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Authors

Pollack, Craig Evan
Cubbin, Catherine
Sania, Ayesha
et al.

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Do wealth disparities contribute to health disparities within racial/ethnic groups?

Craig Evan Pollack, MD, MHS¹, Catherine Cubbin, PhD², Ayesha Sania³, Mark Hayward, PhD², Donna Vallone, PhD⁴, Brian Flaherty, PhD⁵, and Paula A. Braveman, MD, MPH⁶

¹Johns Hopkins School of Medicine and Bloomberg School of Public Health, Baltimore, MD

²University of Texas at Austin, Austin, TX

³Harvard University, Boston, MA

⁴American Legacy Foundation, Washington, DC

⁵University of Washington, Seattle, WA

⁶University of California, San Francisco, CA

Abstract

Background—Though wide disparities in wealth have been documented across racial/ethnic groups, it is largely unknown whether differences in wealth are associated with health disparities within racial/ethnic groups.

Methods—Data from the Survey of Consumer Finances (2004, ages 25–64) and the Health and Retirement Survey (2004, ages 50+), containing a wide range of assets and debts variables, was used to calculate net worth (a standard measure of wealth). Among non-Hispanic black, Hispanic, and non-Hispanic white populations, we tested whether wealth was associated with self-reported poor/fair health status after accounting for income and education.

Results—Except among the younger Hispanic population, net worth was significantly associated with poor/fair health status within each racial/ethnic group in both datasets. Adding net worth attenuated the association between education and poor/fair health (in all racial/ethnic groups) and between income and poor/fair health (except among older Hispanics).

Conclusions—The results add to literature indicating the importance of including measures of wealth in health research for what they may reveal about disparities not only between but also within different racial/ethnic groups.

Keywords

Health Status Disparities; Social Class; Socioeconomic factors

Corresponding author: Craig Pollack, MD, MHS Johns Hopkins School of Medicine 2024 E. Monument Street, Rm 2-615 Baltimore, MD 21287 Phone: 410-502-2359 Fax: 410-955-0476 cpollac2@jhmi.edu.

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INTRODUCTION

Wealth, defined as a household's accumulated financial assets minus debts, reflects financial status over time and has been linked with a wide variety of health outcomes in population-based samples.(1–5) Wealth can buffer the health-damaging effects of temporary income loss and allow individuals to afford greater health care resources.(6) Additionally, wealth, as with others measures of SES, is hypothesized to affect health through mechanisms that are not strictly monetary in nature; wealth may be considered a marker of power and prestige, may be associated with norms, attitudes and behaviors, and is related to subjective social status.(2, 7, 8) However, wealth may reflect unique facets of socioeconomic status and may be an especially important marker of socioeconomic status overall(2, 9) and among individuals in which income, education, and wealth are discongruent with one another, for example, among retirees and the unemployed.(10–12)

Furthermore, wealth differentials between racial/ethnic groups are large: in 2009, the average wealth for non-Hispanic white households in US was \$113,149 compared to \$6,325 for Hispanic households and \$5,677 for non-Hispanic black households.(13) Differences in wealth have been documented between racial/ethnic groups who have similar levels of income,(2, 14) and wealth disparities have increased over recent years.(13) Although household wealth has decreased in the population overall due to the economic recession and the corresponding loss of housing value (which tends to be a family's largest asset), it has decreased much more among people of color who have experienced higher rates of unemployment, greater loss of home value, and higher rates of foreclosure.(13, 15) Prior research has demonstrated that wealth is associated with diverse indicators of health and partially accounts for racial/ethnic disparities in health and health care after “controlling” for more widely used socioeconomic indicators such as income, educational attainment, and occupation.(1, 2, 12, 16–20)

Far less information has been available on socioeconomic gradients (and on gradients in wealth in particular) in health *within* racial/ethnic groups, because wealth is generally more difficult to measure than income and education. Two large, population-based U.S. studies have revealed within racial/ethnic groups and across diverse health indicators, health incrementally improved with rising income and educational attainment.(21, 22) This graded association between health and income/education has been observed repeatedly among non-Hispanic blacks and non-Hispanic whites (hereafter, “blacks” and “whites”) and less consistently among Hispanics.(21) A handful of studies have examined health differences within racial/ethnic group by wealth;(1, 20, 23–27) they have studied only black and white(23–25) or white and non-white(20, 26, 27) populations. These studies have generally found a weaker association between wealth and health (mortality,(20) self-rated health,(23, 24, 26) depression(25)) among non-white compared to white populations.

