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The State of Research on Racial/Ethnic Discrimination in The Receipt of Health Care

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Abstract

Objectives—We conducted a review to examine current literature on the effects of interpersonal and institutional racism and discrimination occurring within health care settings on the health care received by racial/ethnic minority patients.

Methods—We searched the PsychNet, PubMed, and Scopus databases for articles on US populations published between January 1, 2008 and November 1, 2011. We used various combinations of the following search terms: discrimination, perceived discrimination, race, ethnicity, racism, institutional racism, stereotype, prejudice or bias, and health or health care. Fifty-eight articles were reviewed.

Results—Patient perception of discriminatory treatment and implicit provider biases were the most frequently examined topics in health care settings. Few studies examined the overall prevalence of racial/ethnic discrimination and none examined temporal trends. In general,

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All authors contributed to the conceptualization of the project. V. L. Shavers, P. Fagan, and D. Jones reviewed the literature, participated in writing, reviewing and editing the article. W. M. P. Klein reviewed and edited the draft article. J. Boyington and C. Moten provided comments on the draft article and E. Rorie performed the initial literature search.

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measures used were insufficient for examining the impact of interpersonal discrimination or institutional racism within health care settings on racial/ethnic disparities in health care.

Conclusions—Better instrumentation, innovative methodology, and strategies are needed for identifying and tracking racial/ethnic discrimination in health care settings.

Racial/ethnic minorities suffer disproportionate morbidity and mortality from chronic diseases, including cancer, heart disease, diabetes, and stroke. US racial/ethnic health disparities are a consequence of several factors including the disproportionate prevalence of less healthy lifestyles, low socioeconomic status, resource-poor neighborhood environments, and poorer access to care. Another factor is the poorer care received by minority patients after they enter the health care system. The 2005 National Healthcare Disparities Report indicated that White patients receive better quality of care than 53% of Hispanic, 43% of African American, 38% of American Indian/Alaska Native, and 22% of Asian and Pacific Islander patients.[1] An updated report in 2010 showed no changes in disparities in 30 of 41 quality core measures for Hispanics, 40 of 47 measures for African Americans, 13 of 19 measures for Asians, and 15 of 22 measures for American Indian or Alaska Natives compared with Non-Hispanic Whites.[2] Efforts to eliminate these disparities are hampered by the lack of a full understanding of all proximal causes including any role that racial/ethnic discrimination within the health care system might play.

Racial discrimination is defined as "(1) differential treatment on the basis of race that disadvantages a racial group and, (2) treatment on the basis of inadequately justified factors that disadvantage a racial group,"[3(p39)] and has been linked to racial/ethnic disparities in health outcomes. Not all discrimination occurs at the individual level or is intended. Seemingly benign policies, practices, structures, and regulations also have the potential to be discriminatory and are collectively referred to as institutional racism. Individual level discrimination and institutional racism may compound the negative effects of other health determinants,[4] thereby placing racial/ethnic minorities in double jeopardy.

Results of a recent nationwide poll of the United States showed that 74% of African Americans, 69% of other non-Whites, and 30% of Whites report personally experiencing general race-based discrimination.[5] Research studies have shown that general experiences with racial/ethnic discrimination are associated with a variety of adverse health outcomes including higher mortality[6]; lower use of cancer screening[7]; elevated blood pressure[8,9]; higher levels of C-reactive protein[10]; substance use[11,12]; mental and physical health[13,14] including mood, anxiety, and psychiatric disorders[12]; increased depressive symptoms[15]; weight gain[16]; high body mass index[17]; and smoking.[18] Not all studies, however, have found a significant association between general race/ethnicity-based discrimination and health.[19,20] Although racial/ethnic discrimination within health care settings and health systems has also been implicated in health disparities,[21] little is known about the empirical evidence supporting its prevalence or the association with poor health outcomes.

We provide a review of the scientific literature on the prevalence, perception of and effect of racial/ethnic discrimination and institutional racism within health care settings. Our specific objectives were to examine the extent to which recent literature addressed the following research questions:

1. What research methods are currently being used to measure receipt of discriminatory health care?
2. What is the current prevalence of racial/ethnic discrimination in health care settings?
3. Has the perception of or receipt of discriminatory health care changed over time?

4. How does racial/ethnic discrimination influence health in health care settings?
5. How do system level factors, such as institutional practices, policies and regulations contribute to discriminatory health care services?

This review summarizes results of recent research, identifies currently used instrumentation and methodology, and identifies areas where additional research is needed and is a resource for researchers with interest in working in this topic area.

METHODS

We searched the PsychInfo,[22] PubMed,[23] and SciVerse Scopus (Scopus) databases[24] for articles that focused on US populations published between January 1, 2008 and November 1, 2011. The beginning of the timeframe (2008) was chosen because of the 2009 publication by Williams and Mohammed[25] that reviewed the literature on discrimination and health from 2005 to 2007 from a methodological perspective. Kressin et al.[26] reviewed the psychometric properties of instruments used to examine discrimination. Our review differs from these in that we specifically examined current literature with a focus on racial/ethnic discrimination by health professionals or that occur within health care settings as opposed to discrimination occurring in the general community. Our cutoff date of November 1, 2011 reflects the publication date of the most current literature available at the time of our review.

Combinations of the following terms were used to search the 3 databases: discrimination, perceived discrimination, race, ethnicity, racism, institutional racism, stereotype, prejudice, and bias combined with health or health care in the text, title, or abstract (e.g., racial discrimination and health, racial discrimination and health care, racism and health and racism and health care; see Appendix A [available as a supplement to the online version of this article at http://www.ajph.org] for all search terms). A search of all 3 databases was also conducted with the names of commonly used instruments used to assess discrimination (e.g., Everyday Discrimination, Experiences of Discrimination, Perceptions of Racism Scale, Schedule of Racist Events, Implicit Association Test, Racism in Health Care Index, Perceived Prejudice in Health Care, Multiple Discrimination Scale, and General Experiences of Ethnic Discrimination) as search terms. These instruments were identified through a PubMed search with the search terms “measurement and racial discrimination” and through personal knowledge of the lead author. Other than time of publication, there were no other limits applied for the search. The last date the search was performed was November 18, 2011 for PubMed, November 23, 2011 for PsychNet, and December 13, 2011 for Scopus; however, only articles published between January 1, 2008 and November 1, 2011 were used in the review.

To be eligible for inclusion in this review articles had to be published in English; focused on US health care providers, patients, or US health care settings; and original research articles that reported quantitative or qualitative results of racial/ethnic discrimination, patient or provider perceptions of race/ethnicity-based discrimination within US health care settings, or discriminatory attitudes and beliefs of US patients or health care providers. We initially identified 5024 articles, of which 1185 were found to be duplicates of articles found in other searches of the same database or of one of the other databases. After these were deleted, 3839 unique articles remained from the combined searches of the 3 databases using the search terms in Appendix A (available as a supplement to the online version of this article at http://www.ajph.org). Titles of the remaining articles were first examined to determine their general relevance to the current review. Abstracts of articles that appeared to focus on racial/ethnic discrimination were then reviewed for inclusion (n = 686). Abstracts from dissertations; commentaries, letters to editors, editorials or that did not report original research; did not report results of research on US populations, or that did not provide

information on the health care setting were deleted (n = 509). One hundred seventy-seven abstracts were further reviewed for inclusion, of which 94 were later found not to meet the inclusion criteria, leaving 83 articles of which 58 met the inclusion criteria after further review (Figure 1). These 58 articles are summarized in the current study.

RESULTS

The results of the literature search are presented by topic area. Each section addresses 1 of the 5 research questions.

Measurement of Racial/Ethnic Discrimination in Health Research

The accuracy of research findings is only as good as the tools used to measure them. Optimal measures of racial/ethnic discrimination in health care settings assess the actual occurrence of or potential for discriminatory events, the impact of discriminatory events among individuals who experienced them, and the effect if any, on the patients' interactions with their health care provider.[26] Three published reviews examined measures used to assess discrimination in health research.[25-27] In general, measures examined in 2 of the previous reviews[26,25] primarily assessed general experiences of discrimination and thus only provided limited information on measures to assess racial/ethnic-discrimination in health care settings. As a component of a review that focused on personally mediated racism, Kressin et al.[26] examined 16 measures that contained at least 1 item on perceived discrimination in health care settings. The majority of the measures reviewed by Kressin focused on attitudes and behaviors of health care workers perceived to be discriminatory (e.g., poorer service, less respect, and unfair treatment), and only 2 contained items that assessed discriminatory receipt of health care.[26] Table 1 lists the questions used by investigators to assess racial/ethnic discrimination in the health care setting in the articles included in the current review (for a more complete list, see Table A, available as a supplement to the online version of this article at http://www.ajph.org).

Methodological approaches—Several basic methodological approaches can be used to obtain information about occurrences of or effects of discrimination including official counts; matched, residual, observational, and laboratory studies; in-depth interviews; and surveys.[28] The strengths and limitations of each are provided in Table 2. In the current review, patient survey was the most widely used approach for assessing perception of health care discrimination (Table B describes the methods and results of the reviewed studies and is available as a supplement to the online version of this article at http://www.ajph.org).[12,29-63]

Survey data were used to examine the proportion of respondents who ever experienced a discriminatory event attributed to race/ethnicity in the health care setting or when getting medical care,[31,32,37,40,41,43-45,50,56,58,60-65] recent discriminatory experiences (e.g., within last month—5 years),[12,30,33-35,46,48,49,52-54,59] frequency of discriminatory events,[31,33] perceptions of specific provider behaviors (e.g., treats me with respect and dignity, looks down on me)[39,43,45,48-50,53] length of time since last discriminatory event,[33] while receiving treatment of a specific condition,[29,36,63] general beliefs regarding discrimination in health care settings,[38,51,66] and methods of coping with discriminatory treatment.[12]

Assessing the prevalence of perceived discrimination among patients was the sole focus of 11 articles,[35-37, 43,48,67-71] whereas the association of perceived race/ethnicity-based discrimination with specific health outcomes was the focus of 20 articles.[12,29,30,32-34,39,40,44-46,49-54,57,59,63,72] Outcomes examined included treatment adherence,[29] health care utilization,[30,41,46] depression,[68] cancer screening,[33] health status,[34,40,46,54] functional limitations,[34] patient—provider communication,[39,53] comfort

with providing information on race/ethnicity,[44] blood pressure control,[45,50] quality of care,[49,50,53,57] psychiatric disorders,[12] quality of life,[51] locus of control,[54] and chronic health conditions.[59]

In-depth interviews and focus groups were the second most frequently used approach and were used to elicit information on patient perspectives of discrimination in cancer care,[69] provider explanations for racial disparities in medical treatment,[68] patient perceptions of discriminatory behavior by providers and its effect on compliance with treatment recommendations,[67] description of health provider behaviors perceived to be discriminatory,[73,74] perspectives regarding race and race-related conversations within the health care work-place,[75] patient perspectives of barriers to care,[71] and perception of the role of racial discrimination in health care disparities.[76]

The Implicit Association Test (IAT),[77] a variation of the matched study approach was used in 7 articles to examine implicit racial/ethnic biases.[76,78,79,80-84] Another previously popular method the case vignette, another form of the matched pair study; was used in only 2 of the reviewed studies to assess racial differences in treatment recommendations.[82,84] None of the reviewed studies used other methodological approaches listed in Table 2. Because residual studies would not specifically focus on measurement of discrimination, articles using this approach were not included in this review.

