DOES PATIENT-CENTERED CARE AFFECT RACIAL DISPARITIES IN HEALTH?

A Dissertation
Presented to
The Academic Faculty

By

Catherine P. Slade

In Partial Fulfillment of the
Requirements for the Degree
Doctor of Philosophy in Public Policy

Georgia State University
Georgia Institute of Technology

April 2008

DOES PATIENT-CENTERED CARE AFFECT RACIAL DISPARITIES IN HEALTH?

Approved by:

Dr. Robert J. Eger III, Chair
Askew School of Public Administration
Florida State University

Dr. Gregory B. Lewis
Andrew Young School of Policy Studies
Georgia State University

Dr. Monica M. Gaughan
College of Public Health
University of Georgia

Dr. Christopher Weible
School of Public Policy
Georgia Institute of Technology

Dr. Valerie A. Hepburn
Institute of Public Health
Georgia State University

Date Approved: November 30, 2007

This dissertation is dedicated to my husband, George, for sharing and supporting my devotion to learning and growing intellectually. I cannot ever adequately thank him and our big extended family enough for making the sacrifices necessary for this venture. He tolerated me and took care of me during the difficult times and he encouraged me to not only complete the program but to always give it my best effort.

I also dedicate this dissertation to my grandfather, Terrell Alston Busby, who attended but never graduated from Georgia Tech. Buzz and I have walked the same halls and have been startled by the same engineer's whistle. It makes my mother proud that I have finished my educational journey at the school my grandfather was passionately devoted to until the day he died.

ACKNOWLEDGEMENTS

There are several people who must be acknowledged for their support during the development of my dissertation.

My husband and best friend, George Slade, must be acknowledged for his support, good advice, caring and tolerance during the challenging times. You never questioned why, only how I went about the program. And you planned and organized the visits and vacation breaks with our kids and grandkids that helped me understand why my research means so much for them and their futures.

I also wish to express my deep appreciation to my advisor, Dr. Robert J. Eger III. Without your encouragement and help with theoretical, practical and methodological issues, I would still be thinking of a dissertation topic.

To my "study buddy" at Andrew Young School of Policy Studies, and you know who you are, thank you. I learned much from you about research methods and it was important to have someone with whom to share strategies about academic life and life in general.

I wish to express my appreciation to my dear friend Rosa. You have been my grounding during this process and one of your many legacies will be the accomplishments of scholars you have nurtured, housed, fed and encouraged over the years.

Last but not least, I thank my committee members, Dr. Robert J. Eger, Dr. Monica Gaughan, Dr. Valerie Hepburn, Dr. Greg Lewis and Dr. Christopher Weible and my informal committee member Dr. Lionel Scott. Your willingness to consider and weigh in on many versions of the proposal and dissertation are appreciated. Your input was always on the mark and the quality of this dissertation is credited to you.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF SYMBOLS AND ABBREVIATIONS

ACF	Administration for Children and Families of DHHS
AHRQ	Agency for Healthcare Research and Quality
AIDS	Acquired Immunodeficiency Syndrome
AMA	American Medical Association
AOA	Administration on Aging
ASPE	Association for Standardized Patient Educators
CAHPS	Consumer Assessment of Healthcare Providers and Systems
CAPI	Computer Assisted Personal Interviewing
CDC	Centers for Disease Control
CMS	Centers for Medicare and Medicaid Services
DHHS	Department of Health and Human Services
FAQ	Frequently Asked Question
HC	Household Component of the Medical Expenditure Panel Survey
HIPAA	Health Insurance Portability and Accountability Act of 1996
HIV	Human Immunodeficiency Virus
HRSA	Health Resources and Services Administration
IOM	Institute of Medicine of the National Academies
JSTOR	Journal Storage – The Scholarly Journal Archive
MEPS	Medical Expenditure Panel Survey
MSA	Metropolitan Statistical Area
NCHS	CDC National Center for Health Statistics

NCQA	National Committee for Quality Assurance
NCVHS	National Committee on Vital and Health Statistics
NHDR	National Healthcare Disparities Report
NHIS	National Health Information Survey
NHQR	National Healthcare Quality Report
OLOGIT	Ordered Logistic Regression
OSOPHS	Office of Disease Prevention and Health Promotion
PCC	Patient-Centered Care
RX	Prescription Medication Orders
SAQ	Adult Self-Administered Questionnaire
SCHIP	State Children's Health Insurance Program
SEP	Socioeconomic Position
SES	Socioeconomic Status
TOFHLA	Test of Functional Health Literacy in Adults

SUMMARY

DOES PATIENT-CENTERED CARE AFFECT RACIAL DISPARITIES IN HEALTH?

Research documenting racial disparities in health is abundant and growing. Documentation of the problem has been great but progress in closing racial gaps in health outcomes has been minimal. The health care provider community is being called on, and even compelled, by local, state and federal agencies to become more patient-centered in the care they deliver. Patient-centered care results in better health outcomes because it represents better quality care by empowering the patient to participate in the health care decision-making process. To date the connection between patient-centered care and racial disparities in health has not been adequately empirically demonstrated, yet public policies to incentivize patient-centered care practices to address health disparities are being developed.

This study finds that the relationship between patient-centered care and racial differences in self-reported health status is complicated by factors other than race that contribute to racial disparities in health, including class and literacy (Smelser et al., 2001). If patient-centered care as a public policy is to be incentivized in government health care safety net programs then it must be well-understood for the mechanisms that reduce, or at the very least not increase, racial disparities in health.

This study uses data from the most recent cross-sectional results of the 2004 Medical Expenditure Panel Survey. MEPS is selected as the data set for analysis because it is a primary focus of federal development and investment

in research on disparities in health. Quantitative analyses in this study use logistic regression, race interaction terms and stratification models to show black-white differences in the relationship between a patient-centered care composite score and self-rated health status.

The study highlights the importance of public policy to address data linking to give providers the richest information possible about the demographics and socioeconomic position of their patients (O'Campo & Burke, 2004). Specifically, the Health Insurance Portability and Accountability Act of 1996 restricts provider access to some information needed to consider a patient's individual and pertinent socio-economic circumstances. The study also provides guidance for developing medical training and continuing education programs concerning patient-care practice that engages the patient in their health care decisions, with the recognition that patient-centered care is not consistent with the current or future financial reality of the practice of medicine. The next generation of providers will continue seeing more patients in less time than their predecessors, in contrast to patient-centered care which requires more time and intensive communication in each provider-patient encounter. It provides guidance for policy makers concerning the potential problems associated with adding over-generalized patient-centered care incentives to publicly financed health care programs, including Medicare and Medicaid. Such incentives could result in providers avoiding resource intensive patients, including those who are poor, illiterate or with complex social issues. Finally the study provides guidance for future research including how patient-centered care as a concept can be better measured and analyzed for its impact on racial disparities in health.

CHAPTER 1: INTRODUCTION

Racial disparities in health outcomes are demonstrated in thousands of empirical studies, including over 100 publications in the last year alone. The majority of these studies demonstrate that this is a persistent and pernicious problem. Over the past decade, small racial gap reductions have been achieved for certain minor disease groups but disparities remain prevalent in all aspects of health and health care. A growing number of researchers and policy-makers are demanding less documentation of the prevalence of disparities and more action on strategies to change health care practices that affect health disparities (Allison, 2007, Chien et al., 2007, Chin et al., 2007, Lurie, 2005). Providers are challenged by racial disparities and how to change their practices to address them, but with little concrete guidance (Casalino et al., 2007, Smith et al., 2007).

Considering the associated physical and economic suffering, the reality of racial disparities in health outcomes is a major social problem; however, it receives relatively little public policy attention. Funding for initiatives is erratic and legislation is highly politicized (Lillie-Blanton & Hudman, 2001, Satcher, 2006, Woolf et al, 2004). It is a complicated policy problem since racial disparities in health and health status in general are inextricably tied to social disparities such as poverty, literacy and access to health care (Burstrom & Fredlund, 2001, De Lew & Weinick, 2000). Disparities have been less salient issues for the public policy health care agenda for a variety of reasons including the fragmented approach to understanding and addressing the problem. It is questionable whether the majority of the public understands the scope of the problem but they should given its economic impact in terms of extra

health care and personal costs for minority populations (Allison, 2007, AHRQ, 2003). The lack of sound and consistent research to identify sources and causes of racial disparities in health outcomes is a limiting factor in developing better public policy and raising public attention. Well-grounded research and strategies will be needed to solve the vexing problems associated with racial disparities in health. In contrast the current U.S. health care system has evolved and continues to evolve not from empirical evidence but from a "hodgepodge of historic legacies, philosophical conflicts and competing economic schemes" where competing anecdotes like patient-centered care and evidenced-based care prevail over in-depth analysis of health care quality (AHRQ, 2003, Kleinke, 2001, p.1)

The primary objective of this study is to challenge anecdotal acceptance of the proposed incentives for patient-centered to reduce racial disparities in health. The second objective is to assess the validity and viability of certain research methods associated with measurement of patient-centered care as a potential mediator of the disparities problem. Providers have limited information about patient-centered care and much less information about how it might reduce health disparities. Relatively few providers practice patient-centered care but all providers are facing impending policy changes that incentivize for this health care delivery approach.

Patient-centered care as a mediator of health disparities has more logical than theoretical support. Disparities can be defined in terms of inequality, unlikeness, disproportion and difference. Disparities in health care often represent an inequality in quality and access (AHRQ, 2003). Patient-centered care falls in the quality of care domain. It involves an emphasis on patient participation and consideration of the

patient's individual needs and preferences in clinical decision-making. This form of care is one of six dimensions of quality health care along with safety, effectiveness, timeliness, efficiency and equity (IOM 2001). Quality health care is defined as doing the right thing, at the right time, in the right way for the right people to produce the best possible results (AHRQ, 2006, p. 33). Therefore, given equal access to health care services, quality care results in less disparate outcomes because it addresses the clinical needs of an individual regardless of race (Beach et al., 2007). Equity is the cross-cutting dimension of quality, meaning that so long as quality dimensions, including patient-centered care, are delivered equitably, health disparities should be reduced (AHRQ, 2003).

Disparities are most easily identified and remedied when there is a clear reference point for what is appropriate and reasonable to expect in health care practice (AHRQ, 2003). That makes patient-centered care a prime target for reducing disparities. The logical thread is that patient-centered care is quality care and should be expected in provider-patient encounters; if delivered equitably among the races then it must result in reduced racial disparities in health. While popular, this notion of "quality equals reduced disparities" is attracting new challenges. Summarizing recent efforts of the Robert Wood Johnson Foundation's *Finding Answers: Disparities Research for Change* initiative, Allison (2007) makes a strong argument why increasing quality for all does not necessarily reduce racial disparities and why focusing on quality of care for "communities of color" does not detract from improving care for everyone (Allison, 2007, p.5S, Asch et al., 2006).

The logical development of patient-centered care as a mediator of racial disparities in health is not surprising given the growing debate on sources of and solutions to health disparities. Unfortunately this debate is fragmented resulting in poor theoretical development and even less empirical support. At the same time there are competing health care paradigms, including for example evidence-based medicine that tends to neglect individual patient needs as relevant factors in clinical decision-making (Bensing, 2001, Goodell & Escarce, 2007). Evidence-based medicine encourages clinicians to use a cognitive-rational approach to clinical decision-making based on the best available scientific evidence of efficacy and efficiency of treatment options. A recent Robert Wood Johnson synthesis report suggests that increased adherence by providers to evidence-based guidelines is likely to reduce disparities in the quality of care and thus racial disparities in health (Goodsell & Escarce, 2007). Hasnain-Wynia (2006) suggests that PCC and evidenced-based medicine are both designed to address quality issues but they work in two very different ways. Evidence-based medicine works through standardization in choice of medical procedures, while patient-centered care works through individualization in treatment decision-making. There is currently a dichotomy between the two approaches. Bensing (2000) has demonstrated that closing the gap between proponents of evidence-based medicine and proponents of patient-centered medicine, where patient-centered care becomes less sentimental and more empirically based, may be the key to better and less disparate clinical decision-making. This is an example of the need for research like mine that provides an empirical analysis of the relationship between patient-centered care and health disparities.

While it is an interesting and attractive proposition that racial disparities in health can be mitigated by patient-centered care, I find that the relationship between patient-centered care and health status is complicated by underlying socioeconomic conditions of the patient not specific to their race. As a result, patient-centered care, even with a more evidence-based orientation, could exacerbate racial disparities due to the complexity of socioeconomic and cultural impacts on health. For example, if black patients have greater difficulty than whites in understanding their treatment options or if they respond differently than whites to current provider communication approaches because of distrust of the provider, then asking them to choose among treatment options may result in less than optimal treatment decisions. This is not a far-fetched notion since health care communication is typically standardized and usually provided by white providers to meet the needs of white people (Cooper 2007, Cooper et al., 2003, Kreps, 2006). Further, providers have mostly been trained to use scientific evidence and probability when making diagnostic decisions. Expecting providers to change to a new patient-centered approach may be asking them to practice in opposition to their training that is based on heuristics (Burgess et al., 2004). Without clear direction and tools for changing health care practice approaches, most providers will be at a loss for how to integrate patient-centered care. (Bensing, 2000). Finally, if physicians are incentivized to practice patient-centered care, they may be less likely to serve patients who are difficult to treat, including the less literate or less compliant patients. Time and efficiency are highly prized in the practice of medicine and the U.S. health care system has incentives for providers to exclude patients that compromise these standards (DelVecchio-Good et al., 2003). As a result of

incentives, providers may relocate from areas already experiencing manpower shortages including the inner city and centers that serve disproportionate numbers of low income persons and minorities. Logically, fewer minority health care providers increases health disparities.

As a subset of quality care initiatives, patient-centered care presents an attractive strategy for reducing racial disparities in health. As demonstrated by Kleinke (2001), this "ready, fire, then aim" approach to U.S. health care problems is a public policy tradition that has resulted in a $1.3 trillion dollar per year system "fiasco" (p. 2). Economic inefficiencies and uncertainties have been created by a combination of state and federal administration of public health care benefits (Grogan & Patashnick, 2003, Kleinke, 2001, p.5). Much of the current system's complexity is driven by its hybrid private and public financing mechanisms designed address the ever-present cultural conflict about whether quality health care is a basic human right or an earned privilege (Kleinke, 2001, p.13). Many of the proposed solutions to health disparities acknowledge that it is complicated by these financing and economic issues, yet most proposed interventions, especially those relating to patient-centered care, are unsubstantiated (Audet et al., 2006). Practices that encourage patients to be active partners in their care are popular but at best they are considered "possible", not proven, solutions to health disparities (Chin et al., 2007, p.10S).

New research is needed to determine if patient-centered care is related to racial disparities, especially whether it may actually be detrimental to the perceptions of health status of some minority patients. In this thesis I will develop stratified and

multivariate analyses that disaggregate patient-centered care as a health care practice. My specific research question is:

Does patient-centered care affect racial disparities in health?

The policy implications are clear. First, if the relationship between patient-centered care and racial disparities in health is complicated by socioeconomic factors, then it would be prudent to introduce better understood, substantiated, delineated and directed policies of patient-centered care to publicly financed health care programs such as Medicare and Medicaid. Second, physician medical education and continuing education programs should include better training on cultural sensitivity and development of patient-provider communication and relationship-building strategies given the demographics and socioeconomic conditions of the patient and their perceptions of their care. This is especially important when patients and providers are of different races (Rao & Flores, 2007, van Ryn & Burke, 2000). Finally, there needs to be constructive creation of financial incentives that promote the practice of patient-centered care without driving health care manpower and services from places where minority populations tend to live. It is also incumbent on provider associations to produce effective research, training and continuing education to promote provider access to information about their patients' perceptions of their care since patient perceptions will drive PCC financial incentives and programming. If doctors are going to be financially incentivized based on patient perceptions of PCC they at least need to have the pertinent data and know how to interpret it. Since most doctors don't regularly practice PCC, knowing what is expected by patients based on current

survey data is at least a start for preparing for implementation of the PCC policy agenda.

The purpose of this chapter is to introduce the approach to be used in this thesis, including an overview of the fundamental and foundational theories, identification of the targets for research, explanation of the research design methods, and the description of the expected contribution of this study.

1.1 The Theoretical Bases

While patient-centered care is more theoretically than empirically constructed, I can draw from several established theoretical themes to analyze my research question. The theoretical basis of this study is the intersection of three bodies of literature including studies of racial disparities in health, health care quality, and patient-provider relationships in health care. I find that patient-centered care is a popular strategy for addressing racial disparities in health because it represents a common factor in the three established theoretical themes. I also find that support for this type of sweeping policy intervention "to make health care work", especially for the disenfranchised, is not surprising; poorly grounded solutions to problems are part of the tradition of the U.S. health care system that is challenged with "institutionalized economic, cultural, and philosophical conflicts" (Kleinke, 2001, p.7).

The literature on *racial disparities in health* is best represented by the efforts of the Institute of Medicine of the National Academies (IOM)[1] Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. The

[1] IOM is the nonprofit organization that represents the cornerstone of science-based information on health. IOM receives significant government funding through grants but it remains independent in its assessment of health policy issues.

work of the committee is summarized in the nearly 1,000 page tome, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare,* edited by Smedley et al. (2003). This important work summarizes the complexity of biological, societal, behavioral and institutional factors that influence public health in general and result in racial disparities in health outcomes specifically (Armstrong et al., 2006, House, 2002, LaVeist, 2005, p.28, Schultz & Mullings, 2006). Despite the potential to explore the many possible fundamental causes of racial disparities in health, the editors and contributors to *Unequal Treatment* make a strong and logical case for focusing on the health care institution itself as the target for policy interventions. They suggest that in as much as health care practice "is tied to social justice, opportunity, and the quality of life for individuals and groups" then health care practice is a primary target for reducing disparities (Smedley et al., 2003, p.36). Changing health care practice is certainly insufficient to completely eliminate disparities in health because these disparities reflect broad societal, economic, environmental and individual factors and influences (Schroeder, 2007). However, the best first line of offense in attacking disparities may be focusing on strategic and evidence-based changes to the way health care is rendered, administered and funded. Changes in health care practice may have broad and positive social and economic implications, which may in turn reduce racial disparities in health.

The consistent theme in this aspect of the literature is that improved *quality of care* is the primary target to reduce racial disparities in health outcomes. The literature on health care quality again falls in the purview of IOM and most notably in their summary document concerning the U.S. health care system failures titled,

C*rossing the Quality Chasm* (IOM, 2001). Patient-centered care is one of the six domains of clinical care quality.

The demand for quality care has resulted in an interesting debate concerning the role of provider-patient relationships in determining health outcomes. Indeed failure of the U.S. health care system is not one-sided, in that both health care providers and patients are clearly dissatisfied with the less caring and more financially driven system that now exists, and both patients and providers strive to better relate to produce better outcomes (Kleinke, 2001, Schroeder, 1992). The literature concerning patient-provider relationships is found in a variety of key contributions that address the consumerism aspects of health care delivery. Frampton, Gilpin and Charmel's (2003) *Putting Patients First* presents strong evidence that poor relationships between patients and providers may be at the core of many health systems problems and especially those that relate to disparities in health and health care. This is not a new problem or target of inquiry in the health care institution (Balint, 2005). Szasz and Hollender (1956) began exploring the implications of different patient-provider relationships on health outcomes over a half century ago. More recently the debate has focused on patient-centeredness of care, emanating from the work of the Picker Institute in Boston. *Through the Patient's Eyes: Understanding and Promoting Patient-Centered Care* (Gerteis et al., 1993) is the most-noted publication of the Picker Institute. It summarizes the eight dimensions of patient-centered care, the importance of the quality of patient-provider relationships in health outcomes and the distinctions between health care that is patient-centered and that which is not. Other influential models that form the foundation of approaches

to patient-centered care are: 1) the Institute of Family-Centered Care focus on collaborative partnerships between patient and their families and providers, and 2) the Planetree model that focuses on healing of mind, body and spirit through health care that is patient-centered, value-based and holistic (Cronin, 2004, Shaller 2007, p.3).

Patient-centered care is the thread that binds these three compilations of literature and theoretical themes. Better quality care is more equitable and should result in less racially disparate outcomes. Models of health care that involve mutual participation in decision-making between providers and patients are considered better quality care. Mutual participation in clinical decision-making is a patient-centered approach. This logical sequence explains the popularity of patient-centered care (PCC) as a strategy to transform the existing health care system to reduce disparities in health, with or without specific theoretical or empirical support (Beach et al., 2007, Frampton, 2003).

1.2 Why Develop Patient-Centered Care Strategies?

Patient-centered care is a unique aspect of a complicated health care delivery system that involves financing, culture, clinical diagnosis, treatment, and limited attention to prevention of disease. Patient-centered care is becoming in vogue to improve health care quality, patient satisfaction, outcomes and reduction in health disparities. Based on the thousands of articles on racial disparities in health care, the patient-provider relationship is hard to ignore as a research area for addressing the problem (Beach et al., 2007, Cooper & Roter, 2003a). Racially disparities in health are partly attributable to differences in how groups are treated in the health care system, with two possible sources of differentiation being patient-provider

communication problems and discriminatory practices by providers (Goldberg et al., 2004).

Patient-centered care has gained significant traction recently as a strategy worthy of public policy intervention to reduce disparities in health. This is somewhat surprising since patient-centered care is not a new concept (Kirschenbaum & Jourdan, 2005). Further, it is poorly defined and not easily measured. It is not part of the majority of medical education training programs and little research exists that directly ties PCC to health outcomes (Beach et al., 2007, Brotherton et al., 2004). Patient-centered care in medical settings is a borrowed theory. The work of Gerteis et al., at the Picker Institute in Boston (Frampton, 2003, Gerteis et al., 1993) has refined the concept but PCC is based on Carl Rogers' "Client-Centered Theory" of therapeutic relationships that include a working alliance between provider and patient, especially in psychotherapy. PCC in clinical settings has been to date poorly conceptualized. In empirical research PCC is mostly understood for what it is not, meaning solely technology, doctor, hospital, and/or disease-centered health care and treatment decisions (Stewart, 2001). Testing patient-centered care as mediator of racial disparities in health requires finding measures in available data that address the considerable conceptual overlap between patient-centered care and other domains of patient-provider relationships (Beach et al., 2007).

While it may be popular, one of the reasons that PCC has not been embraced is the lack of clarification of the several processes that make up the patient-centered care approach (Beach et al., 2007, Cronin, 2004, Gerteis et al., 1993, Little et al., 2001, Mead & Bower, 2000, Shaller, 2007, Stewart, 2001). The goals for universal

adoption of patient-centered care are not adequately accompanied by information about which specific strategic interventions for better participation of patients in clinical decision-making take priority over others (Bezold, 2005, IOM, 2001). I find little prior evidence about which patient-centered care processes and dimensions are important to addressing racial disparities in health given individual, especially racial and ethnic, characteristics of the patient (Beach et al., 2007, Johnson et al., 2004). With present and growing resource restraints on clinicians, some sense of PCC component priorities is needed to make it an effective strategy. We can identify some contributing PCC dimensions and measure their presence in patient-provider relationships; that may be as important as identifying a unifying concept of PCC.

Even if it is effective, another barrier to PCC as a mediator of disparities is that most clinicians lack cultural competency in their health care practice mostly due to lack of tools to address cultural differences in an often brief health care encounter with their patients (Betancourt, 2006). The evidence of socioeconomic, cultural and personal influences on health outcomes is growing yet clinicians, even the well-meaning ones, tend to practice with a "medical gaze" or finely honed heuristics for developing diagnoses and treatment options (Smith et al., 2007). This is an approach doctors learn in medical school where time, efficiency and efficacy in practice are highly prized. Patients with few medical, social or cultural challenges, such as complex and chronic illness, limited insurance coverage, and poor literacy or acculturation are considered most efficient to serve (see for example Franzini & Fernandez-Esquer, 2004 and Franzini et al., 2004). Patients willing to have therapeutic activities consistent with doctor interests are considered the most

efficacious and thus receive the best care (DelVecchio-Good et al., 2003, p.597). PCC is offered as a strategy to overcome challenges to cultural competency of clinicians, yet there is no evidence that PCC mediates disparities or is defined well-enough to be used as a tool to bridge the gap between medical training and the reality of health care practice for patients and providers of varying races, classes and cultures (Epstein et al., 2005, Mead & Bower, 2000).

Despite lack of conceptual clarity, if patient-centered care is to become the focus of health care delivery, research concerning its relationship to pernicious racial disparities in health is important (Beach et al., 2007, Horowitz et al., 2000, LaVeist, 2002, LaVeist, 2005). With additional information about specific strategic behaviors and approaches in their relationships with patients, clinicians should see marked improvements in the quality of their decision making (Kawaga-Singer & Kassim-Lakha, 2003, Sepucha et al., 2004, Szasz & Hollender, 1956). Further, The National Committee for Quality Assurance (NCQA) reports high expectations for development of quality tools for practitioners such as those that describe ways to implement PCC that can reduce disparities, improve coordination of care, drive waste out of the system and maximize the health care dollar (Kaiser, 2007c). The medical profession is motivated, but the information and evidence they need to implement new tools and approaches are only beginning to be developed (Betancourt, 2006, Epstein et al., 2005).

The research I propose contributes to enhanced understanding of the relationship between patient-centered care and racial disparities in health.

This thesis proposes challenges to the drive for policies that incentive PCC with the expectation that it will reduce health disparities. Until PCC behaviors are demonstrated to directly reduce racial disparities in health outcomes, why should there be support for policies that create financial incentives for PCC? What if PCC exacerbates racial disparities in health? Given the profound impact of socioeconomic and cultural factors on health, what if PCC is only effective for certain classes or literacy groups? While I cannot fully answer these questions in my thesis I can determine if caution should be used in introducing policies that promote PCC as a generalized strategy and intervention to reduce disparities.

1.3 Research Design Methods

This study uses a quantitative analysis employing multiple regression strategies. The unit of analysis is the individual. Race interaction variables are used to analyze the relationship between race differences in PCC and racial disparities in health. The sample is stratified by class and health literacy. This stratification approach provides better explanation of the role of PCC to address racial disparities in health based on rival theories of the underlying socioeconomic factors of racial disparities socioeconomic factor. The variables employed in the model are drawn from theoretical models in previous research on racial disparities in health, health care quality, and patient-provider relationships.

Regression models are used to analyze a composite score representing certain PCC behaviors and individual components of PCC for their relationship to racial differences in self-reported health status. The source of the data is the, 2004 Medical

Expenditure Panel Survey (MEPS) of the Agency of Healthcare Research and Quality (AHRQ)[2]. MEPS is one of the Department of Health and Human Services' household surveys on health and health status. MEPS is a flagship survey for research concerning elimination of health disparities because it focuses on health care use and health status. Important findings to date from MEPS have encouraged continuing and increased investment by AHRQ[3] and growing use by scholars for addressing disparities issues. MEPS is a cross sectional data set collected longitudinally from households; respondents are interviewed several times over a two year period to establish information about their health care and health status during the study year (ver Ploeg & Perrin, 2004, p.63). MEPS is becoming the standard for policy development concerning health care quality in general and racial disparities in health specifically (Cohen 2003, Dayton et al., 2006).

In this thesis I analyze the most recent full year of data (2004) from the Household Component (HC) of the MEPS of the Agency for Healthcare Research and Quality (AHRQ). MEPS HC, 2004 is a complex national probability survey of the civilian non-institutionalized population in the United States. The survey collects health care and health data at the individual and household level. Data include detailed information on respondent demographic and socioeconomic characteristics, health conditions, health status, use of medical care services, relationships with providers, access to medical care, satisfaction with care and health insurance

[2] AHRQ was established in 1989 to "enhance the quality, appropriateness and effectiveness of healthcare services." Thus AHRQ data sets are intentionally designed to address health care quality initiatives and support research specific to health care quality improvements (Burney 2002). In March 2006, ARHQ celebrated a decade of research to advance patient-centered care with a three day meeting concerning agency reporting tools, surveys and quality improvement activities (CAHPS 2006).
[3] The ARHQ budget has grown from $304 million to $319 million in the last two years.

coverage. The household component uses an overlapping panel survey design with seven rounds of interviews over a two year period. MEPS is a computer-assisted telephone survey of a sampling frame of prior respondents to the National Health Interview Survey conducted by the National Center for Health Statistics. MEPS over samples blacks and Hispanics with a person weighting variable calculated and included in the data set (Cohen, 2002, Moeller, 2002).

The dependent variable is self-reported health status measured on a five point scale. The measure is determined by aggregating a respondent's answer to a question that asks, "How would you describe your overall state of health in general these days? Would you say it is excellent, very good, good, fair or poor?" Self-reported health status is considered an important dependent variable because it has been shown to predict subsequent health outcomes such as morbidity and mortality with validity and reliability (Benyamini & Idler 1999, Benyamini et al., 1999, Burstrom & Fredlund, 2001, Gorman & Sivaganesan, 2007, Haritatos et al., 2006, Hays et al., 1996, Idler & Benyamini, 1997, Winter et al., 2007). Self-reported health status has been shown to predict subsequent morbidity and mortality for a variety of complex reasons (DeSalvo et al., 2005, Lyrra et al., 2006, Murato et al., 2006). The premise of my analysis is that if PCC mediates health disparities as contended then otherwise comparable blacks and whites experiencing comparable PCC behaviors of providers (both as a composite of behaviors and in individual PCC associated behaviors) should report comparable health status.

Racial differences in self-reported health status are pertinent to the disparities debate and this analysis. Blacks have been shown to consistently report poorer health

status, even when education, income, and other individual and social indicators are controlled (Cagney et al., 2005, Hays et al., 1996, IOM, 2001, IOM, 2003, Williams & Collins 1995, Williams & Collins, 2002). Racial disparities in health status are longitudinal. A recent study of 20 years of data shows that in addition to black adult respondents beginning the study with poorer self-rated health than white adults, the disparities continued over the 20 years of analysis (Farmer & Ferraro, 2005).

My research analyzes the relationship between a composite score and components of patient-centered care and disparities in self-reported health status. The composite and components of PCC are drawn from the four measures of PCC dimensions presented in the National Healthcare Disparities Report, 2006 (AHRQ, 2006)[4]. These measures include individual responses to survey questions in MEPS concerning whether their provider a) listens carefully, b) explains things clearly, c) respects what they have to say, and d) spends enough time with them. The NHDR 2006 creates a composite measure of PCC based on these four measures using MEPS 2003 data[5]. However, NHDR does not claim that they have fully captured the PCC concept through this composite score. Developers of measures of PCC as a concept typically provide little or no theoretical justification for the inclusion of some aspects and the exclusions of others (Arora, 2003, Epstein et al., 2005). Typical of this situation, the NHDR composite measure lacks several PCC components inherent in its accepted definition, including involvement of family and friends, continuity and

[4] NHDR is an ongoing publication of AHRQ guided by the DHHS Interagency Workgroup for the NHQR/NHDR. Members of the interagency group come from AHRQ, CDC, OSOPHS, ASPE, HRSA, CMS, FDA, HIS, ASL and NIH.

[5] NHDR development of recommendations for new policy development and new quality improvement strategies typically relies on analysis of data from prior years. Thus new unifying concepts are formed based on prior year results.

secure transition between health care settings, physical comfort and coordination of care. Using the MEPS survey data I cannot assert that I have captured a valid conceptual measure of PCC with universal acceptance and support. However, since these four NHDR PCC measures will likely form the basis for policy development[6], they are appropriate measures for analyzing the relationship between PCC and racial disparities in self-reported health status in my study.

My study is one of the first to tackle the growing and mostly anecdotal popularity of PCC as an intervention for health disparities. PCC can alleviate racial disparities in health in two ways. If PCC improves health status and blacks receive less PCC than whites then more equitable PCC for blacks and whites should reduce health status disparities. If PCC improves health status more for blacks than whites, then more PCC should reduce health status disparities. With respect to health status and assuming PCC improves health status, if blacks and whites do not receive different levels of PCC and if blacks and whites do not benefit differentially from PCC, then this convenient and logical health care intervention for reducing disparities faces rival theories for disparities such as class and health literacy differences between patients.

The goals of my study are to determine if patient-centered care dimensions as defined in the National Healthcare Disparities Report (AHRQ, 2006) relate to racial disparities in self-reported health status and to test rival theories such as class and health literacy to explain differential relationships between PCC and black-white health status. The analytical strategy employed here is guided by the hallmark

[6] On March 29, 2006, ARHQ and CMS hosted a meeting of CAHPS survey users to discuss, among other issues, the measures of patient assessment of provider communication included in the MEPS survey to develop pay for performance strategies (CAHPS 2006).

empirical research found in Smedley et al. (2003) that was used to build their model of the sources of health care disparities and health disparities. These include explanatory variables that relate social, economic and cultural influences and patient involvement in their care or patient-centeredness. My research strategy is also guided by the seminal work of among others, David Williams (1997) in his adaptation of a variety of empirical models to create a framework for empirical studies of the relationship between race and health outcomes.

1.4 Contribution to the Literature

Nowhere in the foundational literature has it been demonstrated that, beyond promoting quality and efficiency in general, PCC behaviors by providers mediate racial disparities in health (Beach et al., 2007, Frampton, 2003, Gerteis, 1993). Further, lack of rigorous evaluation of programs that use patient-centered care to address disparities is a growing concern (Horowitz et al., 2000). Yet PCC is becoming a health policy focus to address health disparities (AHRQ, 2006, Betancourt, 2006, Daley, 2003, Frist, 2006).

In summary, strong political forces support PCC as a mediator of racial disparities in health (LaVeist, 2002, LaVeist, 2005, AHRQ, 2006, Kaisernet, 2007, p.31). This study contributes to the literature on racial disparities in health outcomes by exploring the relationship between patient-centered care behaviors and racial disparities in self-reported health status to determine if the assertions can be empirically supported. This study also dissects some of the key aspects of patient-centered care. How PCC mediates self-rated health will determine the ways it is addressed in new tools for building cultural competency in the medical profession.

Debate continues whether socioeconomic conditions may be more to blame for racial disparities in health than race. To test my models and hypotheses, I develop empirical models with well-grounded variables such as socioeconomic status, class, health care access, health literacy. Of special interest are class and health literacy as rival theories for racial disparities in health outcomes. If class and literacy underlie racial disparities in health then they must be considered when forming strategies to address the problem (Goodsell & Escarce, 2007).

This study provides insight on priorities for future MEPS survey design and research, especially for testing these rival theories. The AHRQ has made significant investments in MEPS as one of the primary data sources for exploring racial disparities in health outcomes. MEPS uses a complex sampling technique and has over 1,600 variables and gathers data on approximately 34,000 cases each year. However, only a subset of records address the PCC variables and some key PCC dimensions are not addressed in any MEPS variables. Further, operationalizing concepts that borrow from multiple theoretical themes is challenging in MEPS and requires creativity and proxy variables in some cases. For example it is difficult in MEPS to identify respondents with chronic illness, which is clearly an important control when considering self-reported health status. My study involves creative use of available measures for this and other concepts where no direct measures are available. It contributes to the literature by including these proxy measures as well as indentifying possible improvement to MEPS as a source of valid information about sources and causes of racial disparities in health, as well as solutions such as PCC.

1.5 Policy Implications

The target audiences for the findings of this study are health policy makers, medical training program administrators, health care providers, insurers and policy think-tank organizations. Some policy implications of this study are especially timely and relevant. Policy makers are besieged with information about health disparities but results of empirical studies are rarely translated for policy decisions. See for example the September, 2007, publication of The Synthesis Project of the Robert Wood Johnson Foundation that describes the challenges that policy-makers have in absorbing the vast amount of information they receive that purports to address racial and ethnic disparities in health (Goodell & Escarce, 2007). Further, typical of the current policy-making environment where anecdote is abundant but empirical evidence is limited, under IOM's September, 2006 recommendations for a pay-for-performance system, Congress would require Medicare to reduce its base payments or scheduled pay increases, and then pool that money to reward providers demonstrating high quality, patient-centered and efficient care (DoBias, 2006). Casalino (2007) proffers that unless carefully designed, pay for performance programs such as the one touted by IOM (2006) may have the unintended consequence of increasing racial and ethnic disparities in health care and health. The proposed programs could result in reduced pay for physicians in poor and minority communities, resulting in less margin to invest in quality improvement such as extra time with patients, extra educational and informational resources and improved technology and facilities. It would not be surprising if physicians tend to avoid patients (such as those of color) perceived as likely to lower ratings and scores that would result in lower payment from public sources (Greene et al., 2006).

Health care organizations gather a vast amount of data that could be used to assess the viability of initiatives to improve quality of care. Yet there are legal, technical and ethical issues that arise when data on race and ethnicity are used to identify disparities or evaluate programs to reduce disparities (Nerenz et al., 2006). Additional public and policy support for gathering and sharing rich individual-level information about race, ethnicity and socioeconomic status may help in the planning and organization of local projects that can reduce or eliminate disparities. See for example the Values Exchanges program of AHRQ (AHRQ newsletter, 2007 #240) that describes efforts to make Medicare performance data available at the local level for patient-centered health information technology development. In addition to the issue of data sharing, this thesis provides insight on the limitation of the MEPS data set for broad policy-making initiatives. Despite being the primary source of information about patient-centered care for the U.S. Department of Health and Human Service's National Healthcare Disparities Report to Congress (AHRQ, 2006), MEPS data is limited in several respects. This study shows that some key dimensions of patient-centered care are not measured in the data set. Further, as the result of an otherwise efficient sampling design, validity issues arise with MEPS analysis of available measures of patient-centered care within race, class and health literacy groups.

