

Factors Contributing to Delay in Racial and Ethnic Minority Women Seeking Early Prenatal Care

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ABSTRACT: This study surveyed females who accessed prenatal care at an urban health center to determine perceptions of barriers to early initiation of services. We hypothesized distrust of healthcare professionals would result in delayed utilization. Results indicated that both minority and non-minority patients distrust health care professionals who have strong anti-minority bias and discriminate on the basis of race. Prenatal care was initiated later for minority participants compared to White participants, but only among participants who thought doctors and nurses were biased against minorities or felt they discriminated on the basis of race. Findings suggest the need to overcome distrust in health professionals to improve access to timely prenatal care for women of all races and ethnicities.

KEY WORDS: Early prenatal care, health disparities, discrimination, anti-minority bias, distrust of health providers

INTRODUCTION

Despite spending more money on health care than any other nation, the United States still has major health care disparities (U.S. Department of Health and Human Services, 2007). According to the National Institutes of Health (NIH), “there is compelling evidence that U.S. minority populations, suffer from increasing differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions” than the Caucasian population (NIH, 2000). The health disparities among minority populations include high rates of cardiovascular disease, stroke, prostate and other types

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of cancer, birth defects, asthma, diabetes, HIV/AIDS, mental disorders, and infant mortality.

The literature confirms that disparities between minority and white infant mortality rates remain problematic (Kawachi, Daniels, & Robinson, 2005; Lillie-Blanton, Rushing, & Ruiz, 2003). Non-Hispanic black, American Indian, and Puerto Rican pregnant women have the highest infant mortality rates (MacDorman & Mathews, 2008). In 2005, there was a 1.4 - 2.3 difference in infant mortality rates by race and ethnicity, ranging from a high of 13.6 for non-Hispanic black women, 8.3 for Puerto Rican women, and 8.1 for American Indian women compared to 5.8 for non-Hispanic white women.

Inadequate health care services (Schneider, Zaslavsky, & Espstein, 2002), lack of health insurance coverage (Mead et al., 2008), lack of access to appropriate health care services (Hadley & Cunningham, 2004; Lillie-Blanton & Hoffman, 2005; Agency for Healthcare Research and Quality, 2008), sociocultural variables (Peterson, Sterling, & Weekes, 1997), and inadequate prenatal care (Mikhail & Curry, 1999; Sparks, 2009) have all been identified as factors contributing to disparities in infant mortality. Arguably, access to early prenatal care is a major factor.

Initiating early and continuous prenatal care is important for both the mother and the developing baby, and is considered one of the best ways to promote a healthy pregnancy. The timing and quality of prenatal care that a woman receives during her pregnancy has a critical impact on the infant's health and survival. Late or no entry into prenatal care is associated with adverse pregnancy outcomes such as increased risk of low birth weight, premature birth, and neonatal death (Delaware Healthy Mother and Infant Consortium, 2006). To avoid these complications all pregnant women should receive prenatal care as early as possible. For example, both the American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG) recommend prenatal care begin in the first trimester of pregnancy (AAP & ACOG, 2007). Methods for categorizing the adequacy of prenatal care are also based on when pregnancy care started, including the Adequacy of Prenatal Care Utilization (APNCU) index (Kotelchuck, 1994) and revised GINDEX (Alexander & Kotelchuck, 1996).

Attitudinal barriers including distrust of healthcare professionals as a result of perceived discrimination and unfair treatment have been indicated in contributing to delayed utilization of health care services, and failure to adhere to health professional's recommendations (Casagrande, Gary, LaVeist, Gaskin, & Cooper, 2007). The issue of

racial and ethnic minority distrust of medical professionals is receiving increased attention as a contributing factor in reduced health care utilization (LaVeist, Nickerson, & Bowie, 2000; Boulware, Cooper, Ratner, LaVeist, & Powe, 2003; Armstrong, Ravenell, McMurphy, & Putt, 2007). According to Armstrong and colleagues (2007) racial distrust, a major contributing factor to healthcare disparities, stems from racial differences in values as opposed to concerns regarding professional competence.

Utilization of prenatal care also varies by maternal attitudes and social and demographic factors. Bassani, Surkan, and Olinto (2009) reported that women having an unplanned pregnancy were significantly more likely to have had inadequate prenatal care than women who planned their pregnancy. Pregnant women having their second or higher order birth were significantly more likely to report inadequate use of prenatal care than women having their first birth. Dissatisfaction with the current pregnancy was also associated with inadequate utilization of prenatal care. Not living with the child's father and SES (household income) were also inversely associated with inadequate utilization of prenatal care.