This study aimed to confirm or refute the limited, existing evidence on the role of wealth in health within black and white populations, and to provide previously unavailable information on the wealth-health relationship among Hispanics. This study examined the relationship between wealth and self-rated health within the three largest racial/ethnic groups in the United States, using information from detailed wealth questions in two large nationally representative surveys. The two datasets—which focus on adults of different age ranges—allow us to further examine whether there are differences in the association between wealth and health by age range.

METHODS

Data sources

Data is used from the Survey of Consumer Finances (SCF) and the Health and Retirement Survey (HRS), both from 2004. These surveys were chosen due to their detailed wealth measures, inclusion of self-rated health, and because they represent two broad age groups. Further details about the sample design and methodology are available for the SCF [<http://www.federalreserve.gov/pubs/oss/oss2/method.html>] and HRS.(28) Head of household respondents aged 25–64 (SCF) and aged 50 and over (HRS) who identified as black; Hispanic; or white were included ($N=3,310$ for the SCF and $N=11,847$ for the HRS) in the analytic samples. For households with a couple, the SCF defines the head of household as the man in mixed-sex households or the older individual in same-sex households. The HRS analytic sample did not include persons residing in nursing homes or those who were not the financial respondent (the person designated to answer household-level financial questions).

Variables

We used net worth as our measure of wealth. Net worth—a frequently used wealth measure in health research(1)—is defined as the sum of all assets minus the sum of debts. It may take on a negative value if the amount of debt exceeds assets. Questions were asked about the following assets in the SCF: checking accounts, savings accounts, money market accounts, call accounts, certificates of deposit, saving bonds, mutual funds, stocks, bonds, retirement funds, life insurance, other managed accounts, other financial assets, vehicles, primary residence, other residential real estate, non-residential real estate, businesses, and other non-financial assets. Debts included mortgage on primary residence, other residential property debt, other lines of credit, credit card balances, other debt, and other installment loans. SCF researchers imputed all missing data using a multiple imputation procedure yielding five values for each missing value to approximate the distribution of the missing data.

Similarly, in the HRS, assets included checking/savings/money market accounts, certificates of deposit/savings bonds, mutual funds/stocks, bonds, retirement funds, vehicles, primary residence, other residential real estate, non-residential real estate, businesses, and other non-financial assets/other savings. Debts consisted of mortgage on primary and secondary residence, other residential property debt, and other debt/credit card balance. Bracketing was employed in HRS. In this approach, subjects who were unable or unwilling to provide the exact monetary value for a particular asset/debt were asked whether the value was more or less than an unfolding range of values, and responses to the brackets were used to impute missing wealth data.(29)

The dependent variable is self-rated health status, measured on a 4- (SCF) or 5-point (HRS) Likert scale and dichotomized as fair or poor vs. better health status. Age, age squared (to allow for potential non-linear effects), gender, marital status (married or partnered, previously married, or never married), and family size (number of adults and children in a financially interdependent household) were included as covariates in the analyses. Census region (Northeast, Midwest, South, or West) was also included in the HRS analyses but was unavailable in the public-use SCF dataset. Census regions were included to help adjust for regional variation in income and wealth. Educational attainment was classified into 4 categories: less than high school, high school graduate or passed the General Educational Development examinations (high school equivalent), some college, or college graduate and above. Annual pretax household income from all sources was determined and was log transformed. For both datasets, missing data was imputed.(30, 31) In SCF, five datasets with imputed values were employed, and the repeated-imputation inference technique was used

to estimate standard errors, which incorporates the variability in the data due to missing data.(32)

Analysis

All analyses were stratified by racial/ethnic group. Wealth measures were categorized into four roughly equal groups with cutpoints depending on the distribution within each racial/ethnic group (Table 1). Racial/ethnic group-specific cutpoints were chosen in order to examine the association of wealth and health within racial ethnic groups. A small number of black and Hispanic adults would have been included in the highest wealth quartile if population-based cutpoints had been employed which would have resulted in unstable estimates. For example, in the HRS, only 5.5% of the sample of black women and men (N=104) and 8.5% of the sample of Hispanic women and men (N=92) would be categorized into the highest wealth quartile based on the entire sample.

Our first model was an unadjusted logistic regression model between net worth and poor self-rated health. The second model added age, age-squared, gender, marital status, household size, region (HRS only), educational attainment, and income as covariates. Additionally, we ran models that excluded net worth in order to determine whether its inclusion changed the association between education/income and health. In sensitivity analyses in order to make our results more comparable across racial/ethnic group, we re-classified wealth among white respondents using the same cut-points used among black participants. The institutional review board at the University of Texas at Austin designated this study as exempt.