Weissman et al., (2005) report that resident physicians' self-reported preparedness to deliver cross-cultural care lags well behind preparedness in other clinical and technical areas. Thus medical education programs may not be ready for PCC training with respect to addressing racial disparities, especially if it is

complicated by incorporating understanding of patient socioeconomic conditions. The American Medical Association promotes cultural competency training in medical schools, but as of, 2004, fewer than 40% of U.S. medical schools offered programs to provide medical students with opportunities to develop cultural competence (Brotherton et al., 2004). And perhaps coincidentally, while most primary care providers have adopted some aspects PCC, PCC is still limited and the dimensions least likely to practiced are those not measured by MEPS, including coordination of care (including use of information systems), team-based care and family support (Audet et al., 2006).

Another target audience for the results of this dissertation is those who fund research in racial disparities in healthcare, including the Robert Wood Johnson Foundation (Goodell & Escarce, 2007), the Kaiser Foundation Research Institute in Oakland, California and representatives of the Commonwealth Fund[7]. Additional information about the relationship between health care quality strategies and racial disparities in health may help guide grants to test novel health care practices and decisions about funding priorities and policy development[8]. It has been demonstrated that policy-makers who receive appropriate information and understand the complex influence of society and culture on health care practices are better prepared to make policy decisions to reduce health disparities (Thomas et al, 2004).

[7] The Kaiser Family Foundation in the form of www.kaisernet.org produces daily and weekly reports on studies concerning racial and ethnic disparities in health and health practice. Similarly, the Commonwealth Fund produces reports found online at www.commonwealthfund.org concerning racial disparities in health and most recently an overview of implementation of PCC (Shaller, 2007).
[8] See for example, DHHS AHRQ Request for Applications Number RFA-HS-07-007 entitled Ambulatory Safety and Quality: Enabling Patient-Centered Care through Health IT (R18).

1.6 Overview of Chapters

This introductory chapter -- Chapter 1 -- identifies the goal of this thesis – to determine whether patient-centered care will affect racial disparities in health. This chapter sets forth the research question, the literature base, the general theoretical approach and the methodology used to develop findings. It also summarizes the policy implications, the contribution to the literature and the direct and indirect audiences for whom the study is intended.

The following chapter, Chapter 2, presents an overview of racial disparities in health, including its importance as a field of study and the factors that contribute to this pernicious social problem. This chapter provides the context of the study and important definitions and distinctions that must be understood to appreciate the findings of the analysis. Chapter 2 also describes the myriad of efforts to identify causes of racial disparities in health outcomes and potential solutions as well as the current research agenda.

Chapter 3 presents a summary of the literature that describes the intersection of major theoretical themes including theories concerning sources of racial disparities in health, health care quality and provider-patient relationships. From the logical intersection of these three theoretical themes comes the foundation for theory that purports that patient-centered care should affect racial disparities in health. I hypothesize that patient-centered care does indeed mediate racial disparities in health, meaning that racial differences in experiences with PCC are related to self-reported health status (Beach et al., 2007). I also hypothesize that the same socioeconomic factors (such as class and literacy) that complicate understanding of racial disparities in health will also complicate ways that PCC mediates racial disparities.

Chapter 4 explores in detail how these various concepts and constructs can be built into a testable model that links patient-centered care to current theory of racial disparities in health outcomes. The concept of patient-centered care has many dimensions (Cronin, 2004, Gerteis, 1993, Shaller, 2007). Using MEPS I can measure four dimensions including whether providers a) listen carefully, b) explain things clearly, c) respect what patients have to say, and d) spend enough time with patients. I treat these four dimensions of PCC as individual measures and then build a composite score replicating the operationalization of PCC in National Healthcare Disparities Report (AHRQ, 2006). I also explore how well these measures address PCC as a concept and what is lacking to make these four measures a valid construct for PCC for policy-development purposes. I also explore rival theories concerning class and health literacy differences between races to better understand how PCC may relate to health disparities.

Chapter 4 also presents the research design and methodology. The data set, unit of analysis, outcome variables and independent variables are described in detail to ensure clear understanding of theoretical support for these variables and well as any proxy measures that are needed to test the model and explore rival theories. Chapter 4 includes support for use of ordered logistic regression, interactions terms and other analytical methods needed to address challenges of the regression design. Formal hypotheses and equations are presented to provide the outline for analyzing results.

Chapter 5 presents the results of the quantitative analysis. The results provide an analysis of the relationship between PCC component parts as a composite score

and self-reported health. The effectiveness of black interaction terms to parse the impact of PCC behaviors on racial disparities is also described in this chapter. The chapter includes use of the quantitative research results to consider rival theories to patient-centered care behaviors as important strategies for addressing racial disparities in health.

Chapter 6, the concluding chapter, explores the results and findings and summarizes the contribution of the study to the literature on patient-centered care as a strategy for reducing racial disparities in health. This chapter describes the limitations of the research and proposes how it might be effectively used by policy makers and other interested parties. Finally, the chapter describes future research in this research agenda leveraging the findings of this study.

CHAPTER 2: RACIAL DISPARITIES IN HEALTH

The problem of racial disparities in health competes with many other major problems within the nation's health care system. The American health care system is in a quandary. The Institute of Medicine of the National Academies (IOM), the nonprofit organization that represents the cornerstone of science-based information on health, has demonstrated the numerous dimensions of the failure of the U.S. health care system to perform for individuals as well as the public relative to its public and private funding and resources (IOM, 2001). The U.S. health care system has "major barriers to improving health, achieving universal insurance coverage, enhancing quality, controlling costs, and reducing disparities" in both the health status of the population and the health outcomes for individuals (Mechanic, 2005, p.1). Providers in the health care system struggle on a daily basis with irresolvable conflicts between their personal gain and their ethical responsibilities to their increasingly demanding and diverse patients (Kleinke, 2001, Powers & Faden, 2003, Rice, 2003).

Racial disparities in health present some of the most vexing problems facing current public policy makers and moral and ethical dilemmas for health professionals (Smedley et al., 2003, p. 36). They are also entangled with constantly changing and currently growing gaps in social and economic equality among classes and races. Racial disparities are associated with historical and current racial and ethnic discrimination in many sectors of American life (Smedley et al., 2003, p. 19). It is a confusing political problem. For example, Link and Phelan (2005, p. 81) found that contrary to best intentions to improve health care delivery, medical technology advancements may actually increase racial disparities in health because those with

resources (typically higher income whites) have first and best access to new interventions and modalities. Woolf et al., (2004) provide similarly compelling findings, showing that while medical advances have reduced the death rate in the U.S., eliminating racial gaps between blacks and whites would have resulted in four times fewer predicted deaths than medical technology improvements alone.

The complexity of the health care system in the U.S. has fueled a debate concerning targets for addressing racial disparities in health outcomes; should we target structural problems within the health care system or is it merely social injustice or social inequality at work? Both health care institutional/structural and social issues must be addressed if racial disparities are to be reduced (Farmer & Ferraro, 2005, Kawachi & Kennedy 1997). Improving the socioeconomic condition of certain racial and ethnic strata will result in overall improved population health (House, 2002). However, it is equally important to determine how resource differences in the health care system are to blame to better focus research efforts on identifying strategies to address the problem (Kawachi et al., 2005). Without well-grounded changes to health care delivery practices the health care system will surely continue to deliver the same racially disparate results.

This chapter focuses on defining racial disparities in health and delineating them from other challenges within a problematic health care delivery and financing system. Chapter 2 includes a discussion of the social impact of racial disparities and describes the aspects of the health care delivery system that have been determined to contribute to them. It traces the history of disparities and identifies current efforts to

identify solutions to the problem. Finally, it explores targets for ongoing research, thus setting the premises for this study.

2.1 Conceptualizing Racial Disparities in Health

The touchstone for tracking disparities in health outcomes comes from the Agency for Healthcare Research and Quality (AHRQ) and their series of policy reports on behalf of a working group of the Department of Health and Human Services to track disparities in the quality of and access to health care. The 2006 National Healthcare Disparities Report (AHRQ, 2006) highlights four themes: a) disparities in healthcare and health outcomes remain prevalent; b) some disparities between racial, ethnic and socioeconomic groups are diminishing while others are increasing; c) easily identifiable opportunities remain for reducing disparities; and d) lack of information and quality research contribute to continuing racial disparities.

Racial disparities in health have many contexts and conceptualizations. They can be described from a population perspective, defined as all racial group differences in health status measures (Smedley et al., 2003). They can also be defined from an individual perspective, defined as those racial group differences in health outcomes that remain after taking into account individual socioeconomic and demographic characteristics (ver Ploeg and Perrin, 2004). The population versus individual health distinction is important for locating targets of research. This dissertation focuses on individual health outcome as the primary measure of racial disparities in health, with the understanding that the two perspectives are ultimately one and the same. To quote Dr. David Satcher, former Surgeon General and architect of the national Healthy People 2010 initiative, “the health of an individual is almost inseparable from

the health of a community and….the health of every community in every state and territory determines the overall health status of the nation." Eliminating racial disparities is not a black community problem or a white community problem. It is a national problem based on individual health outcomes that vary by race. Solving the disparities problem at the individual level is at the core of fixing the health care institution itself (Byrd & Clayton, 2002, *Healthy People 2010,* 2000).

Social scientists have long been interested in cultural and racial differences in health, with meta-analyses dating back to Freeman & Reeder (1957). The current popularity of this topic for researchers and increased public attention to the problem can be primarily attributed to the 21st century development of U.S. Department of Health and Human Services (DHHS) interagency workgroups collaborating to produce empirically-based reports to Congress on the status of health care quality and public and private initiatives to reduce disparities in health (National Committee on Vital and Health Statistics, 2005, AHRQ, 2006). The recent efforts of DHHS did not launch research concerning racial and ethnic disparities in health outcomes – there are several thousand studies dating back several decades -- but more informative studies in this area are relatively recent given the new collaborative efforts.

Racial disparities in health have a long history, documented for several centuries. However, the modern day impetus for public policy responses to the problem came with issuance of the Malone-Heckler Report in 1985. The Malone-Heckler document, issued by then Secretary of Health and Human Services Margaret Malone was entitled *The Report of the Task Force on Black Minority Health*. The report generated numerous research articles and subsequent reports in the late 1980's

through the turn of the century that described in detail disparities in health outcomes and health care between racial groups, often exacerbated but the American political system (Hero, 2003, Mayberry et al., 2002, Sarto, 2005).

The call for more focused research on the causes of health disparities has been going on for decades (Byrd & Clayton, 2002, Freeman & Reeder 1957). However the need for focused research has been elevated on the public agenda as a result of relatively recent reports on current and confounding beliefs of the general public that are opposite to reality concerning differences between whites and blacks in terms of health and health care access. The majority of whites are not aware that blacks have shorter life expectancy, greater infant mortality, and more problems with access to needed health care services than whites. Further, the majority of whites believe that racial discrimination may still exist, but neither past nor present discriminatory practices affect current social, health and economic conditions of blacks (Hummer et al., 1999, Kaiser, 1999, Lillie-Blanton, 2000, Scanlan, 2000, Wong et al., 2002).

Further, strong evidence exists that the public is conflicted on health care priorities. Research on racial disparities in health is often lost in the debate about the national health financing crisis (Byrd & Clayton, 2002). The current multi-trillion dollar U.S. health care system under-delivers in cost-effectiveness and quality; the compounding effect of years of under-performance and excessive use of public resources is reaching crisis proportions (Kleinke, 2001). Until recently there has been limited recognition that racial disparities are blatantly symptomatic of the quality problems with the entire health care institution (IOM, 2001). To understand causes and correlates of racial disparities in health within the current system requires

addressing how certain subpopulations and individuals experience lower quality care, financial barriers, organizational barriers and problems in physician and patient decision-making. New research approaches to health disparities will contribute to fixing the system as a whole (Mayberry et al., 2002).

Despite limited progress in policy development, racial disparities represent a popular theme in the literature. A search of academic journals yields hundreds of articles in the last ten years (Smedley et al., 2003, p.40). Ten years ago Geiger (1996) searched only the *New England Journal of Medicine* and the *Journal of the American Medical Association* and produced 66 single spaced pages of citations on race and health[9]. These studies show differences in quality and access to health delivery including diagnosis and treatment for analgesia, asthma, cancer, cardiovascular disease, cerebrovascular disease, pediatrics, diabetes, emergency services, eye care, HIV/AIDS, maternal and infant health, mental health, peripheral vascular disease, physician perceptions, radiology, rehabilitation, renal care and transplantation, use of services and women's health (Smedley et al., 2003). Evidence of racial and ethnic differences in health outcomes is remarkably consistent and yet often inexplicable across all categories, disease groups and health care delivery categories (Tanne, 2002). For example, Tae-Seale et al., (2001) found that mandatory enrollment of Medicaid beneficiaries with primary care physicians actually reduced use of physician services of blacks compared to whites.

To effectively study racial disparities in health requires a clear distinction of core measures of health and agreement on target groups and reference groups. Health

[9] Note that for this study on just the relationship between patient-centered care and racial disparities in health I have produced over 40 single-spaced pages of references.

care delivery and health outcomes are multifaceted. I use the core measures of quality of care of the most involved and reliable authority on health disparities, the AHRQ and their DHHS working group, in the National Healthcare Disparities Report series. There are numerous core measures of disparities in health in this report series, grouped into four categories of quality of care including 22 measures of effectiveness, patient safety, timeliness and patient centeredness[10]. A complete description of core measures and potential group differences in quality of health care is presented in Appendix A. For the vast majority of core quality measures, racial, ethnic and poor people are at a disadvantage (AHRQ, 2006). For example as compared to whites: a) blacks[11] had 90% more lower extremity amputations for diabetes; b) Asians were restrained in nursing homes 46% more often; c) American Indians and Alaska natives were hospitalized from home health care 15% more often; and d) Hispanics had 63% more pediatric asthma hospitalizations. With the understanding that racial disparities are evident across a broad spectrum of quality measures, in my research I move on to more intricate analysis of when racially disparate health outcomes occur relative to certain health care practices and delivery.

2.2 Historical Context of Racial Disparities in Health

Any discussion of racial disparities in health involves discussion of distinctions between race and class (Schulz et al., 2006). Racial and social class disparities are inextricably tied and part of the social order and history of American

[10] The NHDR also measures health care **access** disparities but that part of their report series is less relevant to this study. This thesis is focused on the quality aspect of health care delivery.
[11] The terms African-American and black are used interchangeably throughout this document despite having slightly different meanings in accordance with U.S. Office of Management and Budget criteria. The text of this document most often refers simply to blacks. This terminology is chosen because the MEPS data set on which the research is based uses “Black” in the survey language to identify race.

society. The health care system is not immune from this dynamic relationship and many aspects of health care delivery are founded on segregation policies and practices and fundamental attitudes about how health care resources are distributed. To eliminate disparities requires major restructuring and many new practices of a health care institution with a long history of slow and incremental change. As H. Jack Geiger, M.D., (2000) has stated:

> We will not finally eliminate the appalling disparities in the health status of African Americans and other people of color in the United States unless and until we have achieved the fundamental transformation of the racial and social class attitudes and policies that have so powerfully structured those environments and thus produced those disparities. (p. xvi.)

The history of racial disparities in health is rooted in the presumption of racial inferiority and blacks as a lesser class of people dating back to Greco-Roman times, the founding of Western medicine. Scientific legitimization of the concept of inferior races of men was the foundation for rationalized health care and health system stratification in the United States and has contributed to racial disparities that exist today (Byrd & Clayton, 2002, p. 9). The Tuskegee Syphilis Experiment is a prime example. For forty years ending as recently as 1972, the U.S. Public Health Service conducted medical experiments on black men in the late stages of syphilis with no intention of curing them and only the intention of learning from their death and suffering (Gamble, 2002). Racism in the health care system has been both documented and acknowledged as recently as the late 1990's[12]. On May 16, 1997,

[12] It has been documented that as recent as 1980, hospitals in Georgia have had segregated patient wards, including separate obstetrical units. For example, Minnie G. Boswell Hospital in Greensboro, one of the first Hill Burton hospitals, had signs designating segregated restrooms in 1980. Until the

President Clinton issued an apology for the Tuskegee Syphilis Experiment to the eight remaining survivors acknowledging that the U.S. Public Health Service was clearly racist in its policies and operation of this program Gamble, 2002). Menefee (1996) suggests that racial disparities continue to exist because of the compounding effects of policy decisions such as the Hill-Burton program for capitalizing new hospital construction and the disproportionate assistance it gave to white controlled hospitals. Disparities have also been exacerbated with efforts to expand private health insurance coverage by employers, such as the Employment Retirement Income Security Act (ERISA) of 1974 that disproportionately favored the needs of whites who are more likely to be employed than blacks (Menefee, 1996, Zuvekas & Taliaferro, 2003). Progress in closing racial gaps in health and health care was made beginning with the 1964 Civil Rights Act, hospital desegregation rulings in federal courts, development of federal health care financing programs, including Medicaid and Medicare, passage of voting rights bills and development of community health centers (Byrd & Clayton, 2002, Perez, 2003).

Kleinke (2001) concurs that among other institutional travesties, continuing racial gaps in health are consistent with overall history of the development of the modern day U.S. health care system. He suggests that the system has grown from a series of "historical accidents" that lead to a modern day $1.3 billion dollar fiasco (p. 3). The deciding policies include creation of Medicare and Medicaid to provide equivalent benefits for the elderly and poor to employer-funded insurance and

---

mid 1980's University Hospital in Augusta, Georgia had "west wings" designated for "staff" patients, usually blacks and poor people.

implementation of ERISA that was enacted in response to some anecdotal evidence of fraud and mismanagement of large national employer pension funds (Glied, 2005).

Thus, after a rich history of best intentions in the 1960's and 1970's, black health improvement progress deteriorated starting in mid-1970 with more sweeping policy changes to public health care financing, and the continuing demographic, economic and social segregation of blacks within primarily depressed urban inner cities (Byrd & Clayton, 2002, Kleinke, 2001, Schulz et al., 2002). As a result: a) blacks continue to suffer excess and mortality compared to whites; b) blacks have higher death rates in 12 of 15 leading causes of death than whites; and c) unlike whites, blacks have experience reduced longevity for the first time since the start of the twentieth century (Byrd & Clayton, 2002, p. 17, Long et al., 2004).

A public policy agenda for health disparities has never fully developed despite better understanding of the historical underpinnings and detailed documentation of its prevalence in the current U.S. health care delivery system. As Cheryl Boyce, chair of the National Association of State Offices of Minority Health has asserted, "The public policy doesn't match the problem or solution. The game has almost become that people are very good at using the disparity to define the problem. But from mainstream organizations, you seldom see a solution." (Cooper, 2007).

Health care is more oriented toward delivery of services than determining ways to reduce health problems (Byrd & Clayton, 2002, LaVeist, 2002). Common wisdom and beliefs are also barriers to progress. Poorer health of blacks can too easily be anecdotally generalized as a result of black

tendencies toward poverty, ill-informed lifestyle choices or lack of education and literacy. It is easy to blame lifestyle choices and financial circumstances for racial differences in health. The wealth and health relationship is a popular target for reducing health disparities because this relationship is more readily measured and analyzed than other more complex correlations (Deaton, 2002, Sears, 2006). Even with vast amounts of federal public data, it is difficult to provide empirical evidence of the sources of racial disparities in health that result from complex and interrelated health care delivery practices mostly delivered at the community level (Sequist & Schneider, 2006).

Social change and new public policies, not science, resolved that blacks were not inherently physically inferior to whites (LaVeist, 2002). This thesis depends on scientific support for its analysis but ultimately it is up to policy makers to use empirical evidence as well as the lessons of history to produce social change that addresses the issue of racial disparities in health.

2.3 Health Care Practice as a Source of Racial Disparities in Health Outcomes

Many studies have shown that blacks receive care that is less effective, safe, timely, equitable, and efficient than the care whites receive (Cohen, 2003, Geiger 1996, LaVeist, 2002, LaVeist, 2005, Mayberry et al., 2000, Shi & Stevens, 2005). How more subjective aspects of health care, including patient-provider relationships, factor into racial disparities in health is less certain (Saha et al., 2003, Shulman et al., 2002, van Ryn & Burke, 2002). Even subtle physician behaviors can determine health outcomes of patients, but it is not entirely clear how and when the effect occurs (Delbanco et al.,

1993, Hall et al., 1998). Differences in demographics, social class, and status affect some of the aspects of health care delivery that may explain disparities in health (Hummer et al., 1999, Pearl et al., 2002). However, some very culturally diverse and resource poor communities demonstrate better health status than would be expected if demographic and socioeconomic characteristics were the only explanations for disparities (Schultz et al., 2006, p. 371). Thus socioeconomic conditions are important control variables for studies of health disparities, even if they only account for some of the relationship between the health care delivery system and health outcomes.

In an effort to narrow the focus of the health disparities agenda, the IOM has defined disparities in health care as "racial and ethnic differences in the quality of health care that are not due to access-related factors or clinical needs, preferences, and appropriateness of interventions" (Smedley et al., 2003, p. 4). This definition provides guidance on control and study variables in empirical studies. It also supports targeted research on the two levels of operation of health care systems and health care practice that appear to be the prime sources of disparities in quality of care. These levels include a) the operation of health care entities within the legal and regulatory environment (Kleinke, 1998) and b) discrimination, including biases, stereotyping and uncertainty (Schulman et al., 2002). This concept is presented in Figure 2.1 below.

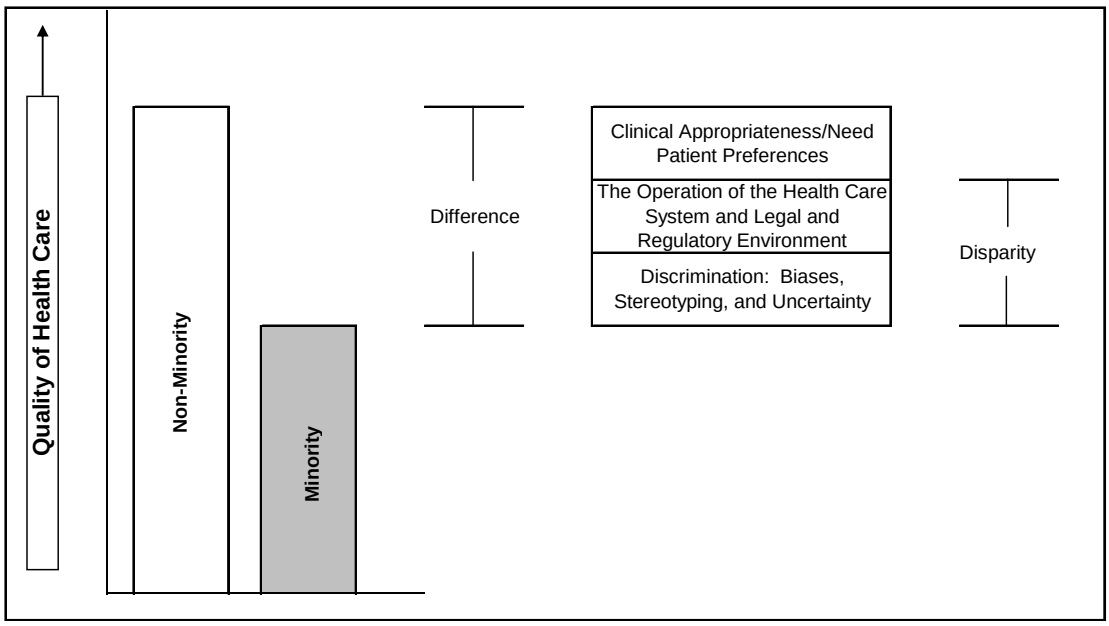

Figure 2.1: Smedley et al., (2003, p. 4), Where Disparities are Generated for Populations with Equal Access, Redrawn by Author for Thesis

Smedley et al., (2003, p. 127) provide the guiding framework for the considering the previously discussed objective and subjective contributors within health care practice to racial disparities in health. See Figure 2.2 below. This figure shows the complexity of the interplay between social structure, health system characteristics, patient-level factors and health care processes and the key role of clinicians in interpreting varied information to recommend and then provide treatment.

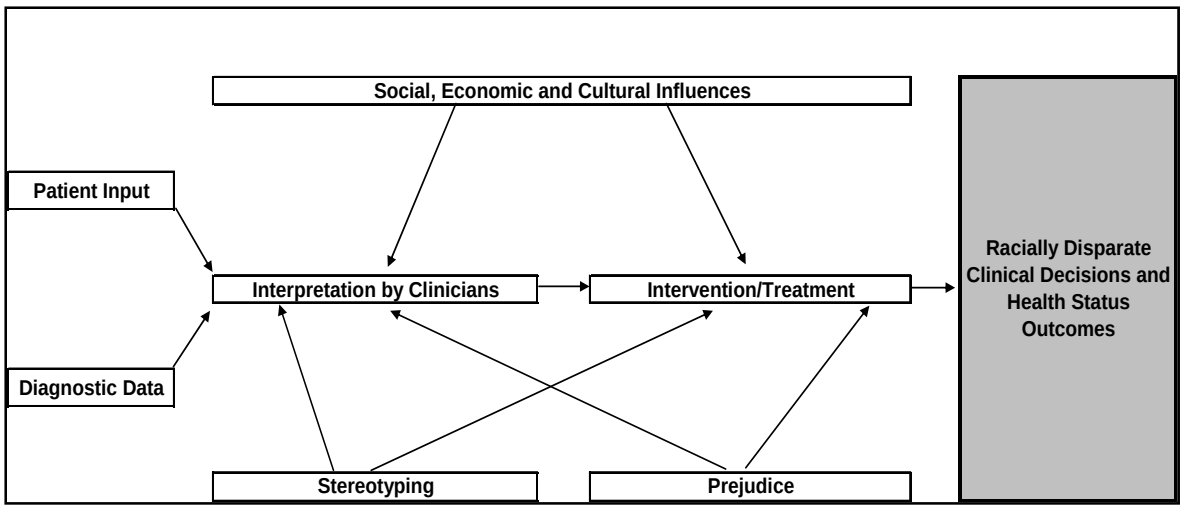

Figure 2.2. Smedley et al. (2003, p. 127), Model of Sources of Health Outcomes Disparities, Redrawn by Author for Thesis

This model shows the many potential influences of racially disparate clinical decisions and health status. Central to the model and to racial disparities in health care is the interpretation of both diagnostic and patient input by clinicians in making their final diagnoses and treatment decisions (Anderson, 2002, Cooper, Patrick et al., 2002).

Patient-centered care becomes relevant in this model with respect to patient input. A clear distinction must be made here between patient input that occurs in a patient-centered care practice model (i.e. one that involves communication between patients and providers in the patient care setting) from patient input that results in an autocratic decision by the provider. A patient-centered approach to patient input involves a rich exchange of information and learning between patient and provider, resulting in a choice of intervention or treatment that reflects the patient's needs and desires. Indeed, if PCC is to be effective then in some sense the provider is teaching

the patient about their potential options and the patient is teaching the provider about their characteristics/circumstances that qualify the options.

The contribution of my research to this model and to the literature is to further refine understanding of patient input and the provider-patient relationship as a mediator of racial disparities in health. Specifically, is patient-centered care, where the patient is actively involved and even negotiating with the provider during the evaluation and treatment aspect of patient care, related to racial disparities in self-reported health (Thiel de Boncanegra & Ganey, 2004)? My research contribution is to test patient perceptions of their role in the Smedley et al., model, specifically that patient input is not unidirectional or one-dimensional as configured. Rather, as suggested in Figure 2.3 below, a myriad of activities and operations are occurring in this theoretical space and they can widen or reduce racial gaps in health.

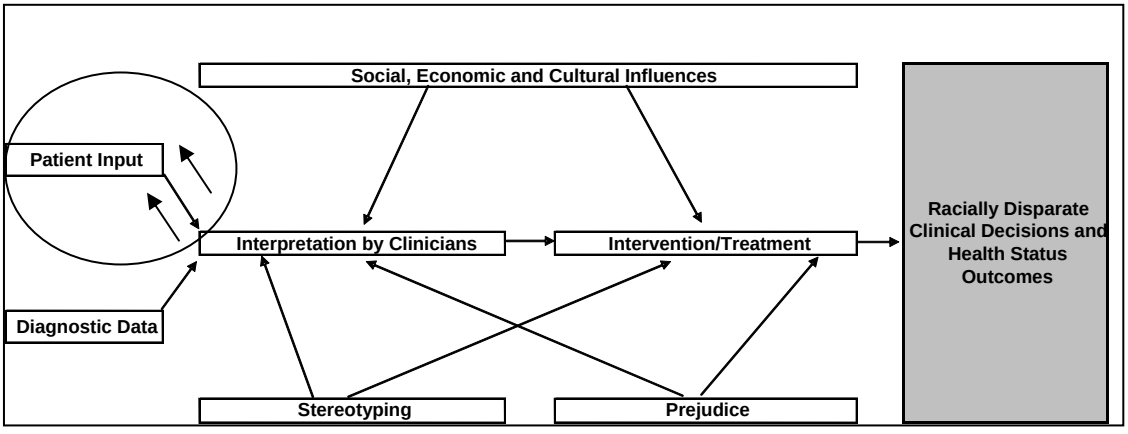

Figure 2.3. Enhanced Model of Sources of Health Outcomes Disparities Based on Concepts of Smedley et al. (2003, p. 127), Redrawn by Author for Thesis

The patient-provider encounter is complicated. For example, choices of treatment that are not based on full and accurate understanding of the patient are often

attributed to patient health illiteracy. Health literacy therefore affects treatment choices which affect health outcomes. Health literacy can be influenced by race, ethnicity and culture (Baker, 2006, Parker, 2003, Sentell 206, Williams, 2002). Further, Rudd et al., (2004) have demonstrated that health-related literature is typically framed in bureaucratic language that is unfamiliar to most except for bureaucrats. Schneider (2006) found strong evidence that abundant health literature does not necessarily improve health literacy, especially for minority populations. Health literacy is therefore complicated and requires reading skills, access to information, and an understanding of policy and politics, making it problematic for both consumers and providers. Health literacy is therefore an important control when teasing out the relationship between PCC and racial disparities in health (Smedley et al., 2003). This study focuses on patient-centered care practices and not on health literacy per se, even though health literacy is considered an important rival theory for sources of racial disparities in health outcomes.

Socioeconomic status of the patient represents a further complication of the relationship between patient-provider exchange and health disparities. The National Healthcare Disparities Report (2006) describes significant racial differences stratified by socioeconomic class[13] for adults responding to the patient-centered care questions of the Consumer Assessment of Healthcare Providers and Systems Survey (CAHPS). Table 2.1 below shows the percentage of adults by race and income group relative to poverty level that said that their health providers sometimes or never a) listened to

[13] Racial minorities have been shown to be disproportionately poor (Hecke & Parker 2002, Weinick, 2003).

them; b) explained things clearly; c) respected what they had to say and d) spent enough time with the patient. (Hargraves, Hays & Cleary, 2003)[14].

Table 2.1. National Healthcare Disparities Report (AHRQ, 2006, p. 80), Percent Adults Who Experienced Problems with Patient-Centered Care by Race and Class

Class*	PCC Composite		Listen		Explain		Respect		Time	
	White	*Black*	*White*	*Black*	*White*	*Black*	*White*	*Black*	*White*	*Black*
Poor	14%	17%	15%	17%	14%	18%	12%	14%	19%	21%
Near Poor	12%	14%	10%	11%	10%	14%	10%	11%	16%	16%
Middle Income	9%	9%	9%	11%	8%	8%	8%	8%	14%	14%
High Income	6%	6%	7%	7%	5%	8%	6%	5%	12%	10%

* Poor refers to household income below the Federal poverty line; Near Poor refers to poverty line to 200% of poverty line. Middle Income refers to 200% of poverty line to 400% of poverty line and; High Income refers to 400% poverty line and over

This summary data shows that for especially vulnerable low income persons, blacks are less likely to experience patient-centered care than white persons on all measured dimensions. The important message here is that variance in patient-provider relationships and communication in the health care setting can contribute to racial disparities in health, and that socioeconomic class does matter for racial differences in provider-patient relationships. Social class of the individual affects treatment choices, which affect health outcomes. Social class can be influenced by race, ethnicity and culture. Social class is therefore an important control and perhaps rival explanation when researching sources of racial disparities in health (Kawachi, Daniels et al., 2005, Smedley, Stith et al., 2003).

My research seeks to investigate whether patient-centered care as defined and composed by leading policy agencies affects racial disparities in health in otherwise comparable individuals in terms of individual characteristics such as demographics,

[14] NHDR (AHRQ, 2006) uses the MEPS data set for their analysis of patient-centered care impact on health care quality; MEPS is the data set that I am using for this thesis.

class and other socioeconomic conditions, access to care and health literacy. Specifically, does more multidimensional interaction and communication between patients and providers relate to racial disparities in health? If so, shouldn't strategies for implementing PCC reflect the complex and multidimensional nature of the patient-provider exchange?

2.4 Efforts to Identify Causes of and Solutions for Health Care Disparities

Traditionally, research regarding racial disparities in health has followed two ideological and moralistic tracks concerning sources of disparities. These tracks include 1) identifying the tendency of blacks to have faulty individual behaviors, such as risk factors like illiteracy, smoking or obesity, and 2) blaming social causation, such as racial discrimination and bias in access to and delivery of the system (Mechanic, 2001, page 2). More recent studies have shown that this moralistic and ideological orientation was a convenient excuse to focus the research agenda on prevalence of racial health gaps. Analyzing health care practice devoid of morality and ideology is the new target for disparities research, with a focus on racial variation as opposed to racial bias (Horner et al., 2004, Rathore & Krumholz, 2004). If risky behavior was the only issue with respect to disparities then black and white smokers should realize the same health outcomes. If access was the only issue then low-income persons with Medicaid, regardless of race, should have better health status since theirs is one of richest benefit plans in the current health care system (Cooper, 2007).

Refining research to identify sources and causes of health disparities is not an easy task. Health care practices are complicated, especially with respect to

understanding the extremes in racial differences in access and treatment. Both too little health care for blacks to address some chronic conditions and too many aggressive treatments for blacks to address acute conditions have been observed. Consider, for example, cardiovascular disease, the number one cause of death in the United States. Even rigorous studies (i.e. controlling for disease severity that might be caused by individual poor health habits or proportionally greater use of clinical services by whites that might result from socially acceptable discrimination and bias in health care access against minority groups) show *less* aggressive diagnosis and medical treatment of blacks than whites for chronic heart disease (Smedley et al., 2003). In contrast, blacks are *more* likely than whites to receive aggressive treatment options such as amputation to treat diabetes that produces acute conditions resulting from poor circulation (Gornick et al., 1996). Thus, racial disparities in health care is not just an issue of too little care or access for blacks compared to whites. More treatment is not necessarily better health care; the target for improved quality of care is determining the best treatment options specific to the patient's individual circumstances including race and ethnicity (Gornick et al., 1996). This is a new paradigm for the fundamental clinical decision-making process.

The clinical decision process has understandably become a target of inquiry about sources of racial disparities in health. Treatment decisions are primarily within the purview of patients and their providers and are usually affected by broader social issues such as individual patient and provider tendencies and preferences and the underlying social stigma against minorities (Beach et al., 2007). As such, the patient-provider relationship and communication in its many dimensions of clinical

encounters is considered a primary source of racial disparities in health (Horner et al., 2004). Physicians face time and resource pressures and their training encourages stereotyping of symptoms (known as heuristics) to make diagnoses that have been shown to produce treatment recommendations that replicate provider prejudice and lack of cultural sensitivity to patient circumstances (Balsa et al., 2007, Smedley et al., 2003, van Ryn & Burke, 2000). Patients, especially those in vulnerable populations who are less trustful of providers, do not always provide needed information and ten d to be less compliant with treatment recommendations (Barski et al., 1980, Halbert et al., 2006, Hall et al., 2002, Heisler et al., 2005, Russell & Conn, 2005).

Patient-centered care or care that involves the patient in negotiation of treatment based on individual characteristics is designed to overcome the overcome patient-provider trust issues and stereotype-laden dependence of clinicians on probability and prior beliefs (Balsa et al., 2007, Trachtenberg et al., 2005). Patient-centered care[15] redirects provider decision-making from time and information limited biases and prior beliefs to a new focus on patient empowerment through provider: a) respect for patient preferences and involvement in decision-making; b) access to care; c) coordination of care; d) information and education; e) physical comfort; f) emotional support; f) involvement of family and friends; and g) continuity of care (Cronin, 2004, Gerteis, 1993, Shaller, 2007).

Patient-centered care is a popular solution to racial disparities in health outcomes because it creates a new paradigm for health care provider decision making when the traditional clinical decision-making paradigm has been shown to be grounded in racial stereotypes and unconscious bias based on prior beliefs of the

[15] The complexity of measuring patient-centered care will be addressed in Chapter 3.

provider and the lack of trust by vulnerable patients (Fiske, 1998, Halbert et al., 2006, Smedley et al., 2003, Trachtenberg et al., 2003). The logic for PCC as a solution to racial disparities in health outcomes is as follows: a) patient-centered care is better quality care; b) patient-centered care counters traditional clinical decision-making techniques that include biases and stereotypes so it must result in less disparate treatment decisions; c) patient-centered care empowers the patient which mitigates trust issues with the providers; d) treatment decisions affect health outcomes; and e) therefore because patient-centered care improves treatment decisions, then patient-centered care must be a solution to racial disparities in health.

Patient-centered care is the popular new paradigm. Given the abysmal performance of the current health care delivery system, new paradigms are often treated as solutions rather than subjects of investigation; they are often implemented first and then investigated later for their impact (Kleinke, 2001, Sepucha et al., 2004).