Delaware is the second smallest state but has the fifth highest infant mortality rating in the nation (Delaware Health Statistics Center, 2007) and ranks second after the District of Columbus in infant mortality for black non-Hispanics (Kaiser Family, 2009). While Delaware's infant mortality rate decreased from 9.2 in 2001-2005 to 8.8 in 2002-2006 per 1,000 live births, the rate is still twice that of White and Hispanic counterparts (Delaware Health Statistics Center, 2008). Nearly 76% of Delaware parents begin prenatal care in the first trimester, while 82.5% of non-Hispanic Blacks do so (Kaiser Family, 2009). State data indicated that the lack of prenatal care among non-white women as a factor related to the disproportionately high incidence of infant mortality among African-American women. To narrow and or eliminate racial and ethnic prenatal care differences, the State of Delaware legislators passed legislation creating the Delaware Healthy Mother and Infant Consortium in 2005. During the same year, the Infant Mortality Task Force (IMTF) convened under the leadership of the then Delaware Governor Ruth Ann Minner with the explicit purpose of reducing infant mortality. The current investigation was stimulated by concern expressed by IMTF members that racial mistrust might be a factor in minority women's failure to obtain adequate prenatal care.

The lead author and principal investigator who chaired the Health Care Disparities Committee a sub-committee of the Delaware Healthy

Mother and Infant Consortium sought to acquire insights into perceptions of health care services among urban minority women in a community-based health care center in Wilmington – the largest city in Delaware.

This study surveyed females who accessed prenatal care at a community-based health care center to determine their perceptions of factors that were potential barriers to their prenatal care utilization. We hypothesized that timely prenatal care would be affected by whether the study participants believe that they receive the same level of care as other pregnant women from other races and ethnic backgrounds. We anticipated that the data would provide information about the perceptions of care received by pregnant women based upon race and ethnicity. In addition, we anticipated that the results would offer insight into the development of culturally competent prenatal health care for Delaware's cultural and ethnic population.

METHODS

Participants and Procedure

A convenience sample of pregnant women ($n = 47$) was administered the survey items to determine their perceptions of factors influencing their prenatal care utilization during each woman's prenatal care visit to a community-based health care center. Graduate nursing students from Delaware State University administered the surveys over a course of four to 12 visits. Students were trained on survey tool and data collection methods, the consent form and signing up study participants, and confidentiality and security of collected data prior to administering the survey. All participants were treated in accordance with the "Ethical Principles and Code of Conduct" (American Psychological Association, 2002).

Materials

We measured potential sources of distrust in two ways. First, discrimination was tapped by yes or no responses to the item: Do you feel that doctors and nurses treat others unfairly because of their race? Second, anti-minority bias was measured using an aggregate of seven indicators assessing the following reasons why doctors or nurses treat people unfairly based on their race or ethnic background (scored 1-3; Not a Reason-Minor Reason): (1) minorities live in areas with few medical providers, (2) providers lack cultural awareness training, (3) providers do not believe minority patients have insurance or money to

pay for medical care, (4) medical researchers do not pay enough attention to minority health conditions, (5) providers do not believe minorities pay attention to their health, (6) minorities prefer different healthcare treatments than whites do, and (7) most medical practitioners are white and do not understand minority healthcare needs. Principal components analysis was conducted on the items, yielding only one component with an eigenvalue > 1 (3.19). All loadings exceeded .52 and accounted for 45.6% of the variance. The seven items were summed to create a scale with high internal consistency (Cronbach's $\alpha = .81$). Item reliability analysis indicated that Cronbach's α would not be increased by removing any items from the aggregate scale. Scores were dichotomized (Mean split = 14.8, SD = 3.5) to create a categorical variable with scores below the mean indicating little anti-minority bias, and those above the mean indicating a strong anti-minority bias.

Maternal attitudes and social and demographic factors included age, ethnicity, educational level, marital status, primary language, annual household income, source of income, health insurance coverage, weeks pregnant at time of study, first pregnancy, and feelings about the pregnancy. Minority status was determined by recoding ethnicity into Whites vs. African Americans, Hispanics, and American Indians combined. The outcome measure for the adequacy of initiation of prenatal care was measured by a single, continuous item: the week prenatal care began, under the assumption that the earlier prenatal care begins the better.