RESULTS

Table 2 shows the demographic and socioeconomic characteristics of participants in the two datasets, stratified by racial/ethnic group. The higher percentage of men among the SCF Hispanic and white respondents is explained by the convention of selecting men as the household head in coupled households in that data source. Higher proportions of whites were currently married and lower proportions were never married compared to Black or Hispanic adults.

In both datasets, there were striking racial/ethnic disparities in levels of education, income, and net worth. For example, in the SCF, median net worth was six and a half times greater among whites compared to blacks, and over eight and a half times greater compared to Hispanics; and whites had higher levels of median assets as well as debts. Similarly, in the HRS, whites had the highest levels of net worth and assets, though total median debt among the three groups was similar. The differences in net worth between racial/ethnic groups appear largely due to lower rates of asset ownership among blacks and Hispanics along with lower median values among those who had these assets (Table 3). For example, fewer blacks and Hispanics owned homes in the SCF (49 and 47% respectively) compared to 77% of whites. Among homeowners, the home median value was \$113,000 among blacks, \$148,000 among Hispanics, and \$175,000 among whites. Blacks and Hispanics reported higher rates of fair or poor health compared with whites.

Table 4 shows the unadjusted analysis and full regression models for self-rated health for each racial/ethnic group. With the exception of the Hispanic population in the SCF, the unadjusted results show a strong and consistent association between lower net worth and poor self-rated health in both samples and across racial/ethnic groups. The adjusted model controls for age, age-squared, gender, marital status, family size, region (HRS), educational attainment, and income. In these models, white respondents with the lowest wealth had over 5 times the odds of fair/poor health compared to those in the highest wealth category. In

comparison, there was a lower odds ratio for black respondents in the lowest wealth category compared to the highest (OR 3.75), though with wider confidence intervals (95%CI 1.50, 9.36). For white and black respondents, there was an apparent stepwise gradient (with incremental improvement in health as wealth increased) in the association between net worth and self-rated health; however, there was no clear pattern in the association between wealth and health among Hispanics in the SCF sample. As shown in Appendix Table 1, the association between education and poor health was attenuated in models that included net worth, and the association between income and poor health was no longer significant among blacks after including net worth.

Similarly, in the HRS, an apparent stepwise gradient between net worth and fair/poor health was generally observed among white, black, and Hispanic adults, with the exception of a higher odds ratio for black individuals in quartile 3 than those in quartile 2. Again, the relationships between both income and education in relation to self-rated health in the HRS tended to be significantly attenuated after adding net worth. Among Hispanics, however, income was only significant in the model that included net worth (Appendix Table 1).

In sensitivity analyses in which we re-classified wealth among white respondents using the same cut-points used among black participants (Appendix Table 2), we continued to observe an association between net worth and self-rated health in both data sets. Though the point estimates of the odds ratio among whites was of a greater magnitude than among black and Hispanic respondents, the confidence intervals were overlapping.

DISCUSSION

Within younger and older black and white populations and among older Hispanics, being in the lowest quartile of wealth was associated with 3–5 times higher odds of reporting fair or poor health status compared with those in the highest quartiles of wealth, after controlling for income and education. In contrast, we did not find a significant association between wealth and self-rated health among younger Hispanics. The lack of an association among young Hispanics was an unexpected finding. The results overall reinforce the importance of examining wealth as a potential contributor to health within racial/ethnic groups.

Across different racial/ethnic groups and populations of varying ages, the total amount of wealth as well as its distribution among different specific assets varied widely.(13, 14) In contrast, the amount of debts appeared more consistent across racial/ethnic groups, a finding that has been observed in studies using HRS and other data sets.(13, 16, 33) Yet significant associations with self-rated health were observed within younger and older black and white populations and Hispanics older adults. The results suggest that the distributions of wealth relative to other members of the same racial/ethnic group may be an important factor in health disparities. Within groups, wealth may affect health through a wide variety of mechanisms including differences in access to goods and services, beliefs about health promotion, and behaviors such as diet and exercise.(21) Wealth may also function through different mechanisms according to age;(10) for example, younger adults may be more likely to be in the process of wealth accumulation whereas older adults may be more likely to spend down their savings. While our results suggest the potential importance of wealth to health disparities across broad age ranges, we are unable to assess whether potential mechanisms differ across these age groups.

