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Racial and Ethnic Disparities in Indicators of Physical Health Status: Do They Still Exist Throughout Late Life?

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Abstract

Physical health problems become more common as people age and are associated with a great deal of disability. Although racial/ethnic disparities have been reported in physical health, little is known about whether these disparities remain in the latest part of older adulthood. Accordingly, the current study sought to examine racial/ethnic differences in the physical health status of three age groups of older adults, using the 2005 and 2007 California Health Interview Survey. The sample for the current study included 40,631 individuals aged 55 and older, with 33,488 non-Hispanic whites, 1,858 African American/blacks, 2,872 Asian/Pacific Islanders, and 2,412 Latinos. Respondents were compared with regard to three indicators of physical health, which included presence of four chronic health conditions, difficulties with activities of daily living, and self-rated health. Analyses were conducted with and without adjustment for gender, marital status, education, English language proficiency, nativity, and insurance status. Results revealed that, in general, racial/ethnic disparities existed for physical health in late adulthood, with differences less pronounced for Asian/Pacific Islanders and Latinos ≥ 75 years after multivariable adjustment. Disparities between African American/blacks and non-Hispanic whites, as well as disparities across all racial/ethnic minorities in self-rated health, still existed, however. These findings suggest that in order to reduce racial/ethnic disparities, clinicians need to address specific sociodemographic and lifestyle factors related to racial/ethnic differences in health before these conditions are manifested in late adulthood.

Keywords

indicators of physical health status; older adults; racial and ethnic disparities; California Health Interview Survey

INTRODUCTION

It is widely known that as people age, chronic medical conditions become more common. Indeed, approximately 80% of adults 65 and older have at least one chronic condition.¹ The burden of illness, however, is not shared equally across all racial and ethnic categories. Most of the research on racial/ethnic disparities in physical health status indicators has examined

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non-Hispanic whites versus African American/blacks, but much less research has focused on Latinos and Asians.² In general, research suggests that African American/blacks have a higher prevalence of heart disease,³ diabetes,⁴ high blood pressure,⁵ and asthma⁶ compared to whites. With the exception of Latinos having a higher prevalence of diabetes compared to whites,⁴ Latinos and Asian/Pacific Islanders generally have comparable or more positive health profiles than whites with regard to heart disease, hypertension, and asthma.^{3, 6, 7}

Many chronic medical conditions are associated with a considerable degree of disability, or difficulty with activities of daily living (ADL). ADL difficulties become more prevalent as people age, as evidenced by population estimates demonstrating that disability more than doubles between the ages of 45-64 and 65 and older from 23.9% to 51.8%.¹ Although individuals older than 65 are in the age group at highest risk for disability,¹ evidence is still mixed regarding trends of disability in later life,⁸ particularly among racial/ethnic minorities.^{9, 10} Current research suggests that rates of disability in later life may be declining, but it is unclear whether this decline is occurring equally across different racial/ethnic categories. Some research suggests that African American/blacks and Latinos have a higher prevalence of disability compared to whites, whereas Asian/Pacific Islanders have a lower prevalence of disability compared to whites,^{8, 11-13} although these differences have been found to vary as a function of socioeconomic characteristics, such as education, income, and insurance status.^{8, 9, 14}

In addition to these more objective indicators of health, older adults' perceptions of their physical health also are important to consider, as research has shown that self-rated health is an independent predictor of both morbidity and mortality.¹⁵ Moreover, racial/ethnic disparities exist in self-rated health, with African American/blacks being most likely of all racial/ethnic categories to report fair/poor health.^{2, 16} Other studies also have found evidence of worse self-rated health in Latinos and comparable or worse self-rated health in Asian/Pacific Islanders compared to non-Hispanic whites, although disparities in self-rated health in these minorities often are explained by differences in sociodemographic characteristics, including nativity and English-language proficiency.^{17, 18}

As the United States population ages and becomes more diverse, it is important to examine the unmet needs of racially and ethnically diverse older adults.¹⁹ Older adults are projected to comprise 20% of the population by 2030; the number of adults ≥ 75 years is expected to grow from 9.3 million in 2000 to 19.5 million in 2030.²⁰ These demographic shifts in the population are expected to be most pronounced among racial/ethnic minorities. Specifically, the proportion of older adults who are members of racial or ethnic minorities is projected to increase by more than 10% from 2000 to 2030.²¹ Given the potential personal, social, and economic costs of physical illness, especially disability,²² it is important to investigate racial/ethnic disparities in health that may exist into later life.

Evidence on racial/ethnic differences in health status in later life is limited and inconsistent.²³ The current study therefore sought to examine racial and ethnic differences in the physical health status of three age groups of older adults. Using the 2005 and 2007 California Health Interview Surveys (CHIS), reports of physical health (presence of chronic conditions, ADL difficulties, and self-rated health) of African American/black, Latino, and Asian/Pacific Islander older adults were compared to those of non-Hispanic white older adults living in California. It was hypothesized that minority older adults (≥ 55) would be more likely to report physical health problems compared to non-Hispanic whites, although these disparities were expected to be the least prominent in the oldest age group examined (≥ 75).