Design

A multivariate analysis of variance (MANOVA) model was used to test differences in how the adequacy of initiation of prenatal care varied as a function of discrimination, bias, and racial and ethnic minority status. Analysis of variance (ANOVAs) or simple regression was conducted on each maternal attitude and social and demographic factor separately to identify potential confounding variables. Only significant maternal attitudes and social and demographic factors were entered in the MANOVA. The full model included main effects and all two-way interactions. The test of significance was based on Wilks' lambda, converted to an F value (Rao's R). This was followed by univariate analyses of variance (ANOVAs) on the significant effects. Mean comparisons for all significant main effects and interactions were conducted using Tukey Honestly Significant Difference (HSD) tests for unequal groups. The level of statistical significance was set at

.05. All statistical analyses were performed using STATISTICA (StatSoft, Inc., Tulsa, OK).

RESULTS

Sample Description

The majority of study participants were African American (62.2%). Whites comprised 15.5% of study participants. Mean age (SD) was 24.5 (4.6), with most between the ages of 16 and 25 (60.8%). The primary language was English (80.9%), though 10.6% revealed it was Spanish. Over four in 10 participants (41.3%) had an annual income level below \$15,577 (poverty level for a family of three in Delaware). Most were high school graduates only (38.3%), though 27.7% had completed some college courses. The majority (93.6%) began receiving prenatal care in their First Trimester at 7.3 weeks on average (SD = 3.1). Most (55.4%) were in their Third Trimester (28 weeks+) when completing the survey. Sixty percent wanted to be pregnant later than when it actually happened. Health insurance coverage was 89.1%. Many (44.7%) felt doctors and nurses treated patients unfairly based on race. Over half (55.6%) thought there was a strong anti-minority bias among doctors and nurses. Health insurance coverage and primary language significantly (both $p < .05$) affected the adequacy of initiation of prenatal care. Participants who lacked health care coverage began receiving prenatal care approximately three weeks later than participants who had health care coverage. Participants whose primary language was Spanish initiated care nearly two weeks later compared to participants whose primary language was English.

MANOVA Model

The overall MANOVA effect was significant, Rao's R (13, 28) = 2.92; $p < .01$. ANOVAs revealed significant main effects for discrimination, $F(1, 28) = 20.27$, $p < .001$; anti-minority bias, $F(1, 28) = 6.21$; $p < .05$; and health coverage, $F(1, 28) = 13.19$, $p < .01$; but not for primary language ($p > .66$) or for minority status ($p > .10$). Post hoc comparisons indicated later initiation of prenatal care among participants who felt doctors and nurses treat patients unfairly based on race ($p < .001$) and among participants who thought doctors and nurses had a strong anti-minority bias ($p < .01$) than participants who did not feel doctors and nurses treat patients unfairly based on race (10.5 weeks cf. 6.3 weeks, respectively) and participants who thought doctors and nurses had little anti-minority bias (9.4 weeks cf. 7.0 weeks, respectively). Post hoc

tests further indicated later initiation of prenatal care ($p < .01$) for participants without health care coverage compared to participants with health care coverage (11.5 weeks cf. 7.2 weeks , respectively).

However, the main effect for discrimination was modified by anti-minority bias and by minority status (see Figure 1). There was a significant interaction between discrimination and anti-minority bias ($p < .05$) and between discrimination and minority status ($p < .01$), such that prenatal care was significantly delayed for participants who thought doctors and nurses had a strong anti-minority bias compared to participants who thought doctors and nurses had little anti-minority bias, and was significantly delayed for minority participants compared to White participants, but only among pregnant women who felt doctors and nurses treated patients unfairly based on race.