Measures of perceived discrimination—Twenty-six articles measured respondent perception of health care discrimination (Table B, available as a supplement to the online version of this article at http://www.ajph.org). Established scales or their adaptations were used to measure perceived discrimination in 14 articles,[12,30-32,38,39,43,45,48-51,53,54] and investigators developed their own measures in 8 articles.[29,36,67,68,71,75,76] The original or an adapted version of the Experiences of Discrimination Scale was the most frequently used measure of perceived discrimination.[12,30,31,43,48,49,79]

Survey data specific to health care settings were obtained from a single question which assessed the occurrence of any race/ethnicity–based discriminatory health care event[12,29,30,36,42,44,48,49,52,56,57,59] with either a question on attribution[35] or length of time since the experience[33,35] (Table 1; see also Tables A and B, available as supplements to the online version of this article at http://www.ajph.org). Only 1 survey conducted longitudinal assessments (6-month intervals) of discriminatory health care experiences.[29]

Measurement of Implicit bias—The IAT is a timed computer-based measure of unconscious bias assessed by measuring the time it takes to match members of social groups to particular attributes (e.g., good, bad, cooperative, and stubborn).[77] Unconscious biases in health care settings were measured with adaptations of the IAT in all identified articles that measured implicit bias.[76,78-84] Seven of the reviewed studies used the IAT to assess implicit race/ethnicity-based bias among current health care providers or clinical trainees.[76,78,80-84] Studies using the IAT investigated implicit racial attitudes and cultural competency,[76] the role of physician's implicit biases in shaping physicians' and patients' perceptions in racially discordant medical interactions,[78] unconscious bias and its association with clinical assessment among medical students,[79] and an educational intervention to reduce implicit bias among medical students.[80] Sabin et al.[81] used the race attitude, compliant patient, and quality of care IATs to assess racial bias and quality of care provided by pediatricians and White-Means et al. examined objective and subjective cognitive processes among allied health and medical students.[82]

Two studies examined the correlation between measures of implicit and explicit racial attitudes.[83,84] In a somewhat novel application among US-born Blacks, Krieger et al.

examined the correlation between implicit and explicit measures of being a target of racial/ethnic discrimination personally and for the respondents' racial/ethnic group.[83] Sabin et al. examined the correlation between implicit and explicit racial attitudes in a physician subgroup.[84]

Data Sources—Surveys with questions on discrimination identified in the reviewed articles included the Behavioral Risk Factor Surveillance System (BRFSS; http://www.cdc.gov/BRFSS), Coronary Artery Risk Development in Young Adults (CARDIA; http://www.cardia.dopm.uab.edu/o_ucd.htm), the California Health Interview Survey (CHIS; http://www.chis.ucla.edu), and the Commonwealth Fund Health Care Quality Surveys (http://www.commonwealthfund.org). Data from the California Health Interview Surveys and the Commonwealth Fund Health Quality Survey were the most frequently used secondary data sources and were used in 14 studies.[33-35,44-46,50,53,56-59,63,70]

Because of the populations targeted, sampling design, and response rates, data from these surveys could not be used to provide reliable national estimates of the prevalence of discrimination encountered in health care settings. For example, although the BRFSS incorporated the Reactions to Race module as an optional module in 2002, only 9 states fielded the module in 2004 and only 2 in 2009; furthermore, overall BRFSS survey response rates are low in general.[85] The Commonwealth Fund last fielded the Health Care Quality Survey in 2006. Data from cohort studies such as CARDIA could be used to assess trends in the prevalence of perceived discrimination within defined populations, but CARDIA is not a national probability sample. CHIS, a biennial survey, included 1 question on discrimination encountered in health care settings and an attribution question on the 2001, 2003, and 2005 surveys and tested a discrimination module in 2007 and 2009; however, the discrimination module is not publicly available, and the sample includes California residents only.

Prevalence and Perception of the Racial/Ethnic Discrimination in Health Care Encounters

The reported prevalence of race/ethnicity based discrimination from local, regional, or state cross-sectional or cohort studies was between 6.9% and 52.0% for African Americans, 4.2% and 13.4% for Latinos and 0.4% and 6.0% for Non-Hispanic Whites.[30,31,34,40,43,52,60,62,73] A small number of studies also reported perceived discrimination in health care of between 8.0% and 8.9% for American Indian patients,[30,34] 12.3% for Puerto Ricans in the United States,[66] 7.5% for Southeast Asians,[30] and between 3.0% and 9.1% for Asian/Pacific Islanders,[34,35,47,48,57,59] which varied by nativity and time since immigration in 1 study.[59] Perceptions of racial/ethnic discrimination was also found in Veterans Affairs facilities, generally considered to be equally accessible to all veterans, retirees, and their family members.[31,39,42,43] Patients did not report that they were subjected to race/ethnicity-based health care discrimination in all studies[69] nor among all minority groups.[36] The percentage of people who reported race/ethnicity-based discrimination in health care settings was higher in studies that covered longer reporting periods compared with studies with shorter periods (2 months—5 years).

Results of these studies show that African Americans and Latinos more frequently report race/ethnicity-based discrimination during their health care encounters compared with Non-Hispanic Whites,[31,34,35,40,43,47,48,51,52,57] as do minority women compared with minority men[33,41] and US-born Latinos compared with foreign-born Latinos.[53] Perceived racial/ethnic discrimination within health care settings was also more frequently reported by patients who were younger than 65 years, of low socioeconomic status and uninsured or publically insured or with no usual source of care.[34]

Behaviors perceived to be discriminatory were described by Mexican Americans patients and families or African American women in 2 studies.[72,73] Behaviors perceived by Mexican

American patients of terminally ill children to be discriminatory included preferential treatment to White patients such as moving the Mexican American child out of a patient room into hall when a White child was admitted, allowing entire White families to visit after hours while limiting visits to 1 person at a time for Mexican American patients, and attending to the needs of White patients and family members while ignoring Mexican American family members and patients. In another study behaviors perceived by African American women to be racial profiling, biased or discriminatory included patients who arrived after they did being treated ahead of them, White patients being permitted to see the doctor without an appointment, the condescending tone of White providers/staff such as references to "you people."[73]

Two studies examined geographic variation in reports of discrimination in health care encounters.[34,52] Of the 114 people (4.8%) who reported health care discrimination in the 2004 through 2008 Behavioral Risk Factor Surveillance System (BRFSS) 13.1% resided in the North, 37.1% in the South, 48.6% in the East and 1.2% in the West.[52] In a study that examined urban and rural differences in discrimination by site of care D'Anna et al., found that urban residents more frequently than rural residents reported race/ethnic-based discrimination when receiving health care in a private doctor's office or within an HMO plan but not at other health care sites.[34]

Experiences with racial/ethnic discrimination in health care settings were not limited to patients. Three studies examined the bias, prejudice, stereotyping, and discriminatory attitudes or behaviors of patients toward providers.[86-88] In a national cross-sectional survey of 529 physicians, October 2006 through February 2007, 60% of African American, 33% of Asian, 17% of Hispanic or Latino, 30% of Non-Hispanic White, and 42% of other race physicians reported a belief that patients refused care from them because of their race/ethnicity.[86] After 9/11, 41.2% of Arab American nurses in another survey reported more intimidation, 32.4% reported more suspicious treatment, and 15.2% reported more frequent patient refusals of treatment by them. In a study of direct care workers 32% to 54% reported hearing racial/ethnic comments perceived to be intentionally hurtful from residents or clients, other staff members, and patient family members.[88]

Impact of Perceived Discrimination Within the Health Care Setting

Eighteen studies addressed the impact of patient perception of racial/ethnic discrimination within health care settings (Table B, available as a supplement to the online version of this article at http://www.ajph.org).[12,29-33,35, 37,41,44-46,49,52,53,57,77] Perceived racial/ethnic discrimination during health care encounters was associated with poorer self-reported health status,[40,46,53] lower perceived quality of care,[57] greater bodily pain,[31] more psychiatric disorders,[12,32] lower colorectal screening among women but not men,[33] worse diabetes care and more diabetic complications,[52] poor adherence to antiretroviral therapy,[29] under-utilization of health services,[46] physical and emotional functional limitations,[35] delays in seeking care,[30,84] failure to adhere to recommendations,[30,45,84] societal distrust,[37] unmet needs for health care utilization,[47] lower levels of comfort in providing information about race/ethnicity in health care settings,[44] and interruptions in care, mistrust of providers, and avoidance of health care systems.[84] Not all studies however, found a negative impact of perceived discrimination.[41,49,51] Perceived racial discrimination when seeking health care was not significantly associated with lower utilization of the flu shot[41] or less medication intensification among diabetes patients.[49] In the Myaskovsky et al. study, African American patients with spinal cord injuries who reported more discrimination also reported better occupational functioning.[51]

Trends and Temporal Patterns in the Prevalence of Perceived Racial/Ethnic Discrimination in Health Care Settings

None of the reviewed studies examined trends or temporal patterns of perceived racial/ethnic discrimination in health care settings.

Mechanisms Through Which Race/Ethnicity Influence Health in Health Care Settings

Eight articles examined racial/ethnic attitudes, biases, stereotypes, and behaviors among current or health care providers in training.[68,71,76,77,80-82,84] Findings from the majority of the reviewed articles provide evidence of the prevalence of provider explicit and implicit biases, attitudes and beliefs that could negatively affect the health care delivered to racial/ethnic minority patients. Included were less patient involvement in decision-making,[77] disbelief of the existence of health care disparities,[68] belief of a lack of role of racial discrimination in health care disparities,[76] and implicit preferences for White race[80-82] and light skin color.[81] By contrast, Sabin et al. found that medical faculty and residents had more explicit positive beliefs regarding patient compliance for African Americans compared with European Americans.[80]

Institutional Racism and System Level Factors

The causes of discriminatory care are not limited to the personal biases and prejudices of providers or patients. Relatively absent from the literature were studies that examined institutional racism or racial/ethnic variation in the impact of specific federal and institutional regulations, policies, and practices on the receipt of health care. In a notable exception, an audit study of 273 specialty practices in Cook County, Illinois, showed that 66% of persons posing as parents of a sick or injured child requiring urgent care who mentioned Medicaid-CHIP (Children Health Insurance Program) were denied an appointment compared with 11% of patients with private insurance.[89] Among clinics that scheduled appointments for both types of patients, those with Medicaid-CHIP waited 22 days longer for an appointment than did privately insured patients. The potential discriminatory impact of this practice becomes apparent when considering the substantial numbers of minority children insured through state CHIP programs.[90] Although low Medicaid reimbursement rates were thought to contribute to this practice, it provides a good example of how policies, regulations, and practices can result in discriminatory behavior.