2.5 Targets of Future Research and Summary

For the reasons described above, the quest for solutions to racial disparities in health outcomes has led to a rush to judgment in support of patient-centered care as a solution to racial disparities in health outcomes (Beach et al., 2007, Bezold, 2005, Sepucha et al., 2004). The specific circumstances of a recent Kaiser Foundation webcast is a prime example of this movement. The March 2, 2007 Kaiser Network webcast, *Is the United States Making Progress in Reducing Disparities in Health Care Access and Quality?* (Kaiser, 2007a), summarized the third in a series of reports on disparities, the National Healthcare Disparities Report, 2006 (AHRQ, 2006). In this webcast, the well-renowned panel participants included Marsha Lillie-Blanton,

the Senior Advisor on Race, Ethnicity and Health Care of the Kaiser Family Foundation, Carolyn Clancy, the Director for the Agency for Healthcare Research and Quality, Elena Rios, the President and CEO of the National Hispanic Medical Association and Reed Tuckson, Executive Vice President and Chief of Medical Affairs of the UnitedHealth Group. During the discussion they collectively and strongly suggested that patient-centered care is one of the most important considerations at this point for addressing this problem. In a subsequent Kaiser Foundation webcast (Kaiser, 2007b) the, 2007 State of Health Care Quality Report was addressed by Margaret O'Kane, president of the National Committee of Quality Assurance among others. In this webcast Dr. O'Kane described the new paradigm for health care to address health disparities as the "patient-centered medical home". Finally, on March 30, 2006, AHRQ celebrated a "decade of advancing patient-centered care" at the 10th National CAHPS User Group Meeting. At this meeting, the keynote address was delivered Jennifer Daley, M.D. Senior Vice President and Chief Medical Officer of the Tenet Healthcare Corporation. In her closing remarks Dr. Daley described a case study where lack of patient-centered care for a non-white child resulted in excessive clinical tests and a referral for child abuse evaluation. Her message though indirect, was clear – patient-centered care would have mitigated this health disparity (AHRQ, 2006a). The detail of these presentations and their presenters is important here because it is symptomatic of much of health care policy implementation. Further, this anecdotal evidence is a supplement to an ongoing political theme. Taylor-Clark et al., (2003) found that blacks and whites could be

expected to have very different voting preferences in the 2004 presidential elections with respect to racial disparities in health.

Noted scholars, with best intentions, attempt to identify and justify strategies to make delivery of health care more equitable and consumer-driven. Their justification is often anecdotal and typically part of a philosophical and political debate about equity and personal rights and responsibilities. Thus strategies like PCC are often embraced and implemented with little empirical evidence that they will work as intended at best and have no negative impact at worst (Kleinke, 2001, p.1).

A review of the critical contribution of the healthcare delivery system to the history of racial disparities in health reveals a number of logical reasons for the popularity of patient-centered care. Yet the solution to racial disparities in health is all about demonstration of better health outcomes; that will be the ultimate test for PCC regardless of its popularity (Rosenbaum & Teitelbaum, 2005). In the face of passionate appeals for policy to encourage patient-centered care, research to determine the relationship between patient-centered care and racial disparities in health is warranted, if for nothing more than to dispel rumors about patient-centered care as a silver bullet for health care practice.

CHAPTER 3: RESEARCHING PATIENT-CENTERED CARE STRATEGIES TO SOLVE RACIAL DISPARITIES IN HEALTH OUTCOMES

If progress in reducing disparities were measured on volume of analysis then racial disparities in health would not be a problem in modern medicine (Kaiser, 2007a). Thousands of studies have documented disparities in all aspects of the health care delivery system ranging from obstetrics to end-of life care. Where quantitative and qualitative data exists on health care and health outcomes, disparities have been documented. Sources and causes of disparities have not been as effectively measured. Studies of patient-centered care as a strategy to reduce disparities are especially slow to emerge primarily because identifying correlates of disparities requires a level of data and analysis that is only beginning to be developed in health care research (Sarto, 2005). Further, definitions of race and ethnicity in health care have over time been complicated by political considerations (Senior & Bhopal, 1994, Witzig, 1996). The best data available comes from nation-level surveys, but sample sizes and complex survey techniques often limit exploration of specific potential causes of disparities or disparities within key subpopulations and smaller racial groups such as Asians and Pacific Islanders (Cohen, 2002). State-based data and data from health care systems and entities have great potential for analyzing racial disparities in health outcomes but the data, especially race classification and identification, is not collected in any standardized way (ver Ploeg & Perrin, 2004). Finally major differences in study designs[16] exist throughout the literature, making comparison difficult (Byrd &

[16] Studies contain a variety of controls and variables of interest, as well as varying methodological approaches such as odds-ratios versus risk ratios versus correlations versus least squares regression analysis (Sarto 2005, Smedley, Stith et al., 2003, Table B-1).

Clayton, 2002, NCVHS, 2005, AHRQ, 2006, Sarto, 2005, Smedley et al., 2003, ver Ploeg & Perrin, 2004).

The research proposed in this thesis is needed but challenging as a result of a) misguided beliefs in the general population that racial disparities are not that great a problem, b) an overwhelming concern about the failure of the institution of health care in the U.S. and not disparities as the primary public health policy issue of current times, c) a more than generous amount of literature on racial disparities but with challenges to comparisons needed for finding targets for research and policy interventions, and d) critical gaps in needed data to produce meaningful and actionable results. Numerous federal, state and private entities have recognized these research challenges and are encouraging additional focused research like mine to both explore hypotheses concerning strategies like PCC and to test continually improving data sources. For example, the Agency for Healthcare Research and Quality (AHRQ) has only recently added a composite measure of patient-centered care in hospitals from the Medical Expenditure Panel Survey (MEPS) as a core indicator of health care quality to the National Healthcare Disparities Report NHDR, 2006). However the report presents this new composite measure with caution and it identifies the need for more standardization of quality measurements such as PCC (AHRQ, 2006, p.15). In addition, AHRQ is beginning to test providing access to linkage files for related public-use data sets such as the National Health Information Survey, the sampling frame for MEPS and MEPS. The purpose of these linkage files is to allow MEPS users to better understand the editing and imputing techniques that build the data set and to engage in longitudinal studies and have access to additional data for

imputation of values in MEPS records for selected variables as needed (Cohen, 2003, 2005). Finally, addressing specific concepts of core health care processes and health outcomes using multivariate and regression analysis is only now becoming the standard and baseline for current and future research concerning racial disparities in health (AHRQ, 2004, p. 13, Cohen, 2005).

This chapter describes how this research and its analytical models that explore the popular concept of patient-centered care can substantially contribute to the research agenda concerning reducing racial disparities in health. It describes how current research that links patient-centered care to reduction racial disparities in health is limited but insightful for current and future studies. The chapter also shows how the research model is developed using multiple but related theoretical bases. It describes how the model is tested using sound theoretical grounding but within the confines of existing and available MEPS public-use data sources.

My position is that the MEPS public-use data sets the framework for policy recommendations such as the IOM recommendations of financial incentives for PCC practices (DoBias, 2006) and therefore this data should be the focus of current research in an effort to provide opportunities for replication and confirmation of findings. MEPS 2004 can easily be used update the analyses of the prevalence of disparities in aspects of health care delivery. I contend that it is more important at this point to begin to test emerging themes in health policy, especially those like patient-centered care that are gaining in popularity as a solution to disparities. More focus on specific correlates of racial disparities is needed if the dilemma of racial disparities is to be resolved. I contend that is equally important to focus research efforts on

strategies that make practical sense such as patient-centered care, even if they are not well-conceptualized, because they have been shown to produce better quality (i.e. more equitable) health care. By definition PCC should reduce racial bias and discrimination in the clinical decision-making process and credible research can help bridge the gap between current conjecture and sound policy responses (Goodsell & Escarce, 2007).

3.1 A Model of Patient-Centered Care Impact on Racial Health Disparities

Developing a model for patient-centered care requires primary attention to theories that address quality care delivery. Improved quality of health care is the target to reduce racial disparities in health outcomes (Smedley et al., 2003). IOM (2001) defines quality health care as doing the right thing, at the right time, in the right way for the right people – and having the best possible results. Quality healthcare should produce less disparate outcomes because by definition it equitably addresses the needs of the individual rather than stereotyping the individual's needs in relationship to their race, gender, class, etc. (Goodsell & Escarce, 2007, IOM, 2001, Waidmann & Rajan, 2000). Quality health care is care that is: a) effective, b) safe, c) timely, d) equitable, e) efficient and f) patient-centered (IOM, 2001).

Patient-centered care (PCC) has been promoted extensively in recent years as a prime target for improving health care quality and as a result reducing disparities in health outcomes (Beach et al., 2007, IOM, 2001). Initiatives defined as patient-centered care come from somewhat ambiguous beginnings but they are now generally accepted as having multiple dimensions that focus on the patient's needs and concerns and patient empowerment in the process of health care decision-making

(Balint, 2005, Beach et al., 1995, Saha & Cooper, 2006). PCC is still broadly defined and to date poorly conceptualized. It is mostly commonly known for what it is not in terms of health care practice or how it compares to the tradition of heuristic-based medicine (Stewart, 2001).

The PCC dimensions have traditionally been rooted in patient and provider communication and interaction (Mead & Bower, 2000) where ultimately the physician practices and makes clinical decisions "through the patient's eyes" (Gerteis et al., 1993, Stewart, 2001). More recent efforts to analyze and implement PCC have focused both on observed physician behaviors such as communication and interaction in clinical encounters and physician attitudinal surveys on their activities related to quality of care (Audet et al., 2006, Horner et al., 2004, Thiel de Boncanegra et al., 2004) and on patient perceptions of provider respect for them, responsiveness to their individual choices and ensuring that their values guide all treatment and clinical decisions (Gerteis et al., 1993, Johnson et al., 2004, AHRQ, 2006, p. 33).

The patient-centered care movement has generated a number of distinctions and related concepts, including patient-centered approach, patient-centered interview, patient-centered access, patient-centered medical home and patient-centered outcomes. These related concepts define the broad range of dimension of health care valued by patients and their families including patient-provider communication, patient access to services, convenience of services and financing of health care to name a few (Beach et al., 2006, Beach et al., 2007). In 2004, Carol Cronin, under contract to the National Health Council analyzed nine published frameworks for patient-centered care and identified nearly 50 concepts and dimension embedded in

the models (Cronin, 2004, Shaller, 2007). Shaller (2007) documents that there is no shortage of PCC definitions and models of what patients want in terms of their care. The problem is developing constructs for measurement so progress can be monitored. Cronin (2004) found a convergence of six elements in multiple models, including a) education and shared information, b) involvement of family and friends, c) collaboration within the health care team, d) sensitivity to patient spiritual issue, e) respect for patient needs, f) availability and accessibility of information. Cronin's synthesis is helpful but it has not solved the problem of the lack of a unifying theory of PCC. While it is encouraging that patient-centered care has taken on so many new dimensions and practice patterns, the proliferation in use does not help with development of effective definitions and constructs. The sense of health care leaders is that only a small number of organizations consistently and effectively practice PCC (Shaller, 2007). Therefore it is no surprise then that in 2006, AHRQ and related DHHS study groups endeavored to narrow the definitions of PCC and attempted to test initial constructed measures of the PCC concept specifically for hospital settings[17]. The, 2006 National Healthcare Disparities Report included the first composite measure of PCC for hospital care based on, 2003 MEPS survey data (AHRQ, 2006). Similarly Audet et al., (2006) of The Quality Improvement Program of the Commonwealth Fund have launched a series of analyses of physician attitudes toward and adoption of PCC practices measured in 19 dimensions to identify barriers between physician knowledge of the need for practice of PCC and how they can accommodate it in current medical practice settings. Thus PCC is considered a high

[17] Prior NHDR (2004) versions have broadly addressed racial and ethnic differences in patient-centeredness of care but 2006 represents the first year of focused discussion and attempts to delineate and compose measures of the concept.

priority for improving quality of care and significant efforts are being made guide implementation and adoption of PCC practices, however poorly conceptualized it is at this point.

The MEPS survey questions concerning whether health providers listened carefully, explained things clearly, respected what patients had to say, and spent enough time with them, as used in the *National Healthcare Disparities Report* clearly address key aspects of PCC. Even this well-supported composite of responses to these survey questions may or may not be a reliable or valid measure of PCC as a concept (AHRQ, 20006). The four PCC dimensions measured in the most recent *National Healthcare Disparities Report* (AHRQ, 2006) are however consistent with IOM's treatment of PCC is a core component of quality health care. These four dimensions reflect that PCC is health care that establishes a partnership among practitioners and patients. They also represent the quality standard that health care decisions should respect patients' wants, needs and choices; and that patients should have the education and support they need to make decisions and participate in their own care (IOM, 2001, NHDR, 2006, p. 78)[18]. One of the questions this study addresses is as follows – are these measures of PCC in composite form or individually good enough for broad policy development under consideration?

Patient individual characteristics and their capacity to understand and make choices, given adequate information and coordination of their care are the hallmarks

[18] It is important to note that this definition of PCC is not inconsistent with the Smedley et al., 2003 model that shows that disparities occur outside of individual "preferences" and needs and the clinical appropriateness of treatment options (see Figure 2.1). PCC is part of the operation of the health care system and reflects patient preferences in that environment (meaning specific choice of treatment options) and not patient preferences in general (meaning desires and tastes such as for food groups or clothing styles).

of PCC. PCC is attractive for its empowerment of the patient in patient-physician interaction. It is also attractive because alternatives, including doctors arranging health care services to suit their convenience and doctors behaving in a paternalistic fashion to patients carry negative connotations, including ethnocentrism, that suggest that minority groups are less deserving of respectful care and the inferiority of minority groups in making health care decisions (Beach et al., 2007, Beach et al., 2006, Byrd & Clayton, 2002, Smedley et al., 2003, Thomas et al., 2004).

With additional information about strategic behaviors and approaches in their relationships with patients, clinicians should see marked improvements in the quality of their decision making. However more guidance is needed for providers working to shift their traditional physician-directed practice patterns to PCC (Kawaga-Singer & Kassim-Lakha, 2003, Sepucha et al., 2004, Szasz & Hollender, 1956). Thus even if the four dimensions of PCC analyzed here are not considered adequate for broad policy development, better understanding of their relationship to racial disparities should be insightful for physician training and continuing education. The medical profession is already incorporating PCC criteria in licensing and accreditation standards. However, Audet et al. (2006) have demonstrated that much more knowledge, many more tools and changes to the practice environment driven by new and more appropriate financial incentives are needed before PCC can be effectively implemented and adopted.

Evaluating PCC in the context of patient-provider relationships is not easy given, that no single model of provider-patient relationships exists. Numerous patient-provider relationship approaches are pertinent to current health care economic

and environmental conditions. Models of patient-provider relationships intended to produce better health outcomes are not new; some were developed as early as 1956 as shown in Figure 3.1 below (Szasz & Hollender 1956, p. 586). The Szasz and Hollender model shows the three basic approaches to provider-patient relationships that are still applicable today. The model shows that providers as well as patients make choices concerning health care decisions. Providers and patients can choose from a range of paradigms of medicine including a physician-driven approach associated with a patient passively receiving care to more active participation by the patient to a mutual participation approach of patient and provider that is most commonly associated with PCC. This model is important because it shows that discussions of which patient-provider communication paradigm works best for health outcomes dates back many decades. PCC is relatively new in name only. This is not a new debate but it has entered a new arena since it is now a prime target for reducing health disparities. I contend that if PCC is the answer to reduced disparities then differences in disparate outcomes between PCC and non-PCC practicing providers should have been evident by now.

Model		Physician's Role	Patient's Role	Clinical Application of the Model
1	Activity-Passivity	Physician does something to the patient	Patient receives care	Anesthesia, coma, dementia
2	Guidance-Cooperation	Physician tells patient what to do	Patient obeys orders	Acute infection
3	Mutual Participation	Physician helps patient help him/herself	Patient uses physician expertise to mutually decide treatment options	Chronic illness, risky procedures

Figure 3.1. Basic Models of Physician-Patient Relationships, Redrawn by Author for thesis, Szasz and Hollender (1956, p. 586)

The reciprocal nature of the provider-patient relationship is an important underlying factor for understanding health outcomes (Stoeckle 1987, Smedley et al., 2003, p. 175). Understanding the patient's perspective of clinical encounters and provider-physician relationship is critical to making important financing and medical professional training adjustments to the U.S. health care system (Cooper & Roter, 2003, Johnson et al., 2004). However the provider has as important if not a more important role in the relationship. Providers make the ultimate decision in treatment options, e.g. make the referral, write the prescription, document the diagnosis, code the health care encounter to establish the reimbursement criteria, etc. (van Ryn & Burke, 2000). While acknowledging the importance, I do not intend to address the provider perception aspect of the provider-patient relationship. In the best of all worlds, patient opinions would be adjusted for and qualified by provider opinions

about the same interactions. Public-use data sets such as MEPS do not support integrated opinions of both providers and patients concerning health care delivery. As this point in PCC research, public-use data sets are considered an improvement over the qualitative and restricted sampling approaches where patient and provider opinions are integrated, but with limited generalizability for policy development (Cegala & Post, 2006, Collins et al., 2002).

Despite the concurrence that PCC is still poorly conceptualized, largely sentimental, and embedded in complex provider-patient relationships, it is growing in popularity as a solution for racial disparities in health. However, just as there are numerous reasons why PCC should improve quality of care and reduce racial disparities in health, there are several reasons why it could exacerbate gaps in health outcomes between racial groups. Lack of cultural competence of providers to understand the context of patient choices is one issue (Beach et al., 2006, Beach et al., 2007, Zambrana et al., 2004). Financial incentives for providers to practice patient-centered care that may drive providers from high cost practice areas such as inner cities is another issue (DoBias, 2006, Link & Phelan, 2005, Rice, 2003). No empirical evidence demonstrates that PCC has resulted in any reduction in racial disparities in health outcomes. The goals for universal adoption of patient-centered care are attractive but not adequately accompanied by information about specific strategic interventions for better participation of patient in clinical decision-making (Bezold, 2005).

Research overwhelmingly finds that patient-centered care is a critical component in the delivery of quality health care. Unfortunately, in addition to being

poorly defined and conceptualized, patient-centered care is typically a generic clinical quality consideration, not a policy consideration. Research investigating patient-centered care outcomes is predominantly found in medical and nursing disciplines as guidance for the 0specific practice of medicine or nursing care. Research linking patient-centered care and racial disparities in health found in public policy journals is even more limited (Beach et al., 2007, Lauver et al., 2002, Rencic & Liles, 2005). My own scan of major journals found only fifteen articles published since 1995 that address patient-centered care and racial disparities in health (see table 3.1)[19]. Except for limited articles in the *American Journal of Public Health* and *Medical Care,* which are considered health policy journals[20], few of the articles were found in broad policy-related journals. That raises an issue; if PCC is an important public policy to reduce health disparities (i.e. it is worthy of redirecting millions of Medicare and Medicaid funds) then why are these mostly broad-based aggregate empirical studies found in clinical rather than policy journals? Are these few studies adequate support for major policy changes that are being contemplated by the IOM (Burney, 2002) and Center for Medicaid and Medicaid Services (CMS) of DHHS (Medicare Modernization Act, 2004)[21]? Horowitz et al., (2000) describe similar concerns about lack of empirical support for "novel" programs being developed at the state and local government and non-profit agency levels to reduce disparities in health. They suggest

[19] I searched the keywords "patient-centered", "race" and "health" in the following databases: Social Science Citation Index, JSTOR, EbscoHost (including Medline and Academic Search Premier) and ProQuest. Details on the included journal articles are provided in Appendix B.

[20] The American Journal of Public Health publishes research, research methods, and program evaluation in the field of public health for the analysis and improvement of health policy development (www.ajph.org). Medical Care publishes articles on all aspects of health care administration and delivery both public and private (www.ovid.com).

[21] Section 646 of the Medicare Modernization Act of 2004 mandates quality improvements across the US health care system that include patient-centered care (Sepucha, Fowler et al., 2004).

that the lack of fundamental evaluation research concerning these programs has been problematic because it doesn't allow effective programs to demonstrate and communicate their success for diffusion to other communities. Further, lack of evaluation research at the state and local levels does not allow ineffective programs the information they need to make adjustments or jettison their efforts in lieu of a more promising intervention. Shaller (2007) provides a similar assessment. He finds that even using the broadest definition of PCC, only one-third of respondents to a Commonwealth Fund survey had adequate answers to their questions when visiting a doctor for a specific illness and less than 50% reported being involved with the provider in decisions about their care (Schoen et al., 2004). That means most patients aren't receiving PCC. Yet some organizations and provider groups are consistently providing PCC and new strategies are needed to assess why these programs work and how their strategies can effectively be diffused.

Table 3.1. "Patient-Centered Care" and "Racial Disparities in Health" Literature Search, Articles, Journals and Citation Results 1995 to Present

Journal	Year	Author(s)	Subject	Cites	% Total Cites
Academic Medicine: Journal of the Association of Medical Colleges	2007	Beach, Rosner et al	Patient-centered attitudes of providers	0	0%
Aging Clinical and Experimental Research	2005	Oster, Smith et al	PCC for stroke patients	5	2%
American Journal of Public Health	2004	Johnson, Roter et al	Race/ethnicity and patient-provider communication	41	15%
American Journal of Medicine	2002	Stryer & Clancy	PCC and hospital transfers	0	0%
American Journal of Obstetrics and Gynecology	2002	Hullfish, Bovbjerg et al	PCC and pelvic floor dysfunction surgery	15	5%
Annals of Allergy Asthma & Immunology	2005	Eisner, Katz et al	Impact of depressive symptoms on adult asthma outcomes	9	3%
Annals of Internal Medicine	2003	Cooper, Roter et al	Patient-centered communication, and racial concordance	80	29%
Archives of Pediatrics& Adolescent Medicine	2003	Wissow, Larson et al	Longitudinal care and psychosocial assessment	13	5%
Journal of General Internal Medicine	2005	Rencic & Liles	Race and patients' perceptions of provider PCC and cultural competence	0	0%
Journal of General Internal Medicine	1997	Cooper-Patrick, Powe et al	Patient attitudes and preferences regarding treatment of depression	91	33%
Journal of Nursing Scholarship	2003	Radwin	Cancer patient's demographic characteristics and ratings of patient-centered nursing care	3	1%
Medical Care	2005	Dougherty, Meikle et al	Children's health care in the first NHQR and the NHDR	1	0%
Nursing Research	2004	Lauver, Gross et al	Patient-centered interventions	3	1%
Nursing Research	1995	Minnick, Roberts et al	An analysis of post hospitalization telephone survey data	5	2%
Psychology & Health	2000	Krupat, Yeager et al	Patient role orientations and provider visit satisfaction	10	4%
TOTAL				276	100%

The popularity of patient-centered care as a resolution to racial disparities in health likely spawns from the compelling theoretical work of Thomas LaVeist in his public health reader, *Race, Ethnicity and Health* (2002). He is one of the acknowledged leaders in racial health disparity research (Geiger, 2003). LaVeist has demonstrated that blacks and whites are different in their relationship with their providers. If the essence of patient-centered care is that it represents quality patient-

provider relationships then if it is going to reduce health disparities, several possible conditions must be present. If blacks and whites benefit equally from PCC, then more PCC for all will improve conditions for both racial groups but not reduce racial disparities. If blacks get less PCC than whites and policy encourages PCC to be delivered equally, then racial disparities in health would be reduced. If PCC improves health more for blacks than whites then more PCC will reduce disparities. (Barsky et al., 1980, Bertakis et al., 1991, Greenfield et al., 1985, Kaplan et al., 1989, Kaplan et al., 1996, Levinson et al., 1997, Roter et al., 1997).

Cooper-Patrick et al. (LaVeist, 2002, p.609) performed a study in 1996 of the specific implications of patient-centered type care for racial disparities in health. In this study, limited to a phone survey of a small sample[22], "there were significant differences in participatory decision making scores among patient racial groups in unadjusted analyses. Blacks and other minority patients rated their physicians as having lower participatory decision making scores than white patients. In models adjusting for patient age, gender, education, marital status, health status and length of the physician-patient relationship, blacks had significantly less participatory visits than whites." (2002, p. 620). The researchers draw the conclusion that even this limited study sets the groundwork for better approaches to clinical practice, medical education and health policy using strategies that empower ethnic minority patient to become more active consumers of health care. They state, "improving cross-cultural communication in health care settings may lead to more patient involvement in care,

[22] The sample included 2,481 managed care insured, 18 year old plus patients who had visited physician in preceding two weeks. They came from primary care practices with more than 200 enrollees from a large mixed model IPA and NYLCare a network-style managed care organization serving the Washington, DC, metropolitan area.

more adherence to recommended treatment, higher quality of care, and better outcomes" (p.622). LaVeist, the editor draws the conclusion from this and similar research that political empowerment of minorities in the form of participatory decision-making should have a beneficial impact on health status (p. 81).

My position is that LaVeist's is correct in his assessment that participatory decision-making is better health care, but with an unsupported rush to judgment on PCC as a solution to health disparities. It is a call for more generalizable empirically-based research on PCC. A study using more refined measures of PCC and with greater generalizability than the Cooper-Patrick (2002) study is needed to determine if patient-centered care (PCC) or more generally patient care where the patient is actively involved in treatment decisions relates to racial disparities in health (Beach et al., 2006, Beach et al., 2007). My study meets some of these criteria. Using MEPS, the measures are specific and the results are more generalizable and as result they could be a significant contribution to health policy development. However, the PCC definition I use throughout this study must be taken in context of the PCC dimensions I can address using MEPS.

In response to the lack of prior empirical support my research is concerned with investigating the role of PCC in racial disparities in health, I have developed a study approach that predicts:

- PCC improves health outcomes (IOM, 2001, Stewart et al., 2000).
- Blacks are less likely than whites to experience PCC (LaVeist, 1996).
- PCC may reduce health disparities if blacks receive less PCC and policy encourages more PCC for minorities.
- PCC may reduce health disparities if blacks benefit more from PCC than whites and policy encourages more PCC for all.

My study includes a number of individual controls, health conditions and health access considerations accumulated from the many studies of health disparities. I emphasize rival theories of class and health literacy. I expect to find differential effects of PCC on black-white differences in self-reported health status within social classes as defined by poverty level. I also expect to find differential effects of PCC on racial differences on health status within literacy groups. Class differences have been shown to complicate understanding racial differences in health (Kawachi, 2005, Shavers, 2007). Health literacy has been shown to be a risk factor separate from race and class with respect to disparities in health (Howard et al., 2006, Mullins et al., 2005, Sentell & Halpin, 2006, Sudore et al., 2006, Zambrana et al., 2004). If PCC impacts racial differences in health according to class and health literacy then there is a problem with application of generalized policies that encourage PCC regardless of patient demographic or socioeconomic status.

PCC as a concept is still being developed with many overlapping but inconsistent definitions, concepts and measurements (Shaller 2007). For this study I used a composite measure of PCC consistent with treatment in the NHDR reports (AHRQ, 2004, AHRQ, 2006). However, I am not representing that I have captured the ideal PCC concept in this study. The four NHDR PCC measures do not address all accepted dimensions of PCC. Specifically missing from the NHDR measures are patient perceptions of coordination of care, physical comfort, involvement of family and friends and continuity (Anderson, 2002, Cronin, 2004, Frampton et al., 2003, Gerteis et al., 1993, Mead & Bower, 2000, Shaller, 2007). Because certain elements of PCC are lacking in the NHDR measures, a composite score can be created, but it is

presented with the recognition of its limitations. To be clear which dimensions of PCC are used in the NHDR construct and to then ensure that results are not over-generalized and assumed to represent the ideal PCC concept, I include descriptive analysis of the components of PCC that I can measure using MEPS to supplement analysis of the composite PCC score. In addition to providing important construct clarification, justification for including the description of the components of PCC as well as the composite score comes from sources of data for policy development. AHRQ presents data on specific PCC components in the detailed appendices to the NHDR publications (AHRQ, 2006). Justification for analysis of MEPS PCC components also comes from studies of black-white differences in perceptions of provider-patient relationships. Doescher et al., (2000) found that black-white differences in patient perceptions of their care has several dimensions, meaning blacks and whites differ in components of patient care as well as health care in general. Collins et al. (2002) found that there are varying black-white differences in multiple dimensions of physician-patient communication. Beach et al., (2007) found that physicians with patient-centered attitudes behaved differently toward blacks and whites depending on the behavior being measured. Thus not all aspects of patient-centered care are considered equal or delivered equitably by providers. Health care delivery, health disparities and patient-centered care have many dimensions; solutions are best identified when the dimensions are clearly defined and delineated (Frist, 2005). Using the NHDR PCC concept (AHRQ, 2006, p. 79) in composite and individual measures, and based on the well-grounded premise that race and PCC are related to health status, I propose hypotheses concerning racial disparities in health.

3.2 Racial Disparities in Self-Reported Health Status as a Critical Health Outcome

Support for self-reported health status as an indicator of health outcomes grows despite methodological challenges associated with the survey data that is typically used to measure it. Menec (2007, page 62) states:

> It is now a well-established fact that self-rated health, typically measured with a single item that asks people to rate their health on a scale ranging from poor to excellent, is a strong predictor of health related outcomes. Particularly well documented is the finding that self-rated health predicts mortality, even when controlling for more objective health measures.

Therefore, all other individual characteristics and contextual issues being equal, self-reported health status in cross-sectional survey data predicts long term health outcomes including morbidity and mortality (Hays et al, 1996). The use of self-rated health as a measure of health outcomes is appealing not only for its efficiency and predictive power, but also because it is a simple single-item measure that can turn a cross-sectional survey into a predictive analysis of health outcomes (Menec, 2007, p. 63). In addition, self-reported health status is an important dependent variable because it has the potential to reflect more than the absence or presence of disease, including knowledge about disease, functional and social resources of the individual, and individual coping capacity (Gonzalez, 2002, 2007, Hays et al., 1996).

Racial differences in self-rated health status have been thoroughly documented. Farmer and Ferraro (2005) described worse perceptions by blacks of their health status at the onset of a 20 year longitudinal study and that the disparity continued for the duration of the study period. Subramanian et al. (2005) found that there were many dimensions to the tendency for blacks to report poorer health status

than whites. In some cases being black has been identified as carrying psychological stress that affects health status (Carlson & Chamberlain, 2004, Hays et al., 1996, Williams, 1997). Poorer perceptions of health status by blacks than whites have even been used to explain other health disparities, including gender disparities (Read & Gorman, 2006). Conversely, patient-centered care has been indicated to improve self-reported health status for all persons regardless of race or gender (Anderson, 2002, Michie et al., 2003, Stewart et al., 2000). Therefore, logically, blacks experiencing patient-centered care should report better health status than blacks without patient-centered care. Further patient-centered care should improve health status for otherwise comparable blacks and whites. Finally, blacks may benefit from patient-centered care more than whites (LaVeist, 1996, 2002).

Understanding how PCC affects disparities in health is in its formative years. Initial studies are focused on ways that medical students are addressing attitude patient-centered attitude changes. For example, in one of the very few empirical studies concerning the relationship between PCC and health disparities, Beach et al., (2007) found that physicians showing patient-centered care attitudes may benefit black patients more than whites in the practice of medicine. The authors emphatically state that theirs is only a preliminary study of physician behaviors and should be followed with investigation of patient experiences with care before conclusions are drawn about the importance of PCC in designing cultural competency training.

I predict that patient-centered care will have a positive impact on health differences between otherwise comparable black and white respondents to the MEPS survey. I also predict that PCC for blacks does not affect health status differently than

it does for whites. I also predict that the composite measure of PCC, while becoming a standard for policy analysis, will be misleading in that components of this PCC construct affect blacks and whites differently with respect to health status. The hypotheses associated with these predictions are as follows:

> *H_1: Racial disparities in self-reported health status continue to exist.*
>
> *H_2: When patients receive patient-centered care, their self-reported health status improves.*
>
> *H_3: Black-white differences in patient-centered care in general do not affect health status.*

3.3 Rival Theories to Patient-Centered Care as the Mediator of Racial Disparities in Health Outcomes

There are many competing interpretations of correlates to racial disparities in health. Explanations for health disparities have been complicated by the recent focus on "risk-factor epidemiology" or the individual preferences and health behaviors such as smoking or obesity that predict poor health (Geiger, 2006, Williams & Lavizzo-Mourrey 1994). While focusing on individual behaviors is helpful for predicting individual risk of ill health, it does little to help explain how affiliation with a socioeconomic or demographic group results in health disparities (Hays et al., 1996, Link & Phelan, 2006, p.71). Poorer self-rated health by blacks than whites has been correlated cross-sectionally with social factors such as a) demographic variables including being male, being unmarried, and older age, b) generalizable clinical conditions such as poor functional status and chronic disease, c) generalizable psychological conditions that result from stress and living conditions, and d): socioeconomic variables such as lower income and less education (Hays et al., 1996). These social factor variables set the framework for empirical studies of PCC.

One of the more challenging social factor explanations for health disparities is that race is actually a proxy for social class. Many studies suggest that race and class are codeterminants of racial disparities in health (Kawachi et al., 2005). Research on racial disparities has been confounded by this issue. Empirical studies like my research are therefore needed but confounded by the problem that no one theory has a monopoly on the meaning of class. Class is often confused with socioeconomic status or income but the two are very different constructs. The literature suggests that SES generally refers to the position of individuals on a continuum such as income or education or wealth. SES is usually used as an individual control in empirical studies. There are many related ideas about how to address class, but it is generally defined relationally, referring to groups who share a similar position in the economy, such as relationship to federal poverty guidelines (Bollen, 2001). Citro (1995) and others (Population Today, 2000) have suggested that progress has been made in developing constructs of "class" for empirical studies like this. The most refined definitions of class focus on the relationship between family income and federal standards of poverty levels (Citro 1995). In support of this approach, the Federal Interagency Forum on Child and Family Statistics (2002) as well as other agencies use family income as a percent of poverty to identify a class structure.

Despite the lack of clear differentiation in the literature between the impact of race and class on individual social, health and economic, I predict that class does not fully explain racial disparities in health outcomes. Further racial disparities in health vary between classes and that patient-centered care has differential effects on racial

disparities in health between classes. The hypotheses associated with class as a rival theory for explaining racial disparities in health are as follows:

> *H_4: Higher classes benefit more from patient-centered care than lower classes.*
>
> > *H_{4a}: Blacks and whites in the higher classes benefit similarly from their experiences with PCC more than blacks and whites in the lower classes.*

Similar to class differences, health literacy is often considered a correlate of both quality health care and racial disparities in health. Health literacy is defined as the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions (Baker, 2006, Parker, Ratzen et al., 2003). It involves the ability to both *access* documents and *process* the information for health care decision-making. Individuals with less health literacy are likely less capable of expressing choices in treatment options (Brown et al., 1999) and are more likely to experience worse health outcomes (Baker et al., 1997, Weiss et al., 2005).

General literacy is usually associated with reading levels, which is usually associated with years of education (Agre, 2006). Reading levels do not readily define health literacy and educational attainment in terms of increasing grade levels have not been shown to directly correspond to improved understanding to make health care decisions (Parker, 2000). Health care provider accrediting and oversight agencies have confirmed that ensuring health care literacy requires better assessment of patient understanding and less reliance on assuming that their educational attainment predicts their comprehension of health information (Joint Commission on Accreditation of Healthcare Organizations, 2000). Instead health literacy is better measured by cut

points or thresholds of educational attainment. For example a person with a third grade education may be slightly more literate than a person with a second grade education. However, their level of health literacy is likely the same as a result of their access to and comprehension of current health information from sources such as the Internet (Parker, 2000, Byrd, 2005). Parker (2000, page 281) provides important guidance for operationalizing a health literacy variable in public-use data sets like MEPS. She has found that "those who completed education beyond high school years are likely to have adequate functional health literacy". Further, patients must have at least a ninth grade education to understand most current health education material and to access it through the Internet (Parker, 2000). Howard et al., (2006) and Sudore et al., have demonstrated that empirical studies using *categorical variable forms of health literacy* have produced better understanding of differences in health status among socioeconomic and racial groups than using years of education as a proxy.

Health literacy is important for studying racial disparities in health because blacks are at a double disadvantage with respect whites due to likely lower education attainment and likely cultural insensitivity of health care documentation and practices (Birru & Steinman, 2004). Health literacy is therefore an important risk factor with respect to racial disparities in health (Ford & Gilpin, 2003, Joint Commission on Accreditation of Healthcare Organizations, 2000, Sudore et al., 2006). In my analysis I expect to find that racial disparities in self-reported health vary by health literacy group. Because patient-centered care is directly associated with communication and understanding between patients and providers, PCC will have greater impact in higher

literacy groups. My hypotheses associated with health literacy as a rival theory for explaining racial disparities in health are as follows:

> *H_5: Higher health literacy groups benefit more from patient-centered care than lower health literacy groups.*
>
> > *H_{5a}: Blacks and whites in the higher health literacy groups similarly benefit more from their experiences with PCC than blacks and whites in the lower health literacy groups.*

3.4 Summary

My research is designed to show that patient-centered care may have an impact on health status and may reduce black-white differences in health, but health literacy and class differences between blacks and whites complicate the potential helpful effects of PCC. Patient-centered care is high quality care. High quality care is by definition more equitable care. Therefore, access to health care services being equal, PCC should produce less disparate health outcomes because it equitably addresses the needs of the individual rather than stereotyping the individual's needs in relationship to their race (Goodsell & Escarce, 2007, IOM, 2001, Waidmann & Rajan, 2000). To make PCC an effective strategy for reducing disparities, policies may need to be tailored to consider if and how black-white differences in PCC and components of PCC relate to black-white differences in health. Further, rival theories of the factors underlying disparities including combinations of socioeconomic inequity and health illiteracy may take precedent for policy initiatives. Hypotheses have been developed for my thesis to test the most fundamental aspects of PCC as a correlate of racial disparities in health. As will be shown in the results and findings of the quantitative analysis in Chapter 5, even this logical and popular strategy for improving health quality could result in complications for addressing racial disparities

in health if the racial differences in the impact of PCC on health and underlying socioeconomic factors of disparities are not considered in policy development.

