Published in final edited form as:
Med Care Res Rev. 2007 October ; 64(5 Suppl): 243S–282S.

Cultural Leverage: Interventions Using Culture to Narrow Racial Disparities in Health Care

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Abstract

The authors reviewed interventions using cultural leverage to narrow racial disparities in health care. Thirty-eight interventions of three types were identified: interventions that modified the health behaviors of individual patients of color, that increased the access of communities of color to the existing health care system, and that modified the health care system to better serve patients of color and their communities. Individual-level interventions typically tapped community members' expertise to shape programs. Access interventions largely involved screening programs, incorporating patient navigators and lay educators. Health care interventions focused on the roles of nurses, counselors, and community health workers to deliver culturally tailored health information. These interventions increased patients' knowledge for self-care, decreased barriers to access, and improved providers' cultural competence. The delivery of processes of care or intermediate health outcomes was significantly improved in 23 interventions. Interventions using cultural leverage show tremendous promise in reducing health disparities, but more research is needed to understand their health effects in combination with other interventions.

Keywords

racial disparities; patient navigator; language; culture; ethnicity; cultural competence

Racial disparities in health care are well documented, but their mechanisms are incompletely understood. The genetic, cultural, and sociopolitical aspects of race all have the potential to contribute to the production of racial disparities in health and health care. The Institute of Medicine panel on health disparities developed a conceptual model to better categorize these determinants and described three broad factors as potential sources of disparities: social determinants, access issues, and the health care system itself (Smedley, Stith, and Nelson 2003). The cultural aspects of race may influence each of these potential determinants of disparities in health care.

Consistent with contemporary scholarship in the racial disparities literature, we define race as a social construct (Witzig 1996). In doing so, we note that race is multidimensional and includes aspects such as appearance, self-identity, and culture. In this review, we focused on those interventions that targeted the cultural aspects of race. We also included those that used cultural signals to develop interventions within specific ethnic groups. Our focus on culture means that we emphasized spoken language; shared norms, beliefs, and expectations; and behavioral customs (Marks 2005). These cultural variables represent potential targets for health care intervention.

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A fundamental component of high-quality health care involves the active consideration of culture in the care of communities of color. Various researchers have used a number of overlapping terms, such as *cultural competence*, *cultural targeting*, and *cultural tailoring*, to define strategies for addressing culture. For the purposes of this article, we define cultural competence as the broadest rubric for the strategy of embracing cultural variables in health care interventions. *Cultural competence* is a term used to describe "a set of congruent behaviors, attitudes, and policies that come together in a system, agency or amongst professionals and enables that system, agency or those professionals to work effectively in cross-cultural situations" (Cross et al. 1989). While cultural competence often refers to the ability of clinicians to interact successfully with patients whose backgrounds differ from the mainstream culture, the term is also used to describe how health care systems interact with these patients. For example, the New Mexico Department of Health Children's Medical Services, Family Health Bureau, implemented a multipronged systemic cultural competence program evaluated by the National Center for Cultural Competence (U.S. Department of Health and Human Services, Office of Minority Health 2003). In addition, a growing body of federal and state laws, regulations, and standards seeks to guarantee that health systems respond to these diverse linguistic and cultural needs by becoming culturally competent (U.S. Department of Health and Human Services, Office of Minority Health 2001).

Cultural competence is a comprehensive term that overlaps with specific concepts, such as cultural targeting and cultural tailoring (Paalman and Sandfort 1990; Pasick, D'Onofrio and Otero-Sabogal 1996). *Cultural targeting* initiates strategies at the group level to try to reach group members who share certain values, beliefs, and practices. *Cultural tailoring* is a term sometimes used to refer to individualized programming that takes into account participants' personal preferences (Kreuter and Strecher 1996; Schneider et al. 2001). Much of the research on cultural targeting and cultural tailoring published in the behavioral science literature focuses on proximate outcomes, such as participants' reactions to various methods of intervention (e.g., the ability of Asians to relate to Asian photos rather than white photos in an educational pamphlet), with less robust evaluation of the impact of these interventions on functional health outcomes.

All of the concepts of cultural competence can be invoked to develop novel interventions in the health care setting. The application of cultural competence in health care interventions can be broadly conceptualized as *cultural leverage*. We suggest that cultural leverage is a focused strategy for improving the health of racial and ethnic communities by using their cultural practices, products, philosophies, or environments as vehicles that facilitate behavior change of patients and practitioners. Building on prior strategies, cultural leverage proactively identifies the areas in which a cultural intervention can improve behaviors and then actively implements the solution. Cultural leverage is a process whereby the principles of cultural competence are deliberately invoked to develop interventions; it has the potential to operate at multiple levels throughout the health care delivery process. As we consider individuals, their communities and the means by which they access the health care environment, culture becomes central: factors such as language, family norms, and sexuality shape the framework through which health care is accessed.

To date, systematic reviews have considered interventions to narrow health care disparities from the quality improvement literature (Jenkins et al. 1999), the literature regarding cultural competence of health care providers (Beach et al. 2005), and the literature focused on specific health conditions (Hill et al. 1999; Sehgal 2003). Each of these reviews considers an individual area in which cultural leverage might be used. No recent reviews of health disparities interventions have considered the broader concept of cultural leverage that would bring together the literature from multiple fields and provide insight from a societal and policy perspective. This particular review examined a broader range of interventions that used cultural

aspects of race to (1) modify the health behaviors of individuals within communities, (2) increase access from communities to the existing health care system, and (3) amend or transform the health care system to better serve patients of color and their communities. We conducted this review with policy makers and administrative leaders in mind, lending insights and describing practical tools to those seeking to improve the approach of the health care system to communities of color.

