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STRUCTURAL RACISM AND HEALTH INEQUITIES:

Old Issues. New Directions1

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Abstract

Racial minorities bear a disproportionate burden of morbidity and mortality. These inequities might be explained by racism, given the fact that racism has restricted the lives of racial minorities and immigrants throughout history. Recent studies have documented that individuals who report experiencing racism have greater rates of illnesses. While this body of research has been invaluable in advancing knowledge on health inequities, it still locates the experiences of racism at the individual level. Yet, the health of social groups is likely most strongly affected by structural, rather than individual, phenomena. The structural forms of racism and their relationship to health inequities remain under-studied. This article reviews several ways of conceptualizing structural racism, with a focus on social segregation, immigration policy, and intergenerational effects. Studies of disparities should more seriously consider the multiple dimensions of structural racism as fundamental causes of health disparities.

Keywords

Racism; Discrimination; Health Disparity; Race; Ethnicity; Immigrant; Social Determinants; Inequity

INTRODUCTION

Health inequities among racial minorities are pronounced, persistent, and pervasive (Sondik et al., 2010). Racism may be one cause of these inequities. Studies find that individuals who report experiencing racism exhibit worse health than people who do not report it (Williams and Mohammed, 2009). While this line of research has been invaluable in shifting the discussion from innate differences in biology or culture to social exposures, it is limited by inadequate attention to the multiple dimensions of racism, particularly structural racism. The

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goal of this article is to encourage new research on forms of structural racism that may contribute to health inequities.

RACISM AND HEALTH INEQUITIES

Health inequities are seen in many outcomes, including infant mortality, heart disease, and cancer (Sondik et al., 2010). A century ago, W. E. B. Du Bois (2003) recognized the connection between societal inequities and health inequities, raising several central arguments related to racism, poverty, and other social problems. He noted, "The Negro death rate and sickness are largely matters of [social and economic] condition and not due to racial traits and tendencies" (p. 276). There have been many similar accounts since then, but little attention to racism's role. For instance, in 1985, the influential *Report of the Secretary's Task Force on Black and Minority Health* alluded to racism in stating, "Blacks, Hispanics, Native Americans and those of Asian/Pacific Islander heritage have not benefited fully or equitably from the fruits of science or from those systems responsible for translating and using health sciences technology" (Heckler 1985, p. 1). Despite this promising introduction, the report failed to develop this theme further.

Given that racism shapes the lives of people of color, it seems not only reasonable but necessary to study the hypothesis that racism influences health inequities. Two decades ago, Becker (1986) noted the reluctance to address structural factors: "Doing something about poverty, racism ... involves notions of planned social and economic change, alternations not likely to be achieved by lowering the public's cholesterol level" (p. 19).

The serious study of racism and health did not gain traction until the 1990s, but now this body of work has become more commonplace. Racism may be one explanation for many of the health disparities identified in *Healthy People 2010*, the compendium of the nation's health objectives. As James (2008) argues, "the elimination of disparities—the magnificently democratic goal of Healthy People 2010— cannot be achieved without first undoing racism" (p. S16). The updated *Healthy People 2020* lists discrimination and residential segregation as examples of social determinants of health.²

Reviews consistently find that persons who self-report exposures to racism have greater risk for mental and physical ailments (Brondolo et al., 2009; Williams and Mohammed, 2009). These associations are seen among many racial/ethnic minority populations, including African Americans (Mays et al., 2006) American Indians (Chae and Walters, 2009), Arab Americans (Padela and Heisler, 2010), Asian Americans (Gee et al., 2009), and Latinos (Araujo and Borrell, 2006). Yet, self-reported measures have their limitations and they disproportionately focus on individual experiences (Krieger 1999). The more fundamental and broad-reaching aspects of structural racism remain under-studied.

Structural Racism

Researchers have long argued that racism operates at multiple levels, ranging from the individual to the structural (Carmichael and Hamilton, 1967; Jones 2000). The metaphor of

²See http://healthypeople.gov/2020/about/DOHAbout.aspx.

an iceberg is useful for describing the levels at which racism operates (Gee et al., 2009). The tip of the iceberg represents acts of racism, such as cross-burnings, that are easily seen and individually mediated. The portion of the iceberg that lies below the water represents structural racism; it is more dangerous and harder to eliminate. Policies and interventions that change the iceberg's tip may do little to change its base, resulting in structural inequalities that remain intact, though less detectable.

