.581	-.2011591	.3586163
<100% Poverty	.0072777	.1510532	0.962	-.2888727	.3034281
100-200% Poverty	.2137197	.1228152	0.082	-.0270681	.4545076
Unknown Income	-.4221033	.1170585	0.000	-.6516047	-.1926019
Uninsured	.0935421	.1370603	0.495	-.1751741	.3622584
Primary Physician	.4274876	.118266	0.000	.1956189	.6593563
Chronic Illness	-.7858268	.0902512	0.000	-.9627706	-.608883
College	.4027861	.0944418	0.000	.2176262	.5879459
Constant	-.0827694	.1435011	0.564	-.3641135	.1985746

Table A.2.23

Dependent Variable: Optimal Cancer Screening

Principal Independent Variable: Treated Unfairly Because of Race n=4561

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated Unfairly Because Of Race	.487086	.2799101	0.082	-.0617063	1.035878
<100% Poverty	-.1017662	.1555604	0.513	-.4067584	.2032259
100-200% Poverty	.1594267	.1277963	0.212	-.091131	.4099843
Unknown Income	-.4498735	.1220489	0.000	-.6891629	-.210584
Uninsured	.0677291	.1463679	0.644	-.2192401	.3546984
Primary Physician	.2625879	.1264098	0.038	.0147486	.5104272
Chronic Illness	-.8651504	.0927065	0.000	-1.046911	-.6833899
College	.3369984	.0984829	0.001	.1439126	.5300841
Constant	.2140403	.1523071	0.160	-.0845734	.512654

Table A.2.24

Dependent Variable: Optimal Cancer Screening

Principal Independent Variable: Would Have Received Better Treatment if Different Race n=4894

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Would Have Received Better Treatment If Different Race	.115841	.1879105	0.538	-.25257	.4842519
<100% Poverty	.0069085	.1500857	0.963	-.2873444	.3011613
100-200% Poverty	.2280715	.1227552	0.063	-.0125982	.4687412
Unknown Income	-.4331841	.1165651	0.000	-.6617177	-.2046504
Uninsured	.0664767	.1361559	0.625	-.2004659	.3334193
Primary Physician	.4972615	.117374	0.000	.2671421	.727381
Chronic Illness	-.7769749	.0902624	0.000	-.9539403	-.6000095
College	.3979866	.0938349	0.000	.2140172	.5819561
Constant	-.1481725	.1406866	0.292	-.4239978	.1276528

Table A.2.25

Dependent Variable: Not Following Doctor's Advice

Principal Independent Variable: Treated with Disrespect/Looked Down Upon n=6008

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated with Disrespect/Looked Down Upon	.4048627	.1291925	0.002	.1515846	.6581409
<100% Poverty	.2124278	.1537524	0.167	-.0889993	.5138549
100-200% Poverty	.0413943	.1286042	0.748	-.2107306	.2935192
Unknown Income	-.1588056	.1285498	0.217	-.4108238	.0932126
Uninsured	.3592056	.1335616	0.007	.0973619	.6210493
Primary Physician	-.1364938	.1150782	0.236	-.3621013	.0891138
Chronic Illness	.3423499	.0934261	0.000	.1591907	.5255091
College	.3918205	.100477	0.000	.1948382	.5888028
Constant	-1.501957	.142395	0.000	-1.781118	-1.222795

Table A.2.26
Dependent Variable: Not Following Doctor's Advice
Principal Independent Variable: Treated Unfairly Because of Race
n=6008

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated Unfairly Because Of Race	.9215336	.2038261	0.000	.5219383	1.321129
<100% Poverty	.2080836	.1545219	0.178	-.0948522	.5110193
100-200% Poverty	.0336053	.1290237	0.795	-.2193419	.2865526
Unknown Income	-.1356825	.1284768	0.291	-.3875576	.1161926
Uninsured	.3295689	.1357285	0.015	.063477	.5956607
Primary Physician	-.1314926	.1164741	0.259	-.3598368	.0968516
Chronic Illness	.338059	.0936926	0.000	.1543773	.5217407
College	.3666401	.0999438	0.000	.1707032	.5625771
Constant	-1.468897	.1411829	0.000	-1.745682	-1.192112

Table A.2.27
Dependent Variable: Not Following Doctor's Advice
Principal Independent Variable: Would Have Received Better Treatment if Different Race
n=6008

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Would Have Received Better Treatment If Different Race	.3971724	.1629895	0.015	.0776363	.7167086
<100% Poverty	.2176676	.1536324	0.157	-.0835243	.5188595
100-200% Poverty	.0507311	.1282212	0.692	-.200643	.3021051
Unknown Income	-.1509175	.1284803	0.240	-.4027995	.1009645
Uninsured	.3531269	.1340128	0.008	.0903986	.6158552
Primary Physician	-.1507313	.1153832	0.191	-.3769368	.0754741
Chronic Illness	.3525728	.0934029	0.000	.1694592	.5356865
College	.3655442	.0995561	0.000	.1703673	.560721
Constant	-1.450016	.140495	0.000	-1.725453	-1.17458

Table A.2.28
Dependent Variable: Delayed Care
Principal Independent Variable: Treated with Disrespect/Looked Down Upon
n=6663

