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Dollar for Dollar: Racial and ethnic inequalities in health and health-related outcomes among persons with very high income

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ABSTRACT

Racial and ethnic disparities in health have been well-documented, and low SES is widely considered to be a driver of this relationship. However, the race-social class-health interrelationship is complex, as several studies have found race disparities between racial/ethnic minorities and whites at middle- income levels. Research on higher income persons is complicated by the lack of data for persons with incomes about $75,000. Most national datasets collect income data in categories with the highest income category being $75,000 and above. In our study, we examined racial/ethnic disparities in health status and behaviors among persons of very high income, reported income of $175,000 or above per year. Data are from the Medical Expenditure Panel Surveys (MEPS). Our findings revealed health disparities in 10 of the 16 health-related outcomes selected. African Americans were most dissimilar to whites at this income and with disadvantages on 6 health outcomes relative to whites. While results also showed some disparities for Asian Americans and Hispanic Americans relative to whites, these groups were advantaged, relative to whites on several health outcomes. Our findings indicate that income does not fully explain racial/ethnic disparities in health. Most public interventions are targeted to low income persons. However, public health interventions should target minority individuals of very high income as well, especially African Americans.

1. Introduction

Racial and ethnic disparities in health have been well documented. In general, white Americans fare better in terms of health than most racial minorities with the exception of Asian Americans who tend to have the lowest rates of most of the high prevalence conditions like hypertension, other cardiovascular diseases, and diabetes (Williams and Sternthal, 2010; Williams, 1999; Read and Emerson, 2005). In recent decades, private sector funders, NIH, and other agencies of government have devoted significant resources to uncovering the etiology of racial disparities in health. However, understanding race disparities is complicated by confounding between race and socioeconomic status (SES) (Turner and Avison, 2003; LaVeist, 2005; LaVeist et al., 2007; Seeman et al., 2008; LaVeist et al., 2011; Abdulrahman et al., 2015). That is, racial and ethnic minorities are more likely to be low income compared to whites and Asians and in some cases it has been difficult to determine to what extent racial disparities in health are reflecting SES disparities (Schroeder, 2016). In particular, research attempting to disentangle race and income has been limited by the lack of availability of data on upper income persons. Most large national datasets, such as NHANES and NHIS, cap the highest income category at $75,000 and above. However, there is likely a great deal of heterogeneity in this income category. As a result, few studies have been able to document if there is race variation in health status among very high income groups. In this study, we combine 12 years of data from the Medical Expenditure Panel Survey (MEPS) to accrue a sufficient sample of persons with annual incomes in excess of $175,000 to explore the question: what is the nature of racial and ethnic health disparities among high income persons?

There are only a handful of studies examining disparities among middle class and high income persons. Most of these studies have focused on mental health or socio-emotional outcomes such as depression, psychological distress, and anger (Cose, 1993; Jackson and Stewart, 2003; Pieterse and Carter, 2007). This literature shows that affluent black Americans have worse mental health and more psychological distress compared to whites. Several studies speculate that this results from stress related to occupational tokenism or other work related stresses that occur within professional settings that are only marginally racially integrated such as law offices, academic settings, and financial institutions (Cose, 1993; Pieterse and Carter, 2007; Jackson and Saunders, 2006). Tokenism can occur in a space where an individual stands apart because of their physical characteristics. Being a token can make an individual susceptible to feeling isolated, being scrutinized and perceiving pressure to assimilate and be a high performer as an exemplar of their group. Such stressors can lead to psychological and

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physiological consequences (Jackson and Stewart, 2003; Jackson et al., 1995; Turco, 2010). For example, Light and al (1995) demonstrated that high income contributed to elevated blood pressure levels and poor health among the black middle class (Light et al., 1995; James et al., 2006). Other studies have found that "goal striving stress" and John Henryism contribute to elevated blood pressure and mental distress for both black women and men in high status jobs (James et al., 2006; Sellers and Neighbors, 2008). Cummings and Jackson (2003) found that race differences in self-rated health were most stark among college-educated persons (Cummings and Jackson, 2008) due to tokenism and minority status within competitive majority spaces (Jackson and Saunders, 2006).

Similar to research on African Americans, the literature on disparities among high income Hispanics is also underdeveloped. Most research on Hispanic health has focused on low income persons (Fernández et al., 2009; Villa et al., 2012; Carrillo et al., 2011; Franzini and Fernandez-Esquer, 2004). Similarly underdeveloped is the literature on Asian American and white health disparities. What is known is that Asian Americans tend to have a better health profile relative to whites and other ethnic groups, despite lower utilization of preventative care (Yoo et al., 2009; Liu and Yu, 1985; Nishita and Browne, 2013; Gomez et al., 2004). However, we were unable to identify any published reports of the nature of race disparities in health at the high end of the income distribution.