Structural racism is defined as the macrolevel systems, social forces, institutions, ideologies, and processes that interact with one another to generate and reinforce inequities among racial and ethnic groups (Powell 2008). The term *structural racism* emphasizes the most influential socioecologic levels at which racism may affect racial and ethnic health inequities. Structural mechanisms do not require the actions or intent of individuals (Bonilla-Silva 1997). As fundamental causes, they are constantly reconstituting the conditions necessary to ensure their perpetuation (Link 1995). Even if interpersonal discrimination were completely eliminated, racial inequities would likely remain unchanged due to the persistence of structural racism (Jones 2000). In the next section, we describe a few examples of structural racism and their potential connections with health inequities.

STRUCTURAL RACISM: SELECTED EXAMPLES

Social Segregation

Segregation refers to the separation of social groups. Most research on segregation and health disparities examines racial residential segregation, the geographic separation of racial groups' homes. A recent review identified thirty-nine studies that tested associations between segregation and health outcomes (Kramer and Hogue, 2009). Residential segregation remains pervasive and may influence health by concentrating poverty, environmental pollutants, infectious agents, and other adverse conditions (Gee and Payne-Sturges, 2004; Williams and Collins, 2001). For instance, Morello-Frosch and Jesdale (2006) found that segregation increased the risk of cancer related to air pollution. Studies using multilevel modeling that simultaneously accounts for individual and structural factors also find associations between segregation and illness (Bell et al., 2006; Subramanian et al., 2005).

Segregation within schools, workplaces, and health care facilities may also contribute to health disparities. For example, Walsemann and Bell (2010) found that school segregation is related to health behaviors (e.g., alcohol use) among students. Just as importantly, they found that segregation was associated with decreased educational aspirations among Black males. An innovative feature of their work is the focus, not on the uneven distribution of students across schools, but on segregation within the curriculum (i.e., racial disparities in enrollment in advanced vs. less advanced courses). Hence, it is not only the composition of students that may create health disparities but also the design of the curriculum.

Similarly, while *de jure* segregation of drinking fountains is now illegal, *de facto* segregation of water coolers in offices continues because of workplace segregation. Segregation of workplaces tracks minority workers into jobs with fewer benefits and more dangers (Elliott and Smith, 2001). For instance, Angelon-Gaetz et al. (2010) found that not

only were Black workers segregated from Whites at a federal nuclear weapons site, but also that Black workers had a greater level of radiation exposure. Racial and ethnic segregation may also occur by immigration status. De Castro et al. (2006) reported that immigrant employees often work in segregated environments that are dangerous (e.g., buildings with no fire exits) and stressful (e.g., no breaks at work). They even encounter blatantly illegal actions by their employers, including not being paid for work and systematic manipulation of work hours to avoid compensation for overtime. Other research shows that physical hazards and stressors are related to numerous health problems, including heart disease (Darity 2003).

The Civil Rights Act of 1964, in combination with many grassroots efforts to enforce it, helped reduce hospital segregation (Quadagno 2000). After the integration of Mississippi hospitals, Black-White disparities in infant mortality were cut in half in just six years (Almond et al., 2006). Despite these signs of progress, segregation within the health care system continues. Clarke et al. (2007) found substantial segregation in hospitals in Pennsylvania and Virginia; about 58% of Black and White patients admitted for acute myocardial infarction in Pennsylvania would have to switch hospitals to achieve integration. A similar level, 53%, is apparent for hospitals serving elderly Medicare patients nationwide (Smith 2005). Segregation in nursing care may also remain a significant issue (Smith et al., 2007). Relatively little work has focused on contemporary segregation in health care, and the findings appear to be complex; segregation may increase or decrease the use of services, depending on the types of services and communities considered (Gaskin et al., 2009).