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated with Disrespect/ Looked Down Upon	.5653428	.1249297	0.000	.3204267	.810259.
<100% Poverty	.5263074	.1482055	0.000	.2357607	.8168541
100-200% Poverty	.3872961	.1261151	0.002	.1400561	.6345362
Unknown Income	-.1764935	.1393786	0.205	-.4497356	.0967486
Uninsured	.7508419	.1249275	0.000	.5059303	.9957536
Primary Physician	-.1337373	.1104554	0.226	-.3502774	.0828028
Chronic Illness	.2077631	.0982287	0.034	.0151925	.4003338
College	.36208	.1025801	0.000	.1609787	.5631813
Constant	-1.911452	.1448512	0.000	-2.195423	-1.627481

Table A.2.29
Dependent Variable: Delayed Care
Principal Independent Variable: Treated Unfairly Because of Race
n=6008

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Treated Unfairly Because Of Race	.7488878	.2053507	0.000	.3463037	1.151472
<100% Poverty	.5020882	.1542725	0.001	.1996413	.804535
100-200% Poverty	.3857554	.1320173	0.003	.1269393	.6445715
Unknown Income	-.1101415	.1450913	0.448	-.3945889	.1743059
Uninsured	.8913566	.1336174	0.000	.6294036	1.15331
Primary Physician	-.192792	.117871	0.102	-.4238747	.0382908
Chronic Illness	.1344048	.1012176	0.184	-.0640294	.332839
College	.3708358	.1069901	0.001	.1610848	.5805869
Constant	-1.762968	.1534258	0.000	-2.063754	-1.462181

Table A.2.30
Dependent Variable: Delayed Care
Principal Independent Variable: Would Have Received Better Treatment if Different Race
n=6722

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Would Have Received Better Treatment If Different Race	.5953224	.1588911	0.000	.283828	.9068168
<100% Poverty	.5101006	.1467528	0.001	.2224024	.7977989
100-200% Poverty	.3949149	.1258026	0.002	.1482881	.6415417
Unknown Income	-.1971113	.1396151	0.158	-.4708166	.076594
Uninsured	.7368637	.1246002	0.000	.4925941	.9811333
Primary Physician	-.1305891	.110371	0.237	-.3469633	.0857851
Chronic Illness	.236705	.098144	0.016	.0443008	.4291092
College	.3161911	.101368	0.002	.1174664	.5149158
Constant	-1.851785	.1423698	0.000	-2.130891	-1.572679

Appendix Three: Coefficients from Chapter Five Regressions

Coefficients from Regressions: Models Examining Patient-Provider Racial Concordance

Table A.3.1
Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Entire Sample

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Provider Racial Concordance
n=5062

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-.1500978	.1317598	0.255	-.4084192	.1082236
Non English Speaking	.0055122	.2933432	0.985	-.569601	.5806254
<100% Poverty	.3869357	.2221325	0.082	-.0485655	.8224369
100-200% Poverty	.4747609	.1759274	0.007	.1298469	.819675
Unknown Income	.3848228	.1766127	0.029	.0385653	.7310802
Uninsured	.6761649	.1928645	0.000	.298045	1.054285
College	-.5113909	.1375773	0.000	-.7811177	-.241664
Constant	-2.051883	.1515354	0.000	-2.348975	-1.75479

Table A.3.2

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Provider Racial Concordance
N=4752

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-1.668046	.2875123	0.000	-2.231737	-1.104355
Non English Speaking	1.039369	.446406	0.020	.1641536	1.914584
<100% Poverty	.6828651	.3648269	0.061	-.0324078	1.398138
100-200% Poverty	.5454163	.3285263	0.097	-.0986863	1.189519
Unknown Income	-.714599	.4104181	0.082	-1.519257	.0900592
Uninsured	.9994294	.3376683	0.003	.3374033	1.661455
College	.3295379	.2950067	0.264	-.2488468	.9079226
Constant	-3.506554	.3190725	0.000	-4.132122	-2.880987

Table A.3.3

Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Provider Racial Concordance
n=5063

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	. -1.321451	.2015662	0.000	-1.716631	-.9262706
Non English Speaking	1.47908	.3499167	0.000	.793052	2.165108
<100% Poverty	.4112129	.3436619	0.232	-.2625524	1.084978
100-200% Poverty	.2300276	.2548862	0.367	-.2696887	.7297439
Unknown Income	.1136387	.2466547	0.645	-.3699395	.5972169
Uninsured	1.186347	.2527406	0.000	.6908371	1.681857
College	.4936331	.2168558	0.023	.068477	.9187892
Constant	-3.222286	.234975	0.000	-3.682966	-2.761607

Table A.3.4
Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups: Whites

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Provider Racial Concordance
Sample: Whites n=2849

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	.2165514	.2369034	0.361	-.2479944	.6810971.
<100% Poverty	.3928305	.3325204	0.238	-.2592114	1.044872
100-200% Poverty	.2794458	.2526477	0.269	-.215973	.7748646
Unknown Income	.3304645	.2410634	0.171	-.1422387	.8031677
Uninsured	.3832118	.3189664	0.230	-.2422519	1.008676
College	-.6409581	.1928412	0.001	-1.019102	-.2628142
Constant	-2.392267	.2613473	0.000	-2.904745	-1.879789