DISCUSSION

We examined the availability of data on the prevalence, trends, mechanisms, and institutional policies and practices associated with racial/ethnic discrimination in health care settings. Although there were a number of studies that described race/ethnicity based discriminatory behaviors, attitudes, biases and preferences that could potentially contribute to discriminatory health care we found no studies that specifically addressed the US prevalence or trends. Also, relatively absent were studies that addressed how institutional racism impacts the health care received by racial/ethnic minority patients.

None of the measures used in the reviewed studies captured information on all 3 aspects of effective measures as described by Kressin et al. (i.e., assessed the actual occurrence of or potential for discriminatory events, impact of discriminatory events among individuals who experienced them, and the effect if any, on the patients' interactions with their health care provider).[26] There was also wide variation in the length of time for which discrimination was assessed (i.e., lifetime, varying time intervals), which would be expected to greatly influence the reported prevalence of perceived discrimination and adds to the difficulty in comparing rates across studies. Furthermore, many of the studies that examined perceived racial discrimination in health care settings provided little, if any, information about the

specific actions perceived to be discriminatory, specific context in which the discriminatory act occurred (e.g., emergency room, doctors office, or health clinic), or the specific perpetrator (e.g., nurse, office staff, or physician), which would be helpful in developing targeted interventions.

Unconscious biases and stereotyping that can underlie decision-making contribute to the difficulty of assessing the actual impact of race/ethnic discrimination in health care settings on access to and receipt of optimal care. Whereas patients are a good source of information about perceived discriminatory provider behaviors, system characteristics perceived to be discriminatory, and the personal consequences of perceived discrimination, they may be unknowledgeable about the standard of care for their disease or condition. Provider and other staff surveys that examine their observations of practices within their institutions therefore may be a better source of information on the prevalence of racial/ethnic discrimination in health care settings and its association with the receipt of health care.

Findings from the reviewed studies suggest that racial/ethnic discrimination may be prevalent in health care settings and potentially influence the health care received by minority patients. However, little is known about the national prevalence or trends in race/ethnicity-based discrimination in US health care systems. This situation results in part from the fact that Federal statistics on racial/ethnic discrimination in the United States are primarily limited to findings from audit programs for housing, hate crimes, and other complaints filed with US agencies such as the Equal Employment Opportunity Commission (EEOC) and the Fair Housing Commission.[28] In the absence of federally mandated surveillance, much of what we know about the receipt of discriminatory health care comes from small research studies that focus on racial/ethnic disparities in receipt of treatment and outcomes, and that are not generally designed to provide information on what, if any, portion of observed disparities is a result of racial/ethnic discrimination. Accurate measurement and tracking of the incidence and prevalence of prejudice, bias, and other discriminatory attitudes in health care settings, therefore, is not only important to increasing the visibility of discrimination as a health risk but will help clarify its relationship to racial/ethnic disparities in health outcomes.[91]

There is a continuing need for innovative methodology, better instrumentation, and strategies for identifying racial/ethnic and other types of discrimination in health care settings, particularly because of the somewhat subjective manner in which health care is delivered. For example, Shields et al. were successful in using actors (standardized patients) portraying patients with stage IV lung cancer to evaluate patient-centered communication.[92] Using standardized patients to monitor receipt of discriminatory care in a manner similar to housing and employment audits might be a feasible method for directly assessing racial discrimination in health care receipt. There is also a need to create data resources that facilitate tracking of reports of the receipt of discriminatory care and to establish a system of accountability that facilitates positive change.

An interesting area for future investigation is the role of stereotype threat defined as “being at risk of confirming, as self-characteristic, a negative stereotype about one’s group.”[93(p797)] A number of racial/ethnic stereotypes are prevalent in health care settings.[77,79,84,94-96] Stereotype threat in the clinical setting is posited to be more likely to occur when features of the setting make prevailing stereotypes of minority patients salient.[94] However, only 1 research study within the review period examined the impact of stereotype threat on the receipt or utilization of health care. In a review of studies on stereotype threat, Burgess et al.[94] concluded that stereotype threat in clinical settings contributed to treatment nonadherence and influenced patient outcomes. Stereotype threat also resulted in impaired communication between patients and providers, with patients discounting feedback and

disengaging by avoiding going to the doctor and exhibiting the stereotyped behavior which, in turn, reinforced provider beliefs and their clinical decision-making.[94]

Study Limitations

Of note, our review only included studies published in English on US populations from 2008 to November 1, 2011 that focused on racial/ethnic discrimination occurring in health care settings. Therefore, other studies are likely to exist that may provide insight into available measures, prevalence, trends, and systematic factors that were not examined in this review. In addition, because we were interested in data sources and measures currently used by researchers as evidenced by the published literature, we only evaluated surveys used in the reviewed studies.

Future Research Directions

The existing literature suggests that racial/ethnic discrimination may be prevalent in US health care settings but more research including national studies are needed. Several gaps in the research literature were also identified and should be considered for future research studies. As Gee[97] suggests, there is a need to address discrimination at both the interpersonal and structural levels. Doing so will help us to understand how discrimination operates within health care settings while identifying targets for intervention. Studies should include systematic examinations of patient-physician interactions, particularly as they relate to communication styles and nonverbal behaviors that have the potential to elicit the perception of discrimination among diverse patients. Although it is possible that some providers purposely engage in discriminatory care, unconscious bias among well-meaning providers is the more likely culprit. Additional research is needed that explores whether and under what conditions the implicit attitudes of providers affect the quality of the medical care delivered to racial/ethnic minority patients. Physicians who are trained to be aware of implicit biases can be sensitized to their potential for bias,[77,79,94,96] which may encourage self-regulation[77] and facilitate decision-making based on the specific needs and resources available to individual patients.

There is also need to assess how racial/ethnic discrimination faced by racial/ethnic minority health providers within their work-places (i.e., hospitals and clinics) influence the availability of minority health care providers, and as a consequence, minority patient perception of the accessibility of appropriate care.

The introduction of health care reform, which has provisions that affect access to and the composition of health insurance plans, hospital availability, and other federal policies; provides a unique opportunity for research on the effect of health system policies on the receipt of discriminatory care. In recognition of the need for additional research, The National Cancer Institute (NCI) has recently reissued the program announcement "*The Effect of Racial/Ethnic Discrimination on Healthcare Delivery*,"[98] for investigators interested in pursuing research in this topic area.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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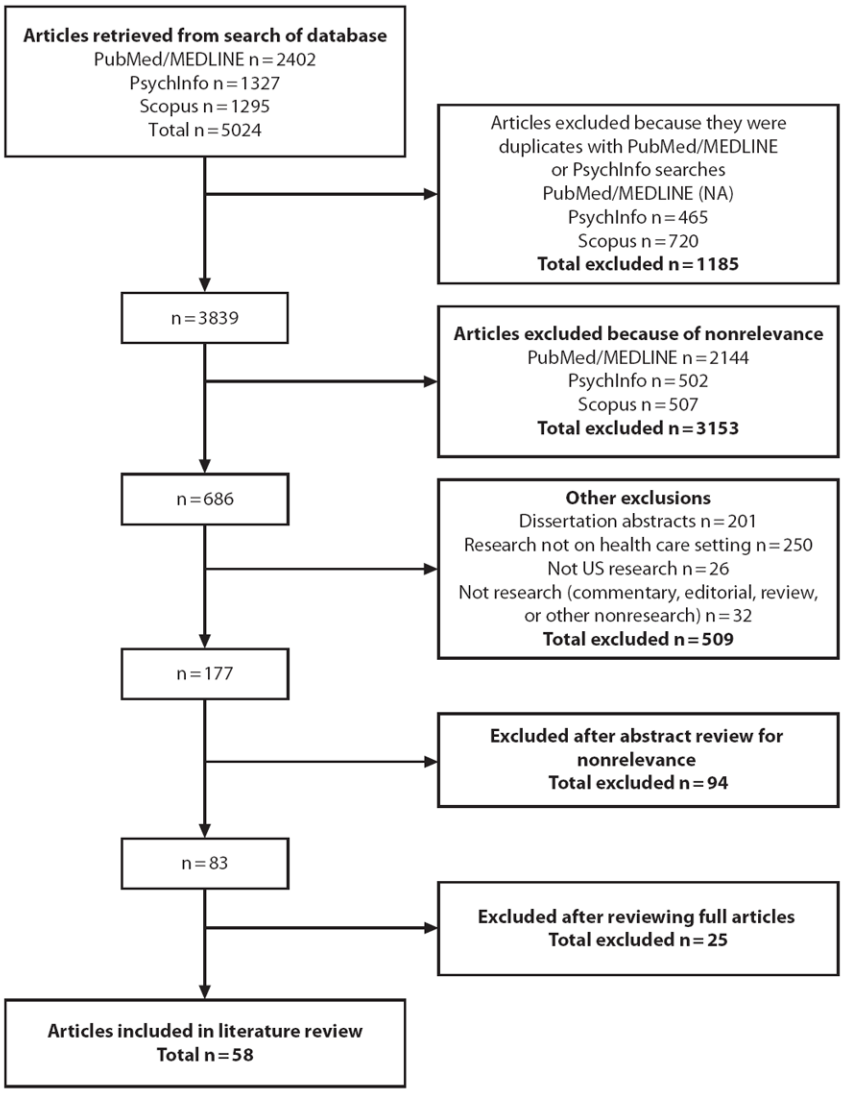

FIGURE 1.
Quorum diagram of literature review on racial/ethnic discrimination in health care settings.
Note. NA = not applicable.

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TABLE 1

Selected Measures Used in the Reviewed Studies to Assess Racial/Ethnic Bias and Perception of Racial/Ethnic Discrimination in Health Care Settings.