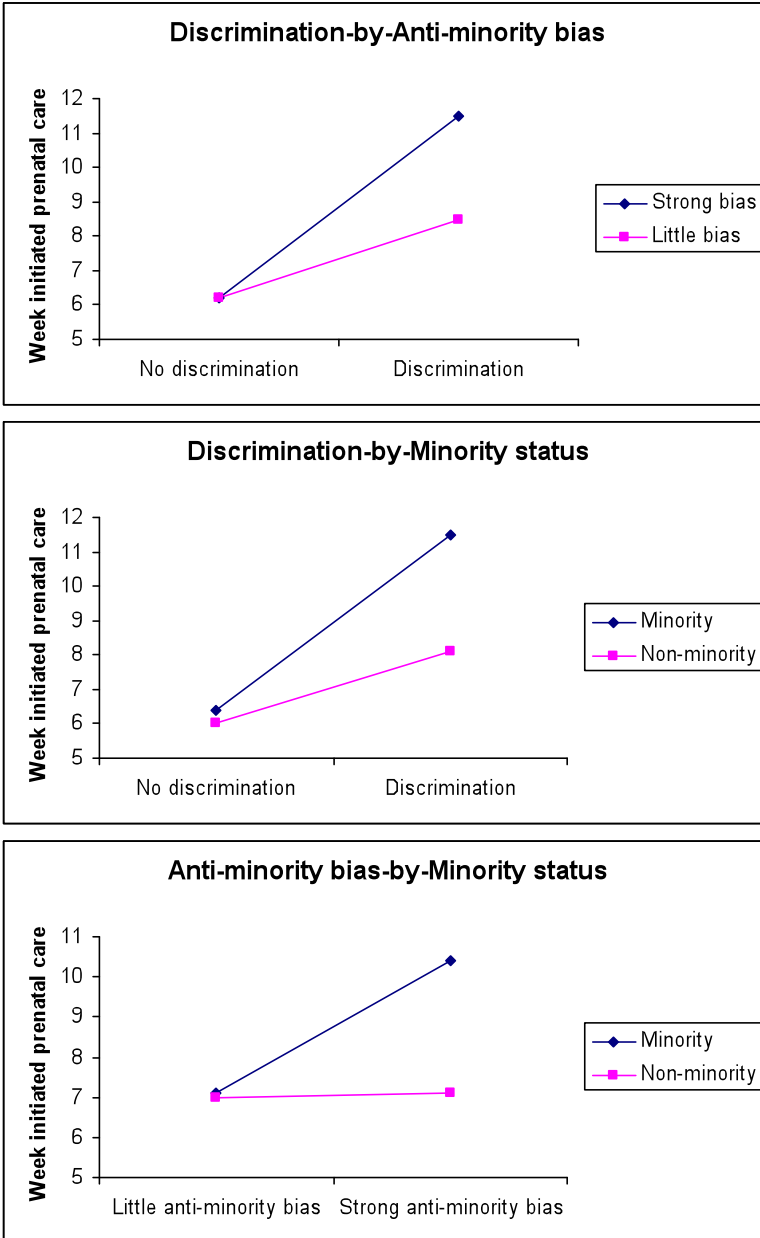
In addition, the main effect of anti-minority bias was modified by minority status. There was a significant interaction between anti-minority bias and minority status ($p < .01$). Figure 1 also shows that prenatal care began later for minority participants compared to White participants, but only among participants who thought doctors and nurses had a strong anti-minority bias.

DISCUSSION

This study surveyed females who accessed prenatal care at an urban health care center in Delaware to determine potential barriers to early prenatal care utilization. We found that discrimination and anti-minority bias were associated with inadequate initiation of prenatal care. Participants who perceived that doctors and nurses treat others unfairly because of their race delayed prenatal care 4.2 weeks on average compared to participants who did not have that perception. Participants who perceived that doctors and nurses treat others unfairly because of their race as a result of strong anti-minority bias delayed prenatal care 2.4 weeks on average compared to their counterparts. Findings suggest that patients seeking access to prenatal care, irrespective of race or ethnicity, distrust health care professionals who have strong anti-minority bias and those who discriminate.

We expected the data would also provide information about perceptions of care received by pregnant women that varied by attitudinal barriers. Minority status and strong anti-minority bias resulted in delayed prenatal care (approximately 3-4 weeks), but only among participants who felt doctors and nurses discriminated. Minority status also resulted in delayed prenatal care (about 3 weeks),

Figure 1. Interactions of the Attitudinal Barriers in the Study



but only among respondents who thought doctors and nurses were strongly biased against minorities. This evidence suggests racial and ethnic minority distrust of medical professionals played a role in the initiation of prenatal care.

Patients must trust the doctors and nurses engaged in their medical treatment and participants were very vulnerable within the context of prenatal care. A common vulnerability was low income. We examined maternal attitudes, and social and demographic factors that frequently serve as barriers to adequate prenatal care (Peterson et al., 1997; Mead et al., 2008; Bassani et al., 2009), but only health care coverage emerged as a significant factor. Lack of coverage delayed initiation of prenatal care by 4.3 weeks.