Table A.3.5**Dependent Variable: Treated Unfairly Because of Race****Principal Independent Variable: Patient-Provider Racial Concordance****Sample: Whites n=2708**

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider Racial Concordance	-2.415397	.5346924	0.000	-3.463903	-1.36689
<100% Poverty	1.377953	.590185	0.020	.2206276	2.535278
100-200% Poverty	.7990967	.5936048	0.178	-.3649346	1.963128
Unknown Income	-1.930872	.6134217	0.002	-3.133763	-.7279808
Uninsured	.0978043	.8510342	0.909	-1.571034	1.766643
College	-.1174993	.5021471	0.815	-1.102186	.8671876
Constant	-3.35393	.5182129	0.000	-4.370121	-2.337739

Table A.3.6**Dependent Variable: Perception that better treatment would have been received if different race****Principal Independent Variable: Patient-Provider Racial Concordance****Sample: Whites n=2851**

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider Racial Concordance	-1.318509	.5242652	0.012	-2.346544	-.2904734
<100% Poverty	1.156393	.6163617	0.061	-.0522356	2.365021
100-200% Poverty	-.2232747	.700895	0.750	-1.597665	1.151115
Unknown Income	-1.713902	.6491635	0.008	-2.986852	-.4409532
Uninsured	1.602055	.5832526	0.006	.4583508	2.745759
College	-.0724755	.5115689	0.887	-1.075615	.9306636
Constant	-3.727917	.4969014	0.000	-4.702295	-2.75354

Table A.3.7
Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups: Blacks

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Provider Racial Concordance
Sample: Blacks n=771

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	.1805232	.3308877	0.586	-.4691122	.8301585
<100% Poverty	.1314566	.4241874	0.757	-.7013551	.9642683
100-200% Poverty	.3661923	.3783846	0.333	-.3766942	1.109079
Unknown Income	-.1326408	.4653396	0.776	-1.046247	.7809654
Uninsured	.5839499	.432184	0.177	-.2645616	1.432461
College	-.3913111	.32908	0.235	-1.037397	.2547751
Constant	-1.906107	.3356042	0.000	-2.565003	-1.247212

Table A.3.8
Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance
Sample: Blacks n=731

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	.1744568	.5701573	0.760	-.9450354	1.293949
<100% Poverty	-.4556752	.6566961	0.488	-1.745084	.833734
100-200% Poverty	-.8354161	.5960777	0.162	-2.005802	.3349702
Unknown Income	-.7095071	.6100142	0.245	-1.907257	.4882432
Uninsured	1.146334	.5381373	0.034	.0897121	2.202955
College	.4787562	.5211699	0.359	-.5445501	1.502063
Constant	-2.773516	.4940486	0.000	-3.743571	-1.803462

Table A.3.9

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Provider Racial Concordance

Sample: Blacks n=771

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider Racial Concordance	.1865904	.3165869	0.556	-.434968	.8081489
<100% Poverty	-.2093408	.4524298	0.644	-1.097601	.6789196
100-200% Poverty	-.3741867	.3622431	0.302	-1.085383	.3370091
Unknown Income	-.1300135	.4307907	0.763	-.9757896	.7157626
Uninsured	1.03408	.4195593	0.014	.2103544	1.857805
College	.8615929	.3258403	0.008	.221867	1.501319
Constant	-2.413678	.3516558	0.000	-3.104088	-1.723268

Table A.3.10

Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups: Hispanic

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Provider Racial Concordance

Sample: Hispanics n=710

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider Racial Concordance	.9449104	.3479621	0.007	.2616566	1.628164
Non English speaking	1.392932	.3853596	0.000	-2.149619	-.6362451
<100% Poverty	.5170792	.5289822	0.329	-.5216232	1.555782
100-200% Poverty	.1101014	.4210417	0.009	.2742622	1.927766
Unknown Income	1.52078	.447523	0.001	.6420302	2.399531
Uninsured	.7806808	.3804491	0.041	.033636	1.527726
College	-.7499339	.3469651	0.031	-1.43123	-.0686379
Constant	-1.944346	.3574796	0.000	-2.646288	-1.242404

Table A.3.11
Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance
Sample: Hispanics n=651

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	.7862522	.5211178	0.132	-.2371707	1.809675
Non English speaking	.5013062	.5505696	0.363	-.5799571	1.58257
<100% Poverty	1.43249	.63844	0.025	.1786585	2.686322
100-200% Poverty	2.38271	.5425813	0.000	1.317135	3.448285
Unknown Income	.0707787	.6556559	0.914	-1.216863	1.358421
Uninsured	.2806595	.5997743	0.640	-.8972368	1.458556
College	.9609113	.5018796	0.056	-.0247296	1.946552
Constant	-5.140403	.6615208	0.000	-6.439564	-3.841243

Table A.3.12
Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Provider Racial Concordance
Sample: Hispanics=710

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	.4250311	.3866507	0.272	-.334191	1.184253
Non English speaking	1.177256	.4588426	0.011	.2762786	2.078233
<100% Poverty	-.1196162	.6401804	0.852	-1.376666	1.137434
100-200% Poverty	.8070073	.5245045	0.124	-.2229027	1.836917
Unknown Income	.6018475	.6408713	0.348	-.656559	1.860254
Uninsured	.4813038	.4071124	0.238	-.3180968	1.280704
College	.4832009	.3846903	0.210	-.272172	1.238574
Constant	-3.484533	.5176649	0.000	-4.501013	-2.468053