In contrast to the findings among black and white and older Hispanic populations, we did not find a significant association between wealth and health among younger Hispanics. There are multiple, potentially overlapping explanations for this finding. First, there are different distributions of wealth between racial/ethnic groups. However, the relatively

restricted wealth distributions and cut-points chosen for creating quartiles were similar between younger Blacks and Hispanic populations. Second, among the younger age groups, Hispanics appeared more likely to own vehicles and less likely to have a checking and savings account and retirement funds compared with the other groups. Though it is plausible that specific assets/debts may be differently associated with health, the potential monetary and non-monetary mechanisms through which each of these would function is uncertain. Third, it may be that the heterogeneity among the Hispanic population (i.e., combining persons of different origins and acculturation levels) may have masked clear patterns for some subgroups. Fourth, there also may be protective factors among Hispanics that blunt the effects of SES differences, including wealth differences; Hispanics generally exhibit better levels of health than their disadvantaged socioeconomic status would predict, often referred to as the “Hispanic paradox”.(34) Finally, there may be differential reporting of self-rated health among Hispanics compared to other racial/ethnic groups.(35, 36)

The associations between more widely used measures of SES—income and education—and self-rated health were generally attenuated after adding wealth; yet each appeared to have an “independent” effect on health, at least for some groups. Interventions may seek to improve different facets of socioeconomic status. For example, ‘bank-on’ programs providing free banking and checking accounts for low-income individuals are an attempt to build wealth through savings.(37) The impact of these programs both on wealth generation and on health should be evaluated. Similarly, programs that encourage home ownership are another intervention designed to increase wealth; however, these programs have come under increasing and necessary scrutiny with the recent foreclosure crisis.(38) In contrast, other programs and policies attempt to influence income or education, such as various taxation policies, minimum wage, programs geared toward increasing high school completion rates, and student loans and grants for college education. Documenting the effects of such policies and programs on subsequent socioeconomic indicators, and testing whether those effects have an influence on health, is an important public health priority requiring longitudinal designs.

This study has several limitations. First, this study was cross-sectional and no causal inferences can be drawn. For some individuals, poor health may have led to lower levels of wealth and not the other way around. Second, we examined only self-rated health; other health measures may have different relationships with wealth. Self-rated health has been associated with all-cause mortality and a wide range of health outcomes.(39) Third, as noted above, reports of self-rated health may vary across racial/ethnic groups and by income/education.(35, 36, 40) Differential reporting across racial/ethnic groups should not affect within-group comparisons; however, the lower reliability of self-rated health among those with lower education levels may bias within-group findings. Fourth, using racial/ethnic group specific-cut points for our wealth measure allowed us to observe a wealth gradient within groups and afforded greater power to see differences within each population. Because the quartiles represent different amounts and distributions of wealth within each racial/ethnic group, the approach prevents us from examining the strength of the association and relative magnitudes across groups. Similarly, because different cut-points were chosen in the two datasets and Census region was included in HRS, caution should be used when comparing the odds ratios of net worth between younger and older participants of the same racial/ethnic group. Fifth, we do not have information on other indicators of socioeconomic status, such as neighborhood socioeconomic characteristics, occupation, educational quality, or childhood socioeconomic status which may be important contributors to health and health disparities.(2, 41) Sixth, wealth differentials between racial/ethnic groups have increased over time, highlighting the potential importance of wealth as a contributor to health disparities.(13) Our results using 2004 data present an important baseline from which to continue assessing within group wealth and health disparities.

This study also has a number of significant strengths. We were able to examine wealth disparities within the three largest racial/ethnic groups in the US. In addition, our findings are based on samples of two different age groups from two nationally representative datasets, both including detailed wealth measures reflecting a gold standard of wealth measurement.

CONCLUSION

Previous studies have found dramatically different wealth distributions across racial/ethnic groups, and accounting for wealth has reduced observed racial/ethnic differences in health outcomes. We extend this work by showing that wealth differentials within racial/ethnic groups: 1) are associated with self-rated health after accounting for income and education; 2) tend to attenuate the association between self-rated health and more widely used indicators of socioeconomic status; and 3) generally consistent across younger and older black and white populations and among older Hispanics. The results confirm the importance of measuring wealth in health studies that examine the role of socioeconomic status within racial/ethnic groups.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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REFERENCES