Methods

We conducted a systematic review of the literature to determine to what extent strategies or interventions using cultural leverage are effective at decreasing health disparities for communities of color. In June 2006, we searched Medline, the Cochrane Central Register of Controlled Trials, and a cross-referenced engine, Web of Knowledge. In addition, we searched the gray literature using The New York Academy of Medicine Grey Literature Report. Our primary search strategy, developed for Medline and designed to maximize sensitivity of the search, was adapted for the other databases and included key Medical Subject Headings (MeSH) search terms. For the Medline search, we used the following MeSH terms:

> ((minority groups[mh] OR ethnic groups[mh] OR urban health[mh] OR urban population[mh] OR minority[tiab] OR urban[tiab] OR inner-city[tiab] OR black* [tiab] OR african american*[tiab] OR mexican*[tiab] OR native*[tiab] OR indian* [tiab] OR latina[tiab] OR latino[tiab] OR Asian[tiab] OR Chinese[tiab] OR Japanese [tiab] OR Korean[tiab] OR Vietnamese[tiab] OR Filipino[tiab] OR Hmong[tiab] OR Cambodian [tiab]) AND (nurs*[tiab] OR physician*[tiab] OR health professional* [tiab] OR health care provider*[tiab] OR health personnel[mh] OR health care organization) AND (randomized controlled trial [pt] OR controlled clinical trial [pt] OR randomized controlled trials [mh] OR random allocation [mh] OR double-blind method [mh] OR single-blind method [mh]) NOT (animal [mh] NOT human [mh])) OR ((cultura*[tiab] OR multicultural[tiab] OR transcultural[tiab] OR divers*[tiab] OR cultural diversity[mh] OR transcultural nursing[mh] OR ethnic[tw] OR minority [tw]) AND (competen*[tiab] OR sensitiv*[tiab] OR attitude*[tiab] OR experience [tiab] OR knowledge[tiab]) AND (education[mh] OR ed[sh] OR educat*[tiab] OR train*[tiab] OR curriculum[tiab]) AND (nurs* [tiab] OR physician*[tiab] OR health professional*[tiab] OR health care provider*[tiab] OR student*[tiab])) AND eng[la] AND 1985:2006[dp] NOT review[pt]

For the Cochrane search, we used the following combination of terms:

1. minority OR ethnic OR inner city OR cultural OR race AND
2. health care OR health professional OR physician OR nurse

For the Web of Knowledge, we used the following terms:

> (race OR ethnicity OR culture OR minority OR racism) AND (nurse OR physician OR health professional OR health care provider OR health personnel OR health care organization) AND (randomized controlled trial OR controlled clinical trial OR randomized controlled trials OR random allocation OR double-blind method OR single-blind method OR survey) NOT animal NOT review NOT international

To augment this search strategy, we reviewed the reference lists of key reviews,Web sites, reference articles, systematic reviews, and books.

Eligibility Criteria

We reviewed all nonwhite racial and ethnic categories, including African American, Hispanic, American Indian/Alaska Native, and Asian/Pacific Islander. We included interventions that

encompassed cultural constructs related to race, such as language, religion, diet, sexuality, family structure, neighborhood, class, and gender. We excluded articles published before 1985. We also excluded articles that did not describe interventions arising from health care organizations or connecting communities or patients of color to health care organizations, those that did not include evaluations of interventions, those that did not focus on populations of at least 50% people of color, and those describing interventions that took place outside the United States. Beyond these exclusion criteria, we chose to include a wide range of study designs. There are very few randomized controlled trials comparing interventions with and without cultural leverage, and to limit this review to those studies would have left out many innovative studies in the field. Similarly, there are very few intervention studies designed to examine an outcome such as the level of health disparities between white patients and persons of color. As such, we chose to also include studies that focused on the health of racial and ethnic minorities.

Article Review

The first author identified relevant abstracts through review of citations obtained from this search strategy. Each abstract was assigned to a team member for independent review to confirm relevance to the research question. We developed a standardized form to facilitate the review of abstracts and articles to determine relevance to the study question, document study characteristics, extract data, and assess the quality of evidence. Full articles were obtained for those abstracts appearing eligible and in cases in which determinations could not be made from the abstracts alone. Three team members (TLF, DLB, and KAC) reviewed articles independently and then compared findings; each article was reviewed by at least two reviewers, and differences were adjudicated by team consensus.

Study Quality

Articles included in the final analysis were reviewed for quality using multiple criteria, because of the difficulty in comparing and contrasting heterogeneous study approaches. To capture the value of studies that ranged from descriptive to controlled trials, we started with a descriptive discussion of their strengths and weaknesses. We then applied Downs and Black's (1998) criteria for assessing methodological quality, using the first 26 items in the scoring system, which had a possible total score of 27.

Results

A total of 5,930 citations were identified: 4,191 from Medline, 443 from the Cochrane Central Register of Controlled Trials, 1,593 from the Web of Knowledge, and 130 from manual review and the gray literature. Subsequent review of citations made 261 eligible for abstract review; of these, 223 abstracts were sufficiently specific to culture and race for the articles to be read in their entirety. After review, 38 articles met the eligibility criteria and are summarized in Table 1.

The majority of these interventions were performed in African American and/or Latino communities, with 15 studies involving African Americans, 6 involving Latinos, and 7 involving both. Four studies focused on Native American populations, and 6 addressed Asian or Asian American groups.

The interventions clustered into three broad categories: (1) interventions that modified the health behaviors of individuals, (2) interventions that increased access from communities to the existing health care environment, and (3) interventions that modified the health care system to better serve patients and their communities. We refer to these categories as individual, access, and health care environment interventions, respectively. While some overlap existed, we categorized studies by the approach most dominant in each intervention. Figure 1 displays

more closely specific elements of this supplement's conceptual model for disparities (Chin et al. 2007). The figure represents the interactions of individual patients and communities of color with the health care system and situates the three major areas of intervention focus. An individual's appearance, history, cultural practices, and group and individual identities define his or her race and locus within a community of color. This racial construction is individually unique yet shares characteristics with the community and encompasses cultural variables such as language, diet, religious beliefs, and the impact of societal stereotypes. The ability of a health care organization to care for individuals within a community of color is influenced by these variables. A health care organization that is culturally competent has the ability to integrate into a community of color and improve health care (moving the circle labeled "Health Care Environment" in Figure 1 closer to the circle labeled "Community of Color," thus improving access and quality). Societal norms affect the model on multiple levels, because they can affect access to health care, create negative stereotypes that can discourage health-seeking behavior, or result in differential care within a health care organization. A health care strategy that actively addresses these cultural variables has the potential to improve the health care and health outcomes of racial groups.

Individual-Level Interventions

Of the 38 interventions, 14 used cultural tools to extend the reach of health care to various racial groups by activating individual behavior change. Each of these studies sought to alter the behaviors of individuals by using community members to craft culturally specific messages, materials, and approaches to health-related practices. Six studies enlisted health professionals, physicians, and nurses who were culturally specific to the targeted racial groups for leadership in their interventions. Avila and Hovell (1994) and Brown et al. (2002) worked to improve diet and exercise; Fitzgibbon, Gapstur, and Knight (2004) incorporated lifestyle changes, including improved diet, with increased awareness of cultural expressions of identity and locus of control to increase rates of breast self-examination. Bonner et al. (2002) and Velsor-Friedrich, Pigott, and Srof (2005) addressed asthma self-regulation in an intervention with culturally specific nurse practitioners, and Lipkus, Lyna, and Rimer (1999) pursued smoking cessation using culturally specific print materials and telephone communication. In contrast, 3 studies recruited and trained lay peers of the target community as the primary intervention in bringing about individual behavior change. Among this group, Harris et al. (1998) and Wyatt et al. (2004) promoted safer sex behaviors through education, while Taylor et al. (2002) worked to motivate Cambodian women to pursue cervical cancer screening. In comparison, Jenkins et al. (1999), Lam et al. (2003), and Nguyen et al. (2000) crafted a program called Suc Khoe La Vang! in which they used a combination of strategies to address health care by joining culturally congruent health workers with culturally specific lay media. Ard, Rosati, and Oddone (2000) worked to promote healthier diet by teaching culturally specific recipes. Finally, Doswell et al. (2004) crafted an intervention that capitalized on a combination of culturally specific health professionals and peer influence through group discussions to delay the onset of sexual activity.

In summary these interventions showed promise in improving health, but a limited number of the interventions actually assessed health outcomes, and when they did, the demonstrated effect was not robust. Of the 14 in the group, only Avila and Hovell (1994), and Brown et al. (2002) both tracked and showed improvements in health outcomes. Both of these interventions used culturally specific health professionals and peers as the behavioral intervention. The study by Avila and Hovell showed statistically significant improvements in weight loss, while the study by Brown et al. showed significant improvements in diabetes control, respectively. Ard, Rosati, and Oddone (2000) showed improvement in weight, cholesterol, and blood pressure control, although the interpretation of the results is tempered by the large and overlapping standard errors. One article by Lam et al. (2003) demonstrated the ability of the intervention to modify health behaviors using lay health workers and a media campaign to improve rates

of Pap smear screening in a community. The balance of the articles tracked health behaviors and showed nonsignificant improvements in these measures.

Access Interventions

Fourteen studies sought to influence individuals' ability to access the resources of health care organizations by bridging the cultures of the health care organizations with those of the target communities. These interventions emanated from the health care organizations yet incorporated distinct culturally specific themes. For example, they frequently used lay educators who, in contrast to their role in other settings, were specifically charged with improving access to the existing health care organizations. All but one of these studies shared the goal of increasing the rate of health screening activities. Two studies by Freeman, Muth, and Kerner (1995) and Jandorf et al. (2005) used "patient navigators," or individuals who are culturally specific to a target population and trained to navigate patients within health care organizations. In these two studies, navigators were used to improve cancer screening and follow-up in African Americans and Latinos, respectively. Four studies—Bird et al. (1998), Kim and Sarna (2004), Giarratano, Bustamante-Forest, and Carter (2005), and Mishra et al. (1998)—used lay educators recruited from the target populations. After training, the lay educators worked with the target communities to improve screening by increasing awareness and understanding of cancer screening. Five studies combined tactics to accomplish these goals: Braun et al. (2005) used both lay educators and culturally specific physicians to create culturally targeted presentations to engage Native Hawaiians in cancer screening. Similarly, Brant, Fallsdown, and Iverson (1999) used public health nurses and lay educators to create culturally specific materials and small group sessions to emphasize the importance of breast cancer screening and combat the notion that it is a "white person's" disease. Norr et al. (2003) used a community worker and nurse team to improve prenatal care in pregnant Latinas and African Americans. Foley et al. (2005) used traditional healers, culturally specific information, and motivational interviewing to improve HIV screening in Native Americans. Gary et al. (2003) studied nurse case management and community health workers for African American patients with diabetes. Fedder et al. (2003) and Philis-Tsimikas et al. (2004) used community health workers to encourage low-income patients to pursue better management of diabetes and hypertension. Finally, Schneider et al. (2001) compared the impact of culturally specific materials that showed the benefit of screening (gain frame) with the impact of those that described the danger of not being screened (loss frame) in health-seeking behaviors.

As a group, access interventions were creative in using culture to improve the health care of people of color, but they struggled to show significant improvements. Only two studies, by Gary et al. (2003) and Philis-Tsimikas et al. (2004), were able to show differences in outcomes. Gary et al. were able to show a clinically important yet not statistically significant difference, while Philis-Tsimikas et al. found statistically significant improvement in diabetes management with the intervention. These two studies both used culturally specific nurse case management and community health worker interventions. The rest of the studies measured health behavior. Each was able to show a nonsignificant improvement in behaviors, except for the study by Schneider et al. (2001), which showed no improvement at all.

Health Care Interventions

Ten studies focused on health care organizations' ability to provide culturally specific care to improve outcomes for patients of color who were already engaged with the health care system. In five instances, this goal was accomplished by intervening at the level of health care professionals (nurses and counselors) to improve health care. Briscoe and Pichert (1999) used the strategy "training of trainers" in culturally specific interventions to improve the care of people of color with diabetes via existing agencies. Davies et al. (2005) investigated whether a culturally specific smoking cessation intervention delivered by physicians improved smoking

cessation among inpatients. D'Eramo Melkus (2004) studied a culturally specific cognitive-behavioral program performed by nurses for African American patients with diabetes. Hill et al. (2003) studied the role of an educational, behavioral, and pharmacologic intervention for African Americans with hypertension; a physician–community health worker team delivered this culturally specific program. Sterling et al. (2001) worked to match the race and gender of therapists with those of patients in a substance abuse treatment for African Americans in order to improve the rate of program completion.

Three studies enlisted peer educators to change the health care organization. Hill et al. (2003) aimed to improve care for patients with hypertension by incorporating community health workers into a comprehensive educational, behavioral, and pharmacologic intervention. Klerman et al. (2001) used peer education and support to address the risk for low birth weight in pregnant African American women. Washington and Moxey (2003) used peer group work incorporating gestalt prayer and role modeling to improve drug treatment among African American women at various stages of recovery.

Anderson et al. (2004) attempted to improve pain management by targeting cultural interpretations of pain; culturally specific materials, including videos and booklets, were created for the cancer pain care of African Americans and Latinos. Nebelkopf and Penagos (2005) used a multipronged strategy including case management, cultural events, and traditional health beliefs and spirituality to improve the health of HIV-positive Native Americans.

As a group, these interventions were the most heterogeneous in approach and outcome assessment. Among the health care interventions, Hill et al. (2003) were able to bring about improvements in blood pressure control and slow the progression of left ventricular hypertrophy in African American men by involving culturally specific community health workers and nurse practitioners along with a physician to address health care management. In another intervention, D'Eramo Melkus (2004) tracked weight loss and diabetes outcomes among African American women. This study was able to show an improvement among participants who received culturally specific nurse practitioner care, but the study's small sample size and pretest–posttest design limit its ability to be generalized. No other intervention in this section measured health outcomes; the rest focused on measuring changes in health behaviors with potential links to outcomes. Within this group, many described improved understanding of disease or satisfaction with their care, with some showing trends toward improving behaviors.

Strength of Evidence

The studies reviewed here evaluated their interventions in a heterogeneous fashion, in part because of differences in the conditions or health behaviors of interest. The most important distinction among studies was that 6 of 38 studies were entirely descriptive and did not report on processes of care or health outcomes (Brant, Fallsdown, and Iverson 1999; Doswell et al. 2004; Foley et al. 2005; Klerman et al. 2001; Nebelkopf and Penagos 2005; Washington and Moxey 2003). Each of these studies reported, often in subjects' own words, the notion that the intervention improved their health or improved their perspectives on health and health-seeking behaviors. The remaining 32 studies did report on processes of care or health outcomes, and 23 of these studies showed statistically significant improvements in some components of care in comparison with usual care.

Of these 32 studies, 16 gathered outcome data from patient self-report (Anderson et al. 2004; Braun et al. 2005; Briscoe and Pichert 1999; Davies et al. 2005; Fitzgibbon, Gapstur, and Knight 2004; Harris et al. 1998; Jenkins et al. 1999; Kim and Sarna 2004; Lam et al. 2003; Lipkus, Lyna, and Rimer 1999; Mishra et al. 1998; Nguyen et al. 2000; Schneider et al.

2001; Sterling et al. 2001; Taylor et al. 2002; Wyatt et al. 2004). Of these 16 studies, 7 showed significant improvements in self-reported outcomes. Among the 7 studies showing significant improvements, 2 studies about sexual behavior (Harris et al. 1998; Sterling et al. 2001), 2 about mammography (Kim and Sarna 2004; Mishra et al. 1998), 1 on diet (Fitzgibbon, Gapstur, and Knight 2004), and 1 on cervical cancer screening (Taylor et al. 2002) showed improvements in processes of care. A smoking cessation program (Lipkus, Lyna, and Rimer 1999) increased "contemplation" but not cessation.

Sixteen additional studies reported on processes of care or health outcomes but relied on more objective measurement methods. Interestingly, each of these studies showed significant improvements in an outcome of interest. Eight of these found significant improvements in body habitus, metabolic, and/or cardiovascular parameters (Ard, Rosati, and Oddone 2000; Avila and Hovell 1994; Brown et al. 2002; D'Eramo Melkus et al. 2004; Gary et al. 2003; Hill et al. 1999, 2003; Philis-Tsimikas et al. 2004). Two found improvements in asthma self-management (Bonner et al. 2002; Velsor-Friedrich, Pigott, and Srof 2005). Four (Bird et al. 1998; Freeman, Muth, and Kerner 1995; Giarratano, Bustamante-Forest, and Carter 2005; Jandorf et al. 2005) documented improvement in rates of cancer screening, 1 (Fedder et al. 2003) documented decreased emergency department visits and hospitalizations in persons with diabetes, and 1 (Norr et al. 2003) noted developmental improvement in the children of the African American and Latina women.

We evaluated each of the included studies using the methodological quality scale published by Downs and Black (1998), ranging from 0 to 27. The articles ranged in score from 4 to 21, as shown in Table 1. Twelve of our studies were descriptive in nature or otherwise structured in a fashion that yielded scores below 10.

Discussion

We have synthesized the literature that describes and evaluates interventions that use cultural leverage to narrow disparities in health care. We focused on interventions that emphasized behavioral change of persons in communities and patients in health care organization, access to care, and health care organization innovation. Interventions that emphasized individual behavioral change relied on the expertise of community members to inform their programs. These community members were enlisted to share culturally specific information on health care practices such as breast and cervical cancer screening. Interventions that focused on improving access to health care relied on patient navigators and lay educators to encourage regular screening and to dispel misconceptions about the disease. Finally, those that concentrated on the health care system homed in on the role of health care professionals. The dominant model in this set of interventions emphasized the training of health professionals to effectively deliver culturally specific messages and culturally tailored programs.

Four common themes emerged from this literature review. First, scholarship in this field is still in a nascent stage, although the initial findings from this field are quite promising. One indication of the early stage of this field is the methodological inconsistency of these studies. Six of the studies were descriptive in nature and provided qualitative insights into potential mechanisms, a necessary step in learning how to improve outcomes for communities of color. The remaining 32 studies did formally evaluate processes of care or health outcomes. Twenty-three of these 32 studies reported significant improvements in care across a wide range of conditions and preventive strategies. It also should be noted that none of the studies actually addressed the extent to which the cultural aspects of these interventions brought about the improvements in care, apart from the general mechanisms of quality improvement or public health strategies inherent in the interventions. None of the studies was designed to examine the impact of an intervention on health disparities, which would require a comparison between

a specific racial or ethnic group and a white control group. Among the communities that were studied, some populations were clearly underrepresented, such as men of color and Asian Americans.

A second observation that emerges from this intervention literature is that nurses and other nonphysician health care providers implemented the majority of these interventions. Those initiated by physicians were generally brief in duration and focused on training physicians in cultural tools or language acquisition. Nurse-led studies, in contrast, often described in detail the extent to which race and ethnicity influence health care delivery. This may simply reflect that nurse-led interventions are common among public health interventions. On the other hand, as frontline health professionals, nurses may be particularly sympathetic to the need to modify the existing health care delivery system or may recognize opportunities to link institutionally based care delivery with community-based organizations. The preponderance of these interventions focused on improving the health care of women, perhaps reflecting the gender distribution of the nursing field (nurses were the providers in most of the studies). Although some studies included men as subjects, only one specifically targeted men.

A third focus among these studies is improving perceptions of self-worth and self-efficacy surrounding health behaviors. This theme appeared particularly prevalent in studies that focused on prevention. In preventing diseases such as diabetes and HIV, lifestyle habits and perceptions of individual value are particularly salient. Self-worth in the context of societal cues also appeared important in the treatment of substance abuse. Several studies investigated the roles of culture in the treatment of substance abuse by modifying the treatment environment and incorporating culturally specific workers, role models, and concepts into the treatment plan. Incorporating culturally specific messages to emphasize positive self-images may allow patients to boost self-efficacy in the settings of substance abuse and disease prevention. In contrast, we found no studies focused on improving care or outcomes using a strategy of self-efficacy for people of color in the setting of acute illness.

Finally, a central component of a number of these interventions was improving connections between patients and health care organizations through the use of cultural strategies. The long-term management of health and disease are often contingent on the presence of a relationship that enables the mutual exchange of information and the development of treatment plans to which patients of color can successfully adhere. Interventions using culturally specific patient navigators and community health workers can be used to create relationships on the basis of cultural commonalities, seen and unseen, to transcend obstacles that commonly impede the delivery of care to patients of color. These are among the most successful strategies that emerged from our literature review.

In general, the literature indicates that the cultural aspects of race and ethnicity provide unique levels for health disparities interventions. Jones (2000) suggested a framework for understanding the role of racism in health and health care; such a model could inform the structure of interventions like those we review here. Institutional racism, individually mediated racism, and internalized racism are three levels of differential experience based on race that can affect health and health care. Jones defined institutional racism as differential access by race to the goods, services, and opportunities of society (e.g., health insurance, qualified physicians). Individually mediated racism is divided into two types; prejudice represents differential assumptions about the abilities, motives, and intentions of others on the basis of their race (e.g., assumptions about drug use), and discrimination represents differential actions toward others on the basis of race (e.g., lower referral rates to cardiac catheterization for black women; Schneider et al. 2001). Finally, internalized racism is defined as acceptance by members of the stigmatized races of negative messages about their own abilities and intrinsic worth. This manifestation of racism is exemplified in the lower frequency of health-seeking

behaviors among some communities of color. The three aspects of racism described by Jones may help identify potential targets and strategies for intervention in studies such as those reviewed here (Jones 2000).

In addition, “levels of culture,” as described by Hall (1984) and others, are instructive in understanding how culture can be used for positive leverage in health settings: surface characteristics drawn from traditional dress, music, colors, and so on, are fairly easily incorporated into health materials and programming, whereas deeper dimensions, such as shared underlying values and assumptions, may be harder to incorporate but possibly more effective (Hall 1984; Kreuter et al. 2003; Resnicow et al. 1999). The studies reviewed here describe interventions in which cultural tools can be used in the health care organization and within communities of color to address health disparities by mitigating institutional and internalized levels of racism. We use the term *cultural leverage* to describe this strategy for improving the health of communities of color by using their cultural practices, products, philosophies, or environments as vehicles that facilitate behavior change of patients and practitioners. Activating shared norms within racial and ethnic groups, and directing health care delivery in a manner cognizant of cultural practices, could strengthen the linkages between the health care delivery system and the populations it aims to serve and ultimately decrease health disparities.

Several caveats limit our ability to generalize from this literature review. First, although we pursued multiple search engines and databases for our references, only those published in peer-reviewed journals were included. While the peer-review process ensures a level of quality, our review is limited to those published articles. Publication bias in favor of positive results is possible. Furthermore, the vetting and publication of such manuscripts introduce a substantial time lag; we undoubtedly excluded ongoing studies and studies that have been evaluated but not yet reported. In addition, we limited our review to those studies published in the United States. An extension of this work could include intervention studies aimed at addressing minority populations in other countries.

Deep inequities divide the races in the United States, with an impact that extends to health care (Williams and Rucker 2000). To ameliorate these disparities in health care, it may be insufficient to simply provide equal health care for all, and it may be important to provide health care that is also culturally leveraged. Cultural competence strategies are critical to creating a hospitable setting, but cultural leverage strategies may contribute further to activating individuals within communities of color for behavioral change, facilitating health care connections to communities of color, and creating a safe, nurturing health care environment in which health can flourish.

Policy Implications

Several important policy recommendations arise from our review. First, health care organizations and public health entities should continue to actively engage communities of color in developing solutions to the problem of health disparities. We found that some of the most innovative approaches to cultural leverage were borne from active community involvement. It is in engaging a specific community in the creation of an intervention that relationships are fostered and health care bridges can materialize. Cooperation at this early stage of an intervention increases the likelihood of identifying cultural leverage strategies most likely to be effective, and it ensures the incorporation of both seen and unseen cultural nuances. Equally important, early community involvement ensures more than superficial support from the community. This approach entails actively crafting an ongoing relationship with community members via both health care interactions and related social and cultural activities.

Second, multidisciplinary interventions incorporating doctors, nurses, and community health workers should be encouraged. Physician-focused disparity education has often emphasized cultural competence training and demonstrated modest improvements in knowledge and attitudes (Beach et al. 2005). While cultural competence is an important part of the solution to reducing disparities, our review found that culturally leveraged nursing and community health worker interventions improved processes of care and outcomes. Third, while the literature is limited, there are compelling conceptual reasons why culturally leveraged interventions are likely to add incremental benefit to generic quality improvement interventions such as enhanced patient registries and information systems, audit and feedback of performance measures to physicians, and the implementation of practice guidelines and flow sheets. For example, culturally leveraged interventions often are more likely to mobilize community strengths as well as address some of the root perceptual, attitudinal, and logistical barriers to chronic care self-management, a particularly challenging area for generic interventions.

While cultural leverage is a promising concept for reducing health care disparities, there are several important unanswered questions about cultural leverage that may influence health care policies. Instead of debating the merit of a generic versus culturally leveraged intervention, the most important question may be what combination of interventions and ways of integrating culture into generic quality improvement are most likely to improve quality of care and outcomes. The distinction between culturally leveraged interventions and generic interventions is somewhat artificial, since there is a continuum of interventions incorporating culture. For example, a lay health worker intervention involving community outreach, tailored health messaging, and improved access to the health care system may be at one end, whereas a culturally leveraged telephone nurse case management system of patients with heart failure that involves a patient registry and tracking clinical performance measures is more a mixture of culturally specific and generic approaches. A key question is what types of interventions provide the most value and are most cost effective. Moreover, the most appropriate solutions probably depend on the specific circumstances of a health care organization or set of providers. For example, a health care organization that does not have the ability to identify and track its patients with diabetes would need to develop that capability first before embarking on a culturally tailored nurse case management system. Overall, the more widespread use of cultural leverage interventions is likely to improve racial disparities in health care.

Authors' Note

This project was supported by the Robert Wood Johnson Foundation through Finding Answers: Disparities Research for Change, the Department of Medicine at the University of Chicago, and the National Institute of Diabetes and Digestive and Kidney Diseases Diabetes Research and Training Center (P60 DK20595). Dr. Fisher is supported by the National Institutes of Health (NIH) Loan Repayment Program. Dr. Burnet is supported by an NIH Career Development Award (K23 DK064073-01). Dr. Huang is supported by an NIH Career Development Award (K23 AG021963). Dr. Chin is supported by an NIH Midcareer Investigator Award in Patient-Oriented Research (K24 DK071933).

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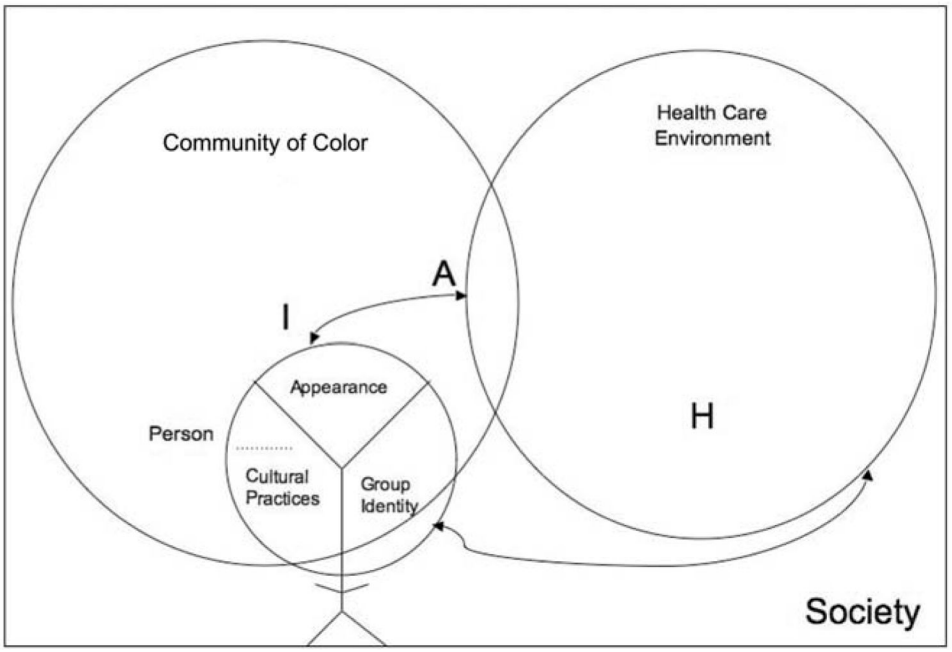

Figure 1. Conceptual Model for Cultural Leverage

Note A = interventions that increase access from the community to the existing health care system; H = interventions that modify the health care system or organization to effectively serve patients and communities of color; I = interventions that modify the health behaviors of individuals within communities.

Table 1

Interventions Using Culture to Narrow Racial Disparities in Health Care

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
nderson et (2004)	H	African American and Latino	Academic medical center	Randomized controlled trial	Culturally specific materials	Culturally specific video and booklet on pain management as intervention, compared with video and booklet on nutrition; trial executed among African American and Latino cancer patients to improve pain management and self-reported pain intensity	No significant impact on pain intensity nor pain control among African Americans; trend of effect suggested among Latinos	20
rd, Rosati, d Oddone 000)	I	African American	Academic medical center	Health intervention	Culturally specific health intervention	Diet intervention among African Americans that incorporated culturally specific recipes, exercise, and familial support	Statistically significant weight loss averaging 14.8 lb at 8 weeks was achieved along with decrease of total cholesterol, and blood pressure; no control for comparison	8
vila and ovell 994)	I	Latina	Community clinic	Randomized controlled trial	Culturally specific physicians	Obese Latinas randomized to bicultural Spanish-speaking physicians who instruct on diet modification and exercise weekly for 10 weeks; this intervention was compared with those attending a cancer training session	Statistically significant improvement in BMI, waist/ hip ratio, and serum cholesterol compared with control; trend shown for improvement in confidence, exercise tolerance, and diet; effect persisted over 3 months; intervention involved 22 participants	14

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
rd et al. 998)	A	Asian	Academic medical center and community	Pre- and post- intervention analyses	Culturally specific education	Vietnamese-language and culturally appropriate health education messages transmitted via small group educational session, materials, and promotional events focused on improving recognition, receipt, and maintenance of cancer screening tests	Statistically significant improvement in recognition, receipt, and maintenance of routine checkup, clinical breast examination, mammography, and Pap smears	21
onner et al. 002)	I	Latino and African American	Academic medical center	Randomized controlled trial	Culturally specific care coordination	Family coordinator–led asthma intervention involving education, medication instruction, diary, physician visit preparation, allergy testing, home environment assessment over 3-month period; intervention was compared with usual medical care	Trend toward improvement was found in asthma-related knowledge, self-efficacy, self-regulation adherence to pharmacotherapy, decreased frequency of symptoms, and increased prescription of controller medications by physicians	7
ant, llsdown, d Iverson 999)	A	Native American	Community hospital and Indian reservation	Pre- and post- intervention analyses	Culturally congruent materials and messages	An outreach program was developed specifically for Native American women that included individualized education, distribution of culturally	The program outcome was measured by improved breast cancer screening by >100% compared with pretest levels	17

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
						specific materials, culturally specific professional education, and train-the-trainer seminars		
aun et al. 005)	A	Native American (Hawaiian)	Civic clubs	Randomized controlled trial	Culturally specific education/ education	Experimental group received culturally targeted education and free testing delivered by a native Hawaiian physician and native Hawaiian CRC survivor, with goal of increasing colorectal cancer screening; control group had similar message delivered by non-Hawaiian professional	CRC screening high at baseline and improved modestly in both groups without statistically significant difference between intervention and control	6
iscoe and chert 999)	H	African American	Health conference	Workshop	Culturally specific education	A “training of trainers” workshop designed to address underuse of diabetes management services among African Americans; the training program taught culturally specific tools including culturally specific educational materials, and materials developed for	71% of participants increased intention to implement community programs; 10% to 30% of participants implemented cultural strategies at 6-month follow-up	6

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
						the American Diabetes Association's African American Program		
own et al. 002)	I	Latino	Community health care centers	Randomized controlled trial	Culturally specific education	Intervention incorporated peer educators, dietitians, nurses, and CHWs to educate patients on diabetes management; education program was performed via 52 one-hour-long sessions in Spanish and incorporating Mexican culture-specific messages	Improvement was shown among participants in fasting glucose levels, glycosylated hemoglobin levels, cholesterol, and BMI compared with control, but not in a statistically significant fashion	19
Eramo elkus et al. 004)	H	African American	Academic health center	Pre- and post- intervention analyses	Culturally congruent disease intervention	Intervention involved culturally specific cognitive behavior program administered by nurse practitioner over 6 weeks with the goal of improving diabetes control and inducing weight loss	Significant improvement in fasting blood glucose, glycosylated hemoglobin, and weight loss was shown compared with group before intervention	9
avies et al. 005)	H	African American	Public hospital	Randomized controlled trial	Culturally tailored materials	Four component intervention included (1) physician instruction; (2) referral to and intervention by a smoking cessation counselor; (3)	Statistically significant difference in progression in stages of contemplations between patients and controls; no significant difference in actual rate of	12

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
						racially specific, culturally tailored self-help materials; (4) follow-up call by counselor	smoking cessation	
oswell et (2004)	I	African American	Community health center	Pre- and post- intervention analyses	Culturally specific workshops	Intervention to delay early sexual behavior in preteen girls; over 6 weeks/ year, workshops taught girls peer group expectations, conflict resolution, decision making, and goal setting using culturally specific messages	Described by participants as enjoyable; delay in sexual activity was not measured	4
dder et al. 003)	A	African American	Academic medical center	Retrospective comparative study	Culturally specific CHWs	Volunteer CHW, culturally specific, trained in diabetes, hypertension and American Heart Association certified, worked with African American patients via weekly contact to link patients with appropriate primary care and specialty practitioner and assist in self-management of disease	Reduced emergency department visits from a mean of 1.49 to 0.93 and hospitalizations from 0.95 to 0.66 per person per year	10
tzgibbon, apstur, and	I	Latina	Community health center	Randomized controlled trial	Culturally specific, behavior change intervention	Focus group–guided intervention;	Significant improvement in fat (60.5 to 53.6 g)	18

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
night 004)						incorporated behavior change theory in the hands of trained culturally specific nutritionist and breast health educator to influence Latina women to increase fiber intake, decrease fat intake, and increase use of breast self-exam over an 8-month intervention	and fiber (20.6 to 21.1 g) intake and breast self-exam performance; analysis with eye to standard error notes significant overlap	
ley et al. 005)	A	Native American	Residential substance treatment program	Pre- and post- intervention analyses	Culturally congruent counseling	Culturally specific program incorporating traditional healers, HIV screening information, and motivational interviewing to improve HIV screening, knowledge, and safer activities	Increased HIV knowledge and improved HIV attitudes/beliefs; 78% rate of participants seeking and completing screening	12
eeman, uth, and erner 995)	A	African American, Latino/a	Hospital	Control trial	PNs	Culturally specific, partner assisted patients' access cancer screening and follow-up for positive test results	Improvement in completion of breast biopsy; seven breast and two cervical cancers found in 1,034 women	6
ary et al. 003)	A	African American	Academic medical center and community health clinic	Randomized controlled trial	PNs	NCMs and CHWs implement individualized program among African American diabetics to	Statistically significant improvement was found in the combined NCM/ CHW intervention in triglycerides	6

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
						improve diet, physical activity, foot care, vision care, blood glucose self-monitoring, blood pressure control, plan adherence; interventions were modeled to incorporate cultural issues	(35.5 mg/dl) and diastolic blood pressure (5.6 m Hg) compared to usual care	
arratano, ıstamante-orest, and arter 005)	A	African American, Latina	Academic medical center/ community partnership	Pre- and post- intervention analyses	Community-based health education	Intervention bridging community and hospital via community lay health educators, education, and relationship building focused on improving breast and cervical cancer screening; executed over 4-year period	Unclear effect, but noted inclusion of 1,494 women who received cancer screening, including 11 with confirmed cancers	8
rris et al 998)	I	African American	Methadone clinic	Randomized controlled trial	Peer counseling and leadership training	Culturally specific peer counseling and leadership training of methadone-dependent African American women focused on reducing AIDS risk over 16 weeks	Self-reported safer sex behaviors, improved self-esteem, decreased depression, and increased community action exhibited, but not statistically significant compared with control	14
ll et al. 999, 03)	H	African American	Community, academic medical center, outpatient clinic	Randomized controlled trial	CHWs	A comprehensive educational-behavioral-pharmacologic intervention; administered by a nurse	The more intensive intervention led to lower blood pressure and decreased progression of left ventricular	21, 17

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
						practitioner-CHW-physician team including individualized counseling, monthly calls, and home visits for hypertension care and control	hypertrophy in a statistically significant manner, but control group showed similar improvement	
ndorf et al. 005)	A	Latino	Primary care practice	Randomized controlled trial	PNs	Intervention tested the effectiveness of a PN in increasing compliance with colorectal cancer screening in a community of color health setting using community and ethnically matched patient	Statistically significant improvement in colonoscopy completion at 6 months compared with control group	20
nkins et al. 999), Lam al. (2003), guyen et (2000)	I	Asian	Academic medical center	Randomized controlled trial	Culturally specific medical information	Multifaceted health education program via media and lay health workers; intervention used Vietnamese culture- and language-specific messages to raise awareness of cervical cancer, breast cancer, and activate health-seeking behavior	No significant improvement in actual screening compared with control, but the intervention did show improvement in awareness and in planning to have screening tests	16, 12, 9
m and rma 004)	A	Asian	Church	Controlled trial	Peer education	Sought to improve mammography Korean women via peer education and	Statistically significant improvement in mammography and breast cancer screening–related	12

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
						provision of low-cost mobile mammography; intervention was compared with group that received low-cost mammography alone and another that had no intervention at all	activities and knowledge in intervention group compared with controls but not more improvement than those who had no intervention at all	
erman et (2001)	H	African American	Academic medical center	Randomized controlled trial	Peer education	Randomized trial to augmented care (educational peer groups, additional appointments, extended time with clinicians, additional supports) or usual care for multiple-risk-factor Medicaid-eligible pregnant women, with the goals of improving birth weight and reducing preterm birth	Augmented care increased women's satisfaction, knowledge of risk conditions, and perceived mastery but did not reduce the likelihood of low-birth-weight infants	21
pkus, yna, and mer 999)	I	African American	Community health center	Randomized controlled trial	Culturally tailored education	Smokers were randomized to (1) health care provider intervention, (2) health care provider intervention with tailored print communication, or (3) health care provider intervention with tailored print	Smokers who received the tailored print materials were more likely to quit than those who received the provider intervention alone to those that received all three levels of intervention	19

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
						communication and telephone counseling, with the goal of increasing rates of smoking cessation		
ishra et al. 998)	A	Latina	Primary care clinic	Randomized controlled trial	Language-specific peer education	Four 2-hour education sessions led by a bilingual health educator sought to engage participants in discussion and thoughts on breast cancer; goal of the intervention was to improve self-efficacy, knowledge, breast self-exam, and mammography seeking	Improvement in knowledge attitudes, and self-efficacy compared with control in a statistically significant fashion; minor changes in practices	13
ebelkopf d Penagos 005)	H	Native American	Community-based health organization	Pre- and post-intervention analyses	Culturally specific context/care	Holistic Native Network works to meet the spiritual, medical, and psychosocial needs of HIV-positive Native Americans via case management, disease management, mental health services, support groups, cultural events, incorporated of traditional healers and spirituality; intervention goal is to improve management of HIV/AIDS	Patients report improved quality of life and self-reported improved overall health status of HIV patients, although not in a statistically significant fashion and without control	4

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
orr et al. 003)	A	African American, Latina	Prenatal clinic	Randomized controlled trial	Culturally specific CHW-nurse team	Improve prenatal care use via CHW-nurse team to combine health knowledge and social/language realities of the community for African American and Latina women; program goals focused on reducing infant mortality	African American improved maternal documentation of infant immunizations, more developmentally appropriate parenting expectations, and higher 12-month infant mental development scores; for Latinas, improved maternal daily living skills and play materials	24
ilis-imikas et (2004)	A	Latino	Multiple community health clinic	Matched controlled study	Culturally specific peer education	NCMs and specially trained peer education worked to improve self-management and self-efficacy surrounding diabetes management; goal of the intervention is to improve clinical care, patient knowledge, treatment satisfaction, and reduce health-adverse, culture-based beliefs	Significant improvement was found glycosylated hemoglobin (12.0% to 8.3%), total cholesterol (5.82 to 4.86 mmol/L) low-density lipoprotein cholesterol (3.39 to 2.79 mmol/L) and diastolic blood pressure (80 to 76 mmHg); in addition, knowledge, satisfaction, and beliefs were also improved	
hneider et (2001)	A	African American, Latina, white	Community health clinics	Randomized controlled trial	Clinical trial of culturally specific messages	This intervention sought to improve mammography-seeking behavior via health education and	Loss-framed, multicultural videos most persuasive and associated with increased mammography, but not for	16

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
						self-efficacy via education videos, “gain framed” vs. “loss framed,” and multicultural vs. culturally specific	African American women	
erling et (2001)	H	African American	Outpatient substance abuse treatment program	Controlled trial	Race-matched clinical pairs	Race and sex matching of therapist and patients in substance abuse treatment with goal of improving retention and completion of substance abuse program and reducing HIV/AIDS risk behavior over 12 weeks	Effect on retention, addiction severity, and risk for HIV/AIDS behavior when matched by race or sex not significant	14
aylor et al. 002)	I	Asian	Academic medical center	Randomized controlled trial	Culturally congruent health workers and information	Home visit by trained culturally specific outreach worker with Cambodian women to show culturally specific video and provide culturally tailored information; subsequent meetings in local centers to present information on cervical cancer and Pap testing; neighborhood-based controls had no intervention	Significant improvement in cancer screening in both the intervention and control groups, without significant difference between intervention and control	15
elsor-iedrich,	I	African American	School-based clinic	Randomized controlled trial	Culturally specific teaching	Intervention consisted of	Asthma intervention	14

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score
gott, and of (2005)						culturally specific asthma education program followed by five monthly visits by nurse practitioner with goal of improving asthma management over 5 months	program resulting in improved asthma knowledge, self-efficacy, and self-care practices compared with control	
ashington d Moxey 003)	H	African American	Inpatient treatment	Pre- and post-intervention analyses	Peer education	Intervention consisted of crafting strategies to improve individual efficacy in African American women in drug treatment; intervention used group work incorporating gestalt, prayerful homework, and successful black female role models; intervention lasted 3 or 5 weeks	Qualitative results included “calming and releasing energy,” “I got more courage out of the group,” and “the group program helped [me] to get courage and not be afraid”	15
yatt et al. 004)	I	African American, Latina	County and community clinics, hospitals	Randomized controlled trial	Culture- and gender-congruent education	Cognitive-behavioral approach to HIV risk reduction with culture- and gender-specific concepts with the goal of reducing sexual risks and increasing HIV medication adherence; 11 weekly sessions	HIV-positive women in case group had improved sexual risk reduction, but not in a statistically significantly manner	19

udy	Locus of Intervention	Race/Ethnicity	Setting	Study Type	Cultural Tool	Strategy	Outcomes	Downs and Black Quality Score

ote: A = interventions that increase access from the community to the existing health care system; BMI = body mass index; CHW = community health worker; CRC = colorectal cancer; H = interventions at modify the health care system or organization to effectively serve patients and communities of color; I = interventions that modify the health behaviors of individuals within communities; NCM = rse case manager; PN = patient navigator.