Table A.3.13
Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups: Asians

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Provider Racial Concordance

Sample: Asians n=465

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	.1791419	.3943399	0.650	-.5959944	.9542783
<100% Poverty	.0379851	.760971	0.960	-1.457822	1.533792
100-200% Poverty	.4677929	.5841456	0.424	-.6804359	1.616022
Unknown Income	.3668768	.4752167	0.441	-.5672355	1.300989
Uninsured	.3364425	.5965802	0.573	-.8362286	1.509114
College	-.8951216	.4377425	0.041	-1.755572	-.0346707
Constant	-1.136839	.4717437	0.016	-2.064125	-.2095538

Table A.3.14

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Provider Racial Concordance

Sample: Asians n=378

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-3.9394	1.12087	0.000	-6.144067	-1.734734
<100% Poverty	2.89337	.9520825	0.003	1.020695	4.766044
Unknown Income	-1.942202	.8770721	0.027	-3.667337	-.2170673
Uninsured	.5617541	.7935655	0.479	-.9991294	2.122638
College	1.788897	.8117281	0.028	.1922888	3.385505
Constant	-4.452664	.8946876	0.000	-6.212447	-2.692881

Note: Variable 100-200% poverty dropped because of perfect correlation with dependent variable

Table A.3.15

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Provider Racial Concordance

Sample: Asians n=465

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider Racial Concordance	-.4357386	.4118597	0.291	-1.245313	.3738357
<100% Poverty	-.5646984	.8620753	0.513	-2.259241	1.129845
100-200% Poverty	-.8318949	.9429107	0.378	-2.685332	1.021543
Unknown Income	-.0372315	.550478	0.946	-1.119282	1.044819
Uninsured	.8927209	.6015904	0.139	-.2897986	2.07524
College	-.5045078	.5033191	0.317	-1.49386	.4848442
Constant	-1.416448	.4849045	0.004	-2.369603	-.4632928

Table A.3.16

Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Entire Sample with Racial Subgroups Included as Independent Variables

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Provider Racial Concordance

n=5062

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider Racial Concordance	.3319433	.1684276	0.049	.0017331	.6621535
Non English Speaking	-.8081188	.3189728	0.011	-1.43348	-.1827577
<100% Poverty	.2955414	.2266195	0.192	-.1487568	.7398396
100-200% Poverty	.4464059	.1780887	0.012	.0972546	.7955573
Unknown Income	.3570623	.1795736	0.047	.0049998	.7091248
Uninsured	.6355395	.1927947	0.001	.2575564	1.013523
College	-.5549685	.140751	0.000	-.8309175	-.2790195
Black	.5525736	.2033969	0.007	.1538043	.9513428
Hispanic	1.188252	.2242882	0.000	.7485245	1.62798
Asian	1.154321	.2312861	0.000	.7008738	1.607769
Other Race	.9167011	.3019841	0.002	.324647	1.508755
Constant	-2.587273	.2018558	0.000	-2.983021	-2.191525

Table A.3.17
Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance
n=4752

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-1.193793	.4537219	0.009	-2.083352	-.3042347
Non English Speaking	.9459808	.4743182	0.046	.0160412	1.87592
<100% Poverty	.6057289	.3748792	0.106	-.1292523	1.34071
100-200% Poverty	.4520615	.3341934	0.176	-.2031518	1.107275
Unknown Income	-.7255541	.3975284	0.068	-1.504941	.0538328
Uninsured	.9454221	.3357281	0.005	.2871998	1.603644
College	.3492225	.2992143	0.243	-.2374115	.9358565
Black	1.174184	.5006299	0.019	.1926579	2.155709
Hispanic	.5946126	.5397086	0.271	-.4635302	1.652755
Asian	.7505087	.5500225	0.172	-.3278552	1.828873
Other Race	.7495774	.5729388	0.191	-.3737157	1.87287
Constant	-4.09865	.5322924	0.000	-5.142252	-3.055047

Table A.3.18
Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Provider Racial Concordance
n=5062

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-.3242988	.2900236	0.264	-.8929037	.2443062
Non English Speaking	1.069604	.3639389	0.003	.3560843	1.783123
<100% Poverty	.2353728	.3519268	0.504	-.4545961	.9253418
100-200% Poverty	.0130275	.2603347	0.960	-.4973709	.523426
Unknown Income	.0356108	.2467147	0.885	-.448085	.5193066
Uninsured	1.102083	.2705893	0.000	.5715795	1.632586
College	.4864165	.2272633	0.032	.0408562	.9319768
Black	2.351157	.3822983	0.000	1.601643	3.10067
Hispanic	1.555113	.4267213	0.000	.7185054	2.39172
Asian	2.132461	.3891235	0.000	1.369567	2.895356
Other Race	1.65123	.4778989	0.001	.7142872	2.588174
Constant	-4.641039	.4342676	0.000	-5.492441	-3.789637

Table A.3.19
Relationship of Racial Concordance of Provider to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Entire Sample with Racial Subgroups Included as Independent Variables and Interaction Terms Between Race and Concordance