The segregation of social networks may contribute to racialized patterns in the spread of infectious diseases (Freeman 1978). Disparities in the spread of some diseases reflect existing patterns of social isolation in which Blacks are more socially segregated than members of other groups are. In groundbreaking work that redirected researchers from hypothesizing that disparities in sexually transmitted diseases (STDs) are due to some yet unexplained behavioral or other characteristic of Blacks, Laumann and Youm (1999) found that segregation in social and sexual networks—not high rates of risky sexual behavior among Blacks as had previously been assumed—explained racial disparities in STDs. This also suggests that disparities in the spread of disease can partially reflect existing patterns of social segregation.

Future Research Regarding Social Segregation

First, researchers should study the various types of segregation and their potential connections to health disparities—As a general phenomenon, segregation influences health by simultaneously isolating racial groups from one another and by concentrating exposures and resources. This rationale has been well articulated for residential segregation (Acevedo-Garcia 2000; Gee and Payne-Sturges, 2004; Williams and Collins, 2001) but can be extended to other forms of segregation. Studies should continue to test the general hypothesis that segregation is related to illness and health disparities. Just as important, studies should examine the mediating mechanisms. For instance, is workplace segregation related to heart disease? Is this relationship due to exposure to physical hazards,

may show no effect simply because it is incomplete, and potentially lead to the erroneous conclusion that anti-racism efforts fail. Hence, it is absolutely critical to consider the multiple forms of racism. Further, our analysis highlights the importance of time and its dimensions—historical period, age, cohort, and placement in the life course. Given this complexity, conventional tools of regression analyses, and even their extensions such as multilevel analysis, would likely be inadequate. Such study may benefit from simulation models, such as agent-based modeling (Bruch and Mare, 2006).

Accomplishing these goals requires adequate tools and data. This should be assisted via ongoing surveillance, using both qualitative and quantitative methods, to monitor the endemics of racial bias. We should integrate assessment of racial bias into core data systems, such as in the National Health Interview Survey (NHIS) and the American Community Survey. Agencies should cross link their data systems, for instance, by merging data from the Home Mortgage Disclosure Act (HMDA) (which monitors racial bias by lending institutions) to NHIS (see Gee (2002) for an example). Further, a major limitation is that federal agencies have historically varied in their collection of data related to racial and ethnic groups, making it very difficult to conduct the types of historical and intergenerational research we have described. The collection of race and ethnicity information is regulated by Directive 15 of the Office of Management and Budget (OMB) (OMB, 1997). While this directive specifies how federal agencies should collect racial and ethnic data and indicates that "programs should adopt the standards as soon as possible", it does not mandate that federal agencies actually collect these data. Yet, without this information, one would not be able to inquire about the basic question of disparity, much less racism. Accordingly, researchers should call upon the OMB to require that all federal agencies collect racial data and, further, to create new data systems analogous to the HMDA to monitor racial bias (e.g., monitoring of civil rights abuses within hospitals).

In short, the study of racism as a potential cause of health disparities should be significantly expanded. This expansion should include under-studied forms of racism, their intersections, and integration of data systems. Only through such an expansion might we see below the tip of the iceberg and effectively change the course of health disparities.

REFERENCES

- Acevedo-Garcia D. Residential Segregation and the Epidemiology of Infectious Diseases. Social Science & Medicine. 2000; 51(8):1143–1161. [PubMed: 11037206]
- Almond, DV.; Chay, KY.; Greenstone, M. Civil Rights, the War on Poverty, and Black-White Convergence in Infant Mortality in the Rural South and Mississippi; Working Paper No. 07-04, Department of Economics, Massachusetts Institute of Technology; 2006.
- Angelon-Gaetz KA, Richardson DB, Wing S. Inequalities in the Nuclear Age: Impact of Race and Gender on Radiation Exposure at the Savannah River Site (1951–1999). New Solutions. 2010; 20(2):195–210. [PubMed: 20621884]
- Araujo BY, Borrell LN. Understanding the Link between Discrimination, Mental Health Outcomes, and Life Chances Among Latinos. Hispanic Journal of Behavioral Sciences. 2006; 28(2):245–266.
- Barkan, ER.; Diner, H.; Kraut, AM. From Arrival to Incorporation: Migrants to the US in a Global Era. New York: New York University Press; 2008.
- Barker DJP. Fetal Programming of Coronary Heart Disease. Trends in Endocrinology and Metabolism. 2002; 13(9):364–368. [PubMed: 12367816]