Racial distrust arises from conflicting values as opposed to concerns regarding professional competence (Armstrong et al., 2007). Doctors and nurses can harbor beliefs about patients that improperly influence clinical decision-making and health services. For example, moral rationing and appropriateness (van Ryn & Fu, 2003) are driven by values and beliefs that certain characteristics make some prenatal patients less deserving of services or less likely to benefit from prenatal care. For example, all participants that lacked health insurance had income below the poverty level (analysis not shown).

Thus, doctors' and nurses' beliefs about class and racial/ethnic distinctions could have contributed to health disparities in interrelated ways. In this study, minorities with health coverage were still far less likely than whites to initiate early prenatal care. Research has indicated that both whites and minorities who feel discriminated against (i.e., race/ethnicity or class) delay and underutilize health services, though perceived discrimination is higher among minorities (Casagrande et al., 2007). Future investigations should examine the complex interplay of health coverage and distrust of health professionals as well as how they influence early access to prenatal care, particularly among women with substandard income.

Several limitations in the current study should be noted. We did not measure other relevant factors such as substance use during pregnancy (Broekhuizen, Utrie, & Van Mullem, 1992; El-Mohandes et al., El-Mohandes, Herman, Nabil El-Khorazaty, Katta, White, & Grylack, 2003). The relationship between the adequate initiation of prenatal care and the outcome of delivery was not evaluated. Neither did we measure the frequency and content of the visits. Participants whose primary language was Spanish initiated prenatal care 2 weeks later compared to participants who were fluent in English. The differences in primary language, however, were not a significant

barrier in the final analysis, which may reflect unmeasured characteristics of minorities such as immigration status and other stigmatized cultural characteristics or attest to linguistic appropriate services in health care. Another limitation is the small and localized sample, which limits generalizability. Future studies should include a wider range of potentially relevant factors (e.g., see Johnson et al., 2007; Sparks, 2009) using a large representative sample to examine differences in how delayed prenatal care utilization varies as a function of attitudinal barriers and distrust.

Nevertheless, findings support the continued need to overcome attitudinal barriers and increase access to timely prenatal care for women of all races and ethnicities in an effort to reduce health disparities during a critical period affecting the future health and functioning of both mother and child.

REFERENCES

- Agency for Healthcare Research and Quality (2008). *National Healthcare Disparities Report*. AHRQ Publication No. 09-0002. Retrieved on June 24, 2009, from www.ahrq.gov/qual/qrd08.htm.
- Alexander G. R., & Kotelchuck, M. (1996). Quantifying the adequacy of prenatal care: A comparison of indices. *Public Health Reports*, *111*, 408–418.
- American Academy of Pediatrics and American College of Obstetricians and Gynecologists. (2007). *Guidelines for Perinatal Care*. 6th Edition. Elk Grove Village, IL and Washington, DC: Authors.
- American Psychological Association (2002). *Ethical Principles of Psychologists and Code of Conduct*. Retrieved June 23, 2009, from <http://www.apa.org/ethics/code2002.pdf>
- Armstrong, K., Ravenell, K. L., McMurphy, S., & Putt, M. (2007). Racial/Ethnic Differences in Physician Distrust in the United States. *American Journal of Public Health*, *97*, 1283-1289.
- Bassani, D. G., Surkan, P. J., & Olinto, M. T. (2009). Inadequate use of prenatal services among Brazilian women: the role of maternal characteristics. *International Perspectives on Sexual and Reproductive Health*, *35*, 15-20.
- Boulware, L. E., Cooper, L. A., Ratner, L. E., LaVeist, T. A., & Powe, N. R. (2003). Race and trust in the health care system. *Public Health Reports*, *118*, 358-365.
- Broekhuizen, F. F., Utrie, J., Van Mullem, C. V. (1992). Drug use or inadequate prenatal care? Adverse pregnancy outcome in an urban setting. *American Journal of Obstetrics & Gynecology*, *166*, 1747–1756.
- Casagrande, S. S., Gary, T. L., LaVeist, T. L., Gaskin, D. J., & Cooper, L. A. (2007). Perceived discrimination and adherence to medical care in a racially integrated community. *Journal of General Internal Medicine*, *22*, 389-95.