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Provider Racial Concordance
n=5062

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	.2037489	.235777	0.388	-2.2585031	.6660009
Non English Speaking	-.9510574	.3264765	0.004	-1.59113	-.3109848
<100% Poverty	.280085	.2272127	0.218	-.1653763	.7255462
100-200% Poverty	.4478622	.1780951	0.012	.0986983	.7970261
Unknown Income	.3551521	.1798414	0.048	.0025646	.7077396
Uninsured	.625883	.194675	0.001	.2442135	1.007552
College	-.5529325	.1410059	0.000	-.8293812	-.2764838
Black	.4887336	.2808209	0.082	-.0618291	1.039296
Hispanic	.9488551	.2872045	0.001	.3857771	1.511933
Asian	1.035787	.3441958	0.003	.3609747	1.710599
Other Race	.8117167	.327275	0.013	.1700786	1.453355
Black*Concordance	-.0315085	.4098158	0.939	-.8349717	.7719548
Hispanic*Concordance	.6593593	.4003134	0.100	-.1254741	1.444193
Asian*Concordance	.1743491	.4558445	0.702	-.7193557	1.068054
Constant	-2.477673	.2431003	0.000	-2.954283	-2.001064

Table A.3.20
Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance
n=4752

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-2.414272	.5453723	0.000	-3.483518	-1.345025
Non English Speaking	.6119509	.517046	0.237	-.4017599	1.625662
<100% Poverty	.5395811	.3809631	0.157	-.2073281	1.28649
100-200% Poverty	.404175	.3430866	0.239	-.2684741	1.076824
Unknown Income	-.7386382	.4042677	0.068	-1.531238	.0539614
Uninsured	.6255484	.1946497	0.001	.2439284	1.007168

College	.3121018	.2953974	0.291	-.2670487	.8912524
Black	.4323219	.4155145	0.298	-.3823281	1.246972
Hispanic	-.378767	.4635905	0.414	-1.287674	.5301398
Asian	.4205485	.5367277	0.433	-.6317498	1.472847
Other Race	.2330145	.484221	0.630	-.7163403	1.182369
Black*Concordance	2.493463	.7728184	0.001	.9782898	4.008637
Hispanic*Concordance	3.145234	.7616326	0.000	1.651991	4.638476
Asian*Concordance	-1.035332	1.029732	-1.005	-3.054205	.9835403
Constant	-3.508586	.4322955	0.000	-4.356136	-2.661035

Table A.3.21

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Provider Racial Concordance

n=5063

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-1.317584	.503937	0.009	-2.305577	-.3295922
Non English Speaking	.8664933	.3595416	0.016	.161595	1.571392
<100% Poverty	.2189352	.3491476	0.531	-.465585	.9034554
100-200% Poverty	-.0132746	.2552258	0.959	-.5136568	.4871076
Unknown Income	.0153504	.2489515	0.951	-.4727307	.5034315
Uninsured	1.080695	.2655869	0.000	.5599993	1.601391
College	.4712352	.2227611	0.034	.0345016	.9079688
Black	1.571617	.4129323	0.000	.7620437	2.38119
Hispanic	.712246	.4500852	0.114	-.1701673	1.594659
Asian	1.553924	.4636448	0.001	.6449268	2.462922
Other Race	.9963875	.4703907	0.034	.0741644	1.918611
Black*Concordance	1.49556	.5900753	0.011	.33869	2.652431
Hispanic*Concordance	1.790518	.6419597	0.005	.5319263	3.049111
Asian*Concordance	.802456	.7044851	0.255	-.5787202	2.183632
Constant	-3.955602	.4112507	0.000	-4.761879	-3.149326

Coefficients from Regressions: Models Examining Patient-Staff Racial Concordance

Table A.3.22

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Entire Sample

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Staff Racial Concordance

n=6435

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.4463298	.1388302	0.001	-.7184988	-.1741608
Non English Speaking	-.1898229	.2357494	0.421	-.6519967	.2723508
<100% Poverty	.4592828	.1724784	0.008	.1211484	.7974172
100-200% Poverty	.3409904	.1496264	0.023	.0476562	.6343247
Unknown Income	.1814708	.1571149	0.248	-.1265442	.4894859
Uninsured	.5840029	.151226	0.000	.2875327	.8804731
College	-.5207515	.1179935	0.000	-.7520713	-.2894317
Constant	-1.600382	.1595777	0.000	-1.913225	-1.287538

Table A.3.23

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Staff Racial Concordance

n=5860

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-.9202996	.2372668	0.000	-1.385457	-.4551422
Non English Speaking	.9437427	.3169963	0.003	.3222771	1.565208
<100% Poverty	.6326974	.2893629	0.029	.0654066	1.199988
100-200% Poverty	.5710215	.2621554	0.029	.0570706	1.084972
Unknown Income	-.5009789	.3468511	0.000	.7029328	1.610311
College	.1092866	.2196561	0.619	-.3213453	.5399186
Constant	-3.256851	.278738	0.000	-3.803312	-2.71039