- Becker MH. The Tyranny of Health Promotion. Public Health Review. 1986; 14(1):15-23.
- Bell JF, Zimmerman FJ, Almgren GR, Mayer JD, Huebner CE. Birth Outcomes among Urban African American Women: A Multilevel Analysis of the Role of Racial Residential Segregation. Social Science & Medicine. 2006; 63(12):3030–3045. [PubMed: 16997438]
- Bobo, L. Racial Attitudes and Relations at the Close of the Twentieth Century. In: Smelser, N.; Wilson, WJ.; Mitchell, F., editors. America Becoming: Racial Trends and Their Implications. Washington, DC: National Academy Press; 2000. p. 262-299.
- Bonilla-Silva E. Rethinking Racism: Toward a Structural Interpretation. American Sociological Review. 1997; 62(3):465–480.
- Borrell LN. Racial Identity among Hispanics: Implications for Health and Well-Being. American Journal of Public Health. 2005; 95(3):379–381. [PubMed: 15727961]
- Boswell RA. Racism and U.S. Immigration Law: Prospects for Reform after "9/11"? Immigration and Nationality Law Review. 2003; 7:315–356.
- Boyd, D. White Flight in Networked Public Places? How Race and Class Shaped American Teen Engagement with MySpace and Facebook. In: Nakamura, L.; Chow-White, P., editors. Digital Race Anthology. New York: Routledge Press; 2009.
- Brave Heart M, DeBruyn LM. The American Indian Holocaust: Healing Historical Unresolved Grief. American Indian and Alaska Native Mental Health Research. 1998; 8(2):60–82.
- Brondolo E, Brady ver Halen N, Pencille M, Beatty D, Contrada R. Coping with Racism: A Selective Review of the Literature and a Theoretical and Methodological Critique. Journal of Behavioral Medicine. 2009; 32(1):64–88. [PubMed: 19127420]
- Bruch E, Mare R. Neighborhood Choice and Neighborhood Change. American Journal of Sociology. 2006; 112:667–709.
- Carmichael, S.; Hamilton, CV. Black Power: The Politics of Liberation in America. New York: Vintage Books; 1967.
- Catanzarite L. Brown-Collar Jobs: Occupational Segregation and Earnings of Recent-Immigrant Latinos. Sociological Perspectives. 2000; 43(1):45–75.
- Chae Chang Ping v. United States. 1889 130 U.S. 581.
- Chae DH, Walters KL. Racial Discrimination and Racial Identity Attitudes in Relation to Self-Rated Health and Physical Pain and Impairment among Two-Spirit American Indians/Alaska Natives. American Journal of Public Health. 2009; 99(S1):S144–S151. [PubMed: 19218182]
- Clarke SP, Davis BL, Nailon RE. Racial Segregation and Differential Outcomes in Hospital Care. Western Journal of Nursing Research. 2007; 29(6):739–757. [PubMed: 17630385]
- Collins WJ, Margo RA. Race and Home Ownership: A Century-Long View. Explorations in Economic History. 2001; 38(1):68–92.
- Daniels, J. Race, Civil Rights, and Hate Speech in the Digital Era. In: Everett, A., editor. Learning Race and Ethnicity: Youth and Digital Media. Cambridge, MA: MIT Press; 2010. p. 129-154.
- Darity WA Jr. Employment Discrimination, Segregation, and Health. American Journal of Public Health. 2003; 93(2):226–231. [PubMed: 12554574]
- Darity W, Dietrich J, Guilkey DK. Persistent Advantage or disadvantage?: Evidence in Support of the Intergenerational Drag Hypothesis. American Journal of Economics and Sociology. 2003; 60(2): 435–470.
- de Castro AB, Fujishiro K, Schweitzer E, Olivia J. How Immigrant Workers Experience Workplace Problems: A Qualitative Study. Archives of Environmental and Occupational Health: An International Journal. 2006; 61(6):249–258.
- Du Bois WEB. The Health and Physique of the Negro American. American Journal of Public Health. 2003; 93:272–276. [PubMed: 12554583]
- Elliott JR, Smith RA. Ethnic Matching of Supervisors to Subordinate Work Groups: Findings on "Bottom-Up" Ascription and Social Closure. Social Problems. 2001; 48:258–276.
- Finch BK, Frank R, Vega WA. Acculturation and Acculturation Stress: A Social-Epidemiological Approach to Mexican Migrant Farmworkers' Health. International Migration Review. 2004; 38(1): 236–262.