Name of Instrument	Target Population	Strengths	Weaknesses	Questions Related to the Health Care Setting
CHIS, 2003 and 2005	Multiracial/ethnic sample via telephone survey.	NA	Only 2 questions are related to discrimination in the health care setting.	"(1) Was there ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group?" (2) Think about the last time this happened. How long ago was that?"
CHIS Discrimination Module[100]	Multiracial/ethnic sample via telephone survey.	Two approaches were tested using early attribution and late-attribution of reasons for discrimination. Field testing was conducted with the 2009 CHIS data.More than 51 000 adults were surveyed in 2007.	Data from this particular module are not currently available for public use.	"Over your entire lifetime… (1) How often have you been treated unfairly or been discrimination against when getting medical care because you are (FILL)? Would you say… (Never, rarely, Sometimes or Often) (2) How often have you been treated unfairly when getting medical care? Would you say… (Never, Rarely, Sometimes OR often). (3) Were you treated unfairly because of your ancestry or national origin, gender or sex, race or skin color, age, the way you speak English (language/accent)? If yes, specify. . . . . If yes to more than one: (4) Which of these do you think is the main reason why you were treated unfairly? (5) How stressful have these experiences of unfair treatment usually been for you? Would you say… (Not at all stressful, A little stressful, Somewhat stressful, OR extremely stressful)."
Coronary Artery Risk Development in Young Adults http://www.cardia.dopm.uab.edu	Initial cohort of 5115 AA and White men and women followed since 1985	Questions on discrimination were asked in 1992, 2000, and 2010, which permits tracking of the prevalence of perceived discrimination over time.	Only asks 1 question on discrimination related to health care.	"Have you ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior in any of the following 7 situations because of your race or color? At school, getting a job, at work, getting housing, getting medical care from the police or in courts, on the street or in a public setting?"
Commonwealth Fund 2001 Health Care Quality Survey[53]	8290 NHW, Hispanic, AA and Asian Americans.	Asks about specific interactions perceived to be discriminatory (i.e., judged unfairly or treated with disrespect)	NA	"Now thinking about all of the experiences you have had with health care visits in the last 2 years, have you ever felt that the doctor or medical staff you saw judged you unfairly or treated you with disrespect because of … your race or ethnic background? What happened to make you feel that you were judged unfairly or treated with disrespect? [open ended] Do you think there was ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group? Over the last 2 years, has a family member or friend been treated unfairly when seeking medical care specifically because of race or ethnic background?"
Everyday Discrimination—Healthcare Specific Adaptation[43]	AA and White veterans. Validated for use in Black, Latino, and White working class population.	Specifically adapted to assess information about health care discrimination. Also assesses the frequency of discriminatory experiences.	NA	"When getting health care, how often has each experience happened to you because of your race or color (1) Treated with less courtesy than other people, (2) Treated with less respect than other people, (3) Received poorer services than other people (4) Had a doctor or nurse act as if he or she thinks you were not smart (5) Had a doctor or nurse act as if he or she was afraid of you (6) Had a doctor or nurse act as if he or she was better than you (7) Felt like a doctor or nurse was not listening to what you were saying."
Experiences of Discrimination [101]	Validated for use in Black, Latino, and White working class population.	Cronbach's α was ≥ 0.74 for the 3 race/ethnic groups on the 9 item version ranged between 0.67–0.87 on the 9 and 7 item	Subject to bias from differences in perception, interpretation, and the willingness to	"(1) Have you ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior in getting (medical care) because of your race, ethnicity, or color? (2) How many times did this happen? (3) If you feel you have been treated unfairly, do you usually (1 = accept it as a fact of life, 2 =

Name of Instrument	Target Population	Strengths	Weaknesses	Questions Related to the Health Care Setting
		situation and frequency scales for each race/ethnic group.	disclose discriminatory experiences.	try to do something about it)? (4) If you have been treated unfairly, do you usually (1 = talk to other people about it, 2 = Keep it to yourself)"
General Experiences of Ethnic Discrimination[102]	Multiethnic—NHW, AA, API, Latinos	Could not evaluate the convergent validity as a measure of perceived stress.	The Cronbach's α for the 4 subscales was, 0.93–0.95 for AAs, 0.93–0.94 for Latinos, 0.91–0.94 for Asian-Americans and Whites 0.91–0.92 for Whites.	Modeled on The Schedule of Racist Events—Measures discrimination as a type of stress in several domains including health care. Eighteen items from which 3 ratings are produced: (1) Recent Discrimination, (2) Lifetime Discrimination and (3) Appraised Discrimination. One question related to health care: (1) How often have you been treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, case workers, dentists, school counselors, therapists, social workers and others) because of your race/ethnic group?
JHSDIS [103]	AA	JHSDIS was found to be psychometrically sound in both the every day and lifetime scales.	The instrument was developed for use among African Americans in the southeastern United States.	JHSDIS was designed to assess daily discrimination, effect of skin color, and lifetime prevalence of discrimination. The instrument includes items developed from focus group findings, the Everyday Discrimination instrument, the MacArthur Foundation Midlife Development in the United States Survey, 2 measures of the effects of skin color on treatment by Blacks and Whites from the Detroit Area Study and 2 items designed to assess comparable frequency of events from early life to present time and overall contribution to life stress. Question related to health care (See Everyday Discrimination Scale)
IAT https://implicit.harvard.edu/implicit	NA	Implicit measures are thought to be less biased than explicit measures.	There is disagreement regarding the validity of the IAT.	"The IAT produces measures derived from latencies of responses to two tasks. These measures are interpreted in terms of association strengths by assuming that subjects respond more rapidly when the concept and attribute mapped onto the same response are strongly associated (e.g., *flowers and pleasant*) than when they are weakly associated (e.g., *insects and pleasant*)."
Multiple Discrimination Scale[29]	Gay, HIV positive AA men.	NA	NA	Uses 10 items on each of 3 parallel scales to capture discrimination based on AA race/ethnicity, HIV status, and sexual orientation. Includes 1 question on institutional discrimination (health care) in past year.
Perceived Discrimination in Health Care Measure [104]	AA, White, and other race individuals with HIV.	NA	NA	When getting health care, have you ever had any of the following things happen to you because of your age or color (Y/N)? (1) Been treated with less courtesy than other people? (2) Been treated with less respect than other people? (3) Received poorer services than others? (4) Had a doctor or nurse act as if he or she thinks you are not smart? (5) Had a doctor or nurse act as if he or she is afraid of you? (6) Had a doctor or nurse act as if he or she is better than you? (7) Felt like a doctor or nurse was not listening to what you were saying? Stereotypes that doctors have about Blacks/African Americans (AA) have not affected me personally. (1) I never worry that doctors will view my behaviors as stereotypically AA. (2) I feel like doctors interpret all of my behaviors in terms of the fact that I am AA. (3) Most doctors do not judge AAs on the basis of their race (4) My being AA does not influence how doctors treat me (5) I almost never think of the fact that I am AA when I interact with doctors. (6) Most doctors have a lot more racist thoughts than they actually express. (7) I often think that doctors are unfairly accused of being racist. (8) Most doctors have a problem viewing AAs as equals"

Name of Instrument	Target Population	Strengths	Weaknesses	Questions Related to the Health Care Setting
Perceived Prejudice in Health Care—Modified[105,106]	Designed to measure perceived prejudice in health care among women	Chonbach's α for the total scale = 0.78, Internal consistency of GPP Chronbach's α = 0.60. Internal consistency of PEP Chronbach's α = 0.76. Chronbach's α for reliability is 0.79 for the total scale, 0.75 for the GPP, and 0.73 for the PEP.	Doesn't separate the reasons for personal prejudice.	Composed of 2 subscales General Perception of Prejudice subscale " Measures general beliefs regarding prejudice in health care delivery systems (1) All people can obtain quality health care regardless to their race or ethnic group. (2) Immigrants often receive poorer quality health care delivery (3) African Americans/Blacks and Latinos/Hispanics have fewer options for health care than White people. "PEP subscale" Measures perception of personally experiencing bias in health care. (1) Sometimes I've been ignored by a provider just because of my gender or because I am poor or lesbian/gay or a member of a minority racial/ethnic group. (2) I haven't always been treated respectfully by doctors and nurses. (3) I have experienced discrimination in a health care provider's office (4) My own health care has never been affected by discrimination."
PRS [107]	African-Caribbean patients in the United Kingdom.	Instrument was acceptable to the study population. Statistical evaluation showed it to be equivalent to the unmodified PRS.	The scale was designed for use in AAs. Unclear whether the group that agreed to participate differed significantly from the group that did not.	The PRS is based on 3 dimensions and 4 domains. "Dimension 1—Frequency of exposure to individual, institutional, over, covert, attitudinal, and behavioral racism over the past year or over one's life. Dimension 2 -Emotional responses to perceived racism. Dimension 3—Behavioral coping responses to perceived racism. Domains—Domains include employment, academic, public, and racist statements. Only 1 question specifically refers to the health care setting: I have been denied hospitalization or medical care."
Perceptions of Racism Scale [108]	AA women	Cronbach's α reliability for the total scale was 0.88–0.91.	Criterion validity was not assessed.	Respondents indicate their level of agreement with the following statements: "(1) African American women experience negative attitudes when they go to a White doctor's office. (2) Doctors treat African American and White women the same. (3) Sometimes if you are African American in a White doctor's office, it's as if you don't belong there. (4) Racial discrimination in a doctor's office is common. (5) In most hospitals, African American women and White women get the same kind of care. (6) Doctors and nurses act the same way to White and African American pregnant women. (7) African American women can receive the care they want as equally as White women. (8) African American pregnant women have fewer options for health care."
Racism in Health Care Index[43,109]	AA and White veterans	NA	NA	Likert-type scale measures indicating the extent to which respondents disagree with the following statements: (1) Doctors treat African American and White people the same. (2) Racial discrimination in a doctor's office is common. (3) In most hospitals, African American and Whites receive the same kind of care. (4) African Americans can receive the care they want as equally as White people can.
Reactions to Race Module of the BRFSS http://www.cdc.gov/brfss/questionnaires/pdf-ques/2010brfss.pdf	All racial/ethnic groups in selected states	Specifically asks about experiences when seeking health care.	Specific questions vary by year. Only 2 States were fielding this module with the BRFSS in 2009.	"(1) Within the past 12 months, when seeking health care, do you feel your experiences were worse than, the same as, or better than for people of other races? (2) Within the past 30 days, have you experienced any physical symptoms, for example, a headache, an upset stomach, tensing of your muscles, or a pounding heart, as a

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Name of Instrument	Target Population	Strengths	Weaknesses	Questions Related to the Health Care Setting
				result of how you were treated based on your race? (3) Within the past 30 days, have you felt emotionally upset, for example angry, sad, or frustrated, as a result of how you were treated based on your race? (1 = yes, 2 = no, 7 = Don't know/not sure, 9 = refused)
Schedule of Racist Events [102]	AA	High reliability Chronbach's $\alpha > 0.91$ and high internal validity for past year and lifetime discrimination, and assessment of stress.	Only includes 1 item on discrimination experienced within the health care setting	"How many times have you been treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, case-workers, dentists and therapists…)? (1) How many times in your entire life? [1-6], (2) How many times in the past year? [1-6], and (3) How stressful was this for you? [1-6]."

Note. AA = African American; API = Asian/Pacific Islander; AI/AN = American Indian/Alaska Native; BRFSS = Behavioral Risk Factor Surveillance System; CHIS = California Health Interview Survey; GPP = general perception of prejudice; IAT = Implicit Association Test; JHSDIS = Jackson Heart Study Discrimination Scale; NA = Not applicable; NHW = non-Hispanic White; PEP = personal experience of prejudice; PRS = Perceived Racism Scale; Y/N = yes/no. For a more complete list, see Table A, available as a supplement to the online version of this article at http://www.ajph.org.