Table A.3.24

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Staff Racial Concordance

n=6464

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider Racial Concordance	-.7419417	.1857321	0.000	-1.106059	-.3778246
Non English Speaking	1.288126	.2352553	0.000	.8269217	1.749331
<100% Poverty	.5485027	.2415863	0.023	.0748865	1.022119
100-200% Poverty	.4723939	.2010299	0.019	.0782862	.8665016
Unknown Income	.127325	.2147224	0.553	-.293626	.5482759
Uninsured	1.02465	.1812341	0.000	.6693508	1.379949
College	.3212109	.1597466	0.044	.0080369	.6343849
Constant	-3.06455	.2421018	0.000	-3.539177	-2.589924

Table A.3.25

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups as Separate Samples: Whites

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Staff Racial Concordance

Sample: Whites n=3356

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff Racial Concordance	-.0975945	.2648498	0.713	-.6169067	.4217178
<100% Poverty	.4427847	.2595029	0.088	-.0660433	.9516127
100-200% Poverty	.1850889	.2125581	0.384	-.2316908	.6018685
Unknown Income	-.0583801	.2350413	0.804	-.5192444	.4024841
Uninsured	.6413722	.2227071	0.004	.2046925	1.078052
College	-.6600528	.165371	0.000	-.984309	-.3357966
Constant	-1.960934	.2811755	0.000	-2.512258	-1.409611

Table A.3.26

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Staff Racial Concordance

Sample: Whites n=3126

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-1.045453	.5463993	0.056	-2.116851	.0259448
<100% Poverty	1.100037	.5271652	0.037	.0663543	2.133721
100-200% Poverty	.7466332	.4648888	0.108	-.1649363	1.658203
Unknown Income	-1.879562	.5112404	0.000	-2.882019	-.8771049
Uninsured	.5331908	.5129393	0.299	-.4725979	1.538979
College	-.2563198	.4017218	0.523	-1.044029	.5313899
Constant	-3.627485	.5473782	0.000	-4.700803	-2.554168

Table A.3.27

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Staff Racial Concordance

Sample: Whites n=3367

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-1.54116	.5173086	0.003	-2.555487	-.5268335
<100% Poverty	1.299301	.5203416	0.013	.2790272	2.319575
100-200% Poverty	.051254	.5474061	0.925	-1.022087	1.124595
Unknown Income	-2.619449	.5256446	0.000	-3.650121	-1.588777
Uninsured	.9105715	.5313136	0.087	-.1312162	1.952359
College	.1401571	.4304091	0.745	-.7037792	.9840935
Constant	-3.291515	.6165621	0.000	-4.500456	-2.082574

Table A.3.28
Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups as Separate Samples: Blacks

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Staff Racial Concordance
Sample: Blacks n=1012

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.4798503	.2780579	0.085	-1.025549	.0658488
<100% Poverty	.1228582	.3567889	0.731	-.5773533	.8230696
100-200% Poverty	.3159817	.3352398	0.346	-.341939	.9739023
Unknown Income	.2834754	.3750036	0.450	-.4524831	1.019434
Uninsured	.4618986	.3184459	0.147	-.1630633	1.086861
College	-.6088811	.2778145	0.029	-1.154102	-.0636596
Constant	-1.416625	.3350129	0.000	-2.074101	-.7591501

Table A.3.29
Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Staff Racial Concordance
Sample: Blacks=935

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	.307107	.448834	0.494	-.5738371	1.188051
<100% Poverty	-.0443535	.4793372	0.926	-.9851674	.8964604
100-200% Poverty	-.2221649	.4452061	0.618	-1.095988	.6516584
Unknown Income	-.9410646	.5617269	0.094	-2.043588	.1614589
Uninsured	1.522122	.3718664	0.000	.7922448	2.251998
College	.3395386	.3829567	0.376	-.4121054	1.091183
Constant	-3.067012	.5368043	0.000	-4.120619	-2.013405

Table A.3.30
Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Staff Racial Concordance
Sample: Blacks=1016

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	.0224187	.2762344	0.935	-.5197001	.5645374

<100% Poverty	0735493	.3416044	0.830	-.5968602	.7439588
100-200% Poverty	.010558	.3070857	0.973	-.5921076	.6132235
Unknown Income	.2084565	.3449981	0.546	-.4686133	.8855263
Uninsured	1.181066	.2780599	0.000	.6353648	1.726768
College	.7187292	.2547331	0.005	.2188074	1.218651
Constant	-2.423087	.3478112	0.000	-3.105678	-1.740497

Table A.3.31
Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups as Separate Samples: Hispanics

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Staff Racial Concordance
Sample: Hispanics n=1076

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.5679181	.3137458	0.071	-1.183637	.047801
Non English	-.9404349	.3361259	0.005	-1.600074	-.2807955
<100% Poverty	.9399042	.3810891	0.014	.1920255	1.687783
100-200% Poverty	.8838181	.3610386	0.015	.175288	1.592348
Unknown Income	1.240625	.3867575	0.001	.4816223	1.999628
Uninsured	.2766291	.2963919	0.351	-.3050334	.8582916
College	-.4589972	.3039879	0.131	-1.055566	.1375721
Constant	-1.283907	.4037932	0.002	-2.076342	-.4914716

Table A.3.32
Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Staff Racial Concordance
Sample: Hispanics n=942