1. Pollack CE, Chideya S, Cubbin C, et al. Should health studies measure wealth? A systematic review. *Am J Prev Med.* 2007; 33:250–64. [PubMed: 17826585]
2. Braveman PA, Cubbin C, Egerter S, et al. Socioeconomic status in health research: one size does not fit all. *JAMA.* 2005; 294:2879–88. [PubMed: 16352796]
3. Cubbin C, Pollack CE, Flaherty B, et al. Recommending feasible measures of wealth in health research. *Am J Pub Health.* 2011; 101:939–7. [PubMed: 21252050]
4. Smith JP, Kington R. Demographic and economic correlates of health in old age. *Demography.* 1997; 34:159–70. [PubMed: 9074837]
5. Smith, JP.; Kington, R. Race, socioeconomic status and health in late life. In: Martin, L.; Soldo, B., editors. *Racial and ethnic differences in the health of older Americans.* National Academy Press; Washington, DC: 1997. p. 106-62.
6. Allin S, Masseria S, Mossialos E. Measuring Socioeconomic Differences in Use of Health Care Services by Wealth Versus by Income. *Am J Pub Health.* 2009; 99:1849–55. [PubMed: 19150899]
7. Adler NE, Boyce WT, Chesney MA, et al. Socioeconomic Inequalities in Health: No Easy Solution. *JAMA.* 1993; 269:3140–5. [PubMed: 8505817]
8. Adler NE, Rehkopf DH. US Disparities in Health: Descriptions, Causes, and Mechanisms. *Ann Rev Pub Health.* 2008; 29:235–53. [PubMed: 18031225]
9. Braveman PA, Cubbin C, Marchi K, et al. Measuring socioeconomic status/position in studies of racial/ethnic disparities: maternal and infant health. *Pub Health Rep.* 2001; 116:449–63. [PubMed: 12042609]
10. Hurd MD. The economic status of the elderly. *Science.* 1989; 244:659–64. [PubMed: 2655090]

11. Kington R, Smith JP. Socioeconomic status and racial and ethnic differences in functional status associated with chronic diseases. *Am J Pub Health.* 1997; 87:805–10. [PubMed: 9184510]
12. Robert S, House JS. SES differentials in health by age and alternative indicators of SES. *J Aging Health.* 1996; 8:359–88. [PubMed: 10165980]
13. Taylor, P.; Kochhar, R.; Fry, R., et al. *Wealth Gaps Rise to Record Highs Between Whites, Blacks and Hispanics.* Pew Research Center; Washington, DC: 2011.
14. Oliver, ML.; Shapiro, TM. *Black Wealth, White Wealth.* 2nd edition. Routledge; New York, NY: 2006.
15. Bocian, DG.; Li, W.; Ernst, KS. *Foreclosure by Race and Ethnicity: The Demographics of a Crisis.* Center for Responsible Lending; Washington, DC: 2010.
16. Smith JP. Racial and ethnic differences in wealth in the Health and Retirement Study. *J Hum Resources.* 1995; 30:S158–83.
17. Shapiro, TM.; Meschede, T.; Sullivan, L. *The Racial Wealth Gap Increases Fourfold.* Institute on Assets and Social Policy Research; Waltham, MA: 2010. [November 8, 2010]; Available from: <http://iasp.brandeis.edu/pdfs/Racial-Wealth-Gap-Brief.pdf>
18. Smith JP. Wealth Inequality Among Older Americans. *J Gerontol B: Psychol Sci Soc Sci.* 1997; 52B:74–81. [PubMed: 9215359]
19. Hajat A, Kaufman JS, Rose KM, et al. Do the wealthy have a health advantage? Cardiovascular disease risk factors and wealth. *Soc Sci Med.* 2010; 71(11):1935–42. [PubMed: 20970902]
20. Hajat A, Kaufman JS, Rose KM, et al. Long-Term Effects of Wealth on Mortality and Self-rated Health Status. *Am J Epidemiol.* 2011; 173(2):192–200. [PubMed: 21059808]
21. Braveman PA, Cubbin C, Egerter S, et al. Socioeconomic Disparities in Health in the United States: What the Patterns Tell Us. *Am J Pub Health.* 2010; 100(S1):S186–S96. [PubMed: 20147693]
22. Pamuk, E.; Makuc, D.; Heck, K., et al. *Health, United States, 1998.* National Center for Health Statistics; Hyattsville, Maryland: 1998. Socioeconomic Status and Health Chartbook.
23. Schoenbaum M, Waidmann T. Race, Socioeconomic Status, and Health: Accounting for Race Differences in Health. *J Gerontol B.* 1997; 52B:61–73.
24. Mutchler JE, Burr JA. Racial Differences in Health and Health Care Service Utilization in Later Life: The Effect of Socioeconomic Status. *J Health Soc Behav.* 1991; 32:342–56. [PubMed: 1765625]
25. Rodriguez E, Allen JA, Frongillo EA, et al. Unemployment, depression, and health: a look at the African-American community. *J Epidemiol Community Health.* 1999; 53:335–42. [PubMed: 10396479]
26. Wenzlow A, Mullahy J, Robert SA, et al. *An Empirical Investigation of the Relationship between Wealth and Health Using the Survey of Consumer Finances.* Institute for Research on Poverty. 2004 Discussion Paper no 1287-04.
27. Wenzlow A, Mullahy J, Wolfe BL. *Understanding Racial Disparities in Health: The Income-Wealth Paradox.* Institute for Research on Poverty. 2004 Discussion Paper no 1283-04.
28. Hauser, RM.; Willis, RJ. *Aging, Health, and Public Policy: Demographic and Economic Perspectives, a supplement to Population and Development Review.* Population Council; New York: 2005. Survey Design and Methodology in the Health and Retirement Study and the Wisconsin Longitudinal Study.
29. St.Clair, P.; Blake, D.; Bugliari, D., et al. *RAND HRS Data Documentation.* Version J. RAND Center for the Study of Aging; Santa Monica, CA: 2010.
30. RAND Center for the Study fo Aging. *RAND Income and Wealth Imputation Files.* Santa Monica, CA: 2011. [December 25, 2011]; Available from: <http://www.rand.org/labor/aging/dataproduct/income-wealth-imputation.html>
31. Kennickell, AB. *Multiple Imputation in the Survey of Consumer Finances.* 1998. [December 25, 2011]; Available from: <http://www.federalreserve.gov/econresdata/scf/files/impute98.pdf>
32. Montalto CP, Sung J. Multiple Imputation in the 1992 Survey of Consumer Finances. *Financial Counseling and Planning.* 1996; 7:133–46.