Ford CL, Airhihenbuwa CO. The Public Health Critical Race Methodology: Praxis for Antiracism Research. Social Science & Medicine. 2010; 71(8):1390–1398. [PubMed: 20822840]

- Ford CL, Harawa NT. A New Conceptualization of Ethnicity for Social Epidemiologic and Health Equity Research. Social Science & Medicine. 2010; 71(2):251–258. [PubMed: 20488602]
- Freeman LC. Segregation in Social Networks. Sociological Methods and Research. 1978; 6(4):411–429.
- Gaskin DJ, Price A, Brandon DT, LaVeist TA. Segregation and Disparities in Health Services Use. Medical Care Research and Review. 2009; 66(5):578–589. [PubMed: 19460811]
- Gee GC. A Multilevel Analysis of the Relationship between Institutional and Individual Racial Discrimination and Health Status. American Journal of Public Health. 2002; 92(4):615–623. [PubMed: 11919062]
- Gee GC, Payne-Sturges DC. Environmental Health Disparities: A Framework Integrating Psychosocial and Environmental Concepts. Environmental Health Perspectives. 2004; 112(17):1645–1653. [PubMed: 15579407]
- Gee GC, Ro A, Shariff-Marco S, Chae DH. Racial Discrimination and Health among Asian Americans: Evidence, Assessment, and Directions for Future Research. Epidemiologic Reviews. 2009; 31(1):130–151. [PubMed: 19805401]
- Goldman DP, Smith JP, Sood N. Legal Status and Health Insurance among Immigrants. Health Affairs. 2005; 24(6):1640–1653. [PubMed: 16284039]
- Heckler, MM. Report of the Secretary's Task Force on Black and Minority Health. Washington, DC: U.S. Department of Health and Human Services; 1985.
- Heckman JJ, Payner BS. Determining the Impact of Federal Antidiscrimination Policy on the Economic Status of Blacks: A Study of South Carolina. The American Economic Review. 1989; 79(1):138–177.
- Institute of Medicine. Race, Ethnicity, and Language Data: Standardization for Health Care Quality Improvement. Washington, DC: The National Academies Press; 2009.
- James SA. Confronting the Moral Economy of US Racial/Ethnic Health Disparities. American Journal of Public Health. 2008; 98(Supplement 1):S16. [PubMed: 18687604]
- Jones CP. Levels of Racism: A Theoretic Framework and a Gardener's Tale. American Journal of Public Health. 2000; 90(8):1212–1215. [PubMed: 10936998]
- Kaushal N, Kaestner R. Welfare Reform and Health Insurance of Immigrants. Health Services Research. 2005; 40(3):697–722. [PubMed: 15960687]
- Kelaher M, Jessop DJ. Differences in Low-Birthweight among Documented and Undocumented Foreign-Born and US-born Latinas. Social Science and Medicine. 2002; 55:2171–2175. [PubMed: 12409130]
- Kramer MR, Hogue CR. Is Segregation Bad for Your Health? Epidemiologic Reviews. 2009; 31(1): 178–194. [PubMed: 19465747]
- Krieger N. Embodying Inequality: A Review of Concepts, Measures, and Methods for Studying Health Consequences of Discrimination. International Journal of Health Services. 1999; 29(2):295–352. [PubMed: 10379455]
- Krieger N, Williams DR, Moss NE. Measuring Social Class in US Public Health Research: Concepts, Methodologies, and Guidelines. Annual Review of Public Health. 1997; 18:341–378.
- Lauderdale DS. Birth Outcomes for Arabic-Named Women in California Before and After September 11. Demography. 2006; 43(1):185–201. [PubMed: 16579214]
- Lauderdale DS, Wen M, Jacobs EA, Kandula NR. Immigrant Perceptions of Discrimination in Health Care: the California Health Interview Survey 2003. Medical Care. 2006; 44(10):914–920. [PubMed: 17001262]
- Laumann EO, Youm Y. Racial/Ethnic Group Differences in the Prevalence of Sexually Transmitted Diseases in the United States: A Network Explanation. Sexually Transmitted Diseases. 1999; 26:250–261. [PubMed: 10333277]
- LaVeist TA. Beyond Dummy Variables and Sample Selection: What Health Services Researchers Ought to Know about Race as a Variable. Health Services Research. 1994; 29(1):1–16. [PubMed: 8163376]