CHAPTER 4: RESEARCH DESIGN AND ANALYTICAL CONSIDERATIONS

This chapter presents the research design for determining if patient-centered care offers an explanation for and a strategy to reduce racial disparities in health. The research design is a multiple method quantitative analysis. The multiple methods approach, including ordered logistic regression, race interaction terms and stratification, is used to provide richer research findings as well as a better explication of targets for future research using the MEPS data set.

4.1 The Data Source

The hypotheses for my research are operationalized and tested with variables found in the Medical Expenditure Panel Survey (MEPS), a complex overlapping panel approach to developing a data set from questionnaires administered to individuals within households who have previously participated in the annual National Health Information Survey (NHIS). The Household Component (HC) of MEPS is a nationally representative survey of households in the U.S. representing the civilian non-institutionalized population. Although it is considered a "flagship survey" for this type of research, understanding the complexity of MEPS is important for understanding its contribution to and limitations in exploring racial disparities in health outcomes (Dayton, Zhan et al., 2004, ver Ploeg and Perrin, 2004).

A full year MEPS dataset[23] represents data collected during sixteen months from five rounds of surveys in two panels. Round 3 is the data collected within each panel over a two calendar year span. A round of data represents a broad array of

[23] 2004 is the most recent full MEPS HC data set with all imputation and editing of data complete.

survey items with a specific set of questions for a specific reference period. In each round, some questions are asked of a specific subset of respondents. Some survey questions are only asked during certain rounds. *This is an important consideration and explains small sample sizes for the PCC issues studied here.* Computer assisted personal interviewing (CAPI) allows surveyors to assist respondents in fielding complex questionnaire modules with sophisticated skip patterns in an efficient manner. Response rates for the, 2004 MEPS public use data set include 68.2% for point in time responses and 63.1% for full year responses. Items in the CAPI survey system are aggregated to produce single variables in the data set. National Health Interview Survey data is linked to MEPS and this allows for further editing and imputing of full year data sets. In total there are over 1,100 variables in MEPS HC, 2004.

Within the rounds and panels, MEPS periodically administers paper questionnaires to supplement the CAPI system. The Adult Self-Administered Questionnaire (SAQ) is administered to all household respondents 18 years and older during the second and fourth rounds of a five round and two panel survey. SAQ is the source of data for the patient-centered care variables for this study. The patient-centered care variables in the MEPS SAQ subset are measured using the Consumer Assessment of Health Plan Survey (CAHPS) method (AHRQ, 2006a). CAHPS has been shown to effectively measure racial differences in patient satisfaction regardless of insurance coverage (AHRQ, 2006a, Edwards et al., 2002, Morales, 2001).

Figure 4.1 below shows how, 2004 MEPS Household Component (HC) data come from overlapping panels and rounds of survey collection over two years and spanning three calendar years.

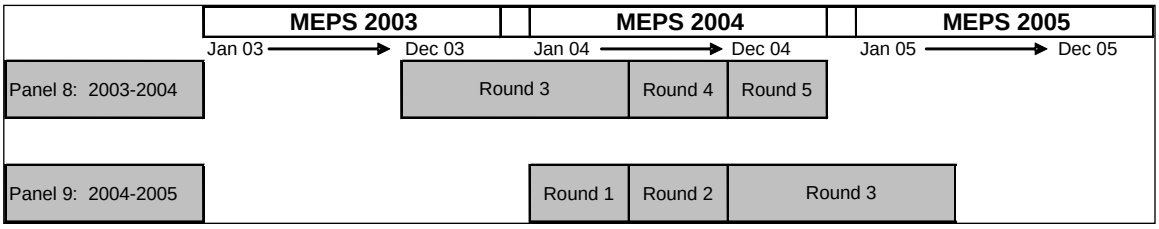

Figure 4.1. Diagram of the MEPS, 2004 Data Collection Process

There are 34,403 records in the MEPS, 2004 Full Year Household Component public use data set. Respondents for MEPS HC Panel 8 are selected from a sample of 93,386 respondents to the 2002 National Health Information Survey public use file. Respondents for MEPS HC Panel 9 are selected from a sample of 92,148 respondents to the, 2003 National Health Information Survey public use file. Panel 8 of MEPS HC has 16,956 records and Panel 9 of MEPS HC has 17,447 records for a total of 34,403 records. SAQ 2004 respondents produced approximately 14,000 records for the PCC variables. Of the SAQ 2004 respondents, there are about 6,000 complete records that include recorded, imputed or edited values for all of the variables used in this study. These variables include PCC, race, class, health literacy, ethnicity, age, gender, marital status, employment, family size, region of the country, urban versus non-urban residency, physical and functional limitations, insurance type, and provider-patient concordance.

Data in MEPS includes detailed information concerning respondent demographic and socioeconomic characteristics, health conditions, health status, use

of medical care services, relationships with providers, access to medical care, satisfaction with care and health insurance coverage. Blacks and Hispanics are oversampled with SAQ, person and household weighting variables calculated and included in the data set (Cohen, 2002, Moeller, 2002, Moeller, Cohen et al., 2003, Sue & Dhidsa, 2006, ver Ploeg & Perrin, 2004).

4.2 Unit of Analysis

The unit of analysis for this study is the individual. Arguments abound for treating health as a family[24] or societal level phenomenon but with no definitive evidence that studying health at higher societal levels produces better public policy (Braveman et al., 2004, Cagney et al., 2005, Fiscella, 2002, Haas et al., 2004, Heliwell & Putnam, 2004, Kawachi et al., 1997, Kim et al., 2006, Lurie, 2005, Melchior et al., 2006, Rohrer et al., 2007, Subramanian et al., 2005, Subramanian et al., 2003, Sue & Dhindsa, 2006). In terms of public policy development, individual health is considered the basis for building and improving health status within families and at the community level (*Healthy People 2010*). Since this study focuses on effective public policy development, then the appropriate unit of analysis is the individual, leaving analysis at other levels of society for future study[25].

Research has effectively demonstrated that even the most well-meaning providers intending to behave without prejudice will at times provide care in racially

[24] Family composition is considered especially relevant for understanding child health status (Hughes & Ng 2003).

[25] I hope to use this dissertation to lay groundwork for a research agenda that involves use of data to determine whether more distal factors also matter in explaining racial disparities in health. The absence of controls for social context has been offered as one reason for lack of understanding of racial disparities in self-reported health (Cagney, Browning et al., 2005). However, more theoretical development is needed with respect to proximal factors of health care delivery before delving into this too poorly theorized third dimension of health (Shortt 2004).

stereotypical and biased ways (Burgess et al., 2004, Green et al., 2007). In the best of all worlds, studying the effects of patient-centered care on racial disparities in health outcomes would involve patient-provider pairs of respondents where both patient and provider perceptions and characteristics can be analyzed over time (Graham, 2004, Malat, 2001, Rosenbaum & Teitelbaum, 2005 p. 144, Saha et al., 2003, Schnittker & Liang, 2006, Smedley et al., 2003). Given the cross-sectional nature of the MEPS data set as well as the sampling design, then practically only the individual's experience as a patient can be considered in this study. This is a qualification but not a limitation of my study since the premise is that patient perceptions of care are important indicators of quality that must be addressed for betterment of failing health care system.

4.3 Dependent Variable

Because the new patient empowerment strategies (like patient-centered care) focus on patient choices that affect health outcomes, self-rated health has taken on new importance as a health outcome measure and a means of studying health disparities. Self-rated health predicts mortality and disease risks (Adams & White, 2006, Benyamini et al., 1999, Hays et al., 1996). Interest in self-rated health as a dependent variable increased dramatically after the association between this single predictor variable and mortality was confirmed in numerous epidemiological studies (Hay et al.,1996, Idler & Benyamini 1997). Self-rated health is associated with presence of disease and physical health that may result from biological factors (Ferraro et al., 1997, Frankenberg & Jones, 2004, Hays et al., 1996). Although diagnosed illnesses and clinically confirmed functional status factor into a person's

perceptions of their health status, economic, psychological, and social factors of the individual are also related to self-rated health (Benyamini et al., 1999, Deeg & Kriegsman, 2003, Frankenburg & Jones, 2004, Hays et al., 1997, Murata et al., 2006). For studies of racial disparities in health, a single-item measure of self-rated health can provide powerful information about physical as well as` mental health and is therefore an appropriate outcome measure (DeSalvo et al., 2005, Lyyra et al., 2006, DeSalvo et al., 2006). Burstrom and Fredlund (2001) found that self-rated health status remains a strong predictor of mortality even in different socioeconomic groups. Therefore while there are socioeconomic correlates to self-rated health, this variable has strong predictive ability regardless of race or class. Finally, self-rated health status has been shown to be a strong predictor of patient satisfaction as an indicator of health care quality (Hall et al., 1996, Wensing et al., 1997, Zhang et al., 2007). Thus self-rated health status is an appropriate dependent variable for a study of patient-centered care. However, I acknowledge that the single-item measure of self-rated health is not a perfect representation of health status as a concept, but it has been refined in recent years and it continues to be tested to contribute to health policy literature (Deyo & Patrick, 1989).

This study uses the method recommended by Menec et al., (2007) in their study to identify ethnic differences in self-rated health (p. 62). The use of self-rated health as a measure of health outcomes is appealing not only for its efficiency and predictive power, but also because it is a simple single-item measure that can turn a cross-sectional national survey of diverse groups into a predictive analysis of health outcomes and quality of care (Burstrom & Fredlund, 2001, Franzini & Fernandez-

Esquer, 2004, Gorman & Read, 2006, Haritatos et al., 2007, Menec et al., 2007, Murata et al., 2006, Zhang et al., 2007).

For the dependent variable, **Self-Rated Health,** I use responses to the question, "In general, compared to other people of your age, would you say that your health is excellent, very good, good, fair or poor?" for the second and fourth rounds of the, 2004 Medical Expenditure Panel Survey. This round of survey data on health status corresponds to the Adult Self-Administered Questionnaire (SAQ) data items in MEPS concerning components of PCC. It is important to note that SAQ is an adult only questionnaire specific to the respondent. Therefore only adult cases (18 years and older) are analyzed – cases for persons younger than 18 are dropped. Reverse coding[26] of the variables related to perceived health status in the MEPS, 2004 data set is required so that better self-reported health status has a higher rank in the data set.

In addition to being methodologically efficient, there are theoretical reasons why self-rated health is an important dependent variable or outcome measure. Patient-centered care is a patient empowerment health care strategy. If the patient is expected to negotiate their treatment options, then the patient should also decide if their involvement with the provider worked to their satisfaction. They should also be expected to be cognizant of and able to communicate their health status at any point in time (Murata et al., 2006, Rohrer et al., 2007).

4.4 Primary Independent Variables

Identifying the ways that race in its many dimensions (Buescher et al., 2005, Kaufman & Cooper, 2001, McKenzie & Cowcroft, 1996, Williams, 1997) affects

[26] Value coding in the original data set is 1 for excellent to 5 for poor, which explains the need for reverse coding.

health status has been the subject of much debate in the last three decades. David Williams (1997) adapted a number of prior models (Williams & Lavizzo, 1994) to create a framework for including independent variables in empirical studies of the relationship between race and health. See Figure 4.2 below.

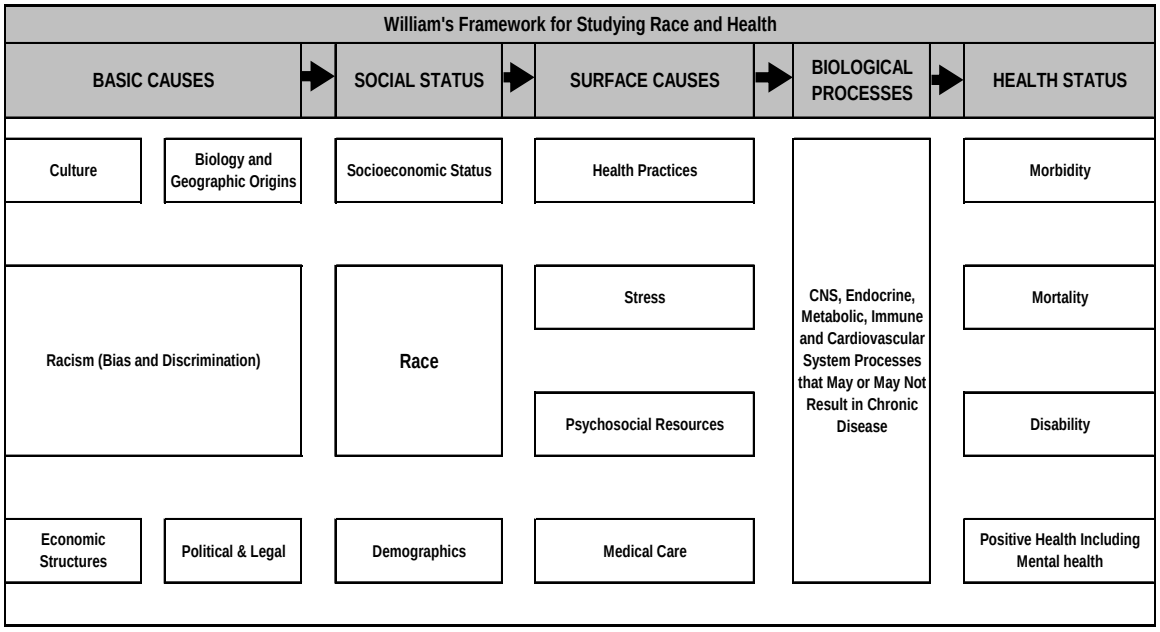

Figure 4.2. Framework for the Study of the Role of Race in Health, Williams (1997, p. 328)

In this theoretical model the variables that explain the relationship between race and health come from the convergence of basic factors (biological, geographical, cultural, bias, discrimination, economic, political and legal) that cause an individual to find a place in social status (defined by socioeconomic status, race and demography) and then act as a member of socially constructed racial and ethnic groups, with subsequent surface causes and biological processes to result in differential health outcomes. In the Williams' framework the "surface causes" of racial differences in health status are the loci of patient care practice and where

interventions for improved quality of care, the focus of reducing racial disparities in health, can occur.

The basic factors that determine how a person identifies with a racial category are important, but basic factors are seldom empirically examined on their own because of the complexity of considering institutional as well individual dimensions of racism and racial construction in social science research (Williams, 1997). Typically, social science research begins with social status, often using self-assessments of race (Jones et al., 1991, Williams & Collins, 1995). Understanding the relationship between race (i.e. how people assign themselves to racial categories and are treated as such) and surface factors (e.g. how health care is rendered) is expected to reveal effective interventions to reduce disparities in health (Perloff et al., 2006, Williams, 1997). My research tackles the policy analysis and implementation challenge Williams proposes by using black interaction terms to link basic causes of racial disparities in health (differential treatment of races) to surface causes (health care practices and health practices) to produce differential health outcomes.

Figure 4.3 below shows the linkage of my model (see Figure 3.3) to the Williams framework to reflect how, once an individual is identified with a racial category, then there are some clear choices concerning independent variables that represent each aspect of the additive and interactive forces that link race to health status. Williams and others promote linking identification and differential treatment of racial groups (sometimes extending to racism and bias) to health care practice to explain racial disparities in health (Carlson & Chamberlain, 2004, Geiger & Borchelt, 2003, McKenzie, 2003, Thomas, 2001, Rathore & Krumholz, 2004, Saha, 2006,

Smedley et al., 2003, Williams & Collins, 1995). Modifying surface causes alone (i.e. changing health care practice) is only effective for reducing racial disparities in health if the changes relate to basic causes or fundamental differential treatment of persons of different races.

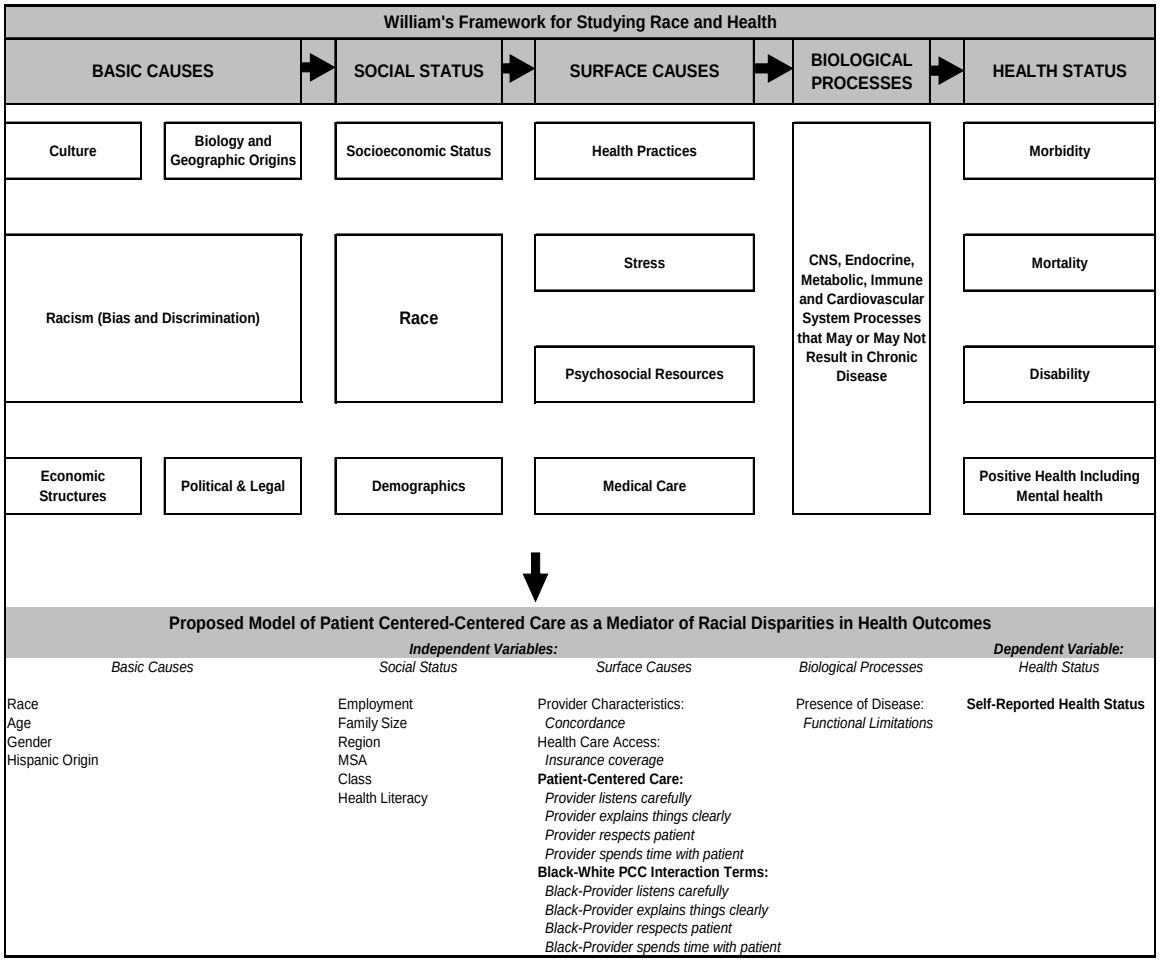

Figure 4.3. Selecting Appropriate Independent Variables to Relate Basic Causes of Racial Disparities in Health to Health Care Practice

The operationalization of variables in my model is explained in the following sections.

4.4.1 Race

Kaufman and Cooper (2001) among others describe the complexity of racial and ethnic classification, including whether it is designated by others or by the respondent themselves for coding purposes in empirical studies (Fremont & Lurie, 2004). Therefore, though seemingly straightforward it is important to be precise in variable definitions of race (Caldwell et al., 2006, Caldwell & Pepenoe, 1995, Fremont & Lurie, 2004). The primary independent variable of interest is the dummy variable, **BLACK**, which is coded one if the respondent defines their race as black with no other race reported and zero if the respondent defines their race as white with no other race reported. To produce this variable involved recoding of MEPS, 2004 variable RACEX for blacks and whites, setting all other racial categories to missing values. The resulting unweighted data set includes 26,444 whites (76.9%) and 5,471 blacks (15.9%), with 2,488 other racial group respondents (7.2%) excluded[27]. Dropping the mixed race respondents is necessary due to sampling limitations of MEPS (Cohen, 2002). It is important to note that while I liberally use the term racial disparities in health in my study, I am only making comparisons between blacks and whites. It is also important to note that the sophisticated weighting and imputation schemes in MEPS adjusts for missing variables from dropped cases or cases not surveyed during certain rounds or panels (AHRQ, 2006).

Thus, for this study, blacks represent 16.9% and whites represent 83.1% of the 5,269 valid records containing complete responses to the PCC survey questions.

[27] Even with oversampling of blacks, the complex MEPS HC design has been determined to be limited with respect to analysis of racial subpopulations (AHRQ 2006).

4.4.2 Provider Characteristics

Patient-provider concordance variables are considered important for this study because of the influence they have on the patient-provider relationship (Malat, 2001, Nonan & Evans, 2003, Saha et al., 2003). Racial concordance between patient and provider explains some of the black-white differences in patient satisfaction (Malat, 2001, Saha et al., 2002). Race and gender concordance is most important for those patients who prefer it and are more discriminating about their health care in general (Schnittker & Liang, 2006). Patient-provider communication is different in race-concordant relationships when compared to non-concordant relationships (Cooper et al., 2003, Read & Gorman, 2006). Despite the potential benefits including that medicine careers are usually exceptionally well paid, for a variety of reasons and due to a number of barriers, blacks continue to be underrepresented in medicine professions (Noonan & Evans, 2003, Rao & Flores, 2007). That means that the effects of race concordant patient-provider relationships on health outcomes will not be fully understood until they are more prevalent.

Gender concordance between patient and provider is also considered an important correlate for health disparities (Anglin, 2006, Roter & Hall, 2004). Male providers communicate differently with male patients than female providers and vice versa (Roter & Hall, 2004). Gender, race and socioeconomic status are closely related, sometimes paradoxically, in their effect on health status (Jackson & Williams, 2006). Cooper-Patrick et al., (2002) found that while gender concordance between patients and providers alone had little impact on the patient's involvement in their treatment decisions, patients who had both race and gender concordance with their providers

had the highest participation in the decision-making process. This is clearly an area for investigation.

The provider type control variables for racial (**Whitcon and Blackcon)** and gender (**Gencon)** concordance are developed by creating dummy variables that compare respondent demographics concerning race and gender to their reports of provider concordance. Note that racial concordance has two variables and gender concordance has one variable. The difference is that there are only two options for gender patient-provider concordance, males with males and females with females. In contrast patient-provider concordance can take many forms including blacks with blacks, whites, Asians, or other races and whites with whites, blacks, Asians or other races. The **Whitcon** and **Blackcon** variables are designed to capture white with white and black with black patient-provider relationships versus all others. Though used as controls, the inferences drawn from regression results concerning these variables will be cautiously considered. Limited patient-provider concordance in the data set is evident but not surprising given limited black-black and female-female patient-provider concordance in the population (Schnittker & Liang, 2006) Only 418 or 1.4% of unweighted cases represented both black provider and respondent. Only 4,309 or 18.4% of unweighted cases represent providers and respondents that are both female. If provider concordance were the focus of this study then a different research approach would be undertaken. Better sources of data and analysis are available for studies that intend to focus on the impact of patient-provider concordance (Cooper et al., 2003) and the underlying reasons why blacks are underrepresented in the medical profession (Rao & Flores, 2007). However the results from my study may inform

future investigations of concordance effects on the relationship between patient participation in treatment decisions and health outcomes. It may also provide some input for policies designed to address financial and social barriers to blacks pursing medicine as a career by taking into account literacy and class differences.

4.4.3 Patient-Centered Care

The primary independent variables of interest are survey items that are associated with patient-centered care (PCC). **PCC** represents the subjective dimensions of health care practice that are measured in MEPS. Patients and their families value: a)a welcoming environment; b) respect for patient values and expressed needs; c) patient empowerment; d) provider socio-cultural competence; e) coordination and integration of care; f) comfort and support including involving family and friends; and g) accessibility to care (Cronin, 2004, Gerteis 1993, IOM, 2001, Shaller, 2007). In my review of the literature I found numerous peer reviewed articles that reported empirical evidence of wide variations on these dimensions. It is accepted that PCC is poorly conceptualized and is therefore difficult to measure (Stewart, 2001) and some arguments exist as to whether patient-centered care is better investigated based on observations of patient-provider communication than reports of patient experience with provider (Dayton, Zhan et al., 2006, Hall, Milburn et al., 1998, Mead & Bower, 2000). Cohen and Lap-Wing (2005) have shown that patient and provider reports of health care experiences are generally consistent and if refinement is needed, then patient-provider data sets can be linked.

To overcome lack of a distinctive measure of PCC[28] and to construct variables for PCC for this study I deal with the policy issue at hand. That is that public policy to address disparities in health outcomes, including financial incentives for providers to practice PCC, is being formed around PCC as defined by specific variables tracked in the National Healthcare Disparities Report (2006). These variables are drawn from the SAQ component of the MEPS-HC, 2004 data set (AHRQ, 2006). These variables include measurement of the following variables on scale ranging from never (1) to always (4):

- In the last 12 months, how often did doctors listen carefully to you (**Listen**, Total SAQ N = 13,844, N for Study Variables = 5,629)
- In the last 12 months, how often did doctors or other health care providers explain things in a way you could understand (**Explain**, Total SAQ N = 13,891, N for Study Variables = 5,629)
- In the last 12 months, how often did doctors or other health providers show respect for what you had to say (**Respect**, Total SAQ N = 13,897, N for Study Variables = 5,629)
- In the last 12 months, how often did doctors or other health providers spend enough time with you (**Time**, SAQ N = 13,887, N for Study Variables = 5, 629)

To create a PCC score variable I performed a principal component factor analysis. The correlations between the four components of PCC are used to produce a meaningful and reliable composite or scale measure of PCC. The correlations or uniqueness statistics between the four items that compose the scale range from .586 to .682. See table 4.1 below for the results of factor analysis of the items associated with PCC to create a patient-centered care scale. The score variable represents a

[28] Composite measures like this are not always considered the best empirical research methods (Fowler, Gallagher et al., 1999, Hargreaves, Hays et al., 2003). However, composite measures are often most efficient for compiling and analyzing survey data and "policymakers and others have voiced their support for composite measures because they can be used to facilitate understanding" (AHRQ 2006, page 26) for improved and efficient policy-making concerning complex issues.

summary of PCC for analytical purposes, with no assertions about its construct validity.

Table 4.1. Factor Analysis of Patient-Centered Care Items

	Patient-Centered Care Scale	
	Factor Loadings	**Uniqueness Statistics**
The provider listens carefully (**Listen)**	0.82025	0.32719
The provider explains things clearly (**Explain)**	0.76524	0.41442
The provider respects the patient (**Respect)**	0.82560	0.31838
The provider spends enough time with the patient (**Time)**	0.77174	0.40441

Extraction Method: Principal Component Analsys

No Rotation

One Factor Retained. Eigenvalue for Factor 1 is 2.54. Eigenvalue for Factor 2 is -0.07108

A test of the four item scale's reliability resulted in Cronbach's alpha of .884. Table 4.2 below summarizes statistics for the additive score for each respondent on the four items (minimum = 4 or 1 for each item and maximum = 16 or 4 for each item). The total N of cases represents all responses to the self-administered questionnaire (SAQ) of the household component. The MEPS imputation and weighting approach addresses oversampling and missing values in all aspects of the survey, including the SAQ component (Cohen, 2002). With so few missing values and appropriate weighting it was determined that additional imputing for missing values was not necessary. The difference between total SAQ survey responses (13,963) and individual PCC questions in SAQ ranged from a high of 119 missing values for **Listen** to a low of 66 missing values for **Respect. FPCC** is the variable composed of the factor scores for each record from the factor analysis of the four survey items.

Table 4.2
Scale Statistics for PCC (Patient-Centered Care)

Reliability Statistics		Scale Statistics				
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Scores	Mean	Variance	Standard Deviation	N of Items in Scale	N of Cases
0.884	0.886	13.749	6.305	2.511	4	13,963

Table 4.3 below shows the weighted correlations between the primary independent variables (**Black and FPCC**) and the dependent variable (**Self-Rated Health**).

Table 4.3. Correlations of Primary Independent Variable Black and FPCC and Dependent Variable Self-Rated Health Status

	Self-Rated Health Status
Respondent is black	-0.0381**
Respondent receives patient-centered care	0.1430**

*** Pearson Correlation is significant at the .01 level (2-tailed)*

As expected, the variable **Black** is significantly and negatively correlated with **Self-Rated Health Status** (Pearson Correlation -0.0381). The variable **FPCC** or patient-centered care is significantly and positively correlated with **Self-Rated Health Status** (Pearson Correlation 0.1430). Consistent with my model, blacks have lower health status than otherwise comparable whites but the correlation is relatively small. The correlation between PCC and health status is much stronger and positive, suggesting that it could affect black-white differences in health status if blacks are

now receiving less PCC than whites or if black health status is improved by PCC more than white health status.

To test the black and white differences in PCC as a score variable and black and white differences in individual components of PCC, I created five interaction terms by multiplying the race variable by each of the PCC variables and the FPCC score variable to produce **BlackPCC, BlackListen, BlackExplain, BlackRespect** and **BlackTime**. These variables are created to address hypotheses H_3 to H_5 concerning the relationship between black-white PCC differences and health status. This part of the analysis is an important contribution to the literature. Despite the voluminous research on racial disparities in health care, I only found a few articles that use race interaction terms to analyze incidence of disease such as cancer and depression or birth weight outcomes (Lu & Chen, 2004, Shreeder et al., 2006, Skarupski et al., 2005, Stark, Claud et al., 2005). I only found one article using interaction terms to analyze racial differences in health care utilization. White-Means and Rubin (2004) used this approach to parse racial differences in access to and use of home health care and to determine the equity of the home health care market for black patients based on varying characteristics. Using the same general approach but slightly different statistical methods, I propose to analyze the relationship between black-white differences in the relationship between PCC and its components to self-rated health status.

4.5 Independent Control Variables

Independent control variables for this study are considered in three groups including a) individual demographic controls, b) controls for the effects of physical

and functional limitations and health care access on health status, and c) controls for rival theories of the relationship between race and health disparities including social class and health literacy.

4.5.1 Individual Demographic Control Variables

There are several categories of independent variables that have been demonstrated in the literature to be of theoretical importance in explaining linkages between race and health status. Individual demographic characteristics that are considered controls in most health-related studies include race, age, gender, marital status, family size, region of the country and urban/non-urban residence setting (LaVeist, 2005, Mayberry, Mili et al., 2000, Merrill & Allen, 2003, Witzig 1996). The proposition here is that given that race is a social construct and that race profoundly determines health status and health care, then the widest variety of individual-level categories that explain differences in health outcomes is needed for empirical studies, as opposed to assuming that race as a variable absorbs or explains all social processes and stratifications that affect health status[29].

Age is a continuous variable determined by subtracting the adult respondent's date of birth from, 2004, the year of the aggregated data. By design the age for the youngest SAQ survey respondent is 18 and the oldest person responding is 85. The mean age is 44 for respondents to the SAQ survey (standard deviation 17.7 years). Health status can be expected to decrease at an increasing rate in older age groups. The relative risk for mortality of persons indicating poor health status increases at an

[29] The contrary approach, according to Muntaner, Nieto et al., (LaVeist 2005, p. 136) is the *Bell Curve* approach that presumes that social status, especially racial differences in class position or anti-social behaviors are inherited intellectual or biological differences.

increasing rate with age (Hays, Schoenfeld & Blazer 1996). A squared term of the age variable, **Age2** was thus created to reflect the curvilinear relationship between age and health status.

Gender is measured by the dummy variable **Male**. Males represent 47.5 percent of the sample respondents, slightly lower than their 49% of the census population breakdown[30]. Gender differences in MEPS is expected given differences in utilization of health care by gender (Murray, Kulkarni et al., 2006) and greater attention of females to all types of health care issues, including participation in health surveys (Scholle et al., 2004) and prevention modalities. Sambamoorthi and McAlpine (2003) for example found that women more than men substantially comply with critical preventive services, including cholesterol tests, blood pressure readings, and cancer screenings.

Family structure variables that affect racial differences in health care access and utilization (Braveman, Egerter et al., 2004, Haas, Phillips et al., 2004, Heck & Parker, 2002, Weinick, 2003) are represented in the marital status dummy variable **Married** and the family size continuous variable **Famsize.** Being married and having other family members present in the household often represents forms of social support and obligations that has been shown to predict health status (Achat et al., 1998, Fiscella & Williams, 2004, Has et al. 1996, Melchior et al., 2003).

I include region and urban status variables to address issues of urban versus rural and regional approaches to health care access and medical practices (Fiscella & Williams, 2004, Murray et al., 2006). **Region** is a categorical variable designating

[30] Source: U.S. Census Bureau, Census 2000 Summary File 1, *Gender 2000, Census 2000 Brief*, September 2001.

whether the respondent lives in the Northeast, Midwest, South or West part of the United States. **MSA** is a dummy variable with 1 representing living in an urban area defined as a Metropolitan Statistical Area for Census purposes and 0 representing living in a non-urban area (U.S. Census Bureau, 2005).

4.5.2 The Effects of Physical and Functional Limitations and Health Care Access on Health Status

Perceptions of health represent a complex relationship between physical health status (i.e. chronic disease), functional health status and use of health care services to result in subjective understanding of health status (Deeg & Kriegsman, 2003, Gonzalez, Chapman & Leventhal, 2002, Hays, Schoenfeld & Blazer 1996, Kaplan, Greenfield et al., 1989, Michael, Miles et al., 2003). Murata, Kondo et al., (2006) showed that physical and functional status accounted for as much as 40% in the differences in reports of health status between persons in an 8 year longitudinal study. Presence of physical limitations is an especially important control because chronic illness has been shown to reduce self-rated health (Hays, Schoenfeld & Blazer 1996, Lyyra, Hearkened et al., 2006). Also collaborative approaches between providers and patients with chronic illness, or the essence of PCC, are expected to improve chronic illness understanding, acceptance and management by the patient, which in turn improves the predictive power of self-rated health (Wagner et al., 2001).

Presence of specific chronic disease is not easily measured in MEPS since the MEPS data set is not intended for epidemiological analysis (AHRQ, 2006). However, the MEPS data set has a series of variables that measure perceived health status in terms of physical and functional limitations and problems such as substantive hearing and vision defects (AHRQ, 2006b, p.C-34). The literature supports use of composite

scores of physical and functional limitations to predict disparities in self-rated health status (Clark et al., 1993, Clark et al., 2002, Haritato et al., 2007). I use the dummy variable **Limitations** that denotes whether a person experienced any physical or functional limitations using component variables that measure the reports of chronic physical or mental conditions in general as well as disabilities, activity limitations, vision problems and hearing problems during any round in MEPS, 2004 (AHRQ, 2006b, p.C-34). This variable is computed for the record based on responses during all rounds of both panels to questions concerning presence of physical or mental illness, limitations or problems. The results are surprisingly selective with only 23% of both blacks and whites (slightly but insignificantly higher for whites) reporting limitations. The results are also representative of expected physical and functional limitations in the population in that Reyes-Gibby & Aday (2002) have reported that approximately 20% of adults can be expected to have pain and other results of chronic illness and disabling conditions that limit activities and affect their health status.

LaVeist (2005) and Cohen (2003) identify health insurance as a direct correlate to health care access and racial disparities in health. Further ver Ploeg and Perrin (2004) have found that the MEPS HC data set is especially useful in measuring insurance coverage as a health care access issue especially with respect to studies of racial disparities in health (Williams, 2003, Williams, 2005). Insurance coverage is an especially important variable for this study since Graham (2004) has found that the effects of insurance coverage promotes access to a usual source of health care where patient-centered care practices might then have a more positive impact on health.

Edwards, Bronstein et al., (2002) have used data from Georgia's PeachCare, Medicaid "Look-alike" program for low income families to show that type of insurance determines patient/parent assessment of provider-patient relationships and provider behaviors. In this study and studies by others (Doescher et al., 2000, Leiyu & Stevens, 2005), physicians have been shown to behave differently toward patients based on insurance coverage and associated insurance rules. Further, patients with public insurance have been shown to behave different with respect to health care services than privately insured or uninsured patients (Makuc et al., 2007). Therefore, public insurance coverage may eliminate some financial barriers to health care services and it may change patient and provider behaviors. Thus, all insurance coverage is not created equal in terms racial disparities in health. The variable **Insurance** is a categorical variable describing whether the respondent has any private insurance, only public insurance or is uninsured. This variable represents some of the more non-direct aspects of provider-patient relationships (Beck et al., 2002).

4.5.3 Rival Theories of Racial Disparities in Health

Class. There are many competing explanations of racial disparities in health. One of the more complex explanations is that race is actually a proxy for social class meaning blacks are more predominant in lower classes than whites and whites are more predominant in higher classes than blacks. Other studies suggest that race and class might codetermine racial disparities in health outcomes (Bhopal,1998, Kawachi et al., 2005, Krieger et al., 1997, Weinick, 2003, Williams, 1997, Williams & Collins, 1995).

Research on racial disparities in health outcomes has been confounded by this issue. Empirical studies like mine are further confounded by the problem that no one theory has a monopoly on the meaning of class. Class is often confused with socioeconomic status (SES) but the two are very different constructs (Shavers, 2007). The literature suggests that SES generally refers to the position of individuals on a continuum such as income or education or wealth. Income and/or education are often used as individual controls in empirical studies. However, income and education do not reflect class directly and should not be represented as such (Shavers, 2007). There are many ideas about how to address class, but it is generally defined relationally, referring to groups who share a similar position in the economy such the relationship of their family income to the poverty level (Bollen, 2001).