33. Choudhury, S. Racial and Ethnic Differences in Wealth and Asset Choices. *Social Security Bulletin*. 2001/2002. [June 15, 2012]; Available from: <http://www.ssa.gov/policy/docs/ssb/v64n4/v64n4p1.html>
34. Hummer RA, Powers DA, Pullum SG, et al. Paradox Found (Again): Infant Mortality Among the Mexican-Origin Population in the United States. *Demography*. 2007; 44:444–57.
35. Zajacova A, Beam Dowd J. Reliability of Self-rated Health in US Adults. *Am J Epidemiol*. 2011; 174:977–83. [PubMed: 21890836]
36. Finch BK, Hummer RA, Reindl M, et al. Validity of Self-rated Health among Latino(a)s. *Am J Epidemiol*. 2002; 155:755–9. [PubMed: 11943694]
37. Federal Reserve Bank of San Francisco. Bank On San Francisco. San Francisco, CA: 2011. [December 15, 2011]; Available from: <http://www.frbsf.org/community/issues/assets/bankonsf/index.html>
38. Joint Center for Housing Studies. America's Rental Housing: The Key to a Balanced National Policy. Joint Center for Housing Studies at Harvard University; Cambridge, MA: 2008.
39. Idler I, Benyamini Y. Self-rated health and mortality: a review of twenty-seven community studies. *J Health Soc Behav*. 1997; 38:21–37. [PubMed: 9097506]
40. Beam Dowd J, Zajacova A. Does the predictive power of self-rated health for subsequent mortality risk vary by socioeconomic status in the US? *Internat J Epidemiol*. 2007; 36:1214–21.
41. Pollitt R, Rose K, Kaufman J. Evaluating the evidence for models of life course socioeconomic factors and cardiovascular outcomes: a systematic review. *BMC Pub Health*. 2005; 5(1):7. [PubMed: 15661071]

What is already known on this subject?

Prior research suggests that accounting for wealth—a household's accumulated financial assets minus debts—helps attenuate racial/ethnic disparities in diverse health outcomes. However, there has been limited research into whether gradients in wealth *within* racial/ethnic groups are associated with health outcomes.

What this study adds?

We found that wealth differentials within racial/ethnic groups were significantly associated with differences in self-rated health among younger non-Hispanic black and white populations and among older Hispanic populations. We did not observe a significant association among younger Hispanic adults. These findings suggest the importance of measuring wealth when examining health disparities within racial/ethnic group.