Lee BA, Reardon SF, Firebaugh G, Farrell CR, Matthews SA, O'Sullivan D. Beyond the Census Tract: Patterns and Determinants of Racial Residential Segregation at Multiple Scales. American Sociological Review. 2008; 73:766–791. [PubMed: 25324575]

- Leonard D. Young, Black (& Brown) and Don't Give a Fuck. Cultural Studies Gåö Critical Methodologies. 2009; 9(2):248–272.
- Link BG, Phelan J. Social Conditions as Fundamental Causes of Disease. Journal of Health and Social Behavior. 1995; 35(extra issue):80–94. [PubMed: 7560851]
- Margo, RA. Race and Schooling in the South, 1880–1950: An Economic History. Chicago, IL: University of Chicago Press; 1990.
- Mays VM, Cochran SD, Barnes NW. Race, Race-Based Discrimination, and Health Outcomes among African Americans. Annual Review of Psychology. 2006; 58:201–225.
- Molina, N. Fit to Be Citizens. Berkeley, CA: University of California Press; 2006.
- Morello-Frosch R, Jesdale BM. Separate and Unequal: Residential Segregation and Estimated Cancer Risks Associated with Ambient Air Toxics in U.S. Metropolitan Areas. Environmental Health Perspectives. 2006; 114(3):386–393. [PubMed: 16507462]
- Nacos, BL.; Torres-Reyna, O. Fueling Our Fears: Stereotyping, Media Coverage, and Public Opinion of Muslim Americans. Lanham, MD: Rowman and Littlefield; 2006.
- Nevins, J. Operation Gatekeeper: The Rise of the "Illegal Alien" and the Making of the US-Mexico boundary. New York: Routledge; 2002.
- Office of Management and Budget (OMB). Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity. Federal Register. 1997; 62:58781–58790.
- Ortega AN, Fang H, Perez VH, Rizzo JA, Carter-Pokras O. Health Care Access, Use of Services, and Experiences among Undocumented Mexicans and Other Latinos. Archives of Internal Medicine. 2007; 167(21):2354–2360. [PubMed: 18039995]
- Padela AI, Heisler M. The Association of Perceived Abuse and Discrimination after September 11, 2001, with Psychological Distress, Level of Happiness, and Health Status among Arab Americans. American Journal of Public Health. 2010; 100(2):284–291. [PubMed: 20019301]
- Park, JSW. Elusive Citizenship: Immigration, Asian Americans, and the Paradox of Civil Rights. New York: New York University Press; 2004.
- Pembrey ME, Bygren LO, Kaati G, Edvinsson S, Northstone K. Sex-specific, Male-line Transgenerational Responses in Humans. European Journal of Human Genetics. 2005; 14(2):159–166. [PubMed: 16391557]
- Powell JA. Structural Racism: Building upon the Insights of John Calmore. North Carolina Law Review. 2008; 86:791–816.
- Quadagno J. Promoting Civil Rights through the Welfare State: How Medicare Integrated Southern Hospitals. Social Problems. 2000; 47(1):68–89. [PubMed: 18050538]
- Reardon SF, Farrell CR, Matthews SA, O'Sullivan D, Bischoff K, Firebaugh G. Race and Space in the 1990s: Changes in the Geographic Scale of Racial Residential Segregation, 1990–2000. Social Science Research. 2009; 38(1):55–70. [PubMed: 19569292]
- Ross SL, Turner MA. Housing Discrimination in Metropolitan America: Explaining Changes between 1989 and 2000. Social Problems. 2005; 52(2):152–180.
- Sacerdote B. Slavery and the Intergenerational Transmission of Human Capital. Review of Economics and Statistics. 2005; 87(2):217–234.
- Seckl JR, Holmes MC. Mechanisms of Disease: Glucocorticoids, their Placental Metabolism and Fetal 'Programming' of Adult Pathophysiology. Nature Clinical Practice Endocrinology & Metabolism. 2007; 3(6):479–488.
- Smith, Aaron. Technology Trends Among People of Color. Pew Internet & American Life Project, September 17. 2010 (http://www.pewinternet.org/Commentary/2010/September/ Technology-Trends-Among-People-of-Color.aspx).
- Smith DB. Racial and Ethnic Health Disparities and the Unfinished Civil Rights Agenda. Health Affairs. 2005; 24(2):317–324. [PubMed: 15757914]

Smith DB, Feng Z, Fennell ML, Zinn JS, Mor V. Separate and Unequal: Racial Segregation and Disparities in Quality across U.S. Nursing Homes. Health Affairs. 2007; 26(5):1448–1458. [PubMed: 17848457]

- Sommers BD. Targeting in Medicaid: The Costs and Enrollment Effects of Medicaid's Citizenship Documentation Experiment. Journal of Public Economics. 2010; 94(1–2):174–182.
- Sondik EJ, Huang DT, Klein RJ, Satcher D. Progress toward the Healthy People: 2010 Goals and Objectives. Annual Review of Public Health. 2010; 31(1):271–281.
- Subramanian SV, Acevedo-Garcia D, Osypuk TL. Racial Residential Segregation and Geographic Heterogeneity in Black/White Disparity in Poor Self-Rated Health in the US: A Multilevel Statistical Analysis. Social Science & Medicine. 2005; 60(8):1667–1679. [PubMed: 15686800]
- Turner, MA.; Freiberg, F.; Godfrey, E.; Herbig, C.; Levy, DK.; Smith, RR. All Other Things Being Equal: A Paired Testing Study of Mortgage Lending Institutions. Washington, DC: U.S. Department of Housing and Urban Development; 2002.
- Vanderbilt D, Augustyn M. The Effects of Bullying. Paediatrics and Child Health. 2010; 20(7):315–320.
- Viruell-Fuentes EA. Beyond Acculturation: Immigration, Discrimination, and Health Research among Mexicans in the United States. Social Science & Medicine. 2007; 65(7):1524–1535. [PubMed: 17602812]
- Wakefield S, Uggen C. Incarceration and Stratification. Annual Review of Sociology. 2010; 36:387–406.
- Walsemann KM, Bell BA. Integrated Schools, Segregated Curriculum: Effects of Within-School Segregation on Adolescent Health Behaviors and Educational Aspirations. American Journal of Public Health. 2010; 100(9):1687–1695. [PubMed: 20634462]
- Wang J, Iannotti RJ, Nansel TR. School Bullying among Adolescents in the United States: Physical, Verbal, Relational, and Cyber. Journal of Adolescent Health. 2009; 45(4):368–375. [PubMed: 19766941]
- White TK. Initial Conditions at Emancipation: The Long-Run Effect on Black-White Wealth and Earnings Inequality. Journal of Economic Dynamics and Control. 2007; 31:3370–3395.
- Williams DR, Collins CA. Racial Residential Segregation: A Fundamental Cause of Racial Disparities in Health. Public Health Reports. 2001; 116:404–416. [PubMed: 12042604]
- Williams DR, Costa MV, Odunlami AO, Mohammed SA. Moving Upstream: How Interventions That Address the Social Determinants of Health Can Improve Health and Reduce Disparities. Journal of Public Health Management and Practice. 2008; 14(6):S8–S17. [PubMed: 18843244]
- Williams DR, Mohammed SA. Discrimination and Racial Disparities in Health: Evidence and Needed Research. Journal of Behavioral Medicine. 2009; 32:20–47. [PubMed: 19030981]
- Wright, RO. Chronology of Immigration in the United States. Jefferson, NC: McFarland & Company, Inc; 2008.
- Yoo HC, Gee GC, Takeuchi D. Discrimination and Health among Asian American Immigrants: Disentangling Racial from Language Discrimination. Social Science & Medicine. 2009; 68(4): 726–732. [PubMed: 19095340]
- Yu SM, Huang ZJ, Schwalberg RH, Nyman RM. Parental English Proficiency and Children's Health Services Access. American Journal of Public Health. 2006; 96(8):1449–1455. [PubMed: 16809589]