TABLE 2

Methodological approaches for studying racial/ethnic discrimination

Strategy	Description	Strengths and Limitations
Official counts	Official counts of governmental or nongovernmental reported incidences of discrimination	Limitations: Data are not collected for scientific research purposes Comprehensiveness of reports is dependent upon the victim's willingness or inclination to report discrimination, legal definitions of discrimination
Matched studies	Studies in which participants are matched on relevant characteristics except race/ethnicity and subjected to similar types of encounters and then compared (e.g., seeking health care, applying for a job).	Strengths: Can employ a quasi-experimental design in natural settings with real outcomes Limitations: It is difficult to completely match testers on all physical and other characteristics such as body language, speech patterns, and attitudes. This is less of a problem for studies without a physical encounter between the "tester" and "test subject." Ethical issues regarding what may be perceived as deceptive practices. The subjective nature of some outcomes can bias results
Residual studies	Studies that attempt to explain racial/ethnic differences in outcomes through stratification or control for other relevant variables (e.g., SES, insurance status, income, education)	Limitations: Residuals or differences in outcomes associated with race cannot be definitely linked with discrimination. Control for explanatory variables such as SES might partially explain racial/ethnic differences but does not explain or account for why SES differences exist (i.e., discrimination or other reason?). Residual models only capture the results of successful discrimination not the occurrences of discriminatory behavior
Observational studies	Studies in which occurrences of racial discrimination are measured in real-world settings (e.g., ethnographic and participant observer studies)	Strengths: Ability to do in depth studies, third party assessments, and evaluation of real-world encounters Limitations: Typically small-scale studies with limited generalizability Only discrimination that is directly observed can be evaluated Results are subject to the perception of 1 or a small number of observers. Difficulty in assuring that participants do not vary on relevant characteristics other than race
Laboratory studies	Use nondirective and subliminal techniques to measure racial discrimination and racial/ethnic preference	Strengths: Use experimental designs, can evaluate nonverbal responses such as body language, blood pressure, response times, etc. Limitations: Representativeness of samples and limited generalizability Difficulty in associating what happens in the lab with the real world.

Strategy	Description	Strengths and Limitations
In-depth interviews	Semistructured conversations with a small number of participants, typically recorded (e.g., focus groups)	Strengths: More detailed information can be elicited than that obtained from more highly structured approaches Limitations: Generally have small unrepresentative samples which severely limits generalizability Can be subject to investigator influence
Survey studies	Studies in which participants are from a representative sample of a defined population	Strengths: Large sample sizesDesigned to be generalizable to specific populations Use of questionnaires or structured interviews reduces the likelihood of investigator influence Limitations: Variations in how discrimination is conceptualized and defined Issues surrounding the operationalization of specific items Self reports depend on respondent awareness of being discriminated against Evaluation of Institutional racism or discrimination is difficult to examine in surveys

Note. SES = socioeconomic status.

Source. Adapted from Smith.[28]

Table 3

Summary of reviewed studies focusing on discrimination in health care settings.

AUTHOR	TYPE OF STUDY	MEASURE OF DISCRIMINATION	POPULATION	SUMMARY OF RESULTS
27. Bastos et al., 2010	Literature review	Psychometric properties of self-reported discrimination scales	NA	**Study Purpose:** Psychometric review of existing scales. **Results:** The majority of the 24 reviewed scales were developed in the US, were found to have acceptable psychometric properties, measured respondent exposure to discrimination as a victim and had their internal consistency scores examined. Only 9 studies assessed test-retest reliability and 8 the content validity. Many scales measured multi-dimensional construct of which discrimination was only one.
29. Bogart et al., 2010	Survey Jan 2007 to February 2009	*Multiple Discrimination Scale*—discrimination in employment, housing, health care in past 12 months and at 6 month follow-up due to race/ethnicity, sexual orientation or HIV status.	181 AA HIV positive gay men	**Study Purpose:** To examine the longitudinal effects of discrimination on antiretroviral treatment adherence among 152 HIV-positive Black men who have sex with men. **Results:** Individuals with three or more race-based discriminatory events had worse adherence antiretroviral treatment adherence than those who experience fewer or no race-based discriminatory events.
30. Burgess et al., 2008	Survey 2002	*Experiences of Discrimination* -2 part question Participants were asked if they had ever experienced getting health care during the past 12 months. If yes, they were asked if they had been discriminated against.	9,959 American Indians, Southeast Asians, US born blacks, African born blacks, Latinos, and whites age 18+	**Study Purpose:** Examination of the association between perceived discrimination and underutilization of needed health care services. **Results:** 6.9% of U.S. born Blacks, 5.5% of African born Blacks, 8.0% of American Indians, 7.5% of southeast Asians, 4.2% of Hispanics and 1.2% of whites reported being discrimination during the prior 2 months when getting health care. No attribution was provided for the discrimination. Respondents who reported discrimination in health care settings had higher odds of unmet medical care needs (i.e. delaying or avoiding seeking health care).
31. Burgess et al., 2009	Survey of pts with one or more primary care visits between January 2005-December 2006	*Experiences of Discrimination Scale*	393 AA males age 50-75 treated at VA facilities who participated in a 2003 survey on CRC screening	**Study Purpose:** Examination of perceived discrimination and bodily pain. **Results:** 35.1% of veterans reported one of more instances of race/ethnicity based discrimination when getting medical care. 23.9% reported 2 or more occasions of discrimination when seeking health care. Perceived discrimination in general (β=-0.27, P<0.0001) and when seeking medical care were significantly associated with the prevalence of bodily pain (r=-0.19, P<0.005).
69. Campesino et al., 2009	Interview Time period not available In article.	Qualitative interview to examine patient perception of discrimination in cancer care.	5 elderly Spanish speaking Mexican Americans	**Study Purpose:** To investigate older Mexican Americans' perceptions of cancer care delivery, specifically regarding perceived discrimination.

AUTHOR	TYPE OF STUDY	MEASURE OF DISCRIMINATION	POPULATION	SUMMARY OF RESULTS
				Results: Participants denied experiencing health care discrimination based on race, ethnicity, income, or language spoken. In addition to a semi structured interview a four point Likert scale was used to asses respondent agreement with the following two questions: • "Most people in the United States receive the same quality of health care regardless of their racial background or language spoken." • "How much discrimination against minorities do you feel there is in the United States today?" with a four-point Likert scale (4 = a lot, 3 = some, 2 = just a little, and 1 = none at all). None of the respondents reported perceived discrimination in a health care delivery context.
32. Canady et al., 2008	Survey September 1998 - June 2004	CARDIA self-reported discrimination scale was used to examine the association between ever experiencing 3 types of discrimination in 7 settings including getting medical care and its association with pregnancy outcomes.	3,019 women enrolled in the Pregnancy Outcomes and Community Health Study.	**Study Purpose:** To examine the potential associations between depression and depressive symptoms in poor women and African-American women and their lifelong experiences of discrimination. **Results:** AA women more frequently reported gender, race and socioeconomic discrimination in all settings than white women. Differences were greatest for race and SES discrimination. Each type of discrimination was associated with higher depression scores.
68. Clark-Hitt et al., 2010	Qualitative Nov 2004-Sep 2005	Interviews	21 white, 3 Asian and 2 AA doctors and nurses.	**Study Purpose:** To obtain better insight on how race may affect treatment. **Results:** Four major themes were provided to explain why AA patients did not receive the same level of medical care as white patients. These included perceptions regarding short comings of AA patients (73%), greater demands among white patients, access to care (50%) followed by provider discrimination (46%). More than 50% of respondents questioned the details or validity of research studies reporting disparities in health care.
33. Crawley, 2008	Survey 2003 and 2005	2003 and 2005 California Health Interview Survey measures	AAs, AI/AN, Asian, and Latino women (n=8,051) and 3,194 men ages 40-75.	**Study Purpose:** To examine the association between perceived medical discrimination compared with general discrimination and cancer screening behavior. **Results:** Nine percent of women and 6.5% of men reported perceived racial/ethnic based medical discrimination. Perceived medical discrimination within the past 5 years was not significantly associated with colorectal screening among men. Women who perceived medical discrimination in the past 5 years were less likely to have

AUTHOR	TYPE OF STUDY	MEASURE OF DISCRIMINATION	POPULATION	SUMMARY OF RESULTS
				received colorectal screening (O.R. 0.66, 95% CI 0.64-0.69) and mammography (0.52, 95% CI 0.51-0.54).
60. Dailey et al., 2010	Survey Connecticut 1996-2000	CARDIA	492 AA and 757 white women	**Study Purpose:** To examine the relationship between perceived discrimination and neighborhood level socioeconomic position. **Results:** 9.6% of African Americans reported perceiving race or color based discrimination when getting medical care compared to 0.4% of whites. The discrimination variable was further analyzed by a seven-item combined score for the study's main outcomes.
34. D'Anna t al., 2010	Survey 2001	2001 California Health Interview Survey measures	55,428 adult respondents	**Study Purpose:** To investigate the association between perceived discrimination in receiving health care and racial/ethnic disparities in self-rated health status, physical, and emotional functional limitations by race/ethnic group, gender and socioeconomic position. **Results:** Five percent of respondents reported experiencing discrimination when receiving health care within the prior year. More than 13% of respondents attributed the cause of the discrimination to their race/ethnicity, language or accent (1.8% among Latinos, 1.3% among non-Latino African Americans, 1.4% among other race/multiracial respondents).
35. D' Anna et al., 2010	Survey 2005	2005 California Health Interview Survey measures	36,694 NHWs, Latinos, APIs, AAs, AI/ANs ages 18-85.	**Study Purpose:** To examine the association between health care setting types, SES and perceived racial/ethnic medical care discrimination. **Results:** Higher levels of perceived discrimination in health care settings were reported by AAs and Latinos. Perceived discrimination was also more frequently reported by younger, low SES, uninsured or publically insured respondents. 3% of the estimated California populations in 2005 felt that they would have received better medical care if they had been of a different ethnicity. The perception that they would have received better care was highest for AAs (15.3%) and NHWs (6.6%) and "Other" race/ethnic groups with no usual source of care and Latinos (10.7%) and Asians (11.6%) receiving care at "other" sites.
73. Davies et al., 2011	Interview Time period not available In article.	NA	13 Mexican American members of 11 families of children treated for life threatening or terminal illness who previously reported discrimination in a larger survey.	**Study Purpose:** To describe perceptions of discrimination by primary health care providers due to race/ethnicity, language barriers, SES, and appearance among Mexican American (MA) family members of children treated for life-threatening or terminal illnesses who later died. Participant reactions to perceived discriminatory behavior are also captured. **Results:** Perceived discriminatory behaviors included having the patient moved out of a patient room when a white child was admitted (3 families reported this), allowing entire white families to visit after hours while