- Delaware Health Statistics Center (2007). *Delaware birth and death data 2000 to 2006*. Dover, DE: Delaware Health and Social Services, Division of Public Health. Retrieved on June 10, 2009, from http://www.dhss.delaware.gov/dhss/dph/hp/bthsdths_pubdata.html.
- Delaware Health Statistics Center (2008). *Delaware Vital Statistics Annual Report 2006*. Dover, DE: Delaware Health and Social Services, Division of Public Health. Retrieved on June 11, 2009, from <http://www.dhss.delaware.gov/dhss/dph/hp/2006.html>.
- Delaware Healthy Mother and Infant Consortium. (2006). *Delaware Healthy Mother and Infant Consortium 2006 Annual Report: Reducing Infant Mortality in Delaware*. Dover, DE: Delaware Health and Social Services, Division of Public Health. Retrieved on June 1, 2009, from <http://www.dhss.delaware.gov/dph/chca/imdhmichome.html>.
- Department of Health and Human Services (2007). *National Health Expenditures*. Office of the Actuary, Centers for Medicare and Medicaid Services. National Health Statistics Group. Retrieved on June 29, 2009, from <http://www.cms.hhs.gov/NationalHealthExpendData/>
- El-Mohandes, A., Herman, A. A., Nabil El-Khorazaty, M., Katta, P. S., White, D., & Grylack, L. (2003). Prenatal care reduces the impact of illicit drug use on perinatal outcomes. *Journal of Perinatology*, 23, 354–360.
- Hadley, J., & Cunningham, P. (2004). Availability of safety net providers and access to care of uninsured persons. *Health Services Research*, 39(5), 1527-1546.
- Kaiser Family. (2009). *Delaware State-at-a-glance*. Retrieved June 24, 2009, from <http://www.statehealthfacts.org/profileglance.jsp?rgn=9>
- Kawachi, I., Daniels, N., & Robinson, D. (2005). Health disparities by race and class: Why both matter. *Health Affairs*, 24(2), 343-352.
- Kotelchuck M. (1994). An evaluation of the Kessner Adequacy of Prenatal-Care Index and a proposed Adequacy of Prenatal-Care Utilization Index. *American Journal of Public Health*, 84, 1414–1420.
- LaVeist, T. A., Nickerson, K. J., & Bowie J. V. (2000). Attitudes about racism, medical mistrust, and satisfaction with care among African American and white cardiac patients. *Medical Care Research and Review*. 57 (Suppl 1), 146-161.
- Lillie-Blanton, M., & Hoffman, C. (2005). The role of health insurance coverage in reducing racial/ethnic disparities in health care. *Health Affairs*, 24(2), 398-408.
- Lillie-Blanton, M., Rushing, O., & Ruiz, S. (2003). *Key facts: Race, ethnicity and medical care* [Electronic version]. Retrieved December 5, 2006, from www.kff.org/minorityhealth/upload/Key-Facts-Race-Ethnicity-Medical-Care-Chartbook.pdf.
- MacDorman, M. F., & Mathews, M. F. (2008). *Recent trends in infant mortality in the United States. NCHS data brief, no 9*. Hyattsville, MD: National Center for Health Statistics.
- Mead, H., Cartwright-Smith, L., Jones, K., Ramos, C., Siegel, B., Woods, K. (2008). *Racial and Ethnic Disparities in U.S. Healthcare: A Chartbook*. The Commonwealth Fund. Retrieved on June 24, 2009, from <http://www.commonwealthfund.org/Content/Publications/Chartbooks/2008/Mar/Racial-and-Ethnic-Disparities-in-U-S--Health-Care--A-Chartbook.aspx>
- Mikhail, B. I., & Curry, M. A. (1999). Perceived impediments to prenatal care among low-income women. *Western Journal of Nursing Research*, 21, 335-355.

- National Institutes of Health (2000). *Strategic Research Plan to Reduce and Ultimately Eliminate Health Disparities*. DC: U.S. Department of Health and Human Services.
- Peterson, J.W., Sterling, Y.M., & Weekes, D. (1997). Access to health care: Perspectives of African American families with chronically ill children. *Family and Community Health, 19*, 64-77.
- Schneider, E. C., Zaslavsky, A. M., & Espstein, A. M. (2002). Racial disparities in the quality of care for enrollees in Medicare managed care. *JAMA, 287*, 1288-1294.
- Sparks, P. J. (2009). Do biological, sociodemographic, and behavioral characteristics explain racial/ethnic disparities in preterm births? *Social Science & Medicine, 68*, 1667-1675.
- van Ryn, M., & Fu, S. S. (2003). Paved with good intentions: do public health and human service providers contribute to racial/ethnic disparities in health? *American Journal of Public Health, 93*, 248-255.