METHODS

Procedure

Data for the current study were derived from the 2005 and 2007 California Health Information Survey (CHIS) Public Use File. CHIS is a biannual, random-digit dial telephone survey, which is representative of the Californian non-institutionalized population. For the 2005 survey, data were collected between July 2005 and April 2006; for the 2007 survey, data were collected between July 2007 and March 2008. Only one randomly-selected adult per household was sampled for the survey.²⁴ Interviews were conducted in five languages, which were chosen based on 2000 Census data of the languages spoken most often by Californian residents. Thus, for individuals who did not speak English, or did not speak it well enough to complete a survey, the survey was administered in either Spanish, Chinese (Mandarin and Cantonese), Vietnamese, or Korean. To ensure cross-cultural equivalence across items, the questionnaire underwent refereed translation processes and extensive cultural adaptation. Further information about the sampling methodology, as well as the cultural translation and adaptation of the survey, can be found elsewhere.²⁴ 25

Sample

The overall sample for the 2005 and 2007 CHIS included 42,613 adults over the age of 55. The focus of the current study was on examining differences in older adults' physical health in four racial/ethnic categories; thus, the analytic sample for the current study was comprised of 40,631 individuals over 55 years of age. This included 33,488 non-Hispanic white, 1,858 African American/black, 2,872 Asian/Pacific Islander, and 2,412 Latino respondents. Within the Asian/Pacific Islander category, subgroups were comprised of Chinese (32.2%), Filipino (26.3%), Japanese (13.6%), Vietnamese (10.4%), and Korean (8.5%), with 9.0% of the Asian/Pacific Islander category representing other subgroups. Within the Latino category, a majority (76.7%) of the respondents were Mexican American (23.3% of respondents were other Latino subgroups). The sample was weighted to account for the complex sampling design, and to accurately represent variance estimates.²⁴

Measures

Physical health—The presence of chronic conditions was assessed by asking respondents if they were ever told by a doctor if they had any of four chronic conditions (asthma, diabetes mellitus, high blood pressure, heart disease). For each condition, response options were yes/no. Responses were summed and a dichotomous variable then was created (0 = *no chronic conditions*; 1 = *one or more chronic conditions*). To assess disability, or difficulties with activities of daily living (ADL), three questions asked respondents whether they experienced any difficulty with activities such as dressing, bathing, walking, climbing stairs, getting around their home, or leaving their home alone (*yes/no*). A dichotomous variable then was created to categorize older adults' level of disability (0 = *did not have any ADL difficulties*; 1 = *had at least one ADL difficulty*). Finally, respondents' overall general health was assessed with a single item that asked "Would you say that in general your health is excellent, very good, good, fair, or poor?" Respondents rated their health on a 5-point scale (1 = *excellent*, 5 = *poor*). A dichotomous variable then was created to represent older adults' self-reported health status (0 = *fair or poor*; 1 = *excellent, very good, and good*).

Covariates—Additional variables were assessed for inclusion as covariates in multivariable analyses. Variables commonly included as covariates in previous research on racial/ethnic disparities in health⁹ 14 were examined for inclusion as possible covariates in the current study. Any variables that exhibited significant racial/ethnic differences were treated as covariates. The following sociodemographic characteristics were included in the analyses: gender (1 = *male*; 2 = *female*); marital status (1 = *currently married*, 2 = *not*

currently married); education level (1 = *high school degree or less*, 2 = *some college or more*); English language proficiency (1 = *very well/well*, 2 = *not well/not at all*); and nativity (1 = *U.S. born*, 2 = *foreign-born*). Respondents' health insurance status (1 = *continuous insurance over the past 12 months*, 2 = *uninsured/not continuously insured*) and health care utilization (1 = *visited doctor in past 12 months*, 2 = *did not visit doctor in past 12 months*) also were included as a covariates.

Statistical Analyses

Analyses were performed using SAS Callable SUDAAN Release 9.0.2 (Research Triangle Institute, Research Triangle Park, NC) to account for the complex sampling design, and to use weighted effects for more accurate variance estimates. To examine racial/ethnic differences in sociodemographic characteristics, bivariate analyses using Chi-square tests were conducted. To examine racial/ethnic differences in each of the three indicators of health status stratified by three groups of older adults (55-64, 65-74, 75-85), multivariate analyses using multivariable logistic regression were conducted. Adjustments were made for gender, marital status, education, English language proficiency, nativity, insurance status, and health care utilization in multivariable analyses.

RESULTS

Sociodemographic characteristics for the four racial/ethnic categories, which are stratified by age group, are presented in Table 1. Latino respondents were the least likely to have more than a high school degree (41.1%), to be continuously insured over the past year (82.1%), and to have had a doctor visit in the past year compared to the other three racial/ethnic categories ($P<.001$). In addition, Asian/Pacific Islanders (82.3%) and Latinos (61.2%) were more likely to report being foreign-born and have limited English-language proficiency (37.1% and 49.6%, respectively) compared to non-Hispanic whites and African American/blacks ($P<.001$).

As shown at the bottom of Table 1, African American/blacks (78.5%) were significantly more likely to report the presence of chronic health conditions across all age groups, compared to the other three racial/ethnic categories. Furthermore, Asian/Pacific Islanders (26.8%) were the least likely to report ADL difficulties compared to the other three racial/ethnic categories. Finally, Latinos (48.8%) were significantly more likely to report fair/poor self-rated health compared to the other racial/ethnic categories.

Table 2 presents the unadjusted results of racial/ethnic differences in physical health status by age group. The findings suggest that, irrespective of age, African American/blacks were significantly more likely to report the presence of chronic health conditions and report more ADL difficulties, compared to non-Hispanic whites. Latinos 55-64 years old also were significantly more likely to report the presence of chronic conditions and report more ADL difficulties, compared to non-Hispanic whites. Furthermore, Latinos 65-74 years old were significantly more likely to report ADL difficulties than non-Hispanic whites. In contrast, Asian/Pacific Islanders 55-64 and 65-74 were significantly less likely to report ADL difficulties than non-Hispanic whites. Finