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Abstract

This article reviews the empirical evidence that suggests that there is a solid foundation for more systematic research attention to the ways in which interventions that seek to reduce the multiple dimensions of racism can improve health and reduce disparities in health. First, research reveals that policies and procedures that seek to reduce institutional racism by improving neighborhood and educational quality and enhancing access to additional income, employment opportunities, and other desirable resources can improve health. Second, research is reviewed that shows that there is the potential to improve health through interventions that can reduce cultural racism at the societal and individual level. Finally, research is presented that suggests that the adverse consequences of racism on health can be reduced through policies that maximize the health-enhancing capacities of medical care, address the social factors that initiate and sustain risk behaviors, and empower individuals and communities to take control of their lives and health. Directions for future research are outlined.

Keywords

racism, interventions, agenda

Despite mounting evidence that racism adversely affects health through multiple mechanisms (Williams & Mohammed, in press), there is little systematic research on reducing racism as an explicit strategy to improve health and reduce disparities in

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health. Paradies's (2005) comprehensive overview of the opportunities and challenges to reduce racism to enhance the health of Australia's aboriginal population is a notable exception. This article reviews scientific evidence that suggests that health inequities can be reduced by increasing access to socioeconomic opportunities and resources, reducing cultural racism and its associated negative images, stereotypes, prejudice, and discrimination, and minimizing racism's adverse effects by enhancing the capacity of individuals and communities to improve health. Additional research is needed in each of these areas.

Reducing the Health Effects of Racism: Improving Socioeconomic Opportunities

Research suggests that improving neighborhood and housing conditions, providing additional money to low and moderate income households, improving academic performance and early childhood experiences, enhancing employment opportunities, and reducing violence and incarceration all have the potential to improve health.

Improving Neighborhood and Housing Conditions

Research reveals that policies and interventions that improve neighborhood and housing quality, increase household income, and improve education have enormous potential to improve the socioeconomic status (SES) and health of disadvantaged populations. A review of housing interventions that have been evaluated for their health impact concluded that although the assessment of health outcomes has been limited in these studies, improving neighborhood conditions has been associated with better self-reported measures of health (Acevedo-Garcia et al., 2004). In the Yonkers housing intervention, for example, public housing residents randomized to move to newly constructed public housing with better conditions reported higher rates of employment and lower levels of welfare use and also better health and less substance abuse, neighborhood disorder, and violence 2 years later compared to families that had not moved (Fauth, Levanthal, & Brooks-Gunn, 2004). The strongest evidence comes from the Moving to Opportunity (MTO) project. In the MTO, 4,604 low-income public housing residents in five American cities were randomized to a treatment group and two comparison groups. The treatment group received housing vouchers that could be used only in low-poverty neighborhoods. Three years later, criminal victimization was lower and the health of parents and sons was better in the treatment group (Acevedo-Garcia et al., 2004). Ten to fifteen years later, the treatment group had lower rates of severe obesity and diabetes risk (Ludwig et al., 2011) and higher levels of mental health and subjective well-being (Ludwig et al., 2012).

Thus, reducing and ameliorating the negative effects of segregation on housing and neighborhood quality can enhance health. However, the MTO program was too small to affect racial segregation and the concentration of poverty in the participating cities

and did not assess or address either the institutional or individual mechanisms of discrimination that contribute to residential segregation (Acevedo-Garcia et al., 2004). More research is needed to identify the conditions under which improvements in housing and neighborhood conditions can translate into health improvement. We also need to better understand the potential health impacts of mixed income developments and gentrification processes in which middle-income persons move into historically poor communities.

Increased Household Income and Health

Large-scale societal initiatives that provide households with additional income can have health consequences. The Earned Income Tax Credit (EITC) is a cash award provided through the tax system to lower income working families. It currently reflects the largest government cash transfer program to low-income working families in the United States. A study using variation in the federal EITC over time and the presence of state EITCs found that income from EITC reduced the rate of low birth weight and increased mean birth weight (Hoynes, Miller, & Simon, 2012). These effects were evident for both Blacks and Whites but were larger for Blacks. Similarly, a study using changes in state EITCs as a natural experiment found that state EITCs increased birth weights and reduced maternal smoking (Strully, Rehkopf, & Xuan, 2010). Another study of the EITC found that additional income reduced hearing limitations among adults but was not associated with improved self-reported health and functional limitations (Larrimore, 2011).

The Women, Infants, and Children (WIC) program is a means-tested federal program that provides specific supplemental food items to women and their infants. A study of the rollout of WIC across counties in the United States revealed that the program increased average birth weight and reduced the incidence of low birth weight (Hoynes, Page, & Huff Stevens, 2010). The effects were stronger among women with low education. Recent analyses of the impact of the social security program in increasing income of the elderly reveals that the initial implementation of the program and subsequent increases in the level of benefits were associated with mortality declines for the elderly (Arno, House, Viola, & Schechter, 2011). Research needs to better understand both the relevant time in the life course and the specific health outcomes that additional income are more or less likely to affect.

Conditional cash transfer (CCT) programs are initiatives that provide cash payments to low-income families contingent on regular health care visits, school attendance, or participation in educational programs. They have been widely used in middle and lower income countries. The program in Mexico in which families had been randomized to receive cash transfers led to reduced illness rates and child stunting (Rawlings & Rubio, 2005), increased the quality of prenatal care (Barber & Gertler, 2009), and reduced rural infant mortality by 17% (Barham, 2011). A review of 13 CCT programs in low- and middle-income countries, all using experimental or quasi-experimental designs, found that the programs were effective in increasing the utilization

of preventive health services and immunization rates, improving nutritional and health outcomes and encouraging healthy behaviors (Ranganathan & Lagarde, 2012).

There are important design differences across the various CCT studies, and we are not certain of the optimal conditions (Ranganathan & Lagarde, 2012). Some evidence reveals that health improvement can be achieved if the cash is given unconditionally (Fernald, Gertler, & Neufeld, 2008; Paxson & Schady, 2007), but conditionality is important for political support of such programs since it provides evidence that public resources are not being wasted. The cost effectiveness of the programs needs to be assessed. When CCTs have not targeted the poorest segment of society, groups that are better off economically have received greater benefit (Ranganathan & Lagarde, 2012). Many of the CCT programs use school attendance as the condition when school-age children are present. In Mexico, cash transfers protected children from being taken out of school, with the CCT program serving as a safety net that ensured the long-term human capital benefits that are linked to completing education (de Janvry, Finan, Sadoulet, & Vakis, 2006). The problem of chronic absenteeism from school is a major one among low-income and minority populations in the United States (Balfanz & Byrnes, 2012), and research needs to explore the extent to which CCT programs in the United States can also promote school attendance and health.

The civil rights policies of the 1960s narrowed the Black–White economic gap with Black women benefitting more than Black men (Kaplan, Ranjit, & Burgard, 2008). In turn, Black women had larger gains in life expectancy from 1965 to 1974 than did other groups. Another study found that between 1968 and 1978, Black males and females, aged 35 to 74, had larger absolute and relative declines in mortality than Whites (Cooper, Steinhauer, Schatzkin, & Miller, 1981). Other data reveal that Black women born between 1967 and 1969 had better health status as adults and were less likely to have infants with low birth weight and low Apgar scores than those born between 1961 and 1963 (Almond & Chay, 2006). In addition, the desegregation of southern hospitals enabled 5,000 to 7,000 additional Black babies to survive infancy between 1965 and 1975 (Almond, Chay, & Greenstone, 2006).

The Great Smoky Mountain Study in North Carolina is a natural experiment that has also provided evidence that income supplements can improve health and reduce health disparities. This study assessed the impact of additional income on the health of American Indians who were 9 to 13 years old at baseline. During the course of this longitudinal study American Indian households received extra income due to the opening of a casino. The study found declining rates of deviant and aggressive behavior among adolescents whose families received additional income (Costello, Compton, Keeler, & Angold, 2003). After 4 years of cash supplements, the level of psychiatric symptoms was similar to those of adolescents who had never been poor. This lower risk of psychiatric disorders in adolescence when the youth lived at home persisted into young adulthood when most had moved out of their childhood home (Costello, Erkanli, Copeland, & Angold, 2010). The effect was seen only in the youngest cohort (age 12 when the supplements began) who had had the longest exposure to the additional income, with no effect evident in the two older cohorts (age 14 and age 16 at the initial supplement). This study also found that the additional income received by

adolescents was associated with higher levels of education and lower incidence of minor criminal offenses in young adulthood and the elimination of racial disparities on both of these outcomes (Akee, Copeland, Keeler, Angold, & Costello, 2010). These effects existed only for the households that were poor at the time of the inception of income supplements. Improved parenting appears to be responsible for the effects.

Negative effects on health linked to additional income were also documented. There was an increase in accidental deaths during the specific months that households actually received the cash payments probably due to increases in vehicular travel and increased substance use (Bruckner, Brown, & Margerison-Zilko, 2011). Additional income was also associated with increased adolescent obesity among Indian families whose incomes were low before the receipt of the casino income, with no effect for those families whose income was high (Akee, Simeonova, Copeland, Angold, & Costello, 2010). The gains in obesity in adolescence persisted into young adulthood. These findings highlight the importance of being attentive to the potential for unintended consequences of interventions.

A meta-analysis of financial incentives in high income countries reveals that they are effective in promoting healthy behavior such as reducing, at least in the short-term, cigarette smoking and drug misuse, with the size of the effect being positively related to the amount of the financial payment (Marteau, Ashcroft, & Oliver, 2009). A meta-analysis of nine weight loss trials also showed no long-term beneficial effects of additional income on weight loss (12 months or longer; Paul-Ebhohimhen & Avenell, 2008). However, a recent large trial of employees found long-term smoking cessation linked to the use of a substantial incentive (\$750) that was provided incrementally with the largest payment (\$400) linked to 12-month abstinence (Volpp et al., 2009).

Lynagh, Sanson-Fisher, and Bonevski (2013) identified conditions under which financial incentives are more likely to lead to improvements in health: They are more effective with low SES populations; there is a dose–response relationship suggesting that the size of the cash payment is important; health behaviors that are complex need a schedule of incentives designed to both initiate and sustain changes, with careful attention given to a frequent and incremental schedule of reinforcement payments; timing is important, and the reward should be provided in close proximity to the behavior to maximize its impact; and finally negative incentives (penalties) are not as effective as positive ones (rewards).

Employment Opportunities

Research is needed to assess the health consequences of large-scale societal initiatives to improve employment. At the individual level, we also need to identify if there are any effects of initiating employment and improving job quality and of the employment environment enhancing health. Military enlistment is one example of a policy that leads to socioeconomic advancement. The military is a more race-blind environment than the larger society and military service has provided disadvantaged Black men increased education, higher earnings, and greater occupational mobility than their civilian peers (Teachman, 2007). Research reveals that in addition to improving SES,

active-duty military service promotes marriage over cohabitation, increases the likelihood of first marriage, and leads to greater stability of marriage, and these effects are greater for Blacks than for Whites (Teachman, 2007, 2009; Teachman & Tedrow, 2008). This economic mobility is likely to have positive effects on the health of the adults in military households and to lead to higher academic achievement and better health for their children.

Improving Education—Social Policies

It has been argued that no single policy can have a larger impact on reducing the negative effects of slavery and institutionalized racism in the United States than reducing the Black–White gap in academic achievement test scores (Jencks & Phillips, 1998). Eliminating racial differences in test scores could markedly reduce the racial gap in educational attainment and income and consequently reduce racial inequality in health and other outcomes. Blacks score lower than Whites on standardized tests of reading, vocabulary, and math and on tests that attempt to measure intelligence and scholastic aptitude. Group differences in test scores are malleable over time. Several White immigrant groups performed poorly academically compared to their U.S.-born White counterparts when they initially arrived in the United States in the early 20th century (Norman, Ault, Bentz, & Meskimen, 2001). At that time, Blacks in northern states outperformed most White immigrants. However, increases in the economic and social status for White immigrants over time were accompanied by more positive perceptions of these groups by the dominant native-born White population and increases in academic performance (Fischer et al., 1996; Norman et al., 2001).

Dismantling residential segregation is one strategy that can reduce racial prejudice and improve education (Orfield, Frankenberg, & Garces, 2008). Greater interracial contact in school enhances tolerance, reduces prejudice, and leads to greater awareness of and sympathy for victims of racial discrimination. Integrated schools also enhance critical thinking skills for all students and modestly improve academic achievement for Black and Hispanic students. Racially integrated schools enhance SES because they are associated with higher graduation rates from high school, greater diversity of disciplinary training in higher education, higher incomes for minorities, and greater access to networks with links to educational and employment opportunities (Orfield et al., 2008). Some school districts in the United States are implementing multiple strategies that can reduce segregation in education (Orfield et al., 2008). First, some school districts are using SES instead of race to foster diversity, although the assessment of SES (typically, eligibility for free or reduced-price lunch) is limited. A few districts are using a combined race and SES measure. Second, some districts are using zoning—redrawing the boundary lines—a strategy that can work well in districts that have racial and ethnic diversity within its jurisdiction. A third strategy used in a few locations is the development of interdistrict initiatives in which magnet and other schools draw students from city and suburban districts. Fourth, housing mobility policies in which poor and minority parents are encouraged to move to less poor neighborhoods can also affect educational segregation. Finally,

a number of policies within schools, ranging from the elimination of tracking minority students into non-college-preparatory tracks to encouraging diversity in the classroom, can also address some of the negative effects of segregation. Health researchers have given little attention to systematically monitoring these desegregation initiatives and to assessing their consequences for short-term and long-term educational and health outcomes.

A broad range of affirmative action policies have been implemented to increase the participation and success of women and minorities in education and occupational contexts. A series of controlled laboratory experiments show that a variety of affirmative action (preferential treatment) strategies are effective in recruiting women to perform in competitive environments and do not cause any losses in efficiency (Balafoutas & Sutter, 2012). A randomized natural experiment in India, examining the effects of a 1993 law that reserved leadership positions for women in randomly selected village councils, showed that there was a reduction in the gender gap in aspirations by 20% in parents and 32% in adolescents in villages with a female leader compared to those without. The gender gap in educational attainment was eliminated (Beaman, Duflo, Pande, & Topalova, 2012). Future research should give greater attention to assessing how affirmative action policies can affect the SES and health of beneficiaries, as well as younger persons in the larger society.

Research indicates that efforts to improve academic performance should be initiated before students begin school. Early childhood intervention programs can enhance the health and academic well-being of preschool children. Three large randomized controlled trials (RCTs) found that the Nurse–Family Partnership (NFP) program positively affects child and parent health and SES outcomes (Olds, 2006). The NFP program has nurses visit low-income first-time mothers in their homes during their prenatal and early childhood period. Among mothers, the NFP program increases workforce participation and reduces smoking during pregnancy and subsequent pregnancies, the use of public assistance programs, and rates of child abuse and neglect. The program also reduces injuries, crime, and substance use in the children (Olds, 2006, 2008). Evaluation of the program estimates that it saves \$18,054 per family served (Lee, Aos, & Miller, 2008).

The Perry Preschool Program was a 2-year school-based early childhood intervention program with African American 3- to 4-year-olds from a public housing project (Muennig, Schweinhart, Montie, & Neidell, 2009). It included sessions at school and home visits by the teacher. At age 10, children who attended the preschool did not have higher IQ scores than the controls but had higher test scores (Heckman, 2006). At age 40, the intervention group had higher income, education, health insurance coverage, and home ownership and lower rates of crime, out-of-wedlock births, and welfare assistance compared to the controls (Muennig et al., 2009). They also had better overall health and engaged in fewer risky behaviors (driving without a seat belt, smoking, illicit use of sedatives, and use of marijuana, LSD, cocaine, and heroin), although there were no differences in medical conditions (Muennig et al., 2009). Another early childhood intervention program using a randomized controlled design, the Abecedarian Project, found fewer symptoms of depression, lower marijuana use,

a more active lifestyle, and significant educational and vocational benefits compared to the controls at age 21 (Campbell et al., 2008; McLaughlin, Campbell, Pungello, & Skinner, 2007). Economic analyses reveal that early childhood programs have a net return to society of \$3 to \$17 for each dollar invested (Karoly, Kilburn, & Cannon, 2005).

Other research reveals that exposure to high levels of physical and psychosocial stressors in early life leads to deterioration in foundational cognitive functions that are necessary for learning and academic success and is an important contributor to SES gaps in academic achievement in children and adolescents (Evans, Brooks-Gunn, & Klebanov, 2011). It is likely that similar processes contribute to racial differences in academic outcomes. Research efforts that identify optimal interventions to reduce exposure to stressors and their effects on health and cognitive functioning could contribute to eliminating racial inequities in academic achievement. Teachers' negative perceptions also adversely affect the standardized test performance of Black students, and this effect is especially marked when Black students have White teachers (Oates, 2003). Thus, efforts to address anti-Black sentiment among teachers could also reduce the racial achievement gap.

Improving Education: Psychological Interventions

Psychological interventions can also reduce at the least some of the deleterious effects of cultural racism (stereotype threat and internalized racism) among students. Two randomized double-blind experiments with Black and White seventh graders from middle-class to lower-middle-class families utilized a self-affirmation intervention, which required students to select their most important value from a list and write a paragraph on why that value was selected and why it was important to the student (Cohen, Garcia, Apfel, & Master, 2006). This exercise was intended to reaffirm their sense of personal adequacy and self-worth. Black students in the affirmation condition earned higher fall-term grades in the targeted course (the course in which the affirmation was completed) and in their other courses. Improved term grades were evident for 70% of African American students, but the effect was weakest among the previously highest performing Black students. One or two administrations of the intervention worked equally well, and the intervention resulted in about a 40% reduction in the racial achievement gap. No effect of the self-affirmation experiment was evident among Whites.

A 2-year follow-up of this study found that a positive effect of affirmation on students' GPA over 2 years was evident for Blacks but not Whites, with low-achieving Black students showing the greatest benefit (Cohen, Garcia, Purdie-Vaughns, Apfel, & Brzustoski, 2009). The intervention also affected students' perceptions of their ability, with Black students who performed poorly in the first year and received the intervention showing a greater belief in their ability to succeed in school. They maintained this enhanced sense of ability over time. This brief psychological intervention reduced the racial achievement gap and reduced the number of Black students placed in remedial programs. A randomized double-blind study of women found that a similar values

affirmation intervention improved their grades and reduced the male–female gap in grades (Miyake et al., 2010).

A recent RCT sought to neutralize the psychological perception of threat that many minority college students have (Walton & Cohen, 2011). It used a brief psychological intervention that provided information to the students that social adversity on campus was initially common to all students, but temporary, and sought to help them internalize it. For the African American college students the intervention increased their academic performance, reduced the Black–White achievement gap by one half, reduced doctor visits, and improved self-reported health over the 3-year observation period.

Research reveals that a dramatic and salient counternarrative to a dominant stereotype may lead to improvements in educational performance. One study found Black academic performance improved and the previously documented negative effects of racial stereotypes on Black academic performance declined when Barack Obama's stereotype-defying success received major media coverage just after his nomination at the Democratic Convention and his election as president (Marx, Ko, & Friedman, 2009). On the other hand, a randomized experiment of college students at three universities across the United States found that prompting students to think about Barack Obama before taking a difficult standardized test had no effect on academic performance (Aronson, Jannone, McGlone, & Johnson-Campbell, 2009). Future research needs to help us better understand the conditions under which stereotype-defying events can enhance academic performance.

Reducing Violence and Incarceration

Research reveals that societal violence is preventable through an integrated set of programs and policies at multiple levels. Interventions that successfully reduce youth violence include school-based programming (Hahn et al., 2007) as well as interventions that make changes to the social context in which violence occurs (Braga, Kennedy, Waring, & Piehl, 2001). The clustering of violence and other social problems linked to residential segregation also highlights the potential cost-effectiveness of delivering macro interventions that are geographically targeted. Operation Ceasefire is an example of an effective violence prevention program (Braga et al., 2001). It views violence as an infectious disease that must be contained and involves coordination among city, county, state, and federal law enforcement agencies as well as service providers and city agencies, community and religious leaders, street workers, and researchers. It relies heavily on street outreach workers in high-violence neighborhoods who mentor and counsel at-risk youth, direct them toward nonviolent alternatives for diffusing conflict, support their efforts to resist gang involvement, and link them to education, jobs, drug treatment, and other services. A 3-year study of Chicago's Operation Ceasefire found a decline in shootings ranging from 41% to 73% across seven neighborhoods, with crime maps indicating that the size and intensity of shooting hotspots had decreased in more than half of the sites (Skogan, Hartnett, Bump, & Dubois, 2009). Research is needed to assess the direct and indirect health impacts of crime prevention initiatives.

Reducing the Health Effects of Racism: Reducing Cultural Racism

Research is needed to identify the most effective strategies to reduce negative stereotypes, racial prejudice, and discrimination in the general public and within societal institutions. Effective efforts to reduce racial discrimination and prejudice may also require initiatives to change the larger cultural values and images that undergird them.

The Media

The media and other cultural institutions can influence worldviews, normative expectations, attitudes, and stereotypes. These cultural agents can also affect our emotions and the degree of positive emotions that social groups feel toward others. Society-wide reductions in prejudice, stereotypes, and discrimination will require large-scale adoption and implementation to alter deeply embedded cultural beliefs about race. Programs that recruit and train opinion leaders can affect cultural norms and risk behaviors given the role that these individuals can play in fostering innovation and change (Bloom & Cohen, 2007). Thus, television has enormous potential to affect attitudes and stereotypes (Mutz & Goldman, 2010). Research reveals that fictional TV can alter attitudes and policy preferences and that the degree of influence is greater when the viewer develops emotional attachment with and empathy for the fictional character (Mutz & Nir, 2010). Positive media portrayals have also been associated with reductions in prejudice, with, for example, time spent watching likeable gay characters on TV's *Will & Grace* associated with lower levels of prejudice toward gays in correlational survey data (Mutz & Goldman, 2010). Positive portrayals have also changed deeply entrenched social and political attitudes such as those regarding the death penalty and abortion (Mutz & Goldman, 2010).

Research employing the strength of experimental or quasi-experimental design reveals that mass media exposure can not only prime prejudice, stereotyping, and discrimination but also lead to increases or decreases in prejudice (Mutz & Goldman, 2010). These studies, most of which have focused on attitudes toward gays, document that sympathetic media portrayals of a stigmatized group lead to reduced negative attitudes toward that group. Research also reveals that prosocial television that aimed to reduce prejudice and stereotyping is successful at doing so (Mutz & Goldman, 2010). A yearlong field experiment in Rwanda found that a radio soap opera employing humor, drama, popular proverbs, and traditional songs reduced intergroup prejudice and conflict, although the magnitude of change was modest (Paluck, 2009).

The data are mixed on the effect of the positive portrayal of Barack Obama on reducing White racial prejudice. Analysis of three waves of national panel data found that media exposure to Obama reduced prejudice among viewers of political television with the effects being strongest among conservatives (Goldman, 2012). Similarly, a study of university students in two regions of the United States found that high levels of exposure to Barack Obama were associated with large declines in implicit prejudice against Blacks (Plant et al., 2009). In contrast, a study of 479,405 individuals taking

the Implicit Association Test 2.5 years before, during, and after the 2008 election found no change in implicit and explicit racial attitudes (Schmidt & Nosek, 2010). Finally, two studies of students found that priming students with either Barack Obama or Oprah Winfrey had no effect on reducing implicit racial bias or motivation to control prejudice. Instead, the primes led to increases in symbolic racism—the belief that the disadvantages of Blacks are due to Blacks' personal shortcomings and any demands for special assistance are illegitimate (Lybarger & Monteith, 2011). There is much that we need to learn regarding when and how exposure to Black exemplars can lead to reductions in various aspects of racism.

There is a critical need for intensive and systematic media campaigns and other educational initiatives to raise awareness levels about the nature of contemporary prejudice and discrimination. Societal initiatives can also deliberately and strategically place positive messages about race within entertainment programs, with rigorous efforts to evaluate their impact on racial beliefs and behavior and to identify the conditions that might moderate their impact. There are multiple recent examples, ranging from campaigns against Native American mascots in collegiate athletics and professional sports to organizing against the use of distorted and stereotypic Asian or Hispanic images in corporate advertising, in which groups have successfully fought against demeaning and dehumanizing images (Dirks & Mueller, 2007). However, we need to better understand how such mobilization and success can affect the psychological and physical well-being of the activists, the targeted populations, and the larger society.

Diversity Training in Medical Care and Other Societal Contexts

Most diversity training programs are not theoretically based and fail to rigorously evaluate their impact (Er-rafiy, Brauer, & Musca, 2010). A comprehensive approach to cultural competence that includes organizational, structural, and clinical cultural competence interventions has the potential to improve health, address sociocultural barriers to care, and eliminate disparities in health care and in health (Betancourt, Green, Carrillo, & Ananeh-Firempong, 2003). However, the impact of diversity initiatives has not been consistently tracked, and currently there is insufficient evidence to indicate an effect of diversity on organizational performance (Curtis & Dreachslin, 2008). Research has documented that cultural competence training improves the knowledge, attitudes, and skills of health professionals and improves patient satisfaction (Beach et al., 2005). However, there is very limited evidence of beneficial effects for improvement of patient adherence or health outcomes (Lie, Lee-Rey, Gomez, Bereknyei, & Braddock, 2011). Moreover, some cultural sensitivity training that focuses on the distinctive behavioral patterns of subgroups of the population and that fails to address implicit biases may enhance and accentuate negative stereotypes and thus lead to increased stereotyping and discrimination. Future research needs to identify the most effective strategies for raising awareness of, increasing sensitivity to, and effectively addressing unconscious discrimination.

There are key findings from social cognitive psychology that can be applied to the health care context and reduce implicit racial bias among health care providers

(Burgess, van Ryn, Dovidio, & Saha, 2007). One strategy is helping providers to use individuation (focusing on the individual characteristics of a specific patient) instead of categorization (viewing the patient as a member of the social group to which he or she belongs). Another strategy is the use of perspective taking to help providers build empathy for their patients. This can be accomplished through imagining themselves in the shoes of their patients or through exercises in which providers take on the role of their patients. A major limitation of many of the strategies to reduce implicit bias used in cognitive neuroscience is that they have been shown to be effective in the short term (24 hours or less). Moreover, in most of these studies, the participants did not engage in the strategy with the intent of reducing implicit bias. Multiple strategies that have been effective in reducing stereotype threat should be tested in the health care context (Burgess, Warren, Phelan, Dovidio, & van Ryn, 2010). They include helping patients to affirm their values, communicating high standards and the provider belief that the patients are able to meet them, providing external attributions for patients' anxiety and difficulties, providing cues that diversity is of value, and recruiting and retaining providers from minority backgrounds.

There has been inadequate research attention to the specific characteristics of workplace and institutional environments that facilitate or inhibit discriminatory behavior (Pager & Shepherd, 2008). Formal organizational procedures that allow little individual discretion appear to reduce discrimination. The military's rationalized system of hiring, promotion, and pay has been credited for increasing the representation of minorities and reducing wage gaps. Similarly, the use of automated underwriting systems in evaluating credit applications improved the approval rate for minorities. Studies find that diversity training initiatives to reduce bias among managers and employers have little positive impact. In contrast, practices that increase the accountability of the organization are effective in increasing representation of women and minorities.

Reducing Individual-Level Prejudice

The contact theory of prejudice is an influential framework for reducing racial prejudice in society (Allport, 1954/1979). According to the contact hypothesis, simple, casual interracial contact is not sufficient to reduce prejudice, but if certain conditions are met, intergroup contact can be effective in prejudice reduction. These conditions are that (a) the different groups must be equal in status, (b) they must have a commitment to a common goal or goals, (c) there must be cooperation among members of both groups to promote their shared goals, and (d) there must be support and encouragement from persons in positions of authority. A recent review of studies that evaluated the contact theory of prejudice concluded that intergroup contact works to reduce prejudice based on race as well as other prejudices such as those based on ethnicity, gender, sexual orientation, disability, and mental illness (Pettigrew & Tropp, 2006). However, intergroup contact that fails to meet these stringent criteria can promote exceptionalist thinking, with the stigmatized individual being viewed as different from the other members of his or her group, and with the retention of negative categorical beliefs about the stigmatized group.

Limited evidence indicates that it is possible to reduce negative attitudes and stereotypes of the elderly and homosexuals by imagining positive intergroup contact (Crisp & Turner, 2009). Future research is needed to identify if the prejudice-reducing effects of imagined contact applies to racial outgroups, examine the conditions that might moderate imagined contact, and document the extent to which the observed positive effects are enduring (Crisp & Turner, 2009). Other simple strategies also appear promising. For example, a field experiment in France reduced prejudice against Arabs through exposure to a brief sympathetic documentary and to a poster that emphasized variability among Arab people (Er-rafiy et al., 2010). The extent to which these findings generalize to other populations, contexts, and real-world outcomes is unclear. A range of interventions also show promise in reducing prejudice in early childhood (Aboud et al., 2012).

A major limitation of most of the psychological interventions to reduce prejudice is that they have focused on short-term effects and it is not clear if these attitudinal changes are sustained over longer periods. A recent study documented that non-Black adults can be motivated to increase their awareness of bias against Blacks, to increase their concerns about the effects of bias, and to implement strategies that were effective in producing substantial reductions in bias that remained evident 3 months later (Devine, Forscher, Austin, & Cox, 2012). These researchers viewed implicit biases as deeply engrained habits that can be replaced by learning multiple new prejudice-reducing strategies including stereotype replacement, counterstereotype imaging, individuation, perspective taking, and increasing opportunities for interracial contact. Future research should assess the extent to which these changes in implicit prejudice are associated with the actual reduction of discriminatory behavior.

Research is also needed to understand how to enhance the capacity of individuals to confront racism when it is observed. American adults are very familiar with racism (presumably racism of the traditional type). A 2006 national survey found that although few adults (12% of Blacks and 13% of Whites) believed that they had racial biases, some 43% of Blacks and 48% of Whites stated that they personally knew someone who they believe is racist (CNN, 2006). A recent experiment documented that in striking contrast to how people think that they would act, when faced with an actual instance of racism, most individuals do not feel outrage and do not confront the perpetrator of racist behavior (Kawakami, Dunn, Karmali, & Dovidio, 2009). The researchers concluded that when faced with actual racism, people's spontaneous affect and behavior may reflect a latent bias toward Blacks that prevents them from having a negative emotional reaction and confronting racist behavior. Research is needed to identify what psychosocial interventions can trigger greater concordance of beliefs and behavior with regard to enhancing individual action to actually address racism in an effective, nonthreatening manner when it is observed.

How Dismantling Racism Can Affect Health: Positive Events

Research reveals that dramatic positive race-related events can improve the health of stigmatized racial groups. A national study that followed a cohort of U.S. Black

adults from 1979 to 1992 found that self-reported physical health, disability, and psychological distress as well as reports of racial discrimination and perceptions that Whites wanted to keep Blacks down were lower at the third wave of data collection in 1988 than they had been in prior waves and lower than they were at Wave 4 in 1992 (Jackson et al., 1996). In 1988, Jesse Jackson was running the most successful presidential campaign ever by a Black person in U.S. history, and this study suggested that this positive, race-related political event had led to better reports of health. National data from South Africa have documented a similar pattern. During apartheid, Blacks reported markedly lower levels of happiness and life satisfaction than did Whites. However, in 1994, the year of Nelson Mandela's election, Black South Africans reported the highest levels of happiness and life satisfaction since 1983, and for the first time the Black–White gap in psychological well-being was eliminated (Moller, 1998). This effect was short-lived, with Black South Africans' psychological well-being reverting to its prior levels 18 months later. A study of adults in the state of Ohio found improvements in the self-rated health of Blacks and Hispanics but not of Whites after President Obama's nomination for president in August 2008, but not for his election or inauguration (Malat, Timberlake, & Williams, 2011). Currently, we do not know if these self-reports of better health are associated with actual physiological changes or how these effects can be enhanced and sustained.

Strikingly, criminologists noted a drop of 10% in the U.S. murder rate associated with President Obama's election in November 2008 that remained at that level for 6 months (Roth, 2010). The decline was evident across the United States but was larger in metropolitan areas than nonmetropolitan areas. Roth (2010) suggests that the mechanism was due to an increase in trust in government and public officials. He shows that in the past 50 years, Black homicide rates were at their highest between 1971 and 1974, when Black trust in government was at a historic low point, and the White homicide rate was highest in 1980, when White trust in government was historically low in the final year of Jimmy Carter's presidency.

Reducing the Health Effects of Racism: Minimizing Racism's Adverse Effects

Research on mitigating the negative effects of racism has tended to focus on interpersonal discrimination as a stressor and has examined how individual coping strategies and resources can reduce the negative effects of discriminatory stress on health. This research suggests that social ties, racial identity, self-esteem, religious involvement, and occupancy of social contexts with greater density of one's racial group can buffer the negative effects of discrimination on health (Brondolo, Brady ver Halen, Pencille, Beatty, & Contrada, 2009; Williams & Mohammed, 2009). Research is needed to more clearly characterize the various social contexts and the multiple potential mechanisms that can reduce the negative effects of racism on health. This includes using the health care context as a resource and identifying ways to reduce the negative effects of some of the racism-induced risk behaviors on health.

Medical Care as a Resource

Institutional discrimination leads to lower levels of access to care, and cultural racism can combine with institutional processes to produce poorer quality care for stigmatized racial populations. There are multiple compensatory opportunities in the health care arena. Initiatives that improve access to care for vulnerable populations are likely to compensate for some of the deficits created by racism and lead to improvements in health. A recent RCT documented that the receipt of medical safety net services from the Medicaid program in the state of Oregon was associated, 1 year later, with higher use of health care services (including primary and preventive care), lower out-of-pocket medical expenses, lower medical debt and financial stress, and better self-reported physical and mental health than among the control group (Finkelstein et al., 2011; Sommers, Baicker, & Epstein, 2012). Similarly, increased public health spending by local health agencies over a 13-year period was associated with declines in mortality from major preventable causes of death (Mays & Smith, 2011). Institutional procedures that ensure the delivery of high-quality care are also likely to reduce disparities in care. A study of patients receiving care in the Veterans Affairs (VA) system found no racial differences in outcomes (such as survival) between Blacks and Whites, and, opposite to the usual pattern of segregation being associated with poorer care, increases in the proportion of Blacks served by VA clinics were associated with better quality of care (Simeonova, 2009). Research is needed to better understand the specific institutional processes that lead to the elimination of these health care inequities.

Person-focused primary care is also likely better than disease-focused care in meeting the health care needs of racially stigmatized patients and reducing disparities in health (Starfield, Gervas, & Mangin, 2012). Access to primary care is associated with smaller social disparities in health and is a likely determinant of the unexpectedly good health profiles of Cuba and Costa Rica (Starfield, Shi, & Macinko, 2005). Similarly, the implementation of a community-based primary care system in Iran has erased a twofold elevated risk of infant mortality in rural compared to urban populations in two decades (Aghajanian, Mehryar, Shirin, & Kazemipour, 2007). Efforts are currently under way to develop similar clinics in the United States to address the unmet health care needs in Mississippi, Arkansas, and Louisiana (Bristol, 2010). However, research from Iran indicates that social factors still matter for health in the context of primary care and highlights the need to incorporate addressing social factors in the delivery of care (Jafari, Eftekhar, Pourreza, & Mousavi, 2010).

There are promising initiatives that address social factors in health care contexts that need to be rigorously evaluated. The Medical Legal Partnership is one example (Zuckerman, Sandel, Smith, & Lawton, 2004). It enables physicians to refer their patients to unique specialists: on-site attorneys. This program is premised on the notion that most low-income persons face legal issues that affect their quality of life and their management of disease, so that adding lawyers to the medical team can screen for and assist families with social problems that affect effective care and illness management. Stressors are addressed in the areas of unhealthy housing, immigration, income support, food, education access, disability, and family law. Health Leads is another

innovative program that uses college volunteers to staff waiting rooms of hospital clinics or health centers (Michaels, 2011). Volunteers assess patients' needs with regard to food, housing, heating, or other social issues. They then "fill" the prescription for food assistance, housing improvement, and so on by connecting patients to local resources. They are currently in waiting rooms of 23 hospital clinics or health centers. Combining health interventions with a comprehensive effort to both empower individuals and communities and address underlying social and economic conditions was the original vision of community health centers (Geiger, 2002).

Effectively Addressing Health Behaviors

Health behaviors are important pathways that link racism and other basic causes to health outcomes. Addressing and improving health behavior profiles can have a large impact on improving health. A study of British civil servants followed for 15 years documented that the elimination of four risk factors (high blood pressure, cholesterol, glucose, and cigarette smoking) reduced coronary heart disease mortality by 73% and SES gaps in mortality by 86%, with smoking cessation making the largest contribution to these reductions (Kivimäki et al., 2008). However, it is critical for successful behavioral interventions to address the barriers to healthy choices that exist in many unhealthy environments. Structural interventions (in contrast to individually targeted interventions) seek to change the social, economic, and physical environment to modify health or the determinants of health (Bloom & Cohen, 2007). This includes changing laws, policies, and the social or physical infrastructure. Research reveals that policies like redesigning the physical environment to improve access to places for physical exercise, strengthening school-based physical exercise interventions, taxes on alcohol and tobacco products, banning smoking in public places, restricting the access of minors to tobacco, reducing the copayments of patients for smoking cessation products, and point-of-service signs that encourage physical activity are effective in changing behaviors (Bloom & Cohen, 2007; Katz, 2009). Some of these strategies, like tobacco taxes, have produced greater effects among Blacks and Hispanics than among Whites (Tauras, 2007).

At the individual level, interventions that address the social and economic barriers to access to care, to adherence to medical regimens, and to living healthy lifestyles lead to improvements in health. For homeless and unstably housed persons living with HIV, an intervention (RCT) that provided stable housing was effective in reducing risk behavior, increasing access to care, and increasing adherence to medication regimen (Wolitski et al., 2010). Similarly, an RCT with African American women in Washington, D.C., showed that an integrated behavioral cognitive intervention addressing cigarette smoking, environmental tobacco exposure, depression, and intimate partner violence was successful in reducing the very preterm birth compared to the usual care group (El-Mohandes, Kiely, Blake, Gantz, & El-Khorazaty, 2010).

Programs that enhance protective resources (such as social support and problem-solving and stress-management skills) have also been shown to be successful. Studies focused on preventing mental health problems at school, at work, and in caregiving and other contexts indicate that prevention programs that enhance these protective resources

reduce psychiatric symptoms, the number of new cases of depression, and the negative effects of risk factors (Muñoz, Cuijpers, Smit, Barrera, & Leykin, 2010), suggesting that it is possible to identify individuals and groups at high risk of depression and prevent new cases among them. There is a growing body of research that documents the co-occurrence of depression with chronic diseases like diabetes and hypertension. Moreover, depressed diabetes patients have lower levels of glycemic control (Papellbaum et al., 2011). Thus, addressing depressive symptoms in patients with chronic disease has the potential to reduce disparities in the severity and course of illness. Some limited evidence indicates that these “behavioral vaccines” can be delivered via Internet-based interventions (Van Voorhees et al., 2011). However, the majority of these studies have focused on White and educated populations and have not been applied in a systematic way to reducing disparities and reducing the negative effects of exposure to racism.

Initiatives that seek to empower individuals and communities are also important. A randomized field experiment with Black women who used crack found that an intervention that emphasized personal independence, power, and control over health-related behaviors, economic resources, and relationships was effective in reducing crack use and high-risk sex 6 months later, and also in improving housing and employment status (Wechsberg, Lam, Zule, & Bobashev, 2004). There were decreases in homelessness and increases in being employed full-time compared to women in a standard HIV prevention intervention group. The Sonagachi project in Calcutta, India, is another example of a community mobilization and empowerment project. The program involved raising consciousness among the targeted group and creating an environment where the members of the group decided on what interventions were necessary and what were the specific actions and activities that they wanted to pursue. The program achieved an HIV prevalence among sex workers of 10% compared to 50% to 90% in other Indian cities (Basu et al., 2004). Condom use among participants increased from 3% to 90% (Jana, Bandyopadhyay, Saha, & Dutta, 1999).

A study of suicide among Native youth in Canada documented the central role that cultural empowerment can play in health (Chandler & Lalonde, 1998). This group has one of the highest rates of youth suicide in the world, but examination of youth suicide rates between 1987 and 1992 in 196 First Nation communities found that more than half of the communities had *no* youth suicides during the study period. The researchers developed a measure of cultural empowerment and continuity to identify the determinants of variation in youth suicide. The six markers captured challenging the government for titles to land and the right to self-governance, control over the provision of services (education, health care, police and fire), and the presence of a building for cultural activities. The study found a strong inverse relationship between each indicator of continuity and empowerment and youth suicide and a strong dose-response relationship between the number of markers and the prevalence of suicide.