Table 1

Cutpoints for net worth quartiles by race/ethnicity, Survey of Consumer Finances (SCF) and Health and Retirement Survey (HRS), 2004

	SCF			HRS		
	Black	Hispanic	White	Black	Hispanic	White
Net worth (\$)						
Quartile 1 (lowest)	<1,900	<2,800	<32,040	<110	<1,200	<64,500
Quartile 2	1,900–19,630	2,800–14,700	32,040–127,650	110–32,000	1,200–36,320	64,500–203,000
Quartile 3	19,631–90,250	14,701–93,200	127,651–408,100	32,001–109,000	36,321–141,000	203,001–508,000
Quartile 4 (highest)	>90,250	>93,200	>408,100	>109,000	>141,000	>508,000

Table 2

Demographic and sociodemographic characteristics by racial/ethnic group, Survey of Consumer Finances (SCF) and Health and Retirement Survey (HRS), 2004

	SCF			HRS		
	Black	Hispanic	White	Black	Hispanic	White
N (%)	396 (15%)	298 (11%)	2616 (74%)	1899 (11%)	1084 (7%)	8864 (82%)
Age, in years (%)						
25–49	69	80	63	–	–	–
50–64	31	20	37	65	67	52
65–74	–	–	–	21	20	23
75+	–	–	–	14	13	25
Gender (%)						
Women	49	21	21	38	45	49
Men	51	79	79	62	55	51
Marital status (%)						
Never married	37	24	15	10	6	5
Separated/Divorced/Widowed	35	25	25	59	45	41
Married/living as married	27	52	60	31	49	54
Family size (median, range)	2 (1–10)	3 (1–8)	2 (1–10)	2 (1–12)	2 (1–15)	2 (1–12)
Region (%)						
Northeast	–	–	–	19	6	29
Midwest	–	–	–	58	42	34
South	–	–	–	8	38	19
West	–	–	–	15	14	18
Educational attainment (%)						
<High school	14	41	6	32	53	13
High school graduate/GED	32	32	29	32	20	36
Some college	24	15	18	24	18	24
College graduate						
Annual income, \$ (median)	34914	28753	59559	20316	18600	39914
Wealth, \$ (median)						
Total assets	49100	31400	231275	51000	48025	248000
Total debts	34790	34300	88000	5000	5000	5000
Net worth	19630	14700	127650	32000	36320	203000
Homeownership (%)	49	47	77	59	60	81
Health (%)						
Fair/poor health status	26	35	18	40	51	24

Prevalence and Median Values (\$) ^a of Assets and Debts, Survey of Consumer Finances (SCF) and Health and Retirement Survey (HRS), 2004

Table 3

	SCF						HRS					
	Black		Hispanic		White		Black		Hispanic		White	
	%	Median	%	Median	%	Median	%	Median	%	Median	%	Median
ASSETS												
Checking account ^b	72	800	66	900	88	1,800	62	1,900	55	2,500	92	9,000
Vehicles	73	10,000	83	9,000	92	17,800	64	7,000	67	7,000	88	50,000
Primary residence	49	113,000	47	148,000	77	175,000	59	80,000	60	100,000	82	150,000
Retirement funds	39	15,000	28	15,000	63	40,000	14	25,000	14	30,000	45	40,000
Savings account	40	1,290	32	1,000	54	3,300	-	-	-	-	-	-
Mutual funds/stocks	-	-	-	-	-	-	8	10,000	7	20,000	37	20,000
DEBTS												
Mortgage, primary residence	41	70,000	39	98,000	63	104,000	30	50,000	28	65,000	34	75,000
Credit card balance ^c	50	1,980	50	2,000	53	2,800	40	5,000	28	5,000	30	5,000
Other installment loans	52	9,600	40	10,000	55	13,000	-	-	-	-	-	-

^a among those who owned the asset/debt; assets/debts are included if they were owned by at least 25% of the entire sample

^b In the HRS, also includes savings and money market accounts

^c In the HRS, also includes other debt

Table 4

Unadjusted (Model 1) and adjusted (Model 2) odds ratios and 95% confidence intervals by race/ethnicity group for fair/poor health status, Survey of Consumer Finances (SCF) and Health and Retirement Survey (HRS), 2004