AUTHOR	TYPE OF STUDY	MEASURE OF DISCRIMINATION	POPULATION	SUMMARY OF RESULTS
				limiting visits to one person at a time for Mexican American patients, and attending to the needs of white patients and family members while ignoring Mexican American family members and patients,
36. De Marco et al., 2008	Survey-1998–1999, 2000, and 2001	Oregon Pregnancy Risk Assessment Monitoring System	5,762 NHW, AA, AI/PI, Hispanic, AI/AN women	**Study Purpose:** To examine the extent to which Oregon women perceive that health care providers discriminate against them during prenatal care, labor, or delivery; the relationship between maternal and infant characteristics and perceived discrimination; and the association between perceived discrimination during prenatal care, labor, or delivery and the frequency of well-baby visits. **Results:** 18.5% of women reported experience health care discrimination by providers when receiving prenatal, labor, or delivery care. American Indian/Alaska Native (OR 1.98, 95% CI 1.59-2.48), AA (OR 1.43, 95% CI 1.13-1.81) were more likely to report the perception of discrimination during prenatal care, labor or delivery compared to NHWs. There was no statistically significant association between Hispanic ethnicity and reports of health care discrimination compared with NHWs (OR 0.98, (0.80-1.19). • Perceived discrimination in health care was assessed by asking women if they felt they had ever been treated differently by health care providers during prenatal care, labor, or delivery because of their race, culture, ability to speak or understand English, age, insurance status, neighborhood, in which the lived, religious beliefs, sexual orientation or lifestyle, marital status or desired to give birth outside of the hospital.
37. Durant et al., 2011	Survey Time period not available In article.	No specific scale or measure. Participants were asked about their history of experiencing discrimination in health care.	776 AA and white community dwelling Boston, MA respondents	**Study Purpose:** To identify racial differences in interpersonal or societal distrust in clinical research among African Americans and whites. **Results:** 43% of African American and 15% of white respondents reported a history of discrimination in health care ($p < 0.001$). 23% of respondents who reported a history of discrimination in health care had a high level of societal distrust compared to 9% of respondents who did not report this history ($p=0.004$).
88. Ejaz et al., 2011	Interview Time period not available In article.	NA	644 direct care workers (52% AA, 7% other minority, 41% white).	**Study Purpose:** To examine reports and sources of racism experienced by direct care workers in three long-term care settings. **Results:** Seventy percent of respondents reported hearing racial/ethnic remarks from residents/clients, 15% from family members of residents/clients, and 21% from other staff members which varied by long-term care setting type. 32% of remarks from residents/clients, 54% of

AUTHOR	TYPE OF STUDY	MEASURE OF DISCRIMINATION	POPULATION	SUMMARY OF RESULTS
				remarks from family members, and 53% of remarks from other staff members were perceived by respondents to intentionally be hurtful.
70. Gee et al., 2009	Review with table of data from the 2007 assessment	2007 California Health Interview Survey Measures	1,083 Asians from 5 ethnic groups from 2007 CHIS Survey. Age not available	**Study purpose:** To review evidence on racial discrimination and health among Asian Americans, identify gaps in the literature, and provide suggestions for future research. **Results:** 17% of Chinese, 20% of Japanese, 21% of Fillipino, 19% of South Asian and 28% of other Asian or Pacific Islanders reported experiences discrimination in medical settings during their lifetime.
67. Greer et al., 2010	Focus groups Time period not available In article.	NA	37 AA patients with hypertension	**Study Purpose:** To examine African American patient perceptions of racial discrimination in clinical encounters. General barriers to hypertension management were also investigated. **Results:** Participants described behaviors and attitudes of providers perceived to be discriminatory which included avoidance of touch during physical examinations, assumption about ability to afford diagnostic procedures and other medical services, and apathy in reaching diagnosis. Patients reported conscious decisions not to return for follow-up appointments or not scheduling any new appointments when provider behavior was perceived to be racially discriminatory.
79. Haider et al., 2011	Web-based survey, August 2009 to August 2010	Implicit Association Test Eight clinical assessment vignettes	202 White (108), Asian (62) AA (13), Hispanic (12) and other race (7) medical students	**Study Purpose:** To estimate unconscious race and social class bias among first-year medical students and to examine its relationship with clinical assessments. **Results:** Fifty-four percent of students reported no explicit racial preference (95% CI 47%-61%), 39% a preference for white people (95% CI, 31%-45%), and 7% a preference for black people (95% CI, 3%-10%). IAT responses were consistent with no implicit preference in 17% (95% CI, 12%-22%), preference for whites in 69% (95% CI 61%-75%), and a preference for blacks in 14% (95% CI, 9%-19%). In general responses to the clinical vignettes were not significantly associated with patient race after control for student race, age, sex and graduation year.
38. Hammond et al., 2010	Survey, August 2003 to December 2004	Adaptation of the Perceptions of Racism Scale References to women were changed to men. Four of the 20 items were deleted including questions regarding racism in educational opportunities, the receipt of public assistance, and general social mobility	Convenience sample of 216 AA men in Michigan and Georgia 18-78	**Study Purpose:** To test a conceptual model of medical mistrust among African American men. **Results:** Findings suggest that among AA men general discrimination is associated with perceptions of discrimination in health care which influences medical mistrust.
39. Hausmann et al., 2011	Survey Dec 2005-July 2008	Adaptation of the Everyday Discrimination measure in health care settings.	353 patients AA and white patients age 50+ with	**Study Purpose:** To examine association of past perceived discrimination with subsequent patient-provider communication.

AUTHOR	TYPE OF STUDY	MEASURE OF DISCRIMINATION	POPULATION	SUMMARY OF RESULTS
			osteoarthritis treated in Veterans Affairs facilities	**Results:** 70% of AAs and 26% of white patient reported racism in health care and 73% of AA and 53% of whites reported classism in health care. High levels of perceived racism was associated with lower positive nonverbal affect and low patient ratings of provider warmth/ respectfulness (OR 0.19, 95% CI 0.05-0.72) and ease of communication (OR 0.22, 95% CI 0.07-0.67) among AAs and low patient ratings of visit informativeness (OR 0.40, CI 0.23-0.71) and ease of communication (OR 0.43, 95% CI 0.20-0.89).
40. Hausmann et al., 2008 (a)	Survey	Reactions to Race Module. 2004 Behavioral Risk Factor Surveillance System	36,128 AA, Hispanic and NHW respondents age 18+	**Study Purpose:** To examine race-based discrimination encountered in health care settings and its association with health status. **Results:** Discrimination in health care was reported by 3.7% of all participants which varied by race/ethnicity. 10.9% of African Americans, 5.2% of Hispanics and 2% of whites reported racial discrimination in health care. After adjustment for demographic characteristics, AAs were significantly more likely than whites to report discrimination in health care (O.R. 3.22, 95% 2.46-4.21).
41. Hausmann et al., 2008 (b)	Survey, 2004	Reactions to Race Module. 2004 Behavioral Risk Factor Surveillance System	28, 839 AA, Hispanic and NHW respondents Males age 40+, Females age 18+	**Study Purpose:** To examine the relationship between perceived discrimination when seeking health care and preventive health care utilization. **Results:** The utilization of preventive health services (screening endoscopy, FOBT, PSA test, Pap test, mammogram) was lower among respondents who perceived negative racial discrimination while seeking health care compared to those who did not perceive discrimination. Utilization of the flu shot/pneumococcal vaccine was not associated with perceived discrimination.
42. Hausmann LR et al., 2009	Survey, 2004	2004 Behavioral Risk Factor Surveillance System	35,902 veterans and non-veterans patients of the Veterans Affairs Health System age 18+	**Study Purpose:** To compare rates of perceived racial discrimination in health care settings for veteran and nonveteran patients and for veterans who used the Veterans Affairs health care system and those who did not. **Results:** Rates of perceived discrimination among veterans (3.4%) and non-veterans (3.5%) did not significantly differ. 10.9% of AAs, 5.2% of Hispanics and 2.0% of whites in the overall sample reported perceived racial discrimination in health care. 5.4% of veterans who received care in Veterans Affairs facilities reported perceived discrimination compared to 2.7% of veterans who did not use these facilities.
43. Hausmann et al., 2010	Survey Time period not available In article.	Three measures were used. • Experiences of Discrimination • Everyday Discrimination	50 AA and 50 white patients with diabetes age 18+ treated in the Veterans Affairs health system	**Study Purpose:** Examine whether three measures of perceived racial discrimination in health care detect similar rates of discrimination and show similar associations with patients' health care experiences. **Results:** 42% of AA and 6% of white VA patients ($p<0.001$) reported that they had experienced

AUTHOR	TYPE OF STUDY	MEASURE OF DISCRIMINATION	POPULATION	SUMMARY OF RESULTS
		• Racism in Health Care Index		discrimination when getting medical care because of their race, ethnicity or color on at least one occasion (single item measure), 42% of AA and 18% (p=0.009) of whites reported personal discrimination because of their race or color when getting health care (multi-item measure), and 74% of AAs and 40% of whites strongly disagreed that AA and whites are treated the same when receiving health care (general racism measure)(p=0.001) in unadjusted analyses.
44. Kandula et al., 2009	Survey 2001 and 2003	Commonwealth Fund 2001 Health Care Quality Survey and 2003 California Health Interview Survey	480 white, AA, English speaking Hispanic, Spanish speaking Hispanic, English speaking Asian, Mandarin or Cantonese speaking Asians and multiracial respondents. Mean age of respondents 47.	**Study Purpose:** To determine if perceived experiences of discrimination (both in general and in medical care) were associated with comfort providing race/ethnicity information, and conversely, to worry about providing the information. **Results:** 26% of respondents reported a perception of general discrimination. General discrimination was more frequently reported by racial/ ethnic minorities than by whites. 32% of respondents reported perceived discrimination in medical care which was also more frequently reported by racial/ethnic minorities than whites. Respondents that reported perceived discrimination in medical care reported lower levels of comfort in providing information on race/ ethnicity and higher worry about misuse of this information.
62. Kossler et al., 2011	Survey, August 2007 to December 2008	Experiences of Discrimination	2500 Black and white respondents	**Study Purpose:** To determine whether perceived racial, economic and gender discrimination have an impact on contraception use and choice of method. **Results:** Thirteen percent of respondents reported gender, race, or SES-based discrimination. Discrimination was most frequently reported at work/ school (38%), on the street/or in public (36%), when obtaining medical care (13%) and when obtaining contraception (3%). Race/ethnic discrimination was more frequently reported by black women. Nineteen percent of low SES women reported discrimination when seeking healthcare and 4% when obtaining contraception.
45. Kressin et al., 2010	2004 Survey	Three measures • Commonwealth Fund 2001 Health Care Quality Survey (5 questions). • Perceived discrimination scale • 1 investigator developed question on perception of provider understanding of patient's cultural background and how it affect their health	806 patients with hypertension, 57% AA, 43% white	**Study Purpose:** To examine putative factors related to blood pressure control including experiences of discrimination to determine if the impact or race on blood pressure control remains after controlling for these factors. **Results:** AAs reported more experiences of discrimination and worse medication adherence. Patients who responded that they would have gotten better medical care if they had belonged to a different race/ ethnic group had better blood pressure control. Investigator developed measures: I feel my provider understands my cultural background and how it affects my health Y/N.