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.5535858	.4717896	0.241	-1.479611	.3724392
Non English	.3545497	.458174	0.439	-.5447505	1.25385
<100% Poverty	.6243224	.5852843	0.286	-.524469	1.773114
100-200% Poverty	1.100887	.5379943	0.041	.0449157	2.156858
Unknown Income	-.3918288	.7453636	0.599	-1.854823	1.071165
Uninsured	1.245584	.4395193	0.005	.3828994	2.108269
College	.5409088	.4448147	0.224	-.33217	1.413988
Constant	-3.310988	.6501751	0.000	-4.587147	-2.03483

Table A.3.33

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Staff Racial Concordance

Sample: Hispanics n=1088

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	.1724855	.3659946	0.638	-.545759	.8907301
Non English	.7022322	.3276914	0.032	.0591556	1.345309
<100% Poverty	.0112344	.4301896	0.979	-.8329894	.8554582
100-200% Poverty	.9553664	.4157526	0.022	.1394745	1.771258
Unknown Income	.4052504	.4844856	0.403	-.5455263	1.356027
Uninsured	.878131	.3358213	0.009	.2190999	1.537162
College	.4048937	.3000691	0.178	-.1839757	.9937631
Constant	-3.204327	.5310409	0.000	-4.246466	-2.162188

Table A.3.34

Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Individual Racial Groups as Separate

Samples: Asians

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Staff Racial Concordance

Sample: Asians n=642

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.5632446	.3272833	0.086	-1.20608	.0795911
<100% Poverty	.6870506	.5385472	0.203	-.3707405	1.744842
100-200% Poverty	-.1253306	.4791156	0.794	-1.066389	.8157274
Unknown Income	.3777138	.4283543	0.378	-.4636411	1.219069
Uninsured	-.0834239	.44344	0.851	-.9544095	.7875618
College	-.719573	.369472	0.052	-1.445274	.0061278
Constant	-.5599704	.4594646	0.223	-1.462431	.34249

Table A.3.35

Dependent Variable: Treated Unfairly Because of Race

Principal Independent Variable: Patient-Staff Racial Concordance

Sample: Asians n=548

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.8230738	.6456573	0.203	-2.091666	.4455182
<100% Poverty	.7420014	.7755794	0.339	-.7818625	2.265865
100-200% Poverty	-.0164059	1.127664	0.988	-2.232047	2.199235
Unknown Income	.4105205	.954625	0.667	-1.465134	2.286175
Uninsured	.1543702	.9282825	0.868	-1.669526	1.978266
College	.1771769	.7829854	0.821	-1.361238	1.715592
Constant	-2.632627	.7606838	0.001	-4.127224	-1.13803

Table A.3.36

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Staff Racial Concordance

Sample: Asians n=642

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.0320539	.4006737	0.936	-.8190399	.754932
<100% Poverty	-.1300263	.5354641	0.808	-1.181762	.921709
100-200% Poverty	-.8329532	.717896	0.246	-2.243013	.5771069
Unknown Income	-.0575294	.5032074	0.909	-1.045908	.9308488
Uninsured	.4262472	.473721	0.369	-.504215	1.356709
College	-.4857771	.3927681	0.217	-1.257235	.2856809
Constant	-1.587081	.4634266	0.001	-2.497323	-.6768382

Table A.3.37
Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Entire Sample with Race Variables

Dependent Variable: Looked Down/Disrespect

Principal Independent Variable: Patient-Staff Racial Concordance
n=6435

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.2644293	.1425818	0.064	-.5439531	.0150946
Non English Speaking	-.8052878	.2612752	0.002	-1.317503	-.2930722
<100% Poverty	.3952475	.1743836	0.023	.0533781	.737117
100-200% Poverty	.3233189	.1508442	0.032	.0275971	.6190407
Unknown Income	.165439	.1574386	0.293	-.1432106	.4740886
Uninsured	.5540736	.1509406	0.000	.2581629	.8499842
College	-.5606119	.1205783	0.000	-.796999	-.3242249
Black	.2591752	.1520989	0.088	-.0390063	.5573567
Hispanic	.8083519	.1667691	0.000	.4814103	1.135294
Asian	1.055606	.1911231	0.000	.6809194	1.430292
Other Race	.4404259	.2432328	0.070	-.0364185	.9172703
Constant	-1.902556	.1774685	0.000	-2.250473	-1.554639

Table A.3.38
Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Staff Racial Concordance
n=5860

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.5093538	.2401065	0.034	-.9800784	-.0386292
Non English Speaking	.3122064	.3516152	0.375	-.377129	1.001542
<100% Poverty	.4922314	.2884035	0.088	-.0731786	1.057641
100-200% Poverty	.4708841	.2651447	0.076	-.0489274	.9906956
Unknown Income	-.5829088	.3379334	0.085	-1.245421	.0796037
Uninsured	1.082085	.2226539	0.000	.6455758	1.518594
College	.1335315	.2207071	0.545	-.2991609	.5662238
Black	1.730276	.2958467	0.000	1.150274	2.310279
Hispanic	1.450883	.3263051	0.000	.8111672	2.090598
Asian	1.496646	.4059328	0.000	.7008224	2.29247
Other Race	1.481878	.3752202	0.000	.7462655	2.21749
Constant	-4.276522	.3743453	0.000	-5.010419	-3.542624

Table A.3.39
Dependent Variable: Perception that better treatment would have been received if different race
Principal Independent Variable: Patient-Staff Racial Concordance
n=6464