	Black		Hispanic		White	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
SCF						
Net worth						
Quartile 1 lowest	5.06 (2.35 – 10.89)	3.75 (1.50 – 9.36)	1.99 (0.98 – 4.01)	1.63 (0.62 – 4.33)	7.58 (5.64 – 10.21)	5.42 (3.51 – 8.36)
Quartile 2	2.74 (1.23 – 6.10)	2.60 (1.04 – 6.50)	1.73 (0.82 – 3.62)	1.35 (0.52 – 3.51)	3.40 (2.42 – 4.77)	2.58 (1.71 – 3.89)
Quartile 3	2.30 (0.96 – 5.52)	2.03 (0.80 – 5.16)	2.59 (1.25 – 5.37)	2.36 (1.01 – 5.50)	1.82 (1.23 – 2.68)	1.29 (0.83 – 2.00)
Quartile 4 highest	1.00	1.00	1.00	1.00	1.00	1.00
Age		1.08 (0.88 – 1.33)		0.86 (0.69 – 1.06)		0.93 (0.85 – 1.03)
Age ²		1.00 (1.00 – 1.00)		1.00 (1.00 – 1.00)		1.00 (1.00 – 1.00)
Gender						
Men		0.99 (0.55 – 1.77)		0.78 (0.35 – 1.76)		1.14 (0.80 – 1.62)
Women		1.00		1.00		1.00
Marital Status						
Previously married		1.67 (0.75 – 3.75)		0.67 (0.30 – 1.49)		1.10 (0.76 – 1.60)
Never married		1.34 (0.57 – 3.13)		0.76 (0.34 – 1.71)		1.43 (0.93 – 2.20)
Married		1.00		1.00		1.00
Family size		0.94 (0.76 – 1.15)		1.09 (0.90 – 1.30)		0.95 (0.85 – 1.07)
Education						
<High school		2.95 (1.22 – 7.17)		3.51 (1.29 – 9.54)		2.80 (1.76 – 4.45)
High school/GED		2.79 (1.32 – 5.91)		2.18 (0.81 – 5.86)		1.90 (1.39 – 2.60)
Some college		1.60 (0.71 – 3.61)		1.05 (0.32 – 3.45)		1.54 (1.08 – 2.18)
College graduate		1.00		1.00		1.00
Income log		0.84 (0.70 – 1.01)		0.93 (0.69 – 1.26)		0.79 (0.72 – 0.86)
HRS						
Net worth						
Quartile 1 lowest	5.56 (3.94 – 7.84)	3.54 (2.39 – 5.22)	6.17 (3.98 – 9.56)	3.57 (2.12 – 5.99)	4.75 (4.02 – 5.61)	2.73 (2.24 – 3.33)
Quartile 2	2.28 (1.62 – 3.20)	1.56 (1.07 – 2.25)	4.16 (2.67 – 6.49)	2.89 (1.75 – 4.77)	2.16 (1.82 – 2.57)	1.44 (1.19 – 1.73)
Quartile 3	2.76 (1.98 – 3.85)	2.13 (1.50 – 3.03)	2.20 (1.43 – 3.39)	1.66 (1.03 – 2.68)	1.39 (1.16 – 1.67)	1.10 (0.91 – 1.33)
Quartile 4 highest	1.00	1.00	1.00	1.00	1.00	1.00
Age		0.93 (0.82 – 1.05)		1.17 (0.97 – 1.41)		1.06 (0.99 – 1.13)
Age ²		1.00 (1.00 – 1.00)		1.00 (1.00 – 1.00)		1.00 (1.00 – 1.00)
Gender						
Men		0.97 (0.75 – 1.26)		1.29 (0.92 – 1.82)		0.90 (0.78 – 1.02)
Women		1.00		1.00		1.00

	Black		Hispanic		White	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Marital Status						
Previously married		1.01 (0.74 – 1.36)		0.85 (0.58 – 1.24)		1.01 (0.85 – 1.19)
Never married		0.87 (0.54 – 1.38)		0.44 (0.20 – 0.95)		0.89 (0.65 – 1.23)
Married		1.00		1.00		1.00
Family size		0.99 (0.90 – 1.08)		0.99 (0.91 – 1.09)		1.04 (0.97 – 1.11)
Education						
<High school		2.68 (1.68 – 4.28)		2.38 (1.25 – 4.54)		2.99 (2.40 – 3.72)
High school/GED		1.58 (0.99 – 2.50)		1.08 (0.55 – 2.14)		1.72 (1.42 – 2.08)
Some college		1.29 (0.81 – 2.07)		0.74 (0.36 – 1.52)		1.63 (1.34 – 1.99)
College graduate		1.00		1.00		1.00
Income log		0.86 (0.79 – 0.94)		0.88 (0.79 – 0.98)		0.78 (0.72 – 0.85)
Region						
Northeast		1.26 (0.85 – 1.87)		0.78 (0.37 – 1.67)		1.00 (0.84 – 1.20)
Midwest		1.22 (0.88 – 1.70)		0.99 (0.58 – 1.70)		1.17 (0.99 – 1.39)
South		1.27 (0.73 – 2.19)		0.86 (0.51 – 1.45)		1.17 (0.95 – 1.43)
West		1.00		1.00		1.00