Cross-Cutting Issues

Most interventions reviewed here have not been rigorously evaluated for their potential to reduce racial inequalities in health. Moreover, we are largely unaware of the

extent to which most interventions to improve health are differentially effective across social groups (Whitehead, 2007). Many of the interventions considered target policies and structures that drive some of the fundamental causes of health, whereas others address the proximal mechanisms linking social structure to health. An effective approach will likely require interventions that address racism at multiple levels. However, we do not know if interventions to address racism need to look different at varying levels of SES, which strategies to reduce racism are likely to have the greatest impact, or which domains should be tackled first. We can argue for policies that begin to have an impact early in life because they can avert the progression of subsequent problems and provide a longer time frame to reap the benefits. However, research that provides a clearer sense of the optimal timing of particular interventions and the needed patterning and sequencing of a series of interventions to obtain maximal benefits for specific health outcomes would be invaluable to guide policy.

Many of the interventions considered, especially those that address fundamental causes, are likely to improve the health of all populations. Even some interventions focused specifically on race-related aspects of life such as discrimination may have broader application in society. For example, a recent study of White adolescents found that perceived discrimination based on social class accounted for 13% of the association between poverty and allostatic load, suggesting that other forms of discrimination may be an important but neglected contributor to social inequities in health (Fuller-Rowell, Evans, & Ong, 2012). However, global strategies that simply seek to improve overall population health are likely to increase disparities because of higher take-up rates among the advantaged (Mechanic, 2002). Eliminating disparities requires improving the health of the disadvantaged more rapidly than the rest of the population. An important challenge moving forward is to identify how we can best design interventions to ensure maximal benefits to populations in greatest need. A related issue is the need to identify when global interventions can reduce the negative effects of racism on racial disparities and when race-specific interventions are essential.

The research reviewed here was drawn from multiple disciplines and highlights the need to close the knowledge gap between policy makers and the research community regarding the scientific evidence in support of interventions that are likely to improve health and reduce health inequalities. It also underlines the need to ensure greater communication of health-relevant scientific findings across the social, public health, and medical sciences and greater integration of research findings from across multiple disciplines into health care delivery and social policy across multiple sectors of society where policy matters for health (Katz, 2009). Research should also address the challenge of the portability of interventions across various social contexts and institutions. More efforts are needed to enhance our knowledge regarding the needed adaptation of evidence-based interventions from one social and cultural context to another.

Future research on various interventions that seek to improve health need to pay more explicit attention to identifying and testing for the plausible mechanisms through which the interventions can affect health. It is critically important to have congruence between the specific mechanisms and the indicators of health status at the relevant point along the continuum of disease and the relevant stage of the life course where health effects are

plausible. Failure to identify health outcomes that would be sensitive to the targeted mechanism can lead to erroneous conclusions of the effects of interventions on health.

The level of political support for reducing racism is important given that powerful economic interests often benefit from the status quo and are likely to fight change (Katz, 2009). Political support is also relevant for the sustainability of interventions over the long term. An important research priority is to identify how to effectively build the political climate that would facilitate social change with regard to race and racism. This will require systematic efforts to increase awareness of the extent of disparities and effectively communicate about the role of racism in creating and sustaining these inequities. Most adult Americans, including many racial/ethnic minority group members, are unaware that racial disparities exist (Booske, Robert, & Rohan, 2011). The framing of information about disparities affects audience emotional reaction and behavior (Nicholson et al., 2008). Journalists have a preference for a nonoptimal frame, but they are responsive when provided with information about an alternative frame (Hinnant, Oh, Caburnay, & Kreuter, 2011). Narrative approaches are likely to be important to effectively building awareness and support in the general population. Research in cognitive neuroscience indicates that brain areas associated with emotion are more likely to be activated when individuals are thinking about certain stories versus ostensibly similar ones (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001). Research is needed to identify the narratives that can effectively communicate the complex social determinants of health and optimally trigger positive emotional engagement and support (Lundell, Niederdeppe, & Clarke, 2012).

Infrastructures that support the reduction of racism are also necessary. A governmental entity with responsibility for improving health and reducing disparities and the political authority and economic resources to convene various government units as well as research and advocacy groups could have an enormous impact by maximizing opportunities to leverage federal funds (Katz, 2009). This would include using contingent funding opportunities such as when a 1984 federal law used funding to encourage states to pass laws raising the drinking age to 21 (Blankenship, Friedman, Dworkin, & Mantell, 2006). Capitalizing on opportunities to evaluate natural experiments and policy changes that may have health consequences also requires an infrastructure for the rapid identification and funding of such opportunities. A national infrastructure could also develop new accounting methods and innovative funding mechanisms to recognize savings from successful interventions and appropriately allocate them. Currently, the economic benefits and cost savings from many nonmedical interventions are not directly experienced by insurers who pay for health care services or the social program or agency that delivered the service, resulting in the savings neither being realized nor reinvested in the programs that need them to serve more clients (Katz, 2009).

Conclusion

The research reviewed indicates that although there is much that we need to learn, the available scientific evidence suggests that interventions in social policies and contexts can reduce racism, cushion some of its pathogenic effects, and improve the health of

stigmatized racial and ethnic populations. The experience of Japan shows that dramatic improvement in health and reductions in income inequality and SES and regional inequalities in health, on a large scale, are possible. In 1960, Japan had lower life expectancy than many countries in the world including the United States, but currently Japan has the world's longest life expectancy at birth (Ikeda et al., 2011). In the past 60 years Japan has improved the health of its population more rapidly than most other countries (Ikeda et al., 2011). Economic development that was accompanied by increased investment in public health and primary prevention, egalitarian socioeconomic policies, and improved nutrition are the likely key drivers of Japan's remarkable progress (Ikeda et al., 2011). Similarly, it is likely that overall health in the United States can be improved and the large gaps in health by race and other social factors can be effectively addressed with a commitment to apply available knowledge to reduce racism at the individual and institutional levels, to rigorously evaluate potential interventions, and to continue to build the science base to ensure good health across the continuum of disease for all social groups in society.

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