Methods

The Medical Expenditure Panel Survey (MEPS) is a nationally representative survey of the adult non-institutionalized U.S. population. Since 1996, MEPS has been conducted by the Agency for Health Care Research and Quality (AHRQ) to determine the inter-relationships among social, demographic, medical characteristics, and health services utilization including access and quality of care. MEPS is based on the sampling frame of the prior year's National Health Interview Survey. The survey uses a stratified, multistage probability sampling design. Each annual survey is a nationally representative subsample of U.S. households. The survey consists of five interviews conducted over a two and one half year period. The MEPS is distinctive in its ability to link data on individuals and households (including demographics, health status, employment, and income) to information on their use of health services. MEPS is also distinctive in that it does not combine all respondents with incomes above a certain threshold. Instead MEPS collects income data in $1000 increments. This allowed us to distinguish individuals with very high incomes. Additional information regarding MEPS can be found elsewhere (Cohen et al., 1996).

In this study, we used data from the 2000–2011 MEPS. The combined dataset consists of 194,289 non-institutionalized adults ages 18 and older. Since our interests lie in understanding health disparities among the most economically advantaged members of society, we only conducted weighted logistic regression analyses using data from individuals with annual incomes of $175,000 or greater ($N = 2558$). $175,000 was selected as it was about 4 times the national median income for 2000, the first year of our study period. Thus, we consider $175,000 to be unambiguously high income. Income in each year was adjusted for inflation using 2011 as the base year for CPI. Additionally, our income selection criteria allows us to explore issues related to health inequity, which is indicative of systematic inequalities related to race and ethnicity that transcend the benefits of such high income status (Braveman and Gruskin, 2003).

We selected sixteen health outcome measures to examine race and ethnic disparities in prevalence rates. These outcomes were sorted into three categories: health status, health behavior, and health service utilization. Health status indicators were dichotomized from questions that asked respondents, "have you ever been told by a doctor or health professional that you had [condition]?" The self-reported chronic conditions were hypertension, diabetes, and high cholesterol. Two indicators of self-rated reports for overall physical and mental health were also included in this category. The physical and mental health outcomes come from two separate measures where participants use the same scale to rate their overall physical or mental health as "excellent, very good, good, fair, or poor". We dichotomized each self-reported health variable to indicate optimal physical or mental health, such that if participants reported a rating of "excellent" or "very good" they received a value of 1. For health behaviors, respondents were asked to indicate if they engaged in the behaviors of routine physical exercise and smoking. We also considered weight class to be an indicator of health behaviors. Weight class indicators were derived from BMI, which was calculated using the self-reports of height and weight of survey participants. Lastly, for health service utilization, respondents were asked to report use of different services. These services included annual flu shots, regular dental visits, blood pressure checks, cholesterol checks, and check-ups. To establish routinization for each check, we consulted the American Heart Association (AHA), American Medical Association (AMA), American Dental Association (ADA), and United States Department Health and Human Services (USDHHS). These are commonly used in health literature. We created a binary variable for each outcome, such that yes = 1. We performed logistic regressions for each health outcome, adjusting for age, gender, education, and survey year. Whites serve as the reference group in all logistic regression analyses, comparing the various race/ethnic groups: Black, Hispanic, and Asian American. All analyses were performed using STATA statistical software.

2. Results

In Table 1, we report demographic characteristics for the sample. The table shows there are racial and ethnic group differences across each demographic characteristic. Whites are older and have a larger proportion of males compared to all other racial/ethnic groups. Education levels across groups are fairly equivalent, except that Asian Americans report relatively higher educational attainment compared to all other groups.

Table 2 displays adjusted odds ratios for various health-related outcomes by race. For health status outcomes, racial and ethnic disparities emerge for diabetes, hypertension, high cholesterol, and self-reported excellent or very good health. Blacks have greater odds of reporting a diagnosis of hypertension (OR = 2.8, CI = 1.7–4.7) and of diabetes (OR = 2.9, CI = 1.3–6.2). Blacks and Asian Americans have lower odds of reporting excellent or very good self-rated physical health—their odds are less than half that of whites. Moreover, Asian Americans have greater odds of being diagnosed with high cholesterol (OR = 1.7, CI = 1.1–2.7).

Racial and ethnic disparities exist for all health behaviors with the exception of smoking. Whites had an 8% prevalence of smoking and other racial and ethnic groups had uniformly low smoking rates. Moreover, this finding shows that high income individuals have about half the rate of smoking than the general population, which is estimated to be around 17% (Centers for Disease Control and Prevention, 2015). The most profound differences were found when we compared racial and ethnic groups to whites in BMI. The odds of obesity for both blacks and Hispanics are twofold, and Hispanics had lower odds of being within the normal weight class of BMI (OR = 0.5, CI = 0.4–0.8). Both black

Table 1
Distribution of descriptive statistics of high income earning participants in the 2000–2011 medical expenditure panel surveys.

	White	Black	Hispanic	Asian
	($N = 2391$)	($N = 173$)	($N = 189$)	($N = 294$)
Percentage female	28.1	32.5	32.1	33.8
Mean age (in years)	48.9	46.3	45.7	43.3
Mean level of education (in years)	15.8	15.8	15.2	16.4