AUTHOR	TYPE OF STUDY	MEASURE OF DISCRIMINATION	POPULATION	SUMMARY OF RESULTS
83. Krieger et al., 2010	Project Implicit 2007 and 2008	Two measures: • Implicit Association Test • Experiences of Discrimination	442 AA and 1018 white participants age 25-70.	**Study Purpose:** To examine unconscious cognition about discrimination and the implication of using implicit and implicit measures in health research on discrimination. **Results:** Explicit measures of discriminatory experiences were more frequently reported for the respondent's race/ethnic group than for the respondent themselves. Respondents were more likely to report discrimination when the question referred to discrimination against their racial/ethnic group than when it referred to personal discrimination for explicit but not implicit measures. Authors concluded that explicit and implicit measures are distinct but also are important for health in ways that vary by SES.
87. Kulwicki et al., 2008	Survey Time period not available In article.	Forty-seven item investigator developed questionnaire	34 Arab American nurses	**Study Purpose:** To examine the prevalence of anti Arab American workplace discrimination after 9/11 and to describe the particular ways in which Arab American nurses are affected. **Results:** For the period after 9/11 41.2% of respondents reported more intimidation, 32.4% more suspicious treatment, and 15.2% reported more frequent patient refusal to be treated by them.
46. Lee et al., 2009	Survey 2001	2001 Commonwealth Fund Survey on Disparities in Quality of Health Care	5,642 NHWs, AA, Hispanics, Asians age 18+	**Study Purpose:** To examine the extent to which perceived provider discrimination explains racial/ethnic differences in health care utilization and subsequently health status. **Results:** Respondents perceived provider discrimination to be due to inability to pay (7.5%), language (1.8%), race/ethnicity (2.9%) and gender (3.3%). Provider discrimination was more frequently reported by racial/ethnic minorities than whites. The perception of provider discrimination and unsatisfying interactions with a doctor were associated with unmet need for health are utilization Unsatisfying interaction with a doctor, was measured through multiple author selected questions. Respondents who had a health care visit in the last two years were asked if the provider: a) treated them with respect and dignity; b) involved them in decision making;
48. Lyles CR et al., 2011	Survey May 2005-Dec. 2006	Adaptation from the Coronary Artery and Risk Development in Young Adults Study (CARDIA) The Experiences of Discrimination Scale	17,795 AA, Asian, Latino, NHW and other race persons with diabetes with Kaiser Permanente to the general and	**Study Purpose:** to examine possible determinants of self-reported health care discrimination. **Results:** 20% of respondents reported general discrimination and 3% of respondents reported health care discrimination. Persons reporting general discrimination were more likely to report health care discrimination. Health care discrimination was more frequently reported by Filipino (8%), AA and Latino respondents (6%), Asian (4%) patients compared with whites (2%). **Questions**

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			health care discrimination questions, respectively.	"In the past 12 months, how often have you felt that people have treated you poorly or made you feel inferior based on your race or ethnicity?" "In the past 12 months, how often have you felt that doctors/health care providers at Kaiser have treated you poorly or made you feel inferior based on your race or ethnicity?"
49. Lyles et al., 2011(b)	Survey May 2005-Dec. 2006	The Experiences of Discrimination Scale.	6,871 AA 11,197 Asian 4233 White 7,018 Latinos and 11,417 unknown race/ ethnicity patients with diabetes.	**Study Purpose:** To evaluate whether patient-reported racial/ethnic discrimination by health care providers was associated with evidence of poorer quality care measured by medication intensification. **Results:** Race-based health care discrimination was not significantly associated with less medication intensification. **Health care discrimination related question.** In the past 12 months, how often have you felt that doctors/health care providers at Kaiser have treated you poorly or made you feel inferior based on your race or ethnicity?
50. Manze et al., 2010	Survey Time period not available In article.	Two Measures: Commonwealth Fund 2001 Health Care Quality Survey Perceived Discrimination in Healthcare by Bird and Bogart	819 patients black and white patients with hypertension	**Study Purpose:** To examine racial differences in treatment intensification, understand modifiable factors that may mediate this relationship, and explore the relative effects of treatment intensification and race on blood pressure. **Results:** In unadjusted analyses, black patients had less treatment intensification (-0.31 than whites (-0.24), $p<0.001$. After adjustment for patient beliefs and experiences there was no longer a significant association between race and treatment intensification. 28.5% of blacks and 7.9% of whites reported health care discrimination.
12. McLaughlin et al., 2010	Survey 2004-2005	Experiences of Discrimination	34,653 AA, Hispanic and LGB respondents	**Study Purpose:** To examine the association between perceived discrimination due to race/ethnicity, sexual orientation, or gender; responses to discrimination experiences; and psychiatric disorders **Results:** The prevalence of general discrimination in the past 12 months was 24.6% among AAs, 21.4% among LGB, and 15.1% among Hispanic respondents. Discrimination in obtaining health care was reported by 2.3% of AAs, 3.1% of Hispanics and 3.8% of LGB respondents. Discrimination in treatment in health care was reported by 3.0% of AAs, 2.4% of Hispanics and 4.1% of LBG respondents. Past-year discrimination was associated with a higher prevalence of psychiatric disorders among AAs and Hispanics.

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51. Myaskovsky et al., 2011	Time of survey not specified	Racism in Healthcare Index	252 AA and whites with spinal cord injuries.	**Study Purpose:** To examine the association of race and cultural factors with quality-of-life factors in people with spinal cord injury. **Results:** African Americans reported more experiences of discrimination in health care, greater perceived racism and more health care system distrust compared with whites. Persons who reported more racism in health care reported better general health, better occupational functioning (O.R., 1.65 95% CI 1.12-2.43) than those who did not perceive racism in health care.
61. Nazione et al., 2011	Survey (formative research) with Likert scale and open ended questions.	Investigator developed Likert scale and open ended questions.	95 employees of a community health department 57% of whom were health professionals. 67% were white, 14% AA, 4% Hispanic/ Latino.	**Study Purpose:** To investigate health care workers perceptions of discrimination in the workplace and their perceived role in addressing discrimination in a community health department. **Results:** Response from study participants to open-ended questions indicated that racial issues represented about 20% of the reports related to discrimination at the community health department. Responses included the following: • "Racial mistreatment starts at the top in the health department, especially with supervisors" **Questions related to racial/ethnic discrimination in healthcare** Likert 7-point scale 1=strongly agree 7=strongly disagree. Questions were asked about self and respondent's beliefs about others employees. **1** All people have equal access to health care. **2** Everyone is treated the same in health care. Open-ended questions: **1.** If you believe there is a problem with the way this organization treats clients please explain.
64. Nguyen et al., 2011	Survey, August 2003 to January 2007	Investigator developed question.	N=67, AA =35, Mexican American=19, Vietnamese American=13.	**Study Purpose:** To examine health service use behaviors of racial and ethnic minorities living in violent neighborhoods. **Results:** Each unit increase in the perception of discrimination in health care was associated with increased likelihood of health service use [OR 4.6, CI not provided]. Investigators noted that more exposure to health care results in greater chances of experience discrimination in health care settings so the increase likelihood of using health services was expected. **Question regarding racial/ethnic discrimination in healthcare.** I feel I am not treated as well as others by

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				health care providers because of my racial background. Likert scale question 1=strongly disagree and 4=strongly agree.
75. Nunez-Smith et al., 2008	Qualitative interviews Time period not available In article.	NA	529 physicians various ages	**Study Purpose:** To identify the range of perspectives that might contribute to workplace silence on race and affect participation in race-related conversations within health care settings. **Results:** Participating physicians were uncomfortable raising race-related concerns at work and felt that protecting racial/ethnic minority patients from health care discrimination was a top priority and that they used external sources of support for race-related issues rather than support systems inside the organization. Participating providers also perceived that they interpreted potentially offensive race-related work experiences differently than non-minority physicians,
86. Nunez-Smith et al., 2009	Oct 2006-Feb 2007	Adapted from two previous physician surveys Corbie-Smith et al., Acad Med. 1999:74:695-701. Peterson NE et al., 2004. J Gen Intern Med 2004;19:259-265.	25 physicians of African descent various ages	**Study Purpose:** To examine the association between physician race/ethnicity, workplace discrimination, and physician job turnover. **Results:** Non Hispanic black (O.R. 3.9, 95% CI2.2-7.4) and Asian physicians (3.0, 95% CI 1.4-5.0) more frequently reported at least one job turnover as a result of race-based discrimination in the workplace compared with white physicians after adjustment for gender and age. **Question** "Since completing medical training, how often have you personally experienced discrimination because of your race or ethnicity at work?" "I have left a job, since completing medical training, because I was discriminated against there."
52. Peek et al., 2011	Survey, 2004- 2008	Behavioral Risk Factor Surveillance System Pooled data 2004-2008	2,238 AA, NHW, Hispanic, multiracial and "other' race respondents. Age range not provided. Mean age 59.4.	**Study Purpose:** to investigate associations between self-reported health care discrimination and diabetes quality of care, self-management and complications. **Results:** In unadjusted regression analyses, respondents who reported race/ethnic based discrimination in health care were significantly less likely than other respondents to have diabetes-related primary care visits (OR 0.38, 95%CI 21-0.66, HbA1c testing (OR 0.42, 0.21-0.82), and earlier eye examination interval (OR 0.48, 95% CI 0.24-0.93). 22% of respondents who reported race/ethnic based discrimination in health care reported diabetes-related foot disorders compared to 11% of respondents who did not report this type of discrimination (p=0.02). **Question**

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				• Within the past 12 months, when seeking health care, do you feel your experiences were… * worse than other races * the same as other races * better than other races * or worse than some or better than others?
65. Penner et al., 2009	Survey (longitudinal) Time period not available In article.	Investigator developed questions	156 AA/ black patients at a primary care clinic in the Midwest.	**Study Purpose:** To examine how perceived past discrimination affects reactions to medical interactions and adherence to physician recommendations. **Results:** The greater past perceived discrimination the poorer patient self-reported health and the less the patient 's satisfaction with their immediate medical interaction, specific doctor, and adherence to physician recommendations. **Question related to racial ethnic discrimination in healthcare** Respondents were asked if they had ever experienced discrimination in their medical treatment. Those answering yes were then asked whether this was because of their race/ethnicity or some other reason.
78. Penner et al., 2010	Survey Time period not available In article.	25-item explicit measure of racial prejudice Race Implicit Association Test	150 AA patients 15 white, Indian, Pakistani or Asian family medicine residents	**Study Purpose:** To investigate the role that physician explicit and implicit biases play in shaping physician and patient reactions in racially discordant medical interactions. **Results:** Although physicians showed a slight preference for AAs over whites on the IAT, this was not a significant finding, (D = .097, p = .138). There was a positive correlation between physicians' implicit and explicit prejudice scores, r(15) = .54, p = . 029. Greater explicit prejudice predicted less involvement of the patient in physician decision-making. Greater implicit bias of physicians was associated with less positive patient responses. **Questions regarding feelings that the provider and patient were on the same team and patient involvement in decision-making.** **a.** "The patient (doctor) and I worked together as a team to solve his/her(my) medical problems," and **b.** "I felt like the patient (doctor) and I were members of the same team, trying to solve his/her (my) medical problems"