I have created a variable to measure **Class** by recoding of the MEPS categorical variable for 2004 family income as a percentage of poverty (POVCAT04) to match the NHDR 2006 reporting structure. The definitions of income, family, and poverty level used were taken from the 2004 poverty statistics developed for the Current Population Survey (CPS) (AHRQ, 2006, U.S. Census Bureau, 2005). Family income is computed from wages, public assistance, and income and net losses from business partnership and ownership, but excluding tax refunds and capital gains. In MEPS, family income is allocated to individual records using a complex editing and imputing algorithm resulting in values representing categories that include poor, near poor, low income, middle income and high income. The poor category is family income less than 100% of poverty. Near poor is 100% to less than 125% of poverty. Low income is 125% to less than, 200% of poverty. The middle income group has

family income, 200 to 399% of the poverty line. The high income group is greater than or equal to 400% of the poverty line. The National Health Disparities Report combines the MEPS "near poor" and "low income" records into a summary "near poor" category to report racial differences in PCC (AHRQ, 2006, p.80). Thus the variable **Class** in this study is categorized as follows: a) poor represents household income below the Federal poverty line, b) near poor represents poverty line to 200% of poverty line, c) middle income represents 200% to 400% of poverty line, and d) high income represents 400% of poverty line and over

Health Literacy. Similar to class differences, health literacy is often considered a covariate of both quality health care and racial disparities in health outcomes. Health literacy is defined as the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions. It involves the ability to access, read and comprehend documents but it is more complex than literacy in general because of the complex nature of the health care system. Individuals with less health literacy have been shown to experience worse health outcomes (Weiss et al., 2005).

Literacy is usually associated with reading levels, which is usually associated with years of education (Agre et al., 2006). But that is not necessarily the case for health literacy in that education levels have not been shown to directly correspond to health information comprehension levels. Further, finite educational attainments (i.e. specific grade level attained) are only marginally acceptable predictors of reading levels and literacy in general (Parker, 2000, Byrd, 2005). A one grade increase in educational attainment may represent slightly better literacy in general but may not

impact health literacy. That means that educational attainment as an interval level variable may be an acceptable proxy for literacy but it is likely to be a poor predictor of health literacy. Parker (2000, p. 281) provides important guidance for operationalizing a health literacy variable in MEPS. She has found that "those who completed education beyond high school years are likely to have adequate functional health literacy". Further, patients must have at least a ninth grade education to understand most current health education material and to access it through the Internet (Parker, 2000).

The MEPS data set includes an education variable (EDUCYEAR) that categorizes the respondents by years of education achieved. *To test summary hypotheses (1 through 5) I use the continuous variable* **Education.** *For the analysis of between literacy group differences in PCC (Hypothesis 6) I use the guidance of Parker (2000), and create an ordinal variable of* **Literacy**.

For the stratified model I initially created a variable where adults with 0 to 8 years of education were categorized as low health literacy. Adults with 9 to 12 years of education are expected to have moderate health literacy and those with one year of college education or more will have high health literacy. A *t*-test of black-white mean differences of this three category variable resulted in no significant racial differences, even though blacks were clearly proportionally higher than whites in the mid-range grade levels and whites were clearly proportionally higher than blacks in the lower and higher grade levels.

I took two different approaches to address this issue. First I created a correlation table of black-white differences in education for each grade level. The

significant differences (p <.05) were: a) blacks were more likely than whites to have 1 year of education or less, b) blacks were more likely than whites to have only 5 through 12 years of education, and c) blacks were less likely than whites to have greater a college education or greater (14 years or greater). Second I graphed the same data on educational attainment as shown in Figure 4.4 below. Similar to the tabular data, it reveals a subtle category of "near literate" where blacks and whites differ on educational attainment that is close to eight years of school (grades 6, 7 and 8), with whites more likely to achieve near literacy than blacks. If a ninth grade education is the threshold for understanding health care literature as Parker (2000) suggests, then adding a category for educational attainment at the 6^{th}, 7^{th} and 8^{th} grade levels is appropriate for the stratification models. In the non-stratified models the continuous variable years of education completed will be used. A variable **Literacy** was created for the stratification models to have four categories, including an additional "near literacy" category with educational attainment in the 6, 7 and 8^{th} grades. A more refined variable to represent health literacy is consistent with prior findings that health literacy is developed through more obscure methods than a direct relationship between years of education and literacy levels (Agre et al., 2006, Parker, 2000).

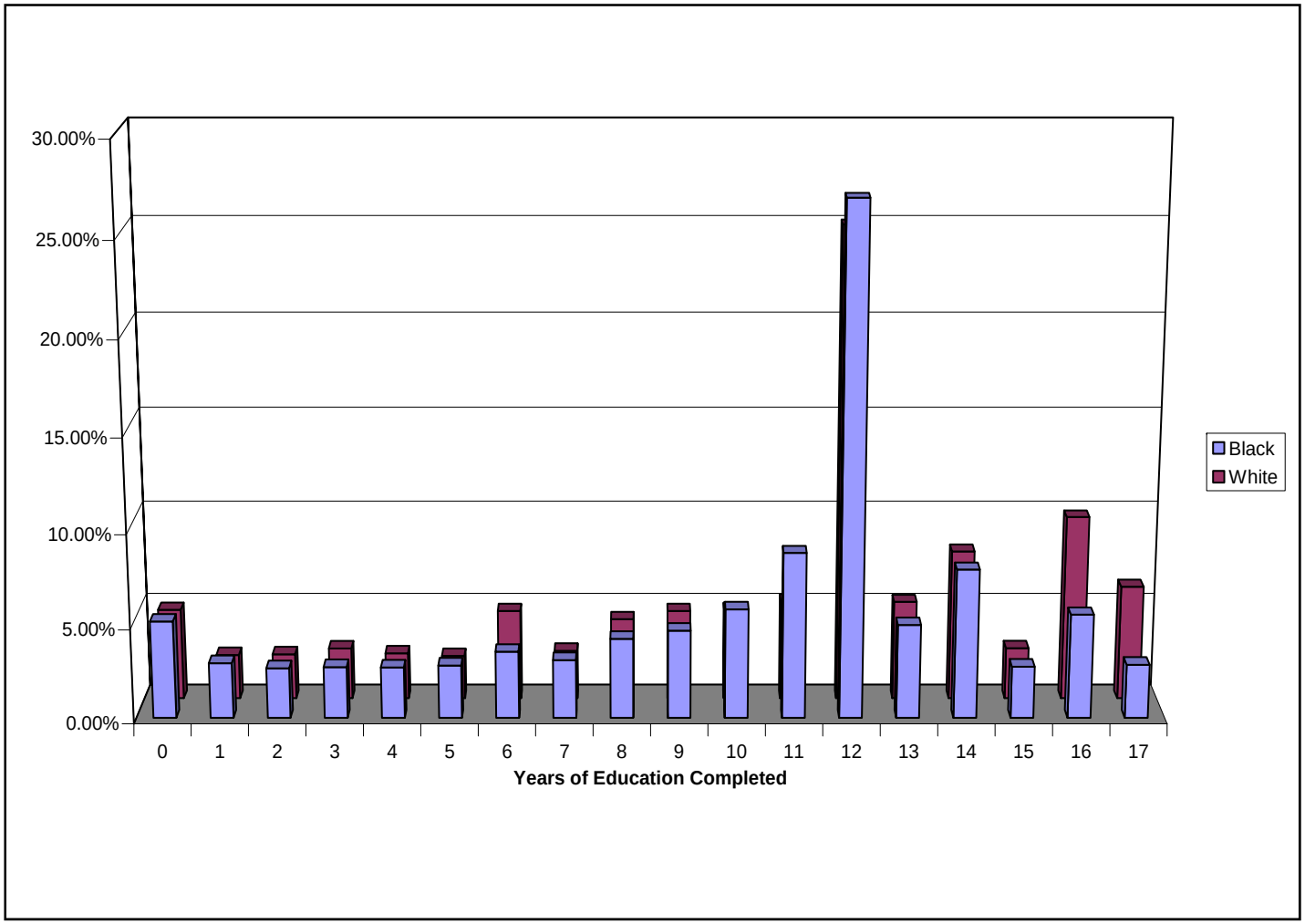

Figure 4.4. Black-White Differences in Educational Attainment

4.5.4 Summary of Independent Variables

For this study, the independent variables used as controls are defined in Table 4.4 below.

Table 4.4. Overview of Independent Variables in Model

Dependent Variable is Self-Rated Health Status	
Primary Independent Variables	
Race	**Black**
Patient-Centered Care Scale	**FPCC**
Provider Listens	**Listen**
Provider Explains Things	**Explain**
Provider Respects Patient	**Respect**
Provider Spends Enough Time with Patient	**Time**
Linking Race to PCC	**BlackPCC**
Black-White Difference in Provider Listens	**BlackListen**
Black-White Differences in Provider Explains	**BlackExplain**
Black-White Differences in Provider Respects	**BlackRespect**
Black-White Differences in Provider Spends Time	**BlackTime**
Independent Control Variables	
Demographic Controls	
Age of Adults (>18)	**Age**
Age Squared Term	**Age2**
Gender	**Male**
Ethnic (with Hispanic self-identification as proxy)	**Hispanic**
Marital Status	**Married**
Family Size	**FamSize**
Region of Country	**Region**
Urban versus Rural (with MSA proxy)	**MSA**
Physical and Functional Limitations and Health Care Access	
Physical and Functional Limitations	**Limitations**
Health Care Access (with insurance coverage proxy)	**Insurance**
Provider Characteristics	
Race Concordance	**WhiteCon/BlackCon**
Gender Concordance	**GenCon**
Rival Theories to Racial Disparities in Health	
Class - Family Income Realtive to Poverty Line	**Class**
Health Literacy:	
Non-stratified Models:	
Education in years	**Education**
Stratified Models	
Health Literacy (educational attainment categories)	**Literacy**

4.6 The Methodology and Modeling Design

The analytical regression modeling framework that is used anticipates that racial disparities in an individual's rating of health status are related to the individual characteristics as well as the relationship of the individual with the health care system, especially their experience with patient-centered care. The methodology includes a series of regression models starting with a) regression models of all theorized individual characteristics that affect health status including a PCC score variable, b) additional regression models that add black-white differences in PCC as a score variable and finally, c) using stratification to test the rival theories of class and health literacy.

The equation below shows the source of the multiple models used to test the proposed path analysis premised on the hypotheses that blacks who are engaged in their treatment decisions through PCC do not differ in self-rated health status than comparable whites.

$$Health = \beta_o + \beta_1(Black) + \beta_3(PCC) + \beta_4(BlackPCC) + \beta_5(Concordance) + \beta_6(IndividualDemographics) + \beta_6(AnyLim) + \beta_7(Insurance) + \beta_8(Class) + \beta_9(HealthLiteracy) + \mu$$

where, *Black* and *PCC* are the primary independent variables of interest, *Concordance* is a vector of race and gender patient-provider concordance variables, *IndividualDemographics* is a vector socioeconomic and demographic variables, *AnyLim* is the proxy for physical and functional limitations where health care services are needed, *Insurance* is the type of insurance variables and *Class* and *HealthLiteracy* are the primary rival theories of interest.

4.7 Summary

In summary, operationalization of the MEPS data set and regression techniques have been chosen to analyze the data to best test the theoretical challenges associated with patient-centered care as a mediator of racial disparities in health. Due to data set constraints previously described, there are some limitations to this approach. However, the simplicity and rigor of the research design and the precision in presenting the findings should strengthen the validity of the findings.

CHAPTER 5: QUANTITATIVE ANALYSIS

This chapter presents the findings of the quantitative analysis of the relationship between patient-centered care and racial disparities in health. Several questions are answered in this section including: a) does PCC matter for explaining racial disparities in health; and b) are rival theories, including class and health literacy differences between the races, relevant for policy-making with respect to promotion of PCC to reduce racial disparities in health. My study addresses an important gap in studies of disparities in health. Satel and Klick (2005) describe how most research on health disparities is too quick to diagnose racial bias and has too little empirical support for correlates of disparities. My detailed approach to building models to analyze the relationship of target variables to racial disparities in health moves beyond inferring bias from racially disparate differences in single variables (which is most common in related studies). My multivariate analysis provides more specific indications of where and when causes of disparities might be addressed.

Based on the research design described in Chapter 4, this chapter presents descriptions of models as they relate to the study hypotheses. The results of the regression analyses are presented. To address the research question, a composite score of PCC is regressed with descriptive characteristics on health status to determine if and when PCC relates to racial disparities. The effects of PCC on racial disparities in health are analyzed within classes and within health literacy groups to suggest refinements to policy development for specific demographic and socioeconomic characteristics of the individual.

Findings from my study are consistent with prior generalized findings of correlates of health disparities. The findings further support my expectation that PCC may predict better health status but it is likely overrated for reducing racial disparities in health. Detailed analysis indicates that certain aspects of PCC may be more relevant than others to health status. Black-white differences in PCC relate to differences in health status, but on a very limited basis and not always consistent with better outcomes for blacks. My analysis supports the contention that class and health literacy matter with respect to forming PCC strategies to address racial disparities in health. The impact of PCC on racial disparities varies for persons in specific classes as defined by the relationship of their income to poverty level and within health literacy categories as defined by categories of educational attainment.

5.1 Descriptive Statistics

Characteristics of the sample used for this research are presented in Table 5.1 below. Included in the table are full sample characteristics and stratified black-white differences on variables used in the regression models. A *t* test for racial group differences was performed on each set of variable responses with varying levels of significance, ranging from $p<.01$ to $p<.05$, highlighted in the table.

Table 5.1. Characteristics of the Sample

Sample Characteristics	Total	Black	White	
	% or Mean			
Percent	100.0	16.9	83.1	
Sample Size (N)	5,629	951	4,678	
Self-Rated Health Status	11.3	11.1	11.3	**
Poor	3.5	3.2	3.4	
Fair	9.6	12.0	9.2	
Good	26.4	28.8	26.3	
Very Good	29.8	26.6	30.8	
Excellent	30.7	29.4	30.3	
Patient Centered Care	13.8	13.9	13.8	*
Provider Listens				**
Never	1.5	2.9	1.3	
Sometimes	8.3	9.8	8.1	
Usually	32.1	21.3	33.9	
Always	58.1	66.0	56.7	
Provider Explains				**
Never	1.9	2.9	1.7	
Sometimes	7.7	10.5	7.2	
Usually	31.4	20.5	33.4	
Always	58.9	66.1	57.7	
Provider Respects				**
Never	1.4	2.2	1.3	
Sometimes	7.4	8.6	7.2	
Usually	30.0	20.7	31.5	
Always	61.2	68.5	60.0	
Provider Spends Time				**
Never	2.6	3.8	2.4	
Sometimes	11.4	12.7	11.1	
Usually	37.3	28.5	38.9	
Always	48.7	55.0	47.6	
Race Concordance	74.7	23.8	83.9	**
Gender Concordance	27.0	28.7	23.9	**

Sample Characteristics	Total	Black	White	
	% or Mean			
Individual Controls				
Age of Adults > 18	45.3	43.6	45.2	**
Gender				**
Male	47.5	44.0	48.2	
Female	52.5	56.0	51.8	
Hispanic	27.5	2.9	34.3	**
Married	51.6	31.3	55.3	**
Employed	64.2	58.9	65.1	**
Family Size	3.6	3.6	3.5	
Region				**
Northeast	15.2	15.2	15.0	
Midwest	19.3	16.5	20.0	
South	41.3	59.8	37.2	
West	24.1	8.5	28.0	
Lives in MSA (Urban Area)	81.8	85.9	81.0	**
Functional Limitations	23.5	23.0	23.7	
Insurance by Type				**
Any Private Insurance	58.9	44.7	58.4	
Public Only	24.1	40.4	24.3	
Uninsured	17.0	14.9	17.3	
Rival Theories				
Class				**
Poor	26.7	40.0	24.0	
Near Poor	16.8	19.9	16.2	
Middle Income	28.4	25.6	28.8	
High Income	28.1	14.5	31.0	
Health Literacy				**
Educational Attainment(YRS)	10.4	9.9	10.5	
Low Likelihood	17.2	19.0	17.0	
Near Literacy	11.4	10.9	11.6	
Moderate Likelihood	40.7	46.1	39.8	
High Likelihood	30.7	24.0	31.6	

Notes:

* Indicates black-white differences for variable at .05 or greater, based on *t* test for proportions or means

** Indicates black-white differences for variable at .01 or greater, based on *t* test for proportions or means

Interpreting the descriptive statistics table requires an understanding of the complex sampling design of the Medical Expenditure Panel Survey. “Survey” in the title is somewhat misleading because MEPS is actually a dataset compiled from sophisticated data collection, editing and imputation techniques designed to profile the nation’s quality of health care and to address key issues of health care quality, such as health disparities (Cohen, 2003). This data set treats race and ethnicity as two separate issues and respondents may report multiple races but only have two ethnicity options within racial categories including Hispanic or not Hispanic. Dayton et al., (2006) provide ample support for ethnicity as a control for racial differences in patient perceptions of provider relationships. The household component of dataset reflects an over-sample of Hispanic and black households relative to remaining households at 2 Hispanic households to 1 remaining household and 1.5 black households to 1 remaining household.

Numerous MEPS 2004 demographic variables, including race and ethnicity variables, are imputed or edited using the multiple and overlapping rounds of data collection and links to the NHIS survey data that produces the sampling frame for MEPS. For example, values for the black and Hispanic variables were imputed based prior NHIS results and then blood relative race and ethnicity if they were not provided in responses to the multiple survey rounds. A similar editing approach was used if race and ethnicity designations were contradicted in multiple survey rounds.

This sampling, imputing and editing technique is shown to be both explanatory of national health quality issues and cost-effective, meaning that greater oversampling of race and ethnic groups would not be expected to produce better

yields for the dataset (Cohen, 2003). Further, Cohen (2002, 2003, 2005) provides a thorough explanation of why the several subsets of the survey, including the Self-Administered Questionnaire (or SAQ) that includes a subset of the questions addressed in the Consumer Assessment of Health Plans Study (CAHPS)[31] address quality of care issues such as PCC in a reliable and valid manner.

As shown in Table 5.1 above, differing sample sizes result from the complex sampling, editing and imputing approach based on the issue addressed and the variable considered for analysis. 34,000 is the total MEPS 2004 sample size. Of those records, about 27,000 are black or white and not other or multiple races. About 13,000 blacks and whites responded to the Self-Administered Questionnaire (SAQ) that contains the PCC survey questions. Of the 13,000 blacks and whites responding to SAQ, about 6,000 have complete records for the study variables.

The statistical method solution to the complex survey design and data imputation rests with the MEPS weighting techniques. Bias and precision of the survey estimates are addressed by weighting and "raking" techniques employed to calibrate survey weights to match designated population estimates (AHRQ 2004, p. C-121, Cohen, 2002). For analytic purposes, a single person-level weight variable was used for the PCC-related data obtained in the SAQ. The weight variable adjusts for survey non-response (or missing data that explains varying sample N's), "raking" to ensure person weighting corresponds to the census population estimates for 2004, and an additional adjustment for age since only adults age 18 and greater were eligible for SAQ (AHRQ 2004, p.C0-126.)

[31] It is important to note that CAHPS per Edwards et al. (2002) is designed to ensure that Medicaid (or low income, typically undereducated persons) receive quality health care.

Consistent with prior research (AHRQ, 2006), there are differences, though minimal, between blacks and whites on self-rated health for all rounds (with 3 being poor health in all rounds and 15 being excellent health in all rounds). Both groups score relatively high, i.e. in the upper end of the third quartile. The composite health status score for blacks (11.1) is only slightly lower than the score for whites (11.3). However, a greater proportion of blacks than whites report fair health status (12% blacks versus 9% whites) and a greater proportion of whites than blacks report very good health status (27% blacks versus 31% whites) health status. Blacks and whites are similar on reports of good health status.

Significant differences between blacks and whites are noted for two of the four PCC categories but not always in the expected directions. I expected to find that blacks would be less likely than whites to report high marks for PCC based on prior research concerning racial differences in patient satisfaction with and trust in their providers (Malat, 2002). The opposite appears to be true for this study. For example, in the "provider listens" category, blacks report "always" 66% of the time while whites report "always" 58% of the time. In the "provider shows respect" category, again blacks report "always" at a significantly higher proportion than whites (69% versus 60%). This is an important finding. It immediately challenges the proposition that PCC in general explains health disparities. This finding also creates skepticism that PCC as measured in the NHDR and MEPS is adequate for sweeping policy development, especially new policy that results in changes to financing of public programs.

The descriptive results are not unreasonable. According to Smedley et al., (2003), overconfidence and excessive satisfaction in providers by some blacks may explain why the impact of these components of PCC on health status may be different for blacks and whites. There are some similarities between black and white perceptions of PCC; the lowest PCC category total is the same for both races with just over 55% of blacks and just under 48% of whites reporting that the provider always spends enough time with them. This is not an unexpected finding since both providers and patients complain about the difficulty of clinical decision-making under tight time constraints in current health care practices (Smedley et al., 2003, p.601).

Similar to self-rated health status, the PCC composite score[32] is relatively high for both blacks and whites, with average scores in the fourth quartile (13.9 for blacks versus 13.8 for whites). Part of the explanation for blacks in general having slightly higher PCC scores than whites is that they may be less discriminating about provider behavior using this type of survey language (Dayton et al., 2006). However, this is contrary to at least one study; Malat (2002) found in the *Detroit Area Study* that whites typically have a higher rating of their health care providers. Another explanation may be that blacks have less access overall to higher-quality providers (Mukamel et al., 2000) and that may create acceptance or tolerance of lower quality care in general. Differences in the way care is financed, with blacks having more publicly funded care than whites, may be a further explanation, in that persons with different insurance funding are treated differently in the health care system (Cohen, 2003, Edwards et al., 2002) and as Collins et al., (2002) found, experiences in the

[32] This differs from the NHDR (2006) approach because it is not an aggregation of individual PCC component responses but an estimate of the PCC score from the factor analysis.

health care system determine patient perceptions of their interactions with providers[33]. The minor differences between blacks and whites in PCC are critical support for my multivariate approach. Using a multivariate approach and given that PCC improves health, I can test if black-white differences in receipt of PCC affects health status or if blacks benefit more than whites from PCC with respect to health status. Even AHRQ in the NHDR (2006) criticizes its own progress in studying racial disparities in health, which it attributes in part to lack of multivariate analysis and difficulties in addressing subpopulation differences given sample sizes (AHRQ, 2006).

In terms of the provider characteristics that might affect patient-provider communication, whites are more likely than blacks to have racial concordance (23.8% of blacks who have black providers versus 83.9% of whites with white providers). Given the increasing number of international medical graduates in the U.S. health care system (Sarto, 2005), these results are not surprising and are not considered to be critical to this analysis. Providers are still predominantly white however international medical graduates are now estimated to be 25% of all physicians (Singh & Yu, 2002). According to Byrd & Clayton (2000, p. 515) in 1995, 33% of first year residency slots were filled by international medical graduates.

In contrast, blacks are more likely than whites to have gender concordance (28.7% of blacks versus 23.9% of whites) which could be explained by increasing numbers of black female medical students and the greater tendency of blacks than

[33] I also tested provider encounters between blacks and whites and found that blacks on average had 1.3 fewer office visits than whites. Given the MEPS panel survey and sampling approach where respondents are given multiple opportunities to express opinions of provider behaviors, I do not believe that encounter volume is an important control.

whites to seek primary care, where females are more predominant providers than in specialty groups (Byrd & Clayton 2000).

Within the individual controls, the socioeconomic and other demographic characteristics of the two racial groups are evident. Whites are on average older (45.2 years versus 43.6 years for blacks). A larger proportion of males exist in the white sample than in the black sample (44% black males versus 48% white males). Whites (34%) are much more likely to consider themselves Hispanic than blacks (3%)[34]. Further, whites are much more likely than blacks to be married (55% of whites versus 31% of black) as well as employed (65% white versus 59% black). There are no significant differences between blacks and whites in family size, with both groups reporting on average 3.5 members per household unit. The racial groups vary in terms of geography with the majority of blacks (60%) living in the South and whites being more evenly distributed throughout the country. Further, blacks are slightly more likely to live in urban areas (85%) than whites (81%). The statistically significant socioeconomic and demographic differences between the two racial groups support their inclusion in my model. These findings confirm theory about the differences between whites and blacks in socioeconomic position that represents one of the key dimensions of disparities in health (Murray et al., 2006, ver Ploeg & Perrin, 2004)[35]. Using the MEPS weighting process I am able to effectively build regression models that account for oversampling and differences between the sample and population demographic and socioeconomic characteristics.

[34] Note that the difference is due to sampling design that is adjusted in the regression analysis using complex weighting variables.

[35] ver Ploeg and Perrin (2004) and others have embraced four dimensions of disparities in health as race, ethnicity, socioeconomic position and acculturation into U.S. society, including proficiency in the English language.

Blacks are as likely as whites to have insurance coverage at any point in time (85% of blacks versus 83% of whites) but their coverage is more likely to be public insurance (40% of blacks versus 24% of whites). This study primarily addresses quality issues with respect to health care. Given the research findings that providers respond to insurance coverage and insurance rules when treating patients, the insurance coverage by type is considered the more important variable for this analysis and will be included in the regression models (Cohen, 2003, Edwards et al., 2002).

It is widely accepted that blacks tend to be more chronically ill and disabled than whites. That is the substance of public concern about health disparities (House, 2002, IOM, 2001, NHDR, 2006, White-Means & Rubin, 2004). In contrast to incidence of disease, blacks seem to have better coping mechanisms than whites to address their chronic illnesses, health problems and disabilities (James, 2002, Haritatos, Mahalingam & James, 2007). In my study I make an important distinction between having a chronic illness, which I cannot effectively measure with this data set, and a patient reporting their physical and functional limitations which I can measure through MEPS (IOM, 2002). My results show that blacks and whites report similar functional limitations (23% of blacks and 24% of whites). This comparable result between blacks and whites may be the balance between incidence of chronic disease and disabilities and coping. Several studies have demonstrated that even when controlling for race, the incidence of physical and functional limitations is a justified and important proxy for chronic illness and disabilities that affect when persons seek care, how they respond to prescribed interventions and how the intervention choices

and health outcomes might be affected by provider-patient relationships (Deeg & Kriegsman, 2003, Hays, Schoenfeld & Blazer 1996, Murato et al., 2006).

Racial differences in the rival theories of class and health literacy show remarkable but not unexpected class[36] and health literacy differences between blacks and whites. Blacks are more likely to be poor than whites (40% of blacks versus 24% of whites). Blacks have fewer years of educational attainment on average (9.9 years for blacks and 10.5 years for whites). Blacks are more likely than whites to be of moderate health literacy (46% of blacks versus 40% of whites) but less likely than whites to be of high health literacy (24% of blacks versus 32% of whites). Whites are more likely to be near health literacy (finishing grades 6, 7 or 8) than blacks (12% of whites versus 10% of blacks).

The descriptive statistics for my research indicate that the prior findings of the complexity of racial disparities in health outcomes are warranted and understandable. There are many racial differences in use of health services and opinions about provider-patient relationships evident in this data set. The challenge for this and any comparable research is finding relevant and meaningful relationships between specific aspects of health care practice and health disparities (Satel & Klick, 2005). PCC has appeal as a public policy strategy because it is better quality care. Given the disproportionate number of blacks with publicly-funded insurance coverage, this research should provide guidance on opportunities for public policy development with respect to PCC to address reduction in disparities.

[36] Recalling the difference between class and socioeconomic position described in Chapter 2, class represents family position in terms of relationship to poverty level and socioeconomic position describes individual characteristics such as education and employment.

My focus is on the high expectations for patient-centered care as an aspect of quality care to reduce racial disparities in health outcomes. To understand the impact of PCC on racial disparities in health requires a better understanding of the characteristics of persons, regardless of race, who experience PCC. Table 5.2 below shows which of the variables in my models are significantly correlated with PCC as a score and PCC in its component parts.

Table 5.2. Correlations between Individual Characteristics and PCC

	PCC Score
Health Status	0.49
Black	0.01
Age	0.10
Male	
Hispanic	-0.05
Married	0.04
Employed	
Family Size	-0.02
Northeast	
Midweast	0.02
South	
West	-0.04
Lives in MSA	
Physical and Functional Limitations	-0.06
Private Health Insurance	
Public Health Insurance	
Uninsured	-0.10
White Provider Concordance	
Black Provider Concordance	
Gender Concordance	
Class	0.76
Health Literacy	0.39
Notes:	
Analytic weights considered	
Only p<.05 presented.	

Results from this correlation analysis show that people who are more likely to experience PCC also report better health status, are black, are older, married, are living in the Midwest, have higher family income and better education. Persons less likely to experience PCC also report poorer health status, are Hispanic, have smaller families, live in the West, have physical and functional limitations and are uninsured. It is not conclusive but this preliminary analysis suggests that PCC is reduced when patients have English literacy challenges (e.g. they are Hispanic), less family support, physical and functional challenges, and irregular access to the health care system because they are uninsured. Blacks appear to be experiencing more PCC than whites. Thus the strategy to reduce health disparities may not be to provide more PCC for blacks. Blacks may be receiving more PCC than whites but with little positive impact on self-reported health status compared to whites. Therefore PCC does not necessarily predict better health status for blacks. Other confounding factors such and class and literacy may be more important for understanding the relationship between PCC and racial disparities in health.

5.2 Overview of the Regression Models

The sampling design of the MEPS data set is complex, but the complexity can be addressed to provide effective regression analysis with weighting provided by MEPS and modeling techniques using STATA (Cohen, 2002). I use regression models to examine the research question of the relationship between PCC and racial disparities in health. Specifically, if blacks and whites do not differ in the impact of their perceptions of PCC on health status, then adding more PCC through incentives and other policy initiatives will not likely reduce the black-white health status gap.

But if blacks and whites differ on receipt of PCC, health then disparities might be explained by PCC.

I begin with regression models that analyze racial disparities in health without PCC (Model 1), use a race dummy variable and the PCC score variable to analyze PCC impact on health (Model 2) and use a black-PCC score interaction term (Model 2) to analyze the impact of black-white differences in PCC on health. These first three models provide the most summary information. If the race dummy variable in Model 1 is statistically significant, then race affects health status, controlling for the effect of the other independent variables (ignoring PCC as a predictor for the moment). If the race dummy variable is significant in Model 2, then race affects health status controlling for patient-centered care. If the race-PCC score interaction term in Model 3 is significant, then black-white differences in PCC affects health status for otherwise comparable blacks and whites.

Finally, I use models stratified by class (Models 4 and 4A) and then by health literacy (Models 5 and 5A) to determine whether black-white differences in PCC in general and PCC component parts vary by class and health literacy. Class and health literacy have been offered as the key rival theories of the impact of health care practice on racial disparities in health. This stratification strategy is presented to understand whether racially disparate factors or variables found to be significant and in a certain direction (positive or negative) in the data that is not stratified are still significant and of the same direction in the stratified data set. The stratification strategy is also designed to identify components of PCC that may vary by class and health literacy so that public policy recommendations can be better focused for

certain at risk groups especially the poor, less educated and those who use English as a second language (Kaplan et al., 1995, Weech-Maldonado et al., 2001, 2004).

The regression approach used in all analyses is ordered logistic regression (ordered logit or OLOGIT) in STATA. This approach addresses the structure of the dependent variable, self-rated health, where the response categories are ranked poor to excellent, but the differences between the five categories are not known. In all tables summarizing the regressions I present log-odds of the independent variables and their associated likelihood of levels of self-rated health status. A summary of the regression models and their relationship to hypotheses for this study are shown in Table 5.3 below.

Table 5.3. Relationship of Hypotheses to Regression Models

Hypothesis	Regression Model	Description
H_1 : Racial disparities in self-reported health status continue to exist.	Model 1	Race Dummy with no PCC Variable
H_2 : When patients receive patient-centered care, their self-reported health status improves.	Model 2	Race Dummy with PCC Score Variable
H_3 : Black-white differences in patient-centered care in general does not affect health status.	Model 3	Black-PCC Score Interaction Term
H_4 : Higher classes benefit more from patient-centered care than lower classes.	Model 4	Stratified by Class: No Interaction Terms
H_{4a} : Blacks and whites in the higher classes similarly benefit from their experiences with PCC more than blacks and whites in the lower classes.	Models 4A	Stratified by Class: Black-PCC Score Interaction Terms
H_5 : Higher health literacy groups benefit more from patient-centered care than lower health literacy groups.	Model 5	Stratified by Health Literacy: No Interaction Terms
H_{5a} : Blacks and whites in the higher health literacy groups similarly benefit more from their experiences with PCC than blacks and whites in the lower health literacy groups.	Model 5A	Stratified by Health Literacy: Black-PCC Score Interaction Terms

5.3 Results of the Non-Stratified Analyses

In my study I begin with groups of non-stratified analyses. The first group includes an ordered logit model with no PCC variable (Model 1) and two ordered logit models with a PCC score (Models 2 and 3). In each group with the PCC variable, a model with a race dummy term to measure racial differences in health status controlling for PCC is followed by a model with race-PCC interaction terms to measure the relationship between racial differences in PCC and health status.

5.3.1 Comparing Black and White Health Status with a PCC Score

Table 5.4 below reports the first set of models analyzing the STATA 8 *ologit* results for self-rated health status comparing blacks and whites. Model 1 estimates the effect on health status for the predictor variables without PCC. Model 2 includes a race dummy variable and a PCC score variable. Model 3 includes black interaction terms. Individual socioeconomic characteristics, patient-provider concordance, physical and functional limitations and insurance coverage factors that influence racial disparities in health are evaluated in all three models. For the rival variables, class is measured in categorical form with four values describing the relationship of household income of the respondent to poverty line. Health literacy is measured with a continuous variable, years of education. As described in Chapter 4, a categorical form of this variable was created for the stratified Models (5 and 5A).

Table 5.4. Ordered Logistic Regression of Self-Rated Health Status by Race for Non-Hispanic Black and White Adults Using a PCC Score

Racial Disparities in Health Status									
Variables	Model 1			Model 2			Model 3		
	With Race Dummy - No PCC Variable			Race Dummy with PCC Score Variable			With Black PCC Score Interaction Term		
	Log Odds (Robust Standard Error)			Log Odds (Robust Standard Error)			Log Odds (Robust Standard Error)		
PCC and Race									
Patient Centered Care Score				0.272	(0.037)	***	0.294	(0.040)	
Black	-0.135	(0.082)	**	-0.251	(0.097)	**	0.649	(1.040)	
Interaction Terms									
Black-Patient Centered Care Score							-0.148	(0.105)	
Black-Class (Compared to Poor)									
Near Poor							0.231	(0.263)	
Middle Class							0.250	(0.255)	
High Class							0.153	(0.305)	
Black-Health Literacy - Year of Education							-0.040	(0.038)	
Black-Age of Adults > 18							-0.025	(0.031)	
Black-Age Squared							0.000	(0.000)	
Black-Male							0.226	(0.188)	
Black-Hispanic							-0.201	(0.692)	
Black-Married							-0.112	(0.216)	
Black-Employed							-0.014	(0.239)	
Black-Family Size							-0.016	(0.064)	
Black-Region (Compared to Northeast)									
Midwest							0.387	(0.264)	
South							0.049	(0.222)	
West							0.890	(0.367)	**
Black-MSA							-0.226	(0.302)	
Black-Physical and Functional Limitations							-0.399	(0.205)	**
Black-Insurance Type (Compared to Private Insurance)									
Public Insurance							0.270	(0.248)	
Uninsured							0.816	(0.450)	*
Black-White Patient-Provider Race Concordance							-0.302	(0.216)	
Black-Black Patient-Provider Race Concordance							0.796	(0.338)	**
Black-Gender Concordance Provider and Patient							0.123	(0.201)	
Other Factors Affecting Health Status									
Class (Compared to Poor)									
Near Poor	0.231	(0.097)	**	0.231	(0.114)	**	0.206	(0.130)	
Middle Class	0.298	(0.088)	***	0.260	(0.104)	**	0.254	(0.115)	**
High Class	0.708	(0.093)	***	0.681	(0.110)	***	0.671	(0.120)	***
Health Literacy - Years of Education	0.107	(0.010)	***	0.115	(0.012)	***	0.120	(0.013)	***
Age of Adults > 18	-0.098	(0.009)	***	-0.087	(0.011)	***	-0.086	(0.012)	***
Age Squared	0.001	(0.000)	***	0.001	(0.000)	***	0.001	(0.000)	***
Male	0.066	(0.052)		-0.030	(0.061)		-0.057	(0.065)	
Hispanic	-0.072	(0.081)		-0.118	(0.099)		-0.102	(0.100)	
Married	-0.097	(0.065)		-0.062	(0.075)		-0.058	(0.081)	
Employed	0.354	(0.070)	***	0.331	(0.081)	***	0.328	(0.087)	***
Family Size	0.050	(0.021)	**	0.036	(0.025)		0.040	(0.027)	
Region (Compared to Northeast)									
Midwest	0.054	(0.074)		0.069	(0.084)		0.048	(0.089)	
South	-0.008	(0.067)		0.029	(0.077)		0.041	(0.082)	
West	0.005	(0.082)		0.077	(0.095)		0.040	(0.099)	
MSA	0.166	(0.065)	**	0.284	(0.073)	***	0.290	(0.076)	***
Physical and Functional Limitations	-1.324	(0.060)	***	-1.297	(0.068)	***	-1.268	(0.072)	
Insurance Type (Compared to Private Insurance)									
Public Insurance	-0.399	(0.083)	***	-0.342	(0.096)	***	-0.370	(0.105)	***
Uninsured	-0.036	(0.112)		0.082	(0.157)		-0.012	(0.167)	
White Patient-Provider Race Concordance	0.109	(0.073)		0.044	(0.083)		0.074	(0.092)	
Black Patient-Provider Race Concordance	0.040	(0.142)		-0.096	(0.164)		-0.693	(0.249)	***
Gender Concordance Provider and Patient	0.087	(0.063)		0.075	(0.072)		0.057	(0.077)	
Thresholds									
SRH = Poor (1) Threshold	-4.023	(0.282)		-3.473	(0.338)		-3.422	(0.363)	
SRH = Fair (2) Threshold	-2.396	(0.278)		-1.882	(0.336)		-1.823	(0.362)	
SRH = Good (3) Threshold	-0.585	(0.278)		-0.081	(0.337)		-0.013	(0.362)	
SRH = Very Good (4) Threshold	1.049	(0.278)		1.652	(0.338)		1.728	(0.364)	
Chi-square	1543.63			1246.69			1291.30		
Sample Size	7463			5629			5629		

Notes:
Standard errors are given in parentheses
* $p<.10$, ** $p<.05$, *** $p<.01$

The findings of these first three models support the vast majority of the prior research concerning the complexity of black-white differences in health status with respect to demographic and socioeconomic differences between the races. What is unique about my study is the added consideration of the relationship between patient-centered care and self-reported health status. In Model 1 without the PCC score variable, blacks report lower health status than whites, controlling for other factors influencing health (log odds -0.135, $p \leq .05$). However, a host of socioeconomic, demographic and medical factors influence health status as much if not more than race. Higher log odds than for the black variable are noted for physical and functional limitations (log odds=-1.324, $p \leq .01$), class differences (high class differs from poor with log odds= 0.708, $p \leq .01$), employment (log odds=0.354, $p \leq .10$), living in an urban area (log odds=0.166, $p \leq .05$), and having public insurance compared to private insurance (log odds=-0.399, $p \leq .01$). Physical and functional limitations are expected to reduce reports of health status. However, several of the other significant results such as employment, living in an urban area and insurance by type seem symptomatic of access problems in the current health care system.