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-staff					
Racial Concordance	-.2718613	.1986415	0.171	-.6612866	.1175641
Non English Speaking	.6197148	.262746	0.018	.1046164	1.134813
<100% Poverty	.3064676	.2453268	0.212	-.1744815	.7874167
100-200% Poverty	.3013272	.2008174	0.134	-.0923639	.6950182
Unknown Income	.0286071	.2118377	0.893	-.3866884	.4439027
Uninsured	.9298763	.1815746	0.000	.5739097	1.285843
College	.3846132	.1667753	0.021	.0576598	.7115667
Black	2.440736	.2507463	0.000	1.949162	2.93231
Hispanic	1.89197	.2908705	0.000	1.321736	2.462205
Asian	2.035839	.3077894	0.000	1.432436	2.639243
Other Race	1.74885	.331788	0.000	1.09839	2.399302
Constant	-4.490108	.3633256	0.000	-5.202387	-3.777829

Table A.3.40
Relationship of Racial Concordance of Staff to Measures of Disrespect/Mistreatment. Coefficients from Multivariate Analysis: Evaluation of Entire Sample with Racial Subgroups
Included as Independent Variables and Interaction Terms Between Race and Concordance

Dependent Variable: Looked Down/Disrespect
Principal Independent Variable: Patient-Staff Racial Concordance
n=6435

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-.0239331	.2324673	0.918	-.4796724	.4318061
Non English Speaking	-.7807725	.2625704	0.003	-1.295527	-.2660178
<100% Poverty	.3981408	.1746085	0.023	.0558304	.7404512
100-200% Poverty	.3278366	.1510389	0.030	.0317333	.62394
Unknown Income	.1758347	.1576661	0.265	-.133261	.4849303
Uninsured	.5662504	.1508942	0.000	.2704307	.86207
College	-.5691579	.120467	0.000	-.8053268	-.332989
Black	.6222328	.326314	0.057	-.0174877	1.261953
Hispanic	1.286552	.3686017	0.000	.5639289	2.009176
Asian	1.362347	.3382178	0.000	.6992896	2.025404

Other Race	.5071308	.2487832	0.042	.0194051	.9948566
Black*Concordance	-.4466669	.3642323	0.220	-1.160724	.2673903
Hispanic*Concordance	-.5930357	.3917113	0.130	-1.360964	.1748926
Asian*Concordance	-.4058461	.3951126	0.304	-1.180443	.3687504
Constant	-2.119156	.2458331	0.000	-2.601099	-1.637214

Table A.3.41
Dependent Variable: Treated Unfairly Because of Race
Principal Independent Variable: Patient-Provider Racial Concordance
n=5860

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-1.016861	.4132578	0.014	-1.827046	-.2066769
Non English Speaking	.3330681	.3531573	0.346	-.3592904	1.025427
<100% Poverty	.4670186	.2888977	0.106	-.0993601	1.033397
100-200% Poverty	.4436508	.264115	0.093	-.074142	.9614435
Unknown Income	-.6248832	.3396361	0.066	-1.290734	.0409674
Uninsured	1.08871	.2231607	0.000	.6512077	1.526213
College	.1361323	.2206665	0.537	-.2964804	.568745
Black	.7402903	.5527318	0.181	-.3433305	1.823911
Hispanic	.9939483	.5844357	0.089	-.1518275	2.139724
Asian	1.286009	.6208238	0.038	.068895	2.503123
Other Race	1.318917	.3930628	0.001	.548324	2.089509
Black*Concordance	1.262785	.6021194	0.036	.082341	2.44323
Hispanic*Concordance	.543961	.6149782	0.376	-.6616929	1.749615
Asian*Concordance	.0559743	.7852845	0.943	-1.483562	1.595511
Constant	-3.839727	.4458397	0.000	-4.713788	-2.965666

Table A.3.42

Dependent Variable: Perception that better treatment would have been received if different race

Principal Independent Variable: Patient-Provider Racial Concordance

n=6464

	Coefficient	Standard Error	P> t 	[95% Conf. Interval]	
Patient-provider					
Racial Concordance	-1.029318	.4085774	0.012	-1.83031	-.2283254
Non English Speaking	.5841262	.2591718	0.024	.0760348	1.092218
<100% Poverty	.3019194	.2468477	0.221	-.1820114	.7858502
100-200% Poverty	.2843194	.2020993	0.160	-.1118847	.6805234
Unknown Income	.0065474	.2159338	0.976	-.4167784	.4298731
Uninsured	.9367367	.1823895	0.000	.5791726	1.294301
College	.4092139	.166553	0.014	.0826962	.7357315
Black	1.612415	.4663538	0.001	.698155	2.526675
Hispanic	.8963611	.5484096	0.102	-.1787645	1.971487
Asian	1.203657	.5096043	0.018	.2046066	2.202707
Other Race	1.514477	.3667469	0.000	.7954909	2.233463
Black*Concordance	1.022277	.4877294	0.036	.0661114	1.978442
Hispanic*Concordance	1.231073	.5426335	0.023	.1672709	2.294874
Asian*Concordance	1.101634	.5654639	0.051	-.0069255	2.210193
Constant	-3.865972	.4643772	0.000	-4.776357	-2.955587

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