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				c. I (the doctor) made the decision about which treatment the patient (I) would receive without really considering the patient's [my] opinion.
53. Perez et al., 2009	Survey 2008	Detroit Area Survey Discrimination Scale Adaptation of the Commonwealth Fund Health Quality Survey	1067 Latino adults 18+	**Study Purpose:** To examine the relationship of perceived discrimination (in general and in regard to doctors and medical personnel) with self-reported quality of health care and doctor-patient communication. **Results:** 19% of respondents reported any discrimination from doctors or medical staff in past 2 years. Doctor and medical staff discrimination was significantly associated with self-reported health status. 39% of persons who reported poor health status reported doctor or medical staff discrimination as did 27% who reported their health status as fair, 16% good, 14% as very good and 11% who reported excellent health status.
54. Pieterse et al., 2010	Survey Time period not available In article.	Schedule of Racist Events	90 AA women age 18-67	**Study Purpose:** To Examine the relationship between perceived racism and racial identity and perceptions of health status and health locus of control. **Results:** In a canonical correlational analysis showed that 37% of the variance between the two sets of variables was shared. Authors concluded that this suggests the need to focus on perceived racism and racial identity attitudes to understand U.S. health disparities.
55. Price et al., 2009	Survey June 1, 2004-September 30, 2005	NA	352 tenure-track physicians surveyed 6/1/2004 -9/30/2005.	**Study Purpose:** To assess perceptions of underrepresented minority (and majority faculty physicians regarding an institution's diversity climate, and to identify potential improvement strategies. **Results:** 21% of underrepresented minority medical faculty and 50.6% of majority faculty felt that faculty recruitment was unbiased, 12% and 47.1% were satisfied with racial/ethnic diversity, and 9.3% and 32.6% that networking included minorities, and 42.6% and 70.5% of URM and majority faculty that they would be at their current institution in 5 years, respectively.
72. Rankin et al., 2011	Case-Control Study July 2001 to June 2005	Perceived Racism Scale	160 AA women who had given birth to a preterm infant and 117 controls	**Study Purpose:** To determine the extent to which African American women's exposure to interpersonal racial discrimination in public settings is associated with preterm birth and whether coping behaviors modify this relationship. **Results:** 2.5% of women who had given birth to a preterm infant (cases) indicated that during their lifetime they had been denied hospitalization or medical care because of their race compared to 0.9% of women with normal birth weight infants (controls) [O.R. 1.5, 95% CI 0.9-2.8]. 0.6% of cases indicated that they had been denied hospitalization or medical care because of their

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				race in the past year compared to 0% of controls [OR 2.5, 1.2-5.2].
63. Ryan et al., 2008	Survey 2001	Commonwealth Fund's 2001 Health Care Quality Survey	524 respondents with diabetes of whom 61.7% were white, 15.4% black, 11.2% Hispanic, 3.5% Asian, and 8.2% from another race.	**Study Purpose:** To examine the relationship between diabetes management, perceived discrimination and patient-physician race concordance. **Results:** 4.4% of respondents reported racial discrimination in medical care and 7.4% reported that they would have received better care if they were from a different race. Patients who reported racial discrimination in medical care were significantly less likely (i.e. $p<0.05$) to report having had their HBA1c (61%) or blood pressure (56.2%) checked in the last 6 months or their feet checked in the past year 42.6%) compared with patients who did not reported racial discrimination in medical care, 91.7%, 90.7 %, and 73. 6%, respectively. There were no significant differences in receiving eye examinations in the past year when comparing the two groups.
84. Sabin et al., 2009	January 12, 2004 to May 12, 2006	Race Attitude Implicit Association Test	2,535 AA (206), Asian (288), Hispanic (115), and white (1,672) medical doctors who visited Project Implicit website	**Study Purpose:** To measure implicit and explicit attitudes about race using the Race Attitude Implicit Association Test (IAT) for a large sample of test takers including a sub-sample of medical doctors. **Results:** Implicit preferences for whites over blacks was found for all test takers as a whole and among each race/ethnic group of physicians except Blacks who did not show an implicit preference for either Blacks or Whites. Women demonstrated less implicit bias than men.
81. Sabin et al., 2008	Sep 2005-Oct 2005	Case vignettes Adaptations of the Implicit Association Test • Race Attitude IAT • Compliant Patient IAT • Quality of Medical Care IAT	95 medical faculty and residents. 82-84% white	**Study Purpose:** To examine implicit and explicit racial bias among pediatricians and the association with quality of care. **Results:** Among respondents 45% indicated the general belief that AAs were more compliant, 76% that in their practice AA are more compliant, and 88% indicated that in their practice AAs are more likely to received preferred medical care. Other than urinary tract infections, there was no significant difference in treatment recommendations by race. 71% of AA were recommended to receive home care rather than hospital care compared to 55% of whites. Home health care was considered the more appropriate option. **Explicit Questions** • My feelings towards African Americans are … • My feelings towards European Americans are … (Answer options 0 _ cold to 10 _ warm)

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		Self-reported explicit measures		In general, members of which group are more likely to be regarded as compliant patients? In your own medical practice, members from which group are more likely be compliant patients? In general, which group is more likely to receive preferred medical care versus acceptable medical care? In your own medical practice, for which group are you more likely to prescribe preferred medical care versus acceptable medical care?"
56. Shariff-Marco et al., 2010	2003 Survey	2003 California Health Interview Survey	NHW 25,229 Latinos 8,770 APIs 3,918 AA 2,550 AI/AN 349	**Study Purpose:** To estimate the prevalence of self-reported racism across racial/ethnic groups and to evaluate the association between self-reported racism and cancer-related health behaviors **Results:** The odds of reporting health care racism compared to NHWs was OR 5.28 (95% CI 4.55-6.13) for Latinos (any race), OR 5.24 (95% CI 4.26-6.45) for AAs, OR 3.76 (95% CI 2.27-6.25) AI/AN, OR 2.78 (95% CI 2.27-3.40) for APIs in unadjusted analyses. Respondents who reported health care discrimination were significantly more likely to report current smoking (OR, 1.63, 95% CI 1.42-1.87), binge drinking (OR 1.23, 95% CI 1.05-1.44), overweight/obesity (OR, 1.27, 95% CI 1.13-1.44), no recent mammography (OR 1.38, 95% CI 1.09-1.74), no recent colorectal screening (OR 1.34, 95% CI 1.08-1.66), or no recent PSA test (OR 2.75, 95% CI 1.72-4.40).
74. Sims, 2010	Ethnographic study conducted 2003-2005 (Interviews)	NA	N=50 AA women age 40 or older.	**Study purpose:** To obtain first-hand perspectives of older AA women within healthcare encounters that impact health-seeking behavior; to examine perceptions, expectations and beliefs about the role of cultural difference within the predominantly white healthcare settings; and to explore how sharing experiences influences ethnic notions. Results: 52% of AA women in the study reported that they had been racially profiled or experienced racial bias in their most recent healthcare encounter,18% were not sure if the behavior was due to racial bias or general rude behavior and 30% reported that they had not experienced racial profiling, bias or discrimination in their most recent health care encounter. Examples of behaviors perceived to be racial profiling, bias or discriminatory included having other people arrive later and being treated ahead of them, white patients being permitted to see the doctor without an appointment, the condescending tone of white providers/staff, and being referred to as 'you people'.

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57. Sorkin et al., 2010	2003 Survey	2003 California Health Interview Survey	36,831 AA, API, Hispanic and NHWs.	**Study Purpose:** To examine whether perception of quality of health care is mediated by perception of being discrimination against while receiving medical care and whether this is further mediated by patient sociodemographic characteristics. **Results:** 13.4% of Hispanics 13.1% of AAs, 7.3% of Asian and 2.6% of NHWs reported that they had been discrimination against in health care because of their race/ethnicity. Feeling of having been discriminated against in health care because of race/ethnicity was significantly associated with a lower rating of perceived quality of care compared with respondents who did not report race/ethnicity based health care discrimination (PRR 2.11, 95% CI 1.98-2.23).
76. Steed et al., 2010	Mixed methods July and August 2009	Racial Argument Scale Racial Attitude Implicit Association Test	13 white occupational therapists	**Study Purpose:** To increase understanding of the subjective experience of white female occupational therapist during a 6 hour workshop on cultural competency. **Results:** Results indicated that the therapists believed that health care disparities were not due to racial discrimination. Overall study participants held significantly negative attitudes which were not eliminated by the intervention.
58. Stepanikova et al., 2008	Survey 2001	2001 Commonwealth Health Care Quality Survey	6,722 white, AA and Hispanics adults 18+	**Study Purpose:** To investigate whether poverty and lack of insurance are associated with perceived racial and ethnic bias in health care. **Results:** Good physician/patient communication was associated with a 71% decrease odds of reporting racial and ethnic bias in health care.
71. Subban JE et al., 2008	Focus Group/Pilot Study 2006	Qualitative study	18 AA and white participants	**Study Purpose:** To explore how racial barriers limit the effective implementation of health care by examining barriers that affect care among African Americans through their discussion of experiences on the subject. **Results:** Participants reported economic quality of care received, disrespect of medical practitioners, and discrimination and racism embedded in the health system among barriers to effective health care.
80. Teal et al., 2010	Small group discussion	IAT	72 third year medical students R/E not provided	**Study Purpose:** To test an educational intervention to promote group-based reflection on implicit bias among medical students. **Results:** Reflective discussion reduced the use of internal feedback and humanism and increased the use of reflection, debriefing and other strategies for identifying and managing potential biases against patients.
66. Tordorova et al., 2010	Survey	NA	1122 Puerto Rican adults age 44-75	**Study Purpose:** To examine the prevalence of discrimination and its relevance to the health of Puerto Ricans in the US.

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	Time period not available In article.			**Results:** 36.9% of respondents indicated have experienced discrimination because of their race, ethnicity or language and one-third of these reported experiencing this discrimination in a healthcare setting. **Questions related to health care setting:** **1** Have you ever experienced discrimination as a result of your race, ethnicity or language? **2** Have you experienced discrimination in healthcare settings? If respondents answered yes they were then asked about the frequency and impact on their ability to access healthcare.
82. White-Means et al., 2009 (from abstract)	IAT	Cultural competency questionnaire Race Implicit Association Test Skin tone Implicit Association Test	NA	**Study Purpose:** To measure, compare and contrast objective and subjective cognitive process among allied health and medical students to determine the potential implications for health disparities. **Results:** The IAT results indicate that these health care pre-professionals exhibit implicit race and skin tone biases: and preferences for whites versus blacks and light skin versus dark skin.
59. Yoo et al., 2009	Supplemental Survey Time period not available In article.	2001 Commonwealth Health Care Quality Survey	717 Asian American respondents who had seen a health care provider in the past 2 years	**Study Purpose:** To examine whether self-reported discrimination based on race and language was associated with the number of chronic health conditions among Asian American immigrants. **Results:** 7.3% of respondents reported racial discrimination when seeking health care and 11.7% reported language discrimination. Racial discrimination was more frequently reported by foreign born respondents who had resided in the US for less than 10 years (9.1%) than those who had resided in the US for more than 10 year s(7.5%) or who were US born (3.7%). Racial discrimination was not associated with chronic conditions after controlling for language discrimination.

AA=African American, API =Asian/Pacific Islander, AI/AN=American Indian/Alaska Native, FOBT= fecal occult blood test, PSA test = prostate specific antigen test, OR= Odds Ratio, CI= Confidence interval, SES = socioeconomic status, NA= Not applicable, IAT = Implicit Association Test, LGB= lesbian, gay,or bisexual, CRC =colorectal cancer.