Ordered logit has a parallel regression assumption, meaning that coefficients that describe the poor health status category versus all other health status categories are equal to the coefficients that describe the fair health status category and all other higher categories. The omnibus Brant test (Brant, 1990, Long & Freese, 2006) reveals violation of this parallel regression assumption (Chi-square = 209.26, p>chi2 = .000). The tests for individual coefficients show that the largest violation of the assumption is for the primary variable black (p>chi2 = 0.019). Thus blacks and whites differ in

health status as a result of varying impact of socioeconomic, access and medical factors by race. A less restrictive generalized ordered logit that allows the coefficient vector of the independent variables to differ for each level of health status was fitted for Models 1 and 2, but with no change in sign or significance of any of the independent variables. Thus ordered logit was used throughout the analysis.

Model 2 expands Model 1 by adding the patient-centered care variable. In the model, patient-centered care does improve health status, but blacks are still at a disadvantage even with comparable PCC to whites (log odds=-.251, $p \leq .05$). With the exception of family size (which had one of the smallest impacts in Model 1 at log odds=0.050), all of the control variables that were significant in the first model are significant in Model 2. Model 3 includes race interaction terms for all variables in Model 2. The result is that black-white differences in PCC do not have a significant effect on health status (log odds=-148, $p \geq .10$). However, other interesting black-white differences affect health status. Blacks have lower health status than whites with comparable physical and functional limitations (log odds=-0.226, $p \leq .05$) and uninsured blacks have better health status than uninsured whites relative to persons with private insurance (log odds=0.816, $p \leq .10$).[37] This analysis suggests that black-white differences in health status remain prevalent and that even with comparable PCC scores blacks report lower health status than whites. However, black-white differences in PCC may not have a significant effect on overall health status.

There is some evidence that dramatic changes in PCC may affect black health status differently than white health status. Table 5.5 below shows the results of the

[37] Though difficult to interpret in terms of the amount of variance explained by the predictor variables, it is important to note that McFadden's pseudo R^2 is consistent for all three models ranging from 0.095 to 0.101.

STATA *prchange/prvalue* analysis. This analysis presents black-white differences in the affect of increasing PCC from the minimum (never) to the maximum (always) on changes in categories of health status.

Table 5.5: Predicted Changes in Health Status Categories as PCC Moves from "Never" to "Always" on Composite of Measured Dimensions.

	Self-Rated Health (SRH)	
	Black	White
	% Change Minimum to Maximum PCC	
Composite PCC		
Average Change All Categories	10.38%	8.99%
SRH = Poor (1)	-5.26%	-8.01%
SRH = Fair (2)	-12.41%	-14.42%
SRH = Good (3)	-8.27%	-0.01%
SRH = Very Good (4)	15.32%	15.33%
SRH = Excellent (5)	10.62%	7.15%

Notes:
PCC is the NHDR composite score of responses to four components ranging from a low of never on all components to the highest score of always on all components
PCC components are coded 1 = never, 2 = sometimes, 3 = usually and 4 = always

Table 5.5 shows that if they always receive PCC versus never receive PCC then blacks experience an overall increase in health status categories of 10% compared to the increase of whites at 9%. This is not a remarkable racial difference. However, an important shift in the mid-range of health status is more noticeable for blacks than whites experiencing dramatic improvements in PCC. Blacks always experiencing PCC versus never experiencing PCC would decrease by 8% their likelihood of reporting good health status in lieu of higher categories. In contrast whites always experiencing PCC versus never experiencing PCC would decrease by less than 1% their likelihood of reporting good health status in lieu of higher categories.

To stop at this level of analysis could be misleading about the impact of PCC on racial disparities in health. The results of Models 3 and 3 indicate that PCC as

measured in score form positively impacts health status, that even with comparable PCC blacks report lower health status than whites, and that black-white differences in PCC as measured do not affect health status. However, the individual measures that make up this composite only represent a portion of the PCC concept. Additional information of which dimensions of PCC are being measured is important to understanding the results.

5.3.2 Summary of Non-stratified Models

To summarize the non-stratified models; a) PCC in general seems to positively affect self-rated health; b) blacks have lower reports of health status than comparable whites controlling for level of PCC; c) blacks do not benefit from PCC with respect to reduced disparities in health status, and d) the components of PCC as measured in the National Health Disparities Report are likely measuring the same dimensions of PCC and not other critical dimensions.

5.4 Results of the Class Stratification Analyses

I continue the analysis with stratification of the models by class, categorized by the relationship of family income to poverty level, using the PCC score. Only the relationship between variables of primary interest including race, PCC and the counter rival theory health literacy and self-rated health are reported. The other independent variables are controls in the stratification models and yield no remarkable variations from the non-stratified models.

5.4.1 Comparing Black and White Health Status within Class Categories Using a PCC Score

Table 5.6 (Models 4 and 4A) below presents the results of black-white differences in the impact of PCC score on self-rated health status stratified by class.

Evidence from theory and the results of models 1 through 3, where it was shown that socioeconomic differences between people contributes as much or more to health disparities than race, supports the need for this level of analysis.

Table 5.6. Ordered Logistic Regression of Self-Rated Health Status by Class and Race for Non-Hispanic Black and White Adults Using PCC Score

Racial Disparities in Health Status by Class												
Variables	Model 4											
	By Class No Black Interaction Terms											
	Poor			Near Poor			Middle Income			High Income		
	Log Odds											
PCC and Race												
Patient Centered Care Score	0.241	(0.086)	***	0.190	(0.095)	**	0.318	(0.068)	***	0.275	(0.061)	***
Black	-0.068	(0.186)		-0.342	(0.210)	*	-0.231	(0.167)		-0.306	(0.198)	
Rival Theories												
Health Literacy (Yrs of Education)	0.114	(0.026)	***	0.078	(0.029)	***	0.102	(0.023)	***	0.140	(0.020)	***
Chi-square	233.74			178.29			270.38			295.24		
Sample Size	964			733			1648			2284		

Variables	Model 4A											
	By Class with Black-PCC Interaction Term											
	Poor			Near Poor			Middle Income			High Income		
	Log Odds											
PCC and Race												
Black-Patient Centered Care Score	-0.071	(0.164)		0.177	(0.294)		-0.283	(0.167)	*	-0.083	(0.258)	
Rival Theories												
Black-Health Literacy (Yrs of Education)	-0.209	(0.058)	***	-0.068	(0.073)		-0.002	(0.063)		0.170	(0.080)	**
Chi-square	266.64			221.47			316.07			350.17		
Sample Size	964			733			1648			2284		

Notes:
Controls include age, male, Hispanic, married, employed,
family size, region, MSA, physical and functional limitations,
insurance type and patient provider concordance
Standard errors are given in parentheses
* *p*<.10, ** p<.05, *** p<.01

Results from this regression show that patient-centered has a positive impact on health status across all categories. Black-white differences in health status are relatively constant across all class categories. Only minor differences between blacks and whites in the near poor category are evident (log odds= -0.342, $p \leq .10$), with blacks being at a disadvantage to whites, controlling for PCC and other demographic, socioeconomic and health access and medical condition variables. Similarly, the impact of black-white differences in PCC on self-reported health status does not differ dramatically between class groups. The lack of variation could signal two interpretations. Either PCC has little impact on racial disparities in health or the four components that make up the PCC composite are not measuring the missing dimensions of PCC (coordination of care, family involvement, team-based care) that reduce health disparities.

5.5 Results of the Health Literacy Stratification Model

I continue the analysis with stratification of the models by health literacy using only the PCC score. In prior models we have learned that health literacy may be related to some racial and PCC differences in health. Health literacy as measured in years of education has been positive and significant in all prior models, indicating that higher levels of reading and comprehension predict better health status regardless of demographic, socioeconomic, health care access and medical condition variables. Coefficients on health literacy in the regression models controlling for black-white differences in health status and the impact of black-white differences in PCC have been consistently positively and significant. Prior research has shown that there is a strong relationship between low health literacy and poor self-rated health but studies

have been limited primarily to small sample sizes at selected health care sites (Baker, Parker et al., 1997). Because of lack of direct evidence, even less is known about the relationship between health literacy and health disparities (Howard et al., 2006, Sentell & Halpin, 2006). The purpose of this part of the analysis is to continue to explore health literacy as a rival theory to PCC as an explanation of racial disparities in health.

5.5.1 Comparing Black and White Health Status within Literacy Categories Using a PCC Score

Table 5.7 (Models 5 and 5A) below shows black-white differences in the impact of PCC as a score variable on self-rated health status for persons with different levels of health literacy.

Table 5.7. Ordered Logistic Regression of Self-Rated Health Status by Health Literacy and Race for Non-Hispanic Black and White Adults Using PCC Score

Racial Disparities in Health Status by Health Literacy

Variables	Model 5 By Health Literacy No Black Interaction Terms								
	Low			Near			Moderate			High		
	Log Odds								
PCC and Race									
Patient Centered Care Score	0.263	(0.237)		0.033	(0.155)		0.249	(0.054)	***	0.307	(0.057)	***
Black	-0.093	(0.516)		0.610	(0.425)		-0.300	(0.138)	**	-0.309	(0.148)	**
Rival Theories									
Class (Compared to Poor)									
Near Poor	0.839	(0.401)	**	0.521	(0.347)		0.316	(0.151)	**	-0.061	(0.224)	
Middle Class	0.240	(0.611)		0.627	(0.394)	*	0.405	(0.142)	***	0.031	(0.179)	
High Class	1.830	(0.906)	**	0.414	(0.500)		0.798	(0.155)	***	0.537	(0.177)	***
Chi-square	70.20			56.90			489.00			416.24		
Sample Size	195			300			2481			2653		

Variables	Model 5A By Health Literacy with Black-PCC Interaction Term								
	Low			Near			Moderate			High		
	Log Odds								
PCC and Race									
Black-Patient Centered Care Score	2.987	(0.617)	***	-0.316	(0.555)		-0.127	(0.132)		-0.064	(0.183)	
Rival Theories									
Black-Class (Compared to Poor)									
Near Poor	-1.129	(1.330)		-1.970	(1.006)	**	0.086	(0.341)		1.137	(0.517)	**
Middle Class	-20.070	(11.840)	*	-1.386	(1.626)		-0.101	(0.342)		1.042	(0.457)	**
High Class	5.444	(3.240)	*	0.131	(1.365)		-0.816	(0.436)	*	1.290	(0.518)	***
Chi-square	…			…			551.77			533.18		
Sample Size	195			300			2481			2653		

Notes:
Controls include age, male, Hispanic, married, employed,
family size, region, MSA, physical and functional limitations,
insurance type and patient provider concordance
Standard errors are given in parentheses
* *p*<.10, ** p<.05, *** p<.01

In summary this table suggests that recent research on the relationship between health literacy and patient-provider communication (Duggan, 2006, Parker, 2000) may offer some promise for developing strategies and policies to use PCC to improve health status. PCC appears to improve health status in higher literacy groups better than in lower literacy groups. However black-white differences in health status, controlling for black-white differences in PCC are only significant in the low health literacy category. Given the very small sample size, MEPS data may not be the best source for analysis used to target PCC solutions based on literacy. At the very least, this analysis suggests that PCC and health literacy may be closely related and may need to be jointly considered in policy development for reducing health disparities.

5.6 Summary

The results in these tables indicate unique racial, class and health literacy patterns for the relationship between PCC and health status. PCC was addressed as a composite score to facilitate the analysis and discussion. However, until such time as a valid measure of PCC is developed in MEPS, it is important to consider which dimensions of PCC are measured in the data set and used in the National Health Disparities Report to define “patient-centeredness”. Stratification by class and health literacy reveals that knowledge resources or literacy may be as important as financial resources or class in developing effective PCC strategies. Yet PCC impacts vary little by race within class and health literacy groups.

Perhaps training of providers, including developing cultural competency should address literacy first and foremost (Sarto, 2005, Zambrana et al., 2004), and

then secondarily cultural sensitivity towards racism, racial bias and interracial trust as perceived by the patient (Betancourt, 2006, Carlson & Chamberlain, 2004, Horner et al., 2004, Perloff et al., 2006). This finding supports ver Ploeg and Perrin's (2004) contention that English language proficiency (meaning both patient and provider are speaking the same language and that the provider recognizes and accommodates the patient's literacy level) is an important dimension for understanding disparities in health status.

CHAPTER 6: CONCLUSION

Health care policy makers and providers struggle to address stubborn racial disparities in health outcomes. Therefore it is not surprising to observe a rush to judgment on strategies that make sense logically to produce less disparate health care practices. The current literatures in health disparities, health care quality and provider-patient relationships share a common theme. That is that patient-centered care or a working alliance between patient and provider should reduce racial disparities in health outcomes because it is better quality care. Given equal access, better quality care by definition is less disparate care. High quality care addresses the individual needs of the patient, regardless of their race or ethnicity. High quality care is equitable and that is paramount to treatment decisions that reduce racial disparities in health (see for example AHRQ, 2006, Thiel de Boncanegra & Ganey, 2004).

In this thesis various literature bases and research approaches addressing racial disparities in health outcomes were examined to determine theories and strategies to test the relationship between patient-centered care and racial disparities in health. In the literature review a logical thread emerged – because patient-centered care is better quality care and because patient-centered care at least on the surface is designed to counteract the traditionally biased and stereotypical approaches to clinical decision-making, then patient-centered care practices must reduce racial disparities in health. My study adopted the challenge of empirically testing the theory that racial disparities in health are related to patient-centered care practices as observed by the patient, using the conceptualization and measurement of PCC considered fundamental to policy planning.

Despite the popularity of focusing on quality health care practice strategies to address racial disparities in health outcomes, there are rival theories that have emerged. The first rival theory suggests that social class is equally as divisive as race in determining health status (see for example Geiger 1996, Kawachi et al., 2005). The second rival theory is that racial and ethnic differences, especially in health care and health outcomes, are most pronounced when they intersect with health literacy differences (see for example Sudore et al., 2006, Zambrana et al., 2004).

To test the theory that patient-centered care relates to racial disparities in health, a series of models were developed to test black-white differences in PCC as a generic health care practice modality and black-white differences in the component parts of PCC. The data set represents one of the key sources for the past and current National Healthcare Disparities Report (2006); the Medical Expenditure Panel Survey is a significant investment of the Agency for Healthcare Research and Quality and is expected to be a source for reports like NHDR for the foreseeable future. PCC is defined by NHDR as a composite of its four key components including the provider listening to the patient, explaining to the patient, showing respect to the patient and spending adequate time with the patient. Results and findings from this research effort are summarized in this chapter. Following the summary, limitations will be discussed. Finally recommendations will be made for both policy development and future studies in this area.

6.1 Review of Results and Findings

This study used a quantitative methods approach composed of three parts. Part one involved testing the plausibility of a patient-centered care solution to racial

disparities in health outcomes. An index or score of PCC was created using factor analysis. Then the index and its components were tested for black-white differences using black interaction terms. The second and third parts involved testing the same models with and without black interaction terms stratified by the rival theories of class and health literacy respectively. Expectations in the form of hypotheses associated with seven models were tested. The hypotheses from theory development predicted in general that:

- patient-centered care does not in general improve health status for blacks as compared to whites
- class matters for whether patient-centered care affects racial disparities in health
- health literacy matters for whether patient-centered care affects racial disparities in health

My findings indicate that PCC as a strategy for reducing health status disparities for blacks should be addressed cautiously, with skepticism and if implemented for this purpose, with several approaches. In general the benefits for PCC and reduced disparities in health may be overrated at least as PCC is currently measured. The tables addressing Models 1 through 5 present more than 20 possible PCC and health status relationships by race, yet using this construction of PCC I was unable to find significant black-white differences in the impact of PCC on health status, with controls and stratifying by class and health literacy.

These findings support the critical importance of avoiding knee-jerk policies as strategies to reduce racial disparities in health. If PCC is to be implemented as a better health care, then attention needs to be paid as to how it is defined and measured for implementation. Even proponents of patient-centered care, including Davis and his colleagues, agree that the concept needs much more testing before it is embraced

in new reimbursement models for providers (Davis et al., 2005). Others such as Mathers et al., (2006) have found that patient-centered care is currently not adequately conceptualized with respect to its usefulness within medical disciplines such as radiology. Despite the lack of defensible and conclusive results of black-white differences in PCC as it relates to health status, it appears that there should be a continuing an emphasis on health literacy to make PCC more effective as a racial disparities reduction strategy. If health information and communication is typically geared toward those with greater than 8th grade reading level, then blacks could report higher health status if patient-centered care practices that involve explanations of treatment options and alternatives are geared toward lower levels of education and comprehension. One of my most important findings is that PCC as measured by MEPS and the NHDR may be missing the most important dimensions that affect health disparities (Ellers, 1993). Policies that promote and incentivize PCC as measured in MEPS may not be measuring PCC at all. As a result, and typical for many well-intentioned but poorly research health policies, encouraging PCC may have the unintended effect of increasing racial disparities in health, especially if providers are motivated to provide less care for persons who are challenged to effectively participate in deciding their treatment options or have challenges in navigating the complicated U.S. health care system.

6.2 Limitations of the Research

The primary limitation of my study relates to the validation and conceptualization of PCC as I measure it here. Cronin (2004) demonstrates that even the nine most commonly used frameworks for PCC have 50 dimensions. Their

source is the Picker-Commonwealth Institute for Patient Centered Care (Gerteis et al., 1993), but even a common source has done little to improve PCC conceptualization. I use the four measures in the National Healthcare Disparities Report (2006) considered "patient-centeredness" aspects of quality of care as a contributor to health disparities. I make no claims that I have effectively fully captured PCC, but I do claim that I have generated findings that address the political definition of PCC per AHRQ and which aspects of PCC will receive public policy attention.

My study is a multi-model quantitative analysis with a single data source demonstrated to be the best offering for generalizable empirical studies of racial disparities in health care practice. This assessment is based on the investment of federal state and local agencies in funding, supporting and using the MEPS data set for public policy development and program initiatives. The data set has weighting variables and thorough documentation is provided concerning when and how the data is applicable to studies of racial disparities. The data set is amenable to analysis with STATA statistical software where weighting variables can be used in regression models to address oversampling and complex panel survey design. The hypotheses for my study are based on thorough review of multiple theories from three main groups of literature (racial disparities, health care quality and provider-patient relationships) that suggest that patient-centered care can be an effective means for reducing racial disparities in health outcomes. However certain limitations to this study exist.

Due to the stratification needed to test important rival theories, some of the models had low numbers of responses available for analysis. For example, there were

only 195 responses (of over 34,000 total responses) available for analysis in the low literacy group for the MEPS data set. Testing the option of pooling MEPS HC data over multiple years would make sense for future research focused on more specific research questions concerning the effects of PCC components on class or literacy groups. However, only two years of data are available for pooling for this type of study since race and ethnicity survey questions were revised starting in 2002; race and ethnicity data from prior years of MEPS is not directly comparable (AHRQ, 2004, p.C-24)

Related to the data pooling issue, I used the MEPS public use data set which has limited geographic and respondent identifier information. A more complete MEPS data set is available. The more complete data allows for more records and variables as well as better linking of respondents between panels to produce a richer and more complete data set. Use of the more complete data requires working on site at the AHRQ data center in Washington, DC, with an associated and significant access cost[38]. Available resources and time prevented that option. The use of the larger data set would provide better understanding of important contextual issues such as local geography and household relationships and would allow use of more sophisticated hierarchical level modeling techniques. Hierarchical modeling techniques that account for local demographic and socioeconomic conditions could

[38] The public use data for MEPS has all variables needed for a contextual study except geographic coding which must be accessed directly through the AHRQ Data Center. The overriding consideration of any study of contextual issues is the formation of ecologically meaningful community clusters and geographic boundaries (Sampson, Raudenbush et al., 1997). This requires access to the confidential and non-public data on-site in Rockville, Maryland. Working at the AHRQ Data Center has other benefits in that it provides the opportunity to merge the MEPS data with other data sources including Census data and administrative data with race, class and education coding. However, working at the Data Center is severely limiting and resource intensive in that no data can leave the Data Center, only output.

moderate or at least better explain some of the social capital, class and health literacy impacts on racial disparities in health status and health outcomes[39] (Pearl et al., 2002, Pearce & Smith, 2003, Putnam, 2000, Thisted, 2003, Woolcock, 2000, Ziersch, 2005).

Although limitations to my research exist and more refined research designs might provide better understanding of PCC impacts on racial disparities in health outcomes, the research design and multiple regression models used in my study prove sufficient to address the hypotheses proposed and significantly contribute to the existing literature.

6.3 Policy Implications and Recommendations

My research shows that PCC as a general provider practice is unlikely to produce reduced racial disparities in health; the mostly inconsequential relationship between black-white differences in PCC and health status (determined by the black-PCC interaction terms) means that PCC is unlikely to have an impact on health disparities. Further, if PCC is financially incentivized it could actually increase disparities for certain at-risk income and literacy groups. To improve quality of care PCC must be generally understood and applied according to literacy level primarily and class secondarily. Thus, the major policy changes with respect to effective implementation of PCC are four-fold. First, what is the accepted definition of PCC and its dimensions and how can PCC be effectively measured for policy analysis and reports? Second, given that PCC is designed to address racial disparities in health and class and literacy affect health outcomes, then how do providers definitively know the race, class and literacy level of the patient? Third, can providers effectively

[39] Health disparities are considered primarily state and local policy issues (Putnam 2001). For example, Massachusetts is considering establishing a Center for the Elimination of Health Disparities.

incorporate the information about patient race, class and literacy into their practice of PCC, recognizing that race, class and literacy groups respond differently to PCC and given that time constraints for provider-patient communication are severely limited in the current health care system? Fourth, how do providers differentially implement PCC to reduce disparities without raising difficult issues associated with claims of bias, prejudice, selective treatment and racial profiling?

6.3.1 Tracking Race, Class and Literacy to Reduce Racial Disparities in Health Outcomes

Most of the policy analysis concerning tracking individual race, class and literacy designations addresses research and not patient care practice per se. Further, even when demographics and socioeconomic position are addressed in health care data for analyzing patient care practice, socioeconomic position is rarely disaggregated into specific components such as education and household income in relationship to poverty as needed to address differential effects of PCC (ver Ploeg, 2004, p. 186). The studies of effective data collection concerning race, class and literacy indicate that the administrative data sets or those that are compiled by provider systems or insurance groups (as defined in Duncan et al., 2002) rarely effectively address these indicators of race and socioeconomic status of the individual. If the data is not available to the provider and then the insurer, then surely it is unlikely to be consistently considered in patient care practice. That also means that data is not available to help form and craft medical education strategies. Basically doctors are in the dark on PCC and what to do about it. Few practice it but all providers are facing impending policy changes that incentivize for PCC. It is incumbent on provider associations to produce effective research, training and

continuing education to promote provider access to information about their patients' perceptions of their care since patient perceptions will drive PCC financial incentives and programming.

To act effectively on PCC development to improve health quality and potentially reduce racial disparities in health means that providers as well as researchers need access to data with current race and specific socioeconomic indicators. The policy challenge is how to effectively report results of data analysis and how to link data sets that are currently being compiled at the federal, state, local and provider system level without breaching the sanctity of patient privacy (Bierman et al., 2002). Krieger et al., (1997) describe the underutilization of state collected data on education, employment and income to better inform providers. McGee et al., (1999) describe the severe disconnect between rich consumer opinion data collection and production of effective reports for providers. Williams (1997) confirms that there are missed opportunities with respect to making socioeconomic position data available to provider systems. The technology for data set linkage and reporting exists. Thus a major policy issue is addressing privacy protection so that current and developing data sets can be linked to give providers the most accurate data concerning their patients at the current heath care encounter. A companion issue is funding research of available, though admittedly complex, data that can generate useful reports. The National Health Plan Learning Collaborative to Reduce Disparities and Improve Quality is an example of private health efforts to improve the collections and analysis of data concerning race and ethnicity and health care practice (AHRQ, 2006). While lessons can be learned from this effort by private health plans,

greater coordination of federal, state, and local agencies and private providers is needed to produce effective data sets that serve the patient and provider without compromising patient privacy.

6.3.2 Incorporating Understanding of Race, Class and Literacy into Patient Care Practice

The practice of medicine is severely limited by time constraints. Patients derail physicians from their practice methodologies when they present with too many socially complex problems such as language barriers, literacy issues and family concerns. Collecting rich information about patients is considered a problem that impacts decision-making because of perceived time constraints (Smedley et al., 2003, p. 601). Clearly, the answer is giving providers better information on patient perspectives of cultural sensitivity in medical education programs to train providers and in continuing education for practitioners. However simple as this sounds in concept, prior studies of cultural competency training have shown that it is difficult to achieve (Horowitz et al., 2000, Perloff et al., 2006).

The practice of medicine is also complicated by communication problems inherent with a provider group that is not usually representative of the patients they serve (Honeycutt & Stoneburner, 2003). Black patients and their providers are not typically racially or ethnically concordant. Quantitative and qualitative research shows that providers themselves want better defined, designed and tested strategies for bridging racial and ethnic health disparities (Dreachslin et al., 2002).

The Institute of Medicine's recommended Pay-for-Performance program that involves financial incentives for providers who demonstrate general patient-centered care practices is not a simple answer for health disparities (DoBias, 2006). Pay-for-

Performance initiatives in general are complicated by difficulties in performance measurement (Scanlon et al., 2001). Training comes before incentives and improvement in medical education to affect provider understanding of cultural sensitivity and better provider-patient encounters take priority over reorganizing reimbursement policies (Brotherton et al., 2004, Kagawa-Singer & Kassim-Lakha, 2003).

My study suggests that in recognition that health care practice will always be time limited in most respects, providers need to be trained to quickly assess health literacy at the very least if PCC is to be used. Weiss et al., (2005) have demonstrated that providers can (but rarely do) use quick assessments of health literacy that are as effective for clinical decision-making as the time-consuming and arduous Test of Functional Health Literacy in Adults (TOFHLA). The case has been made for providers reducing reading levels required for understanding treatment options (Williams et al., 2002). Hospitals are required by federal law to ensure that persons with limited English proficiency can effectively participate in their health care decision (Hamilton, 2004). However, this set of requirements designed to address regulations related to the civil rights and discrimination statues and regulations do not necessarily compel providers to address comprehension problems of all patients.

6.3.3 Is Bias Actually Good for Reducing Racial Disparities in Health?

Stereotyping is an essential component of health practice. Effective clinical decision-making by providers is based on “priors” and “heuristics”, or a provider’s recognition of the relationship of symptoms of the current patient to the provider’s prior experiences or knowledge of the literature (Smedley et al., 2003, p. 167). Thus,

not all provider bias or provider-directed care is bad and in fact, use of "priors" may better allow a provider to identify possible diagnosis and treatment options if they have adequate understanding of a patient's individual circumstances and characteristics. This is the foundation of evidence-based medicine. Burgess et al., (2006) have started a line of inquiry concerning differences between goal-modified stereotyping and automatic stereotyping with the former being considered unintentional bias and the latter being considered intentional bias. This type of research is considered critical for helping providers (through medical training and continuing education) understand how to use rich information about patient race, class and literacy in conjunction "priors" and stereotyping to result in more effective clinical decisions. Perhaps as Bensing (2000) suggests, the quality of medical care will improve when the benefits of both patient-centered care and evidence-based care paradigms are recognized and integrated into provider practice.

6.4 Summary

In summary, PCC is shown to improve health status but its impact on health disparities is more complicated. Accordingly, it is incumbent on policy-makers to understand what PCC means in terms of specific health care practices and to address the linking of data sources to give providers the best, most accurate and current information about patient demographic and socioeconomic position if PCC is to become effective as a strategy to reduce racial disparities in health (Geppert et al., 2004). It is also incumbent on provider associations to produce effective training and continuing education to promote provider cultural competency and sensitivity to their patients' unique circumstances. Finally, the U.S. health care system may be rich with

technology but it lacks one significant resource and that is time spent between provider and patient to understand and then negotiate diagnoses and treatment alternatives (Carter et al., 2003, Gross et al., 1998). The results of the most intricate Magnetic Resonance Imaging scan or blood chemistry panel are only cost-justified if the information is useful to clinical decision-making for a specific patient given their current demographic and socioeconomic circumstances and their understanding of the possible risks and benefits.

My study shows that PCC holds promise for reduced racial disparities in health but only in an environment where both provider and patient have the knowledge, skills and abilities to benefit from provider-patient communication and negotiation. However, the rush to judgment such as implementation of financial incentives for PCC to reduce health disparities as currently addressed in public data sets and policy reports, is not justified.

APPENDIX A: LIST OF QUALITY CORE MEASURES NHDR, 2006

Core Quality Measure	Measured with MEPS[40]?
Colorectal cancer incidence per 100,000 men and women age 50 and over diagnosed at advanced stage	No
Deaths per 100,000 persons due to colorectal cancer	No
Adults age 40 and over with diabetes who had all three exams in last year: hemoglobin A1c test, retinal eye examination, and foot examination	***Yes***
Hospital admissions for lower extremity amputations in patients with diabetes	No
Dialysis patients registered on the waiting list for transplantation	No
Hemodialysis patients with adequate dialysis	No
Smokers receiving advice to quit smoking	***Yes***
Obese adults who were given advice about exercise	***Yes***
Hospital care for heart attack patients	No
Hospital care for acute heart failure patients	No
Deaths per 1,000 adult admissions with acute myocardial infarction	No
New AIDS cases among persons ages 13 and over	No
Pregnant women receiving prenatal care in first trimester	No
Infant mortality per 1,000 live births, birth weight <1,500 grams	No
Children 19-35 months who received all recommended vaccinations	No
Adolescents (13-15) who received 3 or more doses of hepatitis B vaccine	No
Admissions for pediatric gastroenteritis per 100,000 population age less than 18 years	No
Children age 2-17 who received advice about healthy eating from a doctor or other health provider	***Yes***
Children age 3-6 whose vision was checked by a doctor or other health provider	***Yes***
Deaths due to suicide per 100,000 persons	No
Adults with past year major depressive episode who received treatment for depression	No
Persons age 12 and over who needed treatment for any illicit drug use and who received such treatment at a Specialty facility	No
Persons receiving substance abuse treatment who completed the treatment course	No

[40] Indicates that MEPS has reliable data to measure non-Hispanic black-white differences for this quality indicator.

Core Quality Measure	Measured with MEPS[40]?
People 65 and over who ever received pneumonia vaccination	No
Hospital care for pneumonia patients	No
Antibiotics prescribed at visits with a diagnosis of common cold per 10,000 population	No
Admissions for pediatric asthma per 100,000 population age less than 18 years	No
Tuberculosis (TB) patients who complete a curative course of treatment within 12 months of initiation of treatment	No
Long- stay nursing home residents who were physically restrained	No
High-risk long-stay nursing home residents who have pressure sores	No
Short- stay nursing home residents who have pressure sores	No
Home health care patients who get better at walking or moving around	No
Home health care patients who had to be admitted to the hospital	No
Surgical patients with postoperative pneumonia, urinary tract infection, and/or venous thromboembolic event	No
Surgical patients with appropriate timing of prophylactic antibiotics	No
Patients receiving central venous catheters with bloodstream infection and/or mechanical adverse event	No
Deaths per 1,000 discharges among patients with select complications of care	No
Elderly with at least one prescription for a potentially inappropriate medication	***Yes***
Adults who can sometimes or never get care for illness or injury as soon as wanted	***Yes***
Emergency department visits in which patient left before being seen	No
PATIENT CENTEREDNESS MEASURES: *Adults whose health providers sometimes or never listen carefully, explain things, show respect, and spend enough time with them*	***Yes***
Children whose health providers sometimes or never listen carefully, explain things, show respect, and spend enough time with them	***Yes***

APPENDIX B: DETAILED SUMMARY OF PCC-RELATED LITERATURE

Journal	Year	Author(s)	Title	Cites	% Total Cites
Academic Medicine: Journal of the Association of Medical Colleges	2007	Beach, Rosner et al	Can patient-centered attitudes reduce racial and ethnic disaprities in health?	0	0%
Aging Clinical and Experimental Research	2005	Oster, Smith et al	Functional status and satisfaction with community participation in persons with stroke following medical rehabilitation	5	2%
American Journal of Public Health	2004	Johnson, Roter et al	Patient race/ethnicity and quality of patient-physician communication during medical visits	41	15%
American Journal of Medicine	2002	Stryer & Clancy	Disparities in hospital transfer: Inequities, patient-centered care or both?	0	0%
American Journal of Obstetrics and Gynecology	2002	Hullfish, Bovbjerg et al	Patient-centered goals for pelvic floor dysfunction surgery: What is success and is it achieved?	15	5%
Annals of Allergy Asthma & Immunology	2005	Eisner, Katz et al	Impact of depressive symptoms on adult asthma outcomes	9	3%
Annals of Internal Medicine	2003	Cooper, Roter et al	Patient-centered communication, ratings of care and concordance of patient and physician race	80	29%
Archives of Pediatrics& Adolescent Medicine	2003	Wissow, Larson et al	Longitudinal care improves disclosure of psychosocial information	13	5%
Journal of General Internal Medicine	2005	Rencic & Liles	The relationship between patient race and patients' perceptions of their physicians' cultural competence and patient-centered communication skills	0	0%
Journal of General Internal Medicine	1997	Cooper-Patrick, Powe et al	Identification of patient attitudes and preferences regarding treatment of depression	91	33%
Journal of Nursing Scholarship	2003	Radwin	Cancer patient's demographic characteristics and ratings of patient-centered nursing care	3	1%
Medical Care	2005	Dougherty, Meikle et al	Children's health care in the first National Healthcare Quality Report and the National Healthcare Disparities Report	1	0%
Nursing Research	2004	Lauver, Gross et al	Patient-centered interventions	3	1%
Nursing Research	1995	Minnick, Roberts et al	An analysis of post hospitalization telephone survey data	5	2%
Psychology & Health	2000	Krupat, Yeager et al	Patient role orientations, doctor-patient fit, and visit satisfaction	10	4%
TOTAL				276	100%

REFERENCES

Achat, H., Kawachi, I., Levine, S., Berkey, C., Coakley, E., & Colditz, G. (1998). Social networks, stress and health-related quality of life. *Quality of Life Research, 7*(8), 735.

Adams, J., & White, M. (2006). Is the disease risk associated with good self-reported health constant across the socio-economic spectrum? *Public Health (Elsevier), 120*(1), 70.

Agency for Healthcare Research and Quality. (2003). National healthcare disparities report: Summary. from http://purl.access.gpo.gov/GPO/LPS62301. Accessed 10/31/07.

Agency for Healthcare Research and Quality. (2004). *National healthcare disparities report 2004* (No. AHRQ Publication No. 05-0014). Rockville, MD: Agency for Healthcare Research and Quality.

Agency for Healthcare Research and Quality. (2006a, March 2006). *A decade of advancing patient-centered care: The 10th national CAHPS user group meeting*, Baltimore, MD.

Agency for Healthcare Research and Quality. (2006b). *MEPS HC-089 2004 full year consolidated data file documentation*. Rockville, MD.

Agency for Healthcare Research and Quality. (2006c). *National healthcare disparities report 2006* (No. AHRQ Publication No. 07-0012). Rockville, MD: Agency for Healthcare Research and Quality.

Agre, P., Stieglitz, E., & Milstein, G. (2006). The case for development of a new test of health literacy. *Oncology Nursing Forum, 33*(2), 283.

Ahern, M. M., & Hendryx, M. S. (2003). Social capital and trust in providers. *Social Science & Medicine, 57*(7), 1195-2004.

Aiken, L. H. (2005). Improving quality through nursing. In D. Mechanic, L. B. Rogut, D. C. Colby & J. R. Knickman (Eds.), *Policy challenges in modern health care* (pp. 177-188). New Brunswick, N.J.: Rutgers University Press.

Allison, J. J. (2007). Health disparity. *Medical Care Research & Review*, p. 5s.

Anderson, E. B. (2002). Patient-centeredness: A new approach. *Nephrology News & Issues, 16*(12), 80.

Anglin, M. K. (2006). Whose health? Whose justice? Examining quality of care and forms of advocacy for women diagnosed with breast cancer. In A. J. Schulz & L. Mullings (Eds.), *Gender, race, class, and health: Intersectional approaches* (1st ed., pp. 313-344). San Francisco, CA: Jossey-Bass.

Armstrong, K., Hughes-Halbert, C., & Asch, D. A. (2006). Patient preferences can be misleading as explanations for racial disparities in health care. *Archives of Internal Medicine, 166*(9), 950.

Arora, N. K. (2003). Interacting with cancer patients: The significance of physicians' communication behavior. *Social Science & Medicine, 57*(5), 791.

Asch, S. M., Kerr, E. A., Keesey, J., Adams, J. L., Setodji, C. M., Malik, S., et al. (2006). Who is at greatest risk for receiving poor-quality health care? *The New England Journal Of Medicine, 354*(11), 1147.

Audet, A.-M., Davis, K., & Schoenbaum, S. C. (2006). Adoption of patient-centered care practices by physicians. *Archives of Internal Medicine, 166*(7), 754.

Baker, D. W. (2006). The meaning and the measure of health literacy. *JGIM: Journal of General Internal Medicine, 21*(8), 878.

Baker, D. W., Cameron, K. A., Feinglass, J., Thompson, J. A., Georgas, P., Foster, S., et al. (2006). A system for rapidly and accurately collecting patients' race and ethnicity. *American Journal of Public Health, 96*(3), 532.

Baker, D. W., Parker, R. M., Williams, M. V., Clark, W. S., & Nurss, J. (1997). The relationship of patient reading ability to self-reported health and use of health services. *American Journal of Public Health, 87*(6), 1027.

Balint, J. A. (1999). Brief encounters: Speaking with patients. *Annals of Internal Medicine, 131*(3), 231.

Balint, J. A. (2005). A caring partnership can we gain control? *Mount Sinai Journal of Medicine, 72*(2), 100.

Balsa, A. I., Cao, Z., & McGuire, T. G. (2007). Does managed health care reduce health care disparities between minorities and whites? *Journal of Health Economics, 26*(1), 101.

Barsky, A. J., Kazis, L. E., Freiden, R. B., Goroll, A. H., Hatem, C. J., & Lawrence, R. S. (1980). Evaluating the interview in primary care medicine. *Social Science & Medicine: Medical Psychology & Medical Sociology, 14A*(6), 653.

Beach, M. C., Rosner, M., Cooper, L. A., Duggan, P. S., & Shatzer, J. (2007). Can patient-centered attitudes reduce racial and ethnic disparities in care? *Academic Medicine: Journal of the Association Of American Medical Colleges, 82*(2), 193.

Beach, M. C., Saha, S., & Cooper, L. A. (2006). *The role and relationship of cultural competence and patient centeredness in health care quality* (No. Pub No 960). NY, NY: The Commonwealth Fund.

Bechtel, G. (2000-2001). Commensurate ratings of health care. *Journal of Outcome Measurement, 4*(3), 635-666.

Beck, R. S., Daughtridge, R., & Sloane, P. D. (2002). Physician-patient communication in the primary care office: A systematic review. *The Journal of the American Board Of Family Practice, 15*(1), 25.

Bensing, J. (2000). Bridging the gap. The separate worlds of evidence-based medicine and patient-centered medicine. *Patient Education and Counseling, 39*(1), 17.

Benyamini, Y., & Idler, E. L. (1999). Community studies reporting association between self-rated health and mortality. *Research on Aging, 21*(3), 392.

Benyamini, Y., Leventhal, E. A., & Leventhal, H. (1999). Self-assessments of health. *Research on Aging, 21*(3), 477.

Bertakis, K. D., Roter, D., & Putnam, S. M. (1991). The relationship of physician medical interview style to patient satisfaction. *The Journal of Family Practice, 32*(2), 175.

Betancourt, J. R. (2006). Cultural competency: Providing quality care to diverse populations. *The Consultant Pharmacist: The Journal of the American Society Of Consultant Pharmacists, 21*(12), 988.

Bezold, C. (2005). The future of patient-centered care: Scenarios, visions, and audacious goals. *Journal of Alternative & Complementary Medicine, 11*, s-77.

Bhopal, R. (1997). Is research into ethnicity and health racist, unsound, or important science? *BMJ, 314*, 1751.

Bhopal, R. (1998). Spectre of racism in health and health care: Lessons from history and the united states. *BMJ, 1998*, 1970-1973.

Bierman, A. S., Lurie, N., Scott, K., & Eisenberg, J. M. (2002). Addressing racial and ethnic barriers to effective health care: The need for better. *Health Affairs, 21*(3), 91-102.

Birru, M., & Steinman, R. A. (2004). Online health information and low-literacy African Americans. *Journal of Medical Internet Research, 6*(3), e26. Accessed 10/31/07.

Bourdieu, P. (1989). Social space and symbolic power. *Sociological Theory, 7*(1), 14-25.

Brant, R. (1990). Assessing proportionality in the proportional odds model for ordinal logistic regression. *Biometrics, 46*(4), 1171.

Braveman, P. (2006). Health disparities and health equity: Concepts and measurement. In P. Braveman (Ed.), *Annual Review of Public Health* (Vol. 27, pp. 167).

Braveman, P. A., Egerter, S. A., Cubbin, C., & Marchi, K. S. (2004). An approach to studying social disparities in health and health care. *American Journal of Public Health, 94*(12), 2139.

Brotherton, S. E., Rockey, P. H., & Etzel, S. I. (2004). U.S. graduate medical education, 2003-2004. *JAMA: Journal of the American Medical Association, 292*(9), 1032.

Brown, J., Nederend, S., Hays, R., Short, P., & Farley, D. (1999). Special issues in assessing care of Medicaid recipients. *Medical Care, 37*(3 (Suppl)), MS79-88.

Buescher, P. A., Gizlice, Z., & Jones-Vessey, K. A. (2005). Discrepancies between published data on racial classification and self-reported race: Evidence from the 2002 North Carolina live birth records. *Public Health Reports, 120*(4), 393.

Burgess, D. J., Fu, S. S., & van Ryn, M. (2004). Why do providers contribute to disparities and what can be done about it? *JGIM: Journal of General Internal Medicine, 19*(11), 1154.

Burgess, D. J., van Ryn, M., Crowley-Matoka, M., & Malat, J. (2006). Understanding the provider contribution to race/ethnicity disparities in pain treatment: Insights from dual process models of stereotyping. *Pain Medicine, 7*(2), 119.

Burney, R. (2002). *Healthcare Track 2002: Implementing IOM recommendations.* Paper presented at the Annual Quality Congress Proceedings 2002, Washington, DC.

Burstrom, B., & Fredlund, P. (2001). Self rated health: Is it as good a predictor of subsequent mortality among adults in lower as well as in higher social classes? *Journal of Epidemiology and Community Health, 55*(11), 836.

Byrd, D. A., Jacobs, D. M., Hilton, H. J., Stern, Y., & Manly, J. J. (2005). Sources of errors on visuo-perceptual tasks: Role of education, literacy, and search strategy. *Brain and Cognition, 58*(3), 251.

Byrd, M. W., & Clayton, L. A. (2003). Racial and ethnic disparities in healthcare: A background and history. In B. D. Smedley, A. Y. Stith, A. R. Nelson & Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care (Eds.), *Unequal treatment: Confronting racial and ethnic disparities in healthcare* (pp. 455-527). Washington, D.C.: National Academies Press.

Byrd, W. M., & Clayton, L. A. (2000). *An American health dilemma: The medical history of African Americans and the problem of race*. New York: Routledge.

Byrd, W. M., & Clayton, L. A. (2001). Race, medicine, and health care in the united states: A historical survey. *Journal of The National Medical Association, 93*(3 Suppl), 11S.

Cagney, K. A., Browning, C. R., & Ming, W. (2005). Racial disparities in self-rated health at older ages: What difference does the neighborhood make? *Journals of Gerontology Series B: Psychological Sciences & Social Sciences, 60B*(4), 181.

Caldwell, C. H., Guthrie, B. J., & Jackson, J. S. (2006). Identity development, discrimination, and psychological well-being among African American and Caribbean black adolescents. In A. J. Schulz & L. Mullings (Eds.), *Gender, race, class, and health: Intersectional approaches* (1st ed., pp. 163-191). San Francisco, CA: Jossey-Bass.

Caldwell, S. H., & Popenoe, R. (1995). Perceptions and misperceptions of skin color. *Annals of Internal Medicine, 122*(8), 614-617.

Carlson, E., & Chamberlain, R. (2004). The black-white perception gap and health disparities research. *Public Health Nursing, 21*(4), 372-379.

Carlson, M., Blustein, J., Fiorentino, N., & Prestianni, F. (2000). Socioeconomic status and dissatisfaction among HMO enrollees. *Medical care, 38*(5), 501-516.

Carter, R., Frampton, S. B., Gilpin, L., & Charmel, P. A. (2003). Transformation and the future of health care. In S. B. Frampton, L. Gilpin & P. A. Charmel (Eds.), *Putting patients first: Designing and practicing patient-centered care* (pp. 305-314). San Francisco: Jossey-Bass.

Casalino, L. P. (2006). Medicare, the national quality infrastructure, and health disparities. *Medicare Brief / National Academy Of Social Insurance*(14), 1.

Casalino, L. P., Elster, A., Eisenberg, A., Lewis, E., Montgomery, J., & Ramos, D. (2006). Will pay-for-performance and quality reporting affect health care disparities? *Health Affairs, 26*, w405.

Cegala, D. J., & Post, D. M. (2006). On addressing racial and ethnic health disparities: The potential role of patient communication skills interventions. *American Behavioral Scientist, 49*(6), 853.

Charmel, P. A. (2003). Building the business case for patient-centered care. In S. B. Frampton, L. Gilpin & P. A. Charmel (Eds.), *Putting patients first: Designing and practicing patient-centered care* (pp. 193-204). San Francisco: Jossey-Bass.

Chen, F. M., Fryer, G. E., Phillips, R. L., Wilson, E., & Pathman, D. E. (2005). Patients' beliefs about racism, preferences for physician race, and satisfaction with care. *Annals of Family Medicine, 3*(2), 138.

Chen, J., Rathore, S. S., Radford, M. J., Wang, Y., & Krumholz, H. M. (2002). Racial differences in the use of cardiac catheterization after acute myocardial infarction. In T.A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 644-656). San Francisco: Jossey-Bass.

Chien, A. T., Chin, M. H., Davis, A. M., & Casalino, L. P. (2007). Pay for performance, public reporting, and racial disparities in health care. *Medical Care Research & Review, 64*(5), 283s.

Chin, M. H., Walters, A. E., Cook, S. C., & Huang, E. S. (2007). Interventions to reduce racial and ethnic disparities in health care. *Medical Care Research & Review, 64*(5), 7s.

Citro, C. F., Michael, R. T., & Panel on Poverty and Family Assistance (United States). (1995). *Measuring poverty: A new approach*. Washington, D.C.: National Academy Press.

Clark, D. O., Maddox, G. L., & Steinhauser, K. (1993). Race, aging, and functional health. *Journal of Aging and Health, 5*(4), 536.

Clark, R., Anderson, N. B., Clark, V. R., & Williams, D. R. (2002). Racism as a stressor for African Americans: A biopsychosocial model. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 319-339). San Francisco: Jossey-Bass.

Cohen, J. (2003a). Disparities in health care: An overview. *Academic Emergency Medicine: Official Journal of the Society for Academic Emergency Medicine, 10*(11), 1155-1160.

Cohen, S. (2004). Social relationships and health. *American Psychologist, 59*(8), 676.

Cohen, S. B. (2002). The medical expenditure panel survey: An overview. *Effective Clinical Practice: ECP, 5*(3 Suppl), E1.

Cohen, S. B. (2003b). Design strategies and innovations in the medical expenditure panel survey. *Medical Care, 41*(7 Suppl), III5.

Cohen, S. B., & Lap-Ming, W. (2005). A comparison of household and medical provider reported health care utilization and an estimation strategy to correct for response error. *Journal of Economic & Social Measurement, 30*(2/3), 115.

Collins, T. C., Clark, J. A., Petersen, L. A., & Kressin, N. R. (2002). Racial differences in how patients perceive physician communication regarding cardiac testing. *Medical Care, 40*(1 Suppl), I27.

Cooper-Patrick, L., Gallo, J. J., Gonzales, J. J., Hong Thi, V., Powe, N. R., Nelson, C., et al. (1999). Race, gender, and partnership in the patient-physician relationship. *JAMA: Journal of the American Medical Association, 282*(6), 583.

Cooper-Patrick, L., Gallo, J. J., Gonzales, J. J., Vu, H. T., Powe, N. R., Nelson, C., et al. (2002). Race, gender, and partnership in the patient-physician relationship. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 609-625). San Francisco: Jossey-Bass.

Cooper, K. (2007). Cheryl Boyce, national minority-health leader talks about the need for behavior change in the health care system. *New England Ethnic News*.

Cooper, L. A., & Roter, D. (2003). Patient-provider communication: The effect of race and ethnicity on process and outcomes of healthcare. In B. D. Smedley, A. Y. Stith, A. R. Nelson & Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care (Eds.), *Unequal treatment: Confronting racial and ethnic disparities in healthcare* (pp. 552-593). Washington, D.C.: National Academies Press.

Cooper, L. A., Roter, D. L., Johnson, R. L., Ford, D. E., Steinwachs, D. M., & Powe, N. R. (2003). Patient-centered communication, ratings of care, and concordance of patient and physician race. *Annals of Internal Medicine, 139*(11), 907.

Cooper, R. (2002). A note on the biological concept of race and its application in epidemiological research. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 99-114). San Francisco: Jossey-Bass.

Cronin, C. (2004). *Patient-centered care: An overview of definitions and concepts*. Washington, DC: National Health Council.

Daley, J. (1993). Overcoming barriers of words. In M. Gerteis, S. Edgman-Levitan, J. Daley & T. L. Delbanco (Eds.), *Through the patient's eyes: Understanding and promoting patient-centered care* (1st ed., pp. 72-95). San Francisco: Jossey-Bass.

Daniels, J., & Schulz, A. J. (2006). Constructing whiteness in health disparities research. In A. J. Schulz & L. Mullings (Eds.), *Gender, race, class, and health: Intersectional approaches* (1st ed., pp. 89-130). San Francisco, CA: Jossey-Bass.

Daniels, N. (2005). Accountability for reasonable limits to care: Can we meet the challenges? In D. Mechanic, L. B. Rogut, D. C. Colby & J. R. Knickman (Eds.), *Policy challenges in modern health care* (pp. 238-248). New Brunswick, N.J.: Rutgers University Press.

Davis, K., Schoenbaum, S. C., & Audet, A.-M. (2005). A 2020 vision of patient-centered primary care. *Journal of General Internal Medicine: Official Journal Of The Society For Research And Education In Primary Care Internal Medicine, 20*(10), 953.

Dayton, E., Zhan, C., Sangl, J., Darby, C., & Moy, E. (2006). Racial and ethnic differences in patient assessments of interactions with providers: Disparities or measurement biases? *American Journal of Medical Quality, 21*(2), 109.

De Lew, N., & Weinick, R. M. (2000). An overview: Eliminating racial, ethnic, and SES disparities in health care. *Health Care Financing Review, 21*(4), 1.

Deaton, A. (2002). Policy implications of the gradient of health and wealth. *Health Affairs, 21*(3), 13.

Deeg, D. J. H., & Kriegsman, D. M. W. (2003). Concepts of self-rated health: Specifying the gender difference in mortality risk. *Gerontologist, 43*(3), 376.

Delbanco, T. L. (1993). Promoting the doctor's involvement in care. In M. Gerteis, S. Edgman-Levitan, J. Daley & T. L. Delbanco (Eds.), *Through the patient's eyes: Understanding and promoting patient-centered care* (1st ed., pp. 260-279). San Francisco: Jossey-Bass.

DelVecchio-Good, M.-J., James, C., Good, B. J., & Becker, A. (2003). The culture of medicine and racial, ethnic, and class disparities in healthcare. In B. D. Smedley, A. Y. Stith, A. R. Nelson & Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care (Eds.), *Unequal treatment: Confronting racial and ethnic disparities in healthcare* (pp. 594-625). Washington, D.C.: National Academies Press.

DeSalvo, K. B., Fan, V. S., McDonell, M. B., & Fihn, S. D. (2005). Predicting mortality and healthcare utilization with a single question. *Health Services Research, 40*(4), 1234.

DeSalvo, K. B., Fisher, W. P., Ky, T., Bloser, N., Merrill, W., & Peabody, J. (2006). Assessing measurement properties of two single-item general health measures. *Quality of Life Research, 15*(2), 191.

Deyo, R. A., & Patrick, D. L. (1989). Barriers to the use of health status measures in clinical investigation, patient care, and policy research. *Medical Care, 27*(3 Suppl), S254.

DoBias, M. (2006). IOM's pay-for-performance fix. *Modern Healthcare, 36*(38), 8.

Doescher, M. P., Saver, B. G., Franks, P., & Fiscella, K. (2000). Racial and ethnic disparities in perceptions of physician style and trust. *Archives of Family Medicine, 9*(10), 1156.

Dreachslin, J., Sprainer, E., & Jimpson, G. (2002). Communication: Bridging the racial and ethnic divide in health care management. *Health Care Manager, 20*(4), 10-19.

Duggan, A. (2006). Understanding interpersonal communication processes across health contexts: Advances in the last decade and challenges for the next decade. *Journal of Health Communication, 11*(1), 93.

Duggan, P. S., Geller, G., Cooper, L. A., & Beach, M. C. (2006). The moral nature of patient-centeredness: Is it "just the right thing to do"? *Patient Education & Counseling, 62*(2), 271.

Duncan, G. J., Daly, M. C., McDonough, P., & Williams, D. R. (2002). Optimal indicators of socioeconomic status for health research. *American Journal of Public Health, 92*(7), 1151.

Edwards, J., Bronstein, J., & Rein, D. (2002). Do enrollees in 'look-alike' Medicaid and SCHIP programs really look alike? State children's health insurance program. *Health Affairs, 21*(3), 240-248.

Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science, 196*(4286), 129.

Epstein, A. M. (2004). Health care in America--still too separate, not yet equal. *New England Journal of Medicine,* p. 603.

Epstein, R. M. (2000). The science of patient-centered care. *Journal of Family Practice,* p. 805.

Epstein, R. M., Franks, P., Fiscella, K., Shields, C. G., Meldrum, S. C., Kravitz, R. L., et al. (2005). Measuring patient-centered communication in patient-physician consultations: Theoretical and practical issues. *Social Science & Medicine, 61*(7), 1516.

Escarce, J., Epstein, K., Colby, D., & Schwartz, J. (1993). Racial differences in the elderly's use of medical procedures and diagnostic tests. *American Journal of Public Health, 83*(7), 948-954.

Escarce, J., & McGuire, T. (2004). Changes in racial differences in use of medical procedures and diagnostic tests among elderly persons: 1986-1997. *American Journal of Public Health, 94*(10), 1795-1800.

Escarce, J. J. (2005). How does race matter, anyway? *Health Services Research, 40*(1), 1.

Farmer, M. M., & Ferraro, K. F. (2005). Are racial disparities in health conditional on socioeconomic status? *Social Science & Medicine, 61*(1), 191-2005.

Federal Interagency Forum on Child and Family Statistics (U.S.). (2002). *America's children: Key national indicators of well-being 2002*. Washington, DC: U.S. Government Printing Office.

Ferraro, K., & Farmer, M. (1996). Double jeopardy to health hypothesis for African Americans: Analysis and critique. *Journal of Health and Social Behavior, 37*(1), 27-43.

Ferraro, K., Farmer, M. M., & Wybraniec, J. A. (1997). Health trajectories: Long-term dynamics among black and white adults. *Journal of Health & Social Behavior, 38*(1), 38.

Fiscella, K. (2002). Reducing healthcare disparities through collaborative care. *Families, Systems & Health, 20*(4), 365.

Fiscella, K., Franks, P., Doescher, M. P., & Saver, B. G. (2002a). Disparities in health care by race, ethnicity, and language among the insured: Findings from a national sample. *Medical Care, 40*(1), 52.

Fiscella, K., Franks, P., Doescher, M. P., & Saver, B. G. (2002b). Disparities in health care by race, ethnicity, and language among the insured: Findings from a national sample. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 198-210). San Francisco: Jossey-Bass.

Fiscella, K., Franks, P., Srinivasan, M., Kravitz, R. L., & Epstein, R. (2007). Ratings of physician communication by real and standardized patients. *Annals of Family Medicine, 5*(2), 151.

Fiscella, K., & Williams, D. (2004). Health disparities based on socioeconomic inequities: Implications for urban health care. *Academic medicine: Journal of the Association of American Medical Colleges, 79*(12), 1139-1147.

Fiske, S. T., Lindzey, G., & Gilbert, D. T. (1998). *The handbook of social psychology* (4th ed.). New York: McGraw-Hill; Oxford University Press.

Ford, C., & Gilpin, L. (2003). Informing and empowering diverse populations: Consumer health libraries and patient education. In S. B. Frampton, L. Gilpin & P. A. Charmel (Eds.), *Putting patients first: Designing and practicing patient-centered care* (pp. 27-50). San Francisco: Jossey-Bass.

Fowler, F. J., Gallagher, P., & Nederend, S. (1999). Comparing telephone and mail responses to the CAHPS survey instrument. Consumer assessment of health plans study. *Medical Care, 37*(3(Suppl)), MS 41-41.

Frampton, S. B. (2003). Introduction: The emergence of patient-centered care and the Planetree model. In S. B. Frampton, L. Gilpin & P. A. Charmel (Eds.), *Putting patients first: Designing and practicing patient-centered care* (pp. xxxv-xxxix). San Francisco: Jossey-Bass.

Frampton, S. B., Gilpin, L., & Charmel, P. A. (Eds.). (2003). *Putting patients first: Designing and practicing patient-centered care*. San Francisco: Jossey-Bass.

Frankenberg, E., & Jones, N. R. (2004). Self-rated health and mortality: Does the relationship extend to a low income setting? *Journal of Health & Social Behavior, 45*(4), 441.

Franzini, L., & Fernandez-Esquer, M. E. (2004). Socioeconomic, cultural, and personal influences on health outcomes in low income Mexican-origin individuals in Texas. *Social Science & Medicine, 59*(8), 1629.

Franzini, L., Ribble, J. C., & Keddie, A. M. (2002). Understanding the Hispanic paradox. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 280-310). San Francisco: Jossey-Bass.

Freeman, H. E., & Reeder, L. G. (1957). Medical sociology: A review of the literature. *American Sociological Review, 22*(1), 73.

Fremont, A., & Lurie, N. (2004). The role of racial and ethnic data collection in eliminating disparities in health care. In M. Ver Ploeg, E. Perrin & National Research Council (U.S.). Panel on DHHS Collection of Race and Ethnicity Data. (Eds.), *Eliminating health disparities: Measurement and data needs* (pp. 202-231). Washington, DC: National Academies Press.

Frist, W. H. (2005). Overcoming disparities in U.S. health care. *Health Affairs (Project Hope), 24*(2), 445.

Gamble, V. N. (2002). Under the shadow of Tuskegee: African Americans. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 34-46). San Francisco: Jossey-Bass.

Geiger, H. (1996). Race and health care: An American dilemma? *The New England Journal of Medicine, 335*(11), 815-816.

Geiger, H. J. (2003). Racial and ethnic disparities in diagnosis and treatment: A review of the evidence and consideration of causes. In B. D. Smedley, A. Y. Stith, A. R. Nelson & Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care (Eds.), *Unequal treatment: Confronting racial and ethnic disparities in healthcare* (pp. 417-454). Washington, D.C.: National Academies Press.

Geiger, H. J. (2006). Health disparities: What do we know? What do we need to know? What should we do? In L. Mullings & A. J. Schulz (Eds.), *Gender, race, class, & health: Intersectional approaches.* (pp. 261). San Francisco, CA, US: Jossey-Bass.

Geiger, H. J., & Borchelt, G. (2003). Racial and ethnic disparities in U.S. Health care. *Lancet, 362*(9396), 1674.

Geppert, J. J., Singer, S. J., Buechner, J., Ranbom, L., Suarez, W., & Xu, W. (2004). State collection of racial and ethnic data. In M. Ver Ploeg, E. Perrin & National Research Council (U.S.). Panel on DHHS Collection of Race and Ethnicity Data. (Eds.), *Eliminating health disparities: Measurement and data needs* (pp. 232-248). Washington, DC: National Academies Press.

Gerteis, M. (1993). Coordinating care and integrating services. In M. Gerteis, S. Edgman-Levitan, J. Daley & T. L. Delbanco (Eds.), *Through the patient's eyes: Understanding and promoting patient-centered care* (1st ed., pp. 45-71). San Francisco: Jossey-Bass.

Gerteis, M., Edgman-Levitan, S., Daley, J., & Delbanco, T. L. (1993a). Introduction: Medicine and health from the patient's perspective. In M. Gerteis, S. Edgman-Levitan, J. Daley & T. L. Delbanco (Eds.), *Through the patient's eyes: Understanding and promoting patient-centered care* (1st ed., pp. 1-18). San Francisco: Jossey-Bass.

Gerteis, M., Edgman-Levitan, S., Daley, J., & Delbanco, T. L. (Eds.). (1993b). *Through the patient's eyes: Understanding and promoting patient-centered care* (1st ed.). San Francisco: Jossey-Bass.

Gerteis, M., & Roberts, M. J. (1993). Culture, leadership and service in the patient-centered hospital. In M. Gerteis, S. Edgman-Levitan, J. Daley & T. L. Delbanco (Eds.), *Through the patient's eyes: Understanding and promoting patient-centered care* (1st ed., pp. 227-259). San Francisco: Jossey-Bass.

Gilpin, L. (2003). The importance of human interaction. In S. B. Frampton, L. Gilpin & P. A. Charmel (Eds.), *Putting patients first: Designing and practicing patient-centered care* (pp. 3-26). San Francisco: Jossey-Bass.

Glied, S. A. (2005). The employer-based health insurance system: Mistake or cornerstone. In D. Mechanic, L. B. Rogut, D. C. Colby & J. R. Knickman (Eds.), *Policy challenges in modern health care* (pp. 37-52). New Brunswick, N.J.: Rutgers University Press.

Goldberg, J., Hayes, W., & Huntley, J. (2004). *Understanding health disparities*. Columbus, OH: Health Policy Institute of Ohio.

Gonzalez, J. S., Chapman, G. B., & Leventhal, H. (2002). Gender differences in the factors that affect self-assessments of health. *Journal of Applied Biobehavioral Research, 7*(2), 133.

Gonzalez, J. S., Vileikyte, L., Peyrot, M., Rubin, R., Ulbrecht, J., Leventhal, H., et al. (2007). Determinants of self-rated health in patients with diabetic peripheral neuropathy. *Diabetes, 56,* A503.

Goodell, S., & Escarce, J. (2007). *Racial and ethnic disparities in access to and quality of health care* (No. Research Synthesis Report No. 12). Princeton, N.J.

Gorman, B. K., & Read, J. n. G. (2006). Gender disparities in adult health: An examination of three measures of morbidity. *Journal of Health & Social Behavior, 47*(2), 95.

Gorman, B. K., & Sivaganesan, A. (2007). The role of social support and integration for understanding socioeconomic disparities in self-rated health and hypertension. *Social Science & Medicine, 65*(5), 958.

Gornick, M., Eggers, P. W., Reilly, T. W., Mentnech, R. M., Fitterman, L. K., Kucken, L. E., et al. (1996). Effects of race and income on mortality and use of services among Medicare beneficiaries. *The New England Journal of Medicine, 335*(11), 791-799.

Green, A. R., Carney, D. R., Pallin, D. J., Ngo, L. H., Raymond, K. L., Iezzoni, L. I., et al. (2007). Implicit bias among physicians and its prediction of thrombolysis decisions for black and white patients. *Journal of General Internal Medicine*.

Greene, J., Blustein, J., & Weitzman, B. C. (2006). Race, segregation, and physicians' participation in Medicaid race, segregation, and physicians' participation in Medicaid. *Milbank Quarterly, 84*(2), 239.

Greenfield, S., Kaplan, S., & Ware, J. E. (1985). Expanding patient involvement in care. *Annals of Internal Medicine, 102*(4), 520.

Grogan, C., & Patashnik, E. (2003). Between welfare medicine and mainstream entitlement: Medicaid at the political crossroads. *Journal of Health Politics, Policy & Law, 28*(5), 821.

Gross, D. A., Zyzanski, S. J., Borawski, E. A., Cebul, R. D., & Stange, K. C. (1998). Patient satisfaction with time spent with their physician. *Journal of Family Practice, 47*(2), 133.

Haas, J., Phillips, K., Sonneborn, D., McCulloch, C., Baker, L., Kaplan, C., et al. (2004). Variation in access to health care for different racial/ethnic groups by the racial/ethnic composition of an individual's county of residence. *Medical Care, 42 (7), pp. 707-14*(7), 707-721.

Halbert, C. H., Armstrong, K., Gandy, O. H., & Shaker, L. (2006). Racial differences in trust in health care providers. *Archives of Internal Medicine, 166*(8), 896.

Hall, J. A., Milburn, M. A., Roter, D. L., & Daltroy, L. H. (1998). Why are sicker patients less satisfied with their medical care? Tests of two explanatory models. *Health Psychology, 17*(1), 70.

Hall, J. A., Roter, D. L., Milburn, M. A., & Daltroy, L. H. (1996). Patients' health as a predictor of physician and patient behavior in medical visits. A synthesis of four studies. *Medical Care, 34*(12), 1205.

Hall, M. A., Camacho, F., Dugan, E., & Balkrishnan, R. (2002). Trust in the medical profession: Conceptual and measurement issues. *Health Services Research, 37*(5), 1419.

Hamilton, T. E. (2004). Clarification of survey agency responsibilities in obtaining information for civil rights clearances for initial certifications and changes of ownership. In S. S. A. Directors (Ed.) (pp. A memo that reminds state survey agencies of their responsibilities in meeting Office of Civil Rights clearances including certification that persons with limited English proficiency are not discriminated against in hospital settings.).

Hargraves, J. L., Hays, R. D., & Cleary, P. D. (2003). Psychometric properties of the consumer assessment of health plans study (CAHPS) 2.0 adult core survey. *Health Services Research, 38*(6), 1509.

Hasnain-Wynia, R. (2006). Is evidence-based medicine patient-centered and is patient-centered care evidence-based? *Health Services Research, 41*(1), 1.

Hasnain-Wynia, R., & Baker, D. W. (2006). Obtaining data on patient race, ethnicity, and primary language in health care organizations: Current challenges and proposed solutions. *Health Services Research, 41*(4 Pt 1), 1501.

Hasnain-Wynia, R., Baker, D. W., Nerenz, D., Feinglass, J., Beal, A. C., Landrum, M. B., et al. (2007). Disparities in health care are driven by where minority patients seek care: Examination of the hospital quality alliance measures. *Archives of Internal Medicine, 167*(12), 1233.

Hays, J. C., Schoenfeld, D., Blazer, D. G., & Gold, D. T. (1996a). Global self-ratings of health and mortality: Hazard in the North Carolina Piedmont. *Journal of Clinical Epidemiology, 49*(9), 969.

Hays, J. C., Schoenfeld, D. E., & Blazer, D. G. (1996b). Determinants of poor self-rated health in late life. *American Journal of Geriatric Psychiatry, 4*(3), 188.

Healthy People 2010 (Group), & United States. Dept. of Health and Human Services. (2000a). *Healthy People 2010* (Conference ed.). Washington, DC: U.S. Dept. of Health and Human Services.

Healthy People 2010 (Group), & United States. Dept. of Health and Human Services. (2000b). *Healthy People 2010: Understanding and improving health*. Washington, DC: U.S. Dept. of Health and Human Services: For sale by the U.S. G.P.O., Supt. of Docs.

Heck, K., & Parker, J. (2002). Family structure, socioeconomic status, and access to health care for children. *Health Services Research, 37*(1), 173-186.

Hero, R. (2003). Multiple theoretical traditions in American politics and racial policy inequality. *Political Research Quarterly, 56*(4), 401-409.

Honeycutt, C., & Stoneburner, P. (2003). Recruitment and retention: The future of the health care workforce. In S. B. Frampton, L. Gilpin & P. A. Charmel (Eds.), *Putting patients first: Designing and practicing patient-centered care* (pp. 213-234). San Francisco: Jossey-Bass.

Horner, R. D., Salazar, W., Geiger, H. J., Bullock, K., Corbie-Smith, G., Cornog, M., et al. (2004). Changing healthcare professionals' behaviors to eliminate disparities in healthcare: What do we know? How might we proceed? *The American Journal of Managed Care, 10 Spec No,* SP12.

Horowitz, C. R., Davis, M. H., Palermo, A. G., & Vladeck, B. C. (2000). Approaches to eliminating sociocultural disparities in health. *Health Care Financing Review, 21*(4), 57.

Horowitz, S. (2003). Creating consensus: Partnering with your medical staff. In S. B. Frampton, L. Gilpin & P. A. Charmel (Eds.), *Putting patients first: Designing and practicing patient-centered care* (pp. 205-212). San Francisco: Jossey-Bass.

House, J. S. (2001). Relating social inequalities in health and income. *Journal of Health Politics, Policy & Law, 26*(3), 523.

House, J. S. (2002). Understanding social factors and inequalities in health: 20th century progress and 21st century prospects. *Journal of Health & Social Behavior, 43*(2), 125.

House, J. S., Kessler, R. C., Herzog, A. R., Mero, R. P., Kinney, A. M., Breslow, M. J., et al. (1992). Social stratification, age, and health. In *Aging, health behaviors, and health outcomes.* (pp. 1): Lawrence Erlbaum Associates, Inc.

House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science, 241*(4865), 540.

Howard, D. H., Sentell, T., & Gazmararian, J. A. (2006). Impact of health literacy on socioeconomic and racial differences in health in an elderly population. *Journal of General Internal Medicine: Official Journal of The Society For Research And Education In Primary Care Internal Medicine, 21*(8), 857.

Hughes, D., & Ng, S. (2003). Reducing health disparities among children. *Future of children, 13*(1), 153-167.

Hummer, R. A., Rogers, R. G., Nam, C. B., & LeClere, F. B. (1999). Race/ethnicity, nativity, and u.S. Adult mortality. *Social Science Quarterly (University of Texas Press), 80*(1), 136.

Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: A review of twenty-seven community studies. *Journal of Health & Social Behavior, 38*(1), 21.

Institute of Medicine (U.S.). (1996). Primary care: America's health in a new era. Author.

Institute of Medicine (U.S.), & Swift, E. K. (2002). Guidance for the national healthcare disparities report. from http://www.edu/catalog/10512.html. Accessed 10/31/07.

Institute of Medicine (U.S.) Committee on Quality of Health Care in America. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, D.C.: National Academy Press.

Institute of Medicine (U.S.). Committee on Crossing the Quality Chasm: Adaptation to Mental Health and Addictive Disorders. (2006). *Improving the quality of health care for mental and substance-use conditions*. Washington, DC: National Academies Press.

Institute of Medicine (U.S.). Committee on Identifying Priority Areas for Quality Improvement., Adams, K., & Corrigan, J. (2003). Priority areas for national action: Transforming health care quality. From http://books.nap.edu/books/0309085438/html/index.html. Accessed 10/31/07.

Jackson, P. B., & Williams, D. R. (2006). The intersection of race, gender, and SES: Health paradoxes. In A. J. Schulz & L. Mullings (Eds.), *Gender, race, class, and health: Intersectional approaches* (1st ed., pp. 131-162). San Francisco, CA: Jossey-Bass.

James, L. R., Mulaik, S. A., & Brett, J. M. (2006). A tale of two methods. *Organizational Research Methods, 9*(2), 233.

James, S. A. (2002). John Henryism and the health of African Americans. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 350-368). San Francisco: Jossey-Bass.

Johnson, R., Roter, D., Powe, N., & Cooper, L. (2004a). Patient race/ethnicity and quality of patient-physician communication during medical visits. *American journal of public health, 94*(12), 2084-2090.

Johnson, R., & Wolinsky, F. J. (1994). Gender, race, and health: The structure of health status among older adults. *The Gerontologist, 34*(1), 24-36.

Johnson, R. L., Saha, S., Arbelaez, J. J., Beach, M. C., & Cooper, L. A. (2004b). Racial and ethnic differences in patient perceptions of bias and cultural competence in health care. *Journal of General Internal Medicine: Official Journal of The Society For Research And Education In Primary Care Internal Medicine, 19*(2), 101.

Joint Commission on Accreditation of Hospital Organizations. (2000). On the mark. Measuring literacy and readability -- check what patients really understand

and act on, not how far they have gone in school. *Joint Commission Benchmark, 2*(1), 10.

Jones, C. P. (2002). Levels of racism: A theoretic framework and a gardener's tale. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 311-318). San Francisco: Jossey-Bass.

Jones, C. P., LaVeist, T. A., & Lillie-Blanton, M. (1991). "Race" in the epidemiologic literature: An examination of the American journal of epidemiology, 1921-1990. *American Journal Of Epidemiology*, *134*(10), 1079.

Kagawa-Singer, M., & Kassim-Lakha, S. (2003). A strategy to reduce cross-cultural miscommunication and increase the likelihood of improving health outcomes. *Academic Medicine, 78*, 577-587.

Kaiser Family Foundation. (1999). *Race, ethnicity and medical care; a survey of public perceptions and experiences*. Menlo Park, CA: The Henry J. Kaiser Foundation.

Kaiser Family Foundation (Writer) (2007a). 2007 state of health care quality report - report of the national committee for quality assurance, *Healthcast 2007*. Washington, D.C.: Henry J. Kaiser Foundation.

Kaiser Family Foundation. (2007b). Alameda county California; task force releases report noting startling racial health disparities. *Health in the Community*, from http://www.kaisernetwork.org/daily_reports/print_report.cfm?DR_ID=43589&dr_cat=5. Accessed 10/31/07.

Kaiser Family Foundation (Writer) (2007c). Is the United States making progress in reducing disparities in health care access and quality, *Today's Topics in Health Disparities*. Washington, D.C.: Henry J. Kaiser Foundation.

Kaiser, L. (2003). Holistic hospitals: Planetree on the spiritual frontier. In S. B. Frampton, L. Gilpin & P. A. Charmel (Eds.), *Putting patients first: Designing and practicing patient-centered care* (pp. 293-304). San Francisco: Jossey-Bass.

Kaplan, S. H., Gandek, B., Greenfield, S., Rogers, W., & Ware, J. E. (1995). Patient and visit characteristics related to physicians' participatory decision-making style. Results from the medical outcomes study. *Medical Care, 33*(12), 1176.

Kaplan, S. H., & Greenfield, S. (1996). Characteristics of physicians with participatory decision making. *Annals of Internal Medicine, 124*(5), 497.

Kaplan, S. H., Greenfield, S., & Ware, J. E. (1989). Assessing the effects of physician-patient interactions on the outcomes of chronic disease. *Medical Care, 27*(3), S110.

Kaufman, J., & Cooper, R. (2001). Commentary: Considerations for use of racial/ethnic classification in etiologic research. *American Journal of Epidemiology, 154*(4), 291-298.

Kawachi, I., Daniels, N., & Robinson, D. E. (2005). Health disparities by race and class: Why both matter. *Health Affairs, 24*(2), 343.

Kawachi, I., & Kennedy, B. P. (1997). Health and social cohesion: Why care about income inequality? *BMJ: British Medical Journal, 314*(7086), 1037.

Kawachi, I., Kennedy, B. P., & Glass, R. (1999). Social capital and self-rated health: A contextual analysis. *American Journal of Public Health, 89*(8), 1187.

Kawachi, I., Kennedy, B. P., Lochner, K., & Prothrow-Stith, D. (1997). Social capital, income inequality, and mortality. *American Journal of Public Health, 87*(9), 1491.

Kirschenbaum, H., & Jourdan, A. (2005). The current status of Carl Rogers and the person-centered approach. *Psychotherapy: Theory, Research, Practice, Training, 42*(1), 37.

Kleinke, J. D. (1998). *Bleeding edge: The business of health care in the new century*. Gaithersburg, Md.: Aspen Publishers.

Kleinke, J. D. (2001). *Oxymorons: The myth of a U. S. Health care system*. San Francisco: Jossey-Bass.

Kreps, G. L. (2006). Communication and racial inequities in health care. *American Behavioral Scientist, 49*(6), 760.

Krieger, N. (2002). Shades of difference: Theoretical underpinnings of the medical controversy on black-white differences in the United States. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 9-33). San Francisco: Jossey-Bass.

Krieger, N., Chen, J. T., & Ebel, G. (1997a). Can we monitor socioeconomic inequalities in health? A. *Public Health Reports, 112*(6), 481.

Krieger, N., Chen, J. T., Waterman, P. D., Rehkopf, D. H., & Subramanian, S. V. (2003). Race/ethnicity, gender, and monitoring socioeconomic gradients in health: A comparison of area-based socioeconomic measures -- the public health disparities geocoding project. *American Journal of Public Health, 93*(10), 1655.

Krieger, N., & Moss, N. (1996). Accounting for the public's health: An introduction to selected papers from a U.S. Conference on 'measuring social inequalities in health'. *International Journal of Health Services: Planning, Administration, Evaluation [26*(3), 383-390.

Krieger, N., & Williams, D. R. (2001). Changing to the 2000 standard million: Are declining racial/ethnic and socioeconomic inequalities in health real progress or statistical illusion? *American Journal of Public Health, 91*(8), 1209.

Krieger, N., Williams, D. R., & Moss, N. E. (1997b). Measuring social class in U.S. public health research: Concepts, methodologies, and guidelines. *Annual Review of Public Health, 18*, 341.

Lauver, D. R., Ward, S. E., Heidrich, S. M., Keller, M. L., Bowers, B. J., Brennan, P. F., et al. (2002). Patient-centered interventions. *Research in Nursing & Health, 25*, 246-255.

LaVeist, T. (1996). Why we should continue to study race, but do a better job: An essay on race, racism and health. *Ethnicity & Disease, 6*(1-2), 21-99.

LaVeist, T. A. (2002a). Beyond dummy variables and sample selection: What health services researchers ought to know about race as a variable. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., Vol. 115-128). San Francisco: Jossey-Bass.

LaVeist, T. A. (2002b). Introduction: Why we should study race, ethnicity and health. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 1-8). San Francisco: Jossey-Bass.

LaVeist, T. A. (2002c). Segregation, poverty and empowerment: Health consequences for African Americans. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 76-96). San Francisco: Jossey-Bass.

LaVeist, T. A. (2005). *Minority populations and health: An introduction to health disparities in the united states* (1st ed.). San Francisco: Jossey-Bass.

LaVeist, T. A. (Ed.). (2002d). *Race, ethnicity, and health: A public health reader* (1st ed.). San Francisco: Jossey-Bass.

Leiyu, S., & Stevens, G. D. (2005). Disparities in access to care and satisfaction among U.S. children: The roles of race/ethnicity and poverty status. *Public Health Reports, 120*(4), 431.

Levinson, W., Roter, D. L., Mullooly, J. P., Dull, V. T., & Frankel, R. M. (1997). Physician-patient communication. The relationship with malpractice claims among primary care physicians and surgeons. *JAMA: The Journal of the American Medical Association, 277*(7), 553.

Lillie-Blanton, M., Brodie, M., Rowland, D., Altman, D., & McIntosh, M. (2000). Race, ethnicity, and the health care system: Public perceptions and experiences. *Medical Care Research & Review, 57*(3), 218-236.

Lillie-Blanton, M., & Hudman, J. (2001). Untangling the web: Race/ethnicity, immigration, and the nation's health. *American Journal of Public Health,* p. 1736.

Link, B. G., & Phelan, J. C. (2005). Fundamental sources of health inequalities. In D. Mechanic, L. B. Rogut, D. C. Colby & J. R. Knickman (Eds.), *Policy challenges in modern health care* (pp. 71-84). New Brunswick, N.J.: Rutgers University Press.

Little, P., Everitt, H., Williamson, I., Warner, G., Moore, M., Gould, C., et al. (2001). Observational study of effect of patient centredness and positive approach on outcomes of general practice consultations. *BMJ: British Medical Journal, 323*(7318), 908.

Long, J. A., Chang, V. W., Ibrahim, S. A., & Asch, D. A. (2004). Update on the health disparities literature. *Annals of Internal Medicine, 141*(10), 805.

Long, J. S., & Freese, J. (2006). *Regression models for categorical dependent variables using STATA* (Second Edition ed.). College Station, Texas: STATA Press Corporation.

Lurie, N. (2005). Health disparities--less talk, more action. *New England Journal of Medicine, 353*(7), 727.

Lurie, N., & Fremont, A. (2006). Looking forward: Cross-cutting issues in the collection and use of racial/ethnic data. *Health Services Research, 41*(4 Pt 1), 1519.

Lurie, N., Jung, M., & Lavizzo-Mourey, R. (2005). Disparities and quality improvement: Federal policy levers. *Health Affairs, 24*(2), 354.

Lyyra, T.-M., Heikkinen, E., Lyyra, A.-L., & Jylha, M. (2006). Self-rated health and mortality: Could clinical and performance-based measures of health and functioning explain the association? *Archives of Gerontology & Geriatrics, 42*(3), 277.

Malat, J. (2001). Social distance and patients' rating of healthcare providers. *Journal of Health and Social Behavior, 42*(4), 360-372.

Mathers, S. A., Chesson, R. A., Proctor, J. M., McKenzie, G. A., & Robertson, E. (2006). The use of patient-centered outcome measures in radiology: A systematic review. *Academic Radiology, 13*(11), 1394.

Mayberry, R. M., Mili, F., & Ofili, E. (2000). Racial and ethnic differences in access to medical care. *Medical Care Research & Review, 57*(3), 108-146.

Mayberry, R. M., Mili, F., & Ofili, E. (2002). Racial and ethnic differences in access to medical care. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 163-197). San Francisco: Jossey-Bass.

McGee, J., Kanouse, D., Sofaer, S., Hargraves, J., Hoy, E., & Kleimann, S. (1999). Making survey results easy to report to consumers: How reporting needs guided survey design in CAHPS. Consumer assessment of health plans study. *Medical care, 37*(3 (Suppl)), MS32-40.

McKenzie, K. (2003). Racism and health. *BMJ, 326*, 65-66.

McKenzie, K., & Crowcroft, N. (1994). Race, ethnicity, culture, and science. *BMJ, 309*, 286-287.

McKenzie, K., & Crowcroft, N. (1996). Describing race, ethnicity, and culture in medical research. *BMJ, 312*, 1054.

Mead, N., & Bower, P. (2000a). Measuring patient-centredness: A comparison of three observation-based instruments. *Patient Education And Counseling, 39*(1), 71.

Mead, N., & Bower, P. (2000b). Patient-centredness: A conceptual framework and review of the empirical literature. *Social Science & Medicine, 51*(7), 1087.

Mead, N., & Bower, P. (2002). Patient-centred consultations and outcomes in primary care: A review of the literature. *Patient Education & Counseling, 48*(1), 51.

Mechanic, D. (1998). The functions and limitations of trust in the provision of medical care. *Journal of Health Politics, Policy and Law, 23*(4), 661-686.

Mechanic, D. (2004). In my chosen doctor I trust; and that trust transfers from doctors to organizations. *BMJ, 329*, 18-25.

Mechanic, D. (2005). Policy challenges in addressing racial disparities and improving population health. *Health Affairs, 24*(2), 335.

Mechanic, D., Rogut, L. B., Colby, D. C., & Knickman, J. R. (2005a). Introduction. In D. Mechanic (Ed.), *Policy challenges in modern health care* (pp. 1 - 10). New Brunswick, N.J.: Rutgers University Press.

Mechanic, D., Rogut, L. B., Colby, D. C., & Knickman, J. R. (Eds.). (2005b). *Policy challenges in modern health care*. New Brunswick, N.J.: Rutgers University Press.

Melchior, M., Berkman, L. F., Niedhammer, I., Chea, M., & Goldberg, M. (2003). Social relations and self-reported health: A prospective analysis of the French Gazel cohort. *Social Science & Medicine, 56*(8), 1817.

Menec, V. H., Shooshtari, S., & Lambert, P. (2007). Ethnic differences in self-rated health among older adults. *Journal of Aging & Health, 19*(1), 62.

Menefee, L. (1996). Are black Americans entitled to equal health care? A new research paradigm. *Ethnicity & disease, 6*(1), 56-68.

Merrill, R., & Allen, E. (2003). Racial and ethnic disparities in satisfaction with doctors and health providers in the United States. *Ethnicity & Disease, 13*(4), 492-498.

Michie, S., Miles, J., & Weinman, J. (2003). Patient-centredness in chronic illness: What is it and does it matter? *Patient Education and Counseling, 51*(3), 197.

Moeller, J. F., Cohen, S. B., Mathiowetz, N. A., & Wun, L.-M. (2003). Regression-based sampling for persons with high health expenditures: Evaluating accuracy and yield with the 1997 MEPS. *Medical Care, 41*(7 Suppl), III44.

Morales, L., Elliott, M., Brown, J., Rahn, C., & Hays, R. (2004). The applicability of the consumer assessments of health plans survey (CAHPS) to preferred provider organizations in the United States: A discussion of industry concerns. *International Journal for Quality in Health Care, 16*(3), 219-227.

Morales, L., Elliott, M., Weech-Maldonado, R., Spritzer, K., & Hays, R. (2001). Differences in CAHPS adult survey reports and ratings by race and ethnicity: An analysis of the national CAHPS benchmarking data 1.0. *Health Services Research, 36*(3), 595-617.

Mukamel, D. B., Murthy, A. S., & Weimer, D. L. (2000). Racial differences in access to high-quality cardiac surgeons. *American Journal of Public Health, 90*(11), 1774-1778.

Mullins, C. D., Blatt, L., Gbarayor, C. M., Hui-Wen Keri, Y., & Baquet, C. (2005). Health disparities: A barrier to high-quality care. *American Journal of Health-System Pharmacy, 62*(18), 1873.

Muntaner, C., Nieto, F. J., & O'Campo, P. (2002). The bell curve: On race, social class, and epidemiologic research. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 129-140). San Francisco: Jossey-Bass.

Murata, C., Kondo, T., Tamakoshi, K., Yatsuya, H., & Toyoshima, H. (2006). Determinants of self-rated health: Could health status explain the association between self-rated health and mortality? *Archives of Gerontology & Geriatrics, 43*(3), 369.

Murray, C., Kulkarni, S. C., Michaud, C., Tomijima, N., Bulzacchelli, M. T., Iandiorio, T. J., et al. (2006). Eight Americas: Investigating mortality

disparities across races, counties, and race-counties in the united states. *PLoS Medicine, 3*(8), e260.

National Committee on Vital and Health Statistics. Subcommittee on Populations. (2005). Eliminating health disparities strengthening data on race, ethnicity, and primary language in the united states. From http://purl.access.gpo.gov/GPO/LPS72255. Accessed 10/31/07.

National Institutes of Health (U.S.), & National Center on Minority Health and Health Disparities (U.S.). (2002). NIH strategic research plan and budget to reduce and ultimately eliminate health disparities fiscal years 2002-2006 [microform]. [Rockville, Md.]: National Center on Minority Health and Health Disparities.

Nerenz, D., & Currier, C. (2004). Collection of data on race and ethnicity by private-sector organizations: Hospitals, health plans and medical groups. In M. Ver Ploeg, E. Perrin & National Research Council (U.S.). Panel on DHHS Collection of Race and Ethnicity Data. (Eds.), *Eliminating health disparities: Measurement and data needs* (pp. 249-271). Washington, DC: National Academies Press.

Nerenz, D. R., Hunt, K. A., & Escarce, J. J. (2006). Health care organizations' use of data on race/ethnicity to address disparities in health care. *Health Services Research, 41*(4 Pt 1), 1444.

Noonan, A., & Evans, C. (2003). The need for diversity in the health professions. *Journal of Dental Education, 67*(9), 1030-1039.

O'Campo, P., & Burke, J. (2004). Recommendations on the use of socioeconomic position indicators to better understand racial inequalities in health. In M. Ver Ploeg, E. Perrin & National Research Council (U.S.). Panel on DHHS Collection of Race and Ethnicity Data. (Eds.), *Eliminating health disparities: Measurement and data needs* (pp. 184-201). Washington, DC: National Academies Press.

Parker, R. (2000). Health literacy: A challenge for American patients and their health care providers. *Health Promotion International, 15*(4), 277.

Parker, R. M., Ratzan, S. C., & Lurie, N. (2003). Health literacy: A policy challenge for advancing high-quality health care. *Health Affairs, 22*(4), 147.

Pearce, N., & Smith, G. D. (2003). Is social capital the key to inequalities in health? *American Journal of Public Health, 93*(1), 122.

Pearl, M., Braverman, P., & Abrams, B. (2002). The relationship of neighborhood socioeconomic characteristics to birthweight among five ethnic groups in California. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 432-447). San Francisco: Jossey-Bass.

Perez, T. E. (2003). The civil rights dimension of racial and ethnic disparities in health status. In B. D. Smedley, A. Y. Stith, A. R. Nelson & Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care (Eds.), *Unequal treatment: Confronting racial and ethnic disparities in healthcare* (pp. 626-663). Washington, D.C.: National Academies Press.

Perloff, R. M., Bonder, B., Ray, G. B., Ray, E. B., & Siminoff, L. A. (2006). Doctor-patient communication, cultural competence, and minority health. *American Behavioral Scientist, 49*(6), 835.

Population Today. (2000). The muddle about the middle class. *Author, 28*(1), 8.

Powers, M., & Faden, R. (2003). Racial and ethnic disparities in healthcare: An ethical analysis of how and when they matter. In B. D. Smedley, A. Y. Stith, A. R. Nelson & Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care (Eds.), *Unequal treatment: Confronting racial and ethnic disparities in healthcare* (pp. 722-738). Washington, D.C.: National Academies Press.

Putnam, R. D. (2001). *Bowling alone: The collapse and revival of American community* (1st Touchstone ed.). New York: Touchstone.

Rathore, S. S., MPH, and Harlan M. Krumholz, MD, SM. (2004). Differences, disparities, and biases: Clarifying racial variations in health care use. *Annals of Internal Medicine, 141*(8), 635-638.

Read, J. G., & Gorman, B. K. (2006). Gender inequalities in us adult health: The interplay of race and ethnicity. *Social Science & Medicine, 62*(5), 1045.

Rencic, J., & Liles, E. (2005). The relationship between patient race and patients' perceptions of their physician's cultural competence and patient-centered communication skills. *Journal of Internal medicine, 20*(129: Suppl 1).

Reyes-Gibby, C. C., Aday, L., & Cleeland, C. (2002). Impact of pain on self-rated health in the community-dwelling older adults. *Pain (03043959), 95*(1/2), 75.

Rice, T. (2003). The impact of cost containment efforts on racial and ethnic disparities in healthcare: A conceptualization. In B. D. Smedley, A. Y. Stith, A. R. Nelson & Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care (Eds.), *Unequal treatment: Confronting racial and ethnic disparities in healthcare* (pp. 699-721). Washington, D.C.: National Academies Press.

Richardson, L. C., Tian, L., Voti, L., Fleming, L. E., MacKinnon, J., Hartzema, A. G., et al. (2006). The roles of teaching hospitals, insurance status, and race/ethnicity in receipt of adjuvant therapy for regional-stage breast cancer in Florida. *American Journal of Public Health, 96*(1), 160.

Robinson, J. C. (2005). Entrepreneurial challenges to integrated health care. In D. Mechanic, L. B. Rogut, D. C. Colby & J. R. Knickman (Eds.), *Policy challenges in modern health care* (pp. 53-70). New Brunswick, N.J.: Rutgers University Press.

Rohrer, J. E., Young, R., Sicola, V., & Houston, M. (2007). Overall self-rated health: A new quality indicator for primary care. *Journal of Evaluation in Clinical Practice, 13*(1), 150.

Rosenbaum, S. (2003). Racial and ethnic disparities in healthcare: Issues in the design, structure, and administration of federal healthcare financing programs supported through direct public funding. In B. D. Smedley, A. Y. Stith, A. R. Nelson & Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care (Eds.), *Unequal treatment: Confronting racial and ethnic disparities in healthcare* (pp. 664-698). Washington, D.C.: National Academies Press.

Rosenbaum, S., & Teitelbaum, J. (2005). Addressing racial inequality in health care. In D. Mechanic, L. B. Rogut, D. C. Colby & J. R. Knickman (Eds.), *Policy challenges in modern health care* (Vol. 135-150). New Brunswick, N.J.: Rutgers University Press.

Roter, D. (2000). The medical visit context of treatment decision-making and the therapeutic relationship. *Health Expectations, 3*(1), 17.

Roter, D., & Hall, J. A. (1992). *Doctors talking with patients/patients talking with doctors: Improving communication in medical visits*. Westport, Conn.: Auburn House.

Roter, D. L., & Hall, J. A. (2004). Physician gender and patient-centered communication: A critical review of empirical research. *Annual Review of Public Health, 25*(1), 497.

Roter, D. L., Stewart, M., Putnam, S. M., Lipkin, M., Jr., Stiles, W., & Inui, T. S. (1997). Communication patterns of primary care physicians. *JAMA: The Journal of The American Medical Association, 277*(4), 350.

Rudd, R. E., Kaphingst, K., Colton, T., Gregoire, J., & Hyde, J. (2004). Rewriting public health information in plain language. *Journal of Health Communication, 9*(3), 195.

Saha, S. (2006). The relevance of cultural distance between patients and physicians to racial disparities in health care. *JGIM: Journal of General Internal Medicine, 21*(2), 203.

Saha, S., Arbelaez, J. J., & Cooper, L. A. (2003). Patient-physician relationships and racial disparities in the quality of health care. *American Journal of Public Health, 93*(10), 1713.

Saha, S., Komaromy, M., Koepsell, T. D., & Bindman, A. B. (2002). Patient-physician racial concordance and the perceived quality and use of health care. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 626-643). San Francisco: Jossey-Bass.

Sambamoorthi, U., & McAlpine, D. D. (2003). Racial, ethnic, socioeconomic, and access disparities in the use of preventive services among women. *Preventive Medicine, 37*(5), 475-485.

Sarto, G. (2005). Of disparities and diversity: Where are we? *American Journal of Obstetrics & Gynecology, 192*(4), 1188.

Satcher, D. (2006). Ethnic disparities in health: The public's role in working for equality. *PLoS Medicine,* p. 1683.

Satel, S., & Klick, J. (2005). The institute of medicine report: Too quick to diagnose bias. *Perspectives in Biology & Medicine, 48,* S15.

Satel, S., & Klick, J. (2006). Are doctors biased? *Policy Review* (136), 41.

Scanlan, J. (2000). Race and mortality. *Society, 37*(2), 29-38.

Scanlon, D., Darby, C., Rolph, E., & Doty, H. (2001). The role of performance measures for improving quality in managed care organizations. *Health Services Research, 36*(3), 619-641.

Schneider, T. R. (2006). Getting the biggest bang for your health education buck: Message framing and reducing health disparities. *American Behavioral Scientist, 49*(6), 812.

Schnittker, J., & Liang, K. (2006). The promise and limits of racial/ethnic concordance in physician-patient interaction. *Journal of Health Politics, Policy & Law, 31*(4), 811.

Schnittker, J., Pescosolido, B. A., & Croghan, T. W. (2005). Are African Americans really less willing to use health care? *Social Problems, 52*(2), 255.

Scholle, S. H., Weisman, C. S., Anderson, R. T., & Camacho, F. (2004). The development and validation of the primary care satisfaction survey for women. *Women's Health Issues, 14*(2), 35-51.

Schroeder, S. A. (1992). The troubled profession: Is medicine's glass half full or half empty? *Annals Of Internal Medicine, 116*(7), 583.

Schroeder, S. A. (2007). We can do better at improving the health of the American people. *New England Journal of Medicine, 357*(12), 1221.

Schulman, K. A., Berlin, J. A., Harless, W., Kerner, J. F., Shyrl, S., Gersh, B. J., et al. (2002). The effect of race and sex on physicians' recommendations for cardiac catheterization. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 516-530). San Francisco: Jossey-Bass.

Schulz, A. J., Freudenberg, N., & Daniels, J. (2006). Intersections of race, class, and gender in public health interventions. In A. J. Schulz & L. Mullings (Eds.), *Gender, race, class, and health: Intersectional approaches* (1st ed.). San Francisco, CA: Jossey-Bass.

Schulz, A. J., & Mullings, L. (Eds.). (2006). *Gender, race, class, and health: Intersectional approaches* (1st ed.). San Francisco, CA: Jossey-Bass.

Schulz, A. J., Williams, D. R., Israel, B. A., & Lempert, L. B. (2002). Racial and spatial relations as fundamental determinants of health in Detroit. *Milbank Quarterly, 80*(4), 677-708.

Sears, B. (2006). What is wellness? *American Chiropractor, 28*(9), 74.

Senior, P., & Bhopal, R. (1994). Ethnicity as a variable in epidemiological research. *BMJ, 309*, 327-330.

Sentell, T. L., & Halpin, H. A. (2006). Importance of adult literacy in understanding health disparities. In T. L. Sentell (Ed.), *Journal of General Internal Medicine* (Vol. 21, pp. 862).

Sepucha, K. R., Fowler Jr, F. J., & Albert, G. M., Jr. (2004). Policy support for patient-centered care: The need for measurable improvements in decision quality. *Health Affairs, 23*, 54.

Sequist, T. D., & Schneider, E. C. (2006). Addressing racial and ethnic disparities in health care: Using federal data to support local programs to eliminate disparities. *Health Services Research, 41*(4 Pt 1), 1451.

Shaller, D. (2007). *Patient-centered care: What does it take?* (No. Pub No. 1067). New York: The Commonwealth Fund.

Shavers, V. L. (2007). Measurement of socioeconomic status in health disparities research. *Journal Of The National Medical Association, 99*(9), 1013.

Shi, L. (1996). Patient and hospital characteristics associated with average length of stay. *Health Care Management Review, 21*(2), 46-61.

Shi, L. (1999). Experience of primary care by racial and ethnic groups in the United States. *Medical Care, 37*(10), 1068.

Shi, L., & Stevens, G. D. (2005). Vulnerability and unmet health care needs. *JGIM: Journal of General Internal Medicine, 20*(2), 148.

Singh, G. K., & Siahpush, M. (2002). Ethnic-immigrant differentials in health behaviors, morbidity, and cause-specific mortality in the united states: An analysis of two national data bases. *Human Biology, 74*(1), 83.

Singh, G. K., & Yu, S. M. (2002). Adverse pregnancy outcomes: Differences between u.S. And foreign-born women in major U.S. racial and ethnic groups. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 265-279). San Francisco: Jossey-Bass.

Smedley, B. D., Stith, A. Y., Nelson, A. R., & Institute of Medicine (U.S.). Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care (Eds.). (2003). *Unequal treatment: Confronting racial and ethnic disparities in health care*. Washington, D.C.: National Academies Press.

Smelser, N. J., Wilson, W. J., Mitchell, F., & National Research Council (U.S.). Commission on Behavioral and Social Sciences and Education. (2001). *America becoming: Racial trends and their consequences*. Washington, D.C.: National Academy Press.

Smith, D. B. (2005). Racial and ethnic health disparities and the unfinished civil rights agenda. *Health Affairs (Project Hope), 24*(2), 317.

Smith, W. R., Betancourt, J. R., Wynia, M. K., Bussey-Jones, J., Stone, V. E., Phillips, C. O., et al. (2007). Recommendations for teaching about racial and ethnic disparities in health and health care. *Annals of Internal Medicine, 147*(9), 654.

Stevens, G. D., Leiyu, S., & Cooper, L. A. (2003). Patient-provider racial and ethnic concordance and parent reports of the primary care experiences of children. *Annals of Family Medicine, 1*(2), 105.

Stevens, G. D., & Shi, L. (2003). Racial and ethnic disparities in the primary care experiences of children: A review of the literature. *Medical Care Research & Review, 60*(1), 3-31.

Stevens, R. A. (2005). Specialization, specialty organizations, and the quality of health care. In D. Mechanic, L. B. Rogut, D. C. Colby & J. R. Knickman (Eds.), *Policy challenges in modern health care* (pp. 206-222). New Brunswick, N.J.: Rutgers University Press.

Stewart, M. (2001). Towards a global definition of patient-centred care. *BMJ (Clinical Research Ed.), 322*(7284), 444.

Stewart, M., Brown, J. B., Donner, A., McWhinney, I. R., Oates, J., Weston, W. W., et al. (2000). The impact of patient-centered care on outcomes. *Journal of Family Practice, 49*(9), 796.

Stoeckle, J. D. (1987). *Encounters between patients and doctors: An anthology*. Cambridge, Mass.: MIP Press.

Subramanian, S. V., Acevedo-Garcia, D., & Osypuk, T. L. (2005). Racial residential segregation and geographic heterogeneity in black/white disparity in poor self-rated health in the us: A multilevel statistical analysis. *Social Science & Medicine, 60*(8), 1667.

Subramanian, S. V., Kim, D. J., & Kawachi, I. (2002). Social trust and self-rated health in us communities: A multilevel analysis. *Journal of Urban Health: Bulletin of The New York Academy Of Medicine, 79*(4 Suppl 1), S21.

Subramanian, S. V., Lochner, K. A., & Kawachi, I. (2003). Neighborhood differences in social capital: A compositional artifact or a contextual construct? *Health & Place, 9*(1), 33.

Sudore, R. L., Mehta, K. M., Simonsick, E. M., Harris, T. B., Newman, A. B., Satterfield, S., et al. (2006). Limited literacy in older people and disparities in health and healthcare access. *Journal of the American Geriatrics Society, 54*(5), 770.

Sue, S., & Dhindsa, M. K. (2006). Ethnic and racial health disparities research: Issues and problems. *Health Education & Behavior: The Official Publication Of The Society For Public Health Education, 33*(4), 459.

Szasz, T. S., & Hollender, M. H. (1956). A contribution to the philosophy of medicine; the basic models of the doctor-patient relationship. *A.M.A. Archives of Internal Medicine, 97*(5), 585.

Tae-Seale, M., Freund, D., & LoSasso, A. (2001). Racial disparities in service use among Medicaid beneficiaries after mandatory enrollment in managed care: A difference in differences approach. *Inquiry, 38*(1), 49-59.

Tanne, J. (2002). Cause of death among Americans differs with race and education. *BMJ, 325*(7374), 1192.

Taylor-Clark, K., Blendon, R. J., & Benson, J. M. (2003). African Americans' views on health policy: Implications for the 2004 elections. *Health Affairs (Project Hope), Suppl Web Exclusives*, W3.

Thiel de Bocanegra, H., & Gany, F. (2004). Good provider, good patient: Changing behaviors to eliminate disparities in healthcare. *The American Journal Of Managed Care, 10 Spec No*, SP20.

Thisted, R. A. (2003). Are there social determinants of health and disease? *Perspectives in Biology & Medicine, 46*(3), S65.

Thomas, S. (2001). The color line: Race matters in the elimination of health disparities. *American Journal of Public Health, 91*(7), 1046-1049.

Thomas, S. B., Fine, M. J., & Ibrahim, S. A. (2004). Health disparities: The importance of culture and health communication. *American Journal of Public Health, 94*(12), 2050.

Trachtenberg, F., Dugan, E., & Hall, M. A. (2005). How patients' trust relates to their involvement in medical care. *Journal of Family Practice, 54*(4), 344.

U.S. Census Bureau. (2005). *The statistical abstract of the United States*: U.S. Census Bureau.

van Ryn, M., & Burke, J. (2000). The effect of patient race and socio-economic status on physicians' perceptions of patients. *Social Science & Medicine, 50*(6), 813.

van Ryn, M., & Burke, J. (2002). The effect of patient race and socioeconomic status on physicians' perception of patients. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 547-574). San Francisco: Jossey-Bass.

van Ryn, M., & Fu, S. S. (2003). Paved with good intentions: Do public health and human service providers contribute to racial/ethnic disparities in health? *American Journal of Public Health, 93*(2), 248.

ver Ploeg, M., Perrin, E., & National Research Council (U.S.). Panel on DHHS Collection of Race and Ethnicity Data. (Eds.). (2004). *Eliminating health disparities: Measurement and data needs*. Washington, DC: National Academies Press.

Wagner, E. H., Glasgow, R. E., Davis, C., Bonomi, A. E., Provost, L., McCulloch, D., et al. (2001). Quality improvement in chronic illness care: A collaborative approach. *The Joint Commission Journal on Quality Improvement, 27*(2), 63.

Waidmann, T. A., & Rajan, S. (2000). Race and ethnic disparities in health care access and utilization: An examination of state variation. *Medical Care Research & Review, 57*(3), 55-85.

Weech-Maldonado, R., Elliott, M., Morales, L., Spritzer, K., Marshall, G., & Hays, R. (2004). Health plan effects on patient assessments of Medicaid managed care among racial/ethnic minorities. *Journal of General Internal Medicine, 19*(2), 136-145.

Weech-Maldonado, R., Morales, L., Spritzer, K., Elliott, M., & Hays, R. (2001). Racial and ethnic differences in parents' assessments of pediatric care in Medicaid managed care. *Health Services Research, 36*(3), 575-594.

Weinick, R. (2003). Researching disparities: Strategies for primary data collection. *Academic Emergency Medicine: Official Journal of the Society for Academic Emergency Medicine, 10*(11), 1161-1168.

Weinick, R. M., & Krauss, N. A. (2000). Racial/ethnic differences in children's access to care. *American Journal of Public Health, 90*(11), 1771.

Weiss, B. D., Mays, M. Z., Martz, W., Castro, K. M., DeWalt, D. A., Pignone, M. P., et al. (2005). Quick assessment of literacy in primary care: The newest vital sign. *Annals of Family Medicine, 3*(6), 514.

Weissman, J. S., Betancourt, J., Campbell, E. G., Park, E. R., Minah, K., Clarridge, B., et al. (2005). Resident physicians' preparedness to provide cross-cultural care. *JAMA: Journal of the American Medical Association, 294*(9), 1058.

Wensing, M., Grol, R., Asberg, J., van Montfort, P., van Weel, C., & Felling, A. (1997). Does the health status of chronically ill patients predict their judgments of the quality of general practice care? *Quality Of Life Research: An International Journal of Quality Of Life Aspects Of Treatment, Care And Rehabilitation, 6*(4), 293.

White-Means, S. I. (2000). Racial patterns in disabled elderly persons' use of medical services. *The Journals of Gerontology. Series B, Psychological Sciences And Social Sciences, 55*(2), S76.

White-Means, S. I., & Rubin, R. M. (2004). Is there equity in the home health care market? Understanding racial patterns in the use of formal home health care. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences, 59B*(4), S220.

Williams, D. R. (1997a). Missed opportunities in monitoring socioeconomic status. *Public Health Reports, 112*(6), 492.

Williams, D. R. (1997b). Race and health: Basic questions, emerging directions. *Annals of Epidemiology, 7*(5), 322.

Williams, D. R. (1999). The monitoring of racial/ethnic status in the USA: Data quality issues. *Ethnicity & Health, 4*(3), 121.

Williams, D. R. (2002). Racial/ethnic variations in women's health: The social embeddedness of health. *American Journal of Public Health, 92*(4), 588-597.

Williams, D. R. (2003). Race, health, and health care. *Saint Louis University Law Journal, 48*(1), 13.

Williams, D. R. (2005a). The health of U.S. Racial and ethnic populations. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences, 60B*, 53.

Williams, D. R. (2005b). Patterns and causes of disparities in health. In D. Mechanic, L. B. Rogut, D. C. Colby & J. R. Knickman (Eds.), *Policy challenges in modern health care* (pp. 115-134). New Brunswick, N.J.: Rutgers University Press.

Williams, D. R., & Collins, C. (1995). U.S. Socioeconomic and racial differences in health: Patterns and explanations. *Annual Review of Sociology, 21*(1), 349.

Williams, D. R., & Collins, C. (2002a). Racial residential segregation: A fundamental cause of racial disparities in health. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 369-390). San Francisco: Jossey-Bass.

Williams, D. R., & Collins, C. (2002b). U.S. Socioeconomic and racial differences in health: Patterns and explanations. In T. A. LaVeist (Ed.), *Race, ethnicity, and health: A public health reader* (1st ed., pp. 391-431). San Francisco: Jossey-Bass.

Williams, D. R., & Jackson, J. S. (2000). Race/ethnicity and the 2000 census: Recommendations for African American and other black populations in the United States. *American Journal of Public Health, 90*(11), 1728.

Williams, D. R., & Jackson, P. B. (2005). Social sources of racial disparities in health. *Health Affairs, 24*(2), 325.

Williams, D. R., & Lavizzo-Mourey, R. (1994). The concept of race and health status in America. *Public Health Reports, 109*(1), 26.

Williams, D. R., & Rucker, T. D. (2000). Understanding and addressing racial disparities in health care. *Health Care Financing Review, 21*(4), 75.

Williams, M. V., Davis, T., Parker, R. M., & Weiss, B. D. (2002). The role of health literacy in patient-physician communication. *Family Medicine, 34*(5), 383.

Williams, R. L., Flocke, S. A., & Stange, K. C. (2001). Race and preventive services delivery among black patients and white patients seen in primary care. *Medical Care, 39*(11), 1260.

Wilson, F. L. (2000). Measuring patients' ability to read and comprehend: A first step in patient education. *Nursing Connections, 13*(3), 19.

Winter, L., Lawton, M. P., Langston, C. A., Ruckdeschel, K., & Sando, R. (2007). Symptoms, affects, and self-rated health. *Journal of Aging & Health, 19*(3), 453.

Witzig, R. (1996). The medicalization of race: Scientific legitimization of a flawed social construct. *Annals of Internal Medicine, 125*(8), 675-679.

Wong, M., Shapiro, M., Boscardin, W., & Ettner, S. (2002). Contribution of major diseases to disparities in mortality. *The New England Journal of Medicine, 347*(20), 1585-1592.

Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory & Society, 27*(2), 151-208.

Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *World Bank Research Observer, 15*(2), 225-249.

Woolf, S. H., Johnson, R. E., Fryer Jr., G. E., Rust, G., & Satcher, D. (2004). The health impact of resolving racial disparities: An analysis of us mortality data. *American Journal of Public Health, 94*(12), 2078.

Zambrana, R. E., & Dill, B. T. (2006). Disparities in Latina health: An intersectional analysis. In A. J. Schulz & L. Mullings (Eds.), *Gender, race, class, and health: Intersectional approaches* (1st ed., pp. 192-227). San Francisco, CA: Jossey-Bass.

Zambrana, R. E., Molnar, C., Munoz, H. B., & Lopez, D. S. (2004). Cultural competency as it intersects with racial/ethnic, linguistic, and class disparities in managed healthcare organizations. *The American Journal of Managed Care, 10 Spec No*, SP37.

Zaslavsky, A., Landon, B., Beaulieu, N., & Cleary, P. (2000). How consumer assessments of managed care vary within and among markets. *Inquiry, 37*(2), 146-161.

Zhang, Y., Rohrer, J., Borders, T., & Farrell, T. (2007). Patient satisfaction, self-rated health status, and health confidence: An assessment of the utility of single-item questions. *American Journal of Medical Quality, 22*(1), 42.

Ziersch, A. M., Baum, F. E., MacDougall, C., & Putland, C. (2005). Neighbourhood life and social capital: The implications for health. *Social Science & Medicine, 60*(1), 71-87.

Zuvekas, S. H., & Taliaferro, G. S. (2003). Pathways to access: Health insurance, the health care delivery system, and racial/ethnic disparities, 1996-1999. *Health Affairs, 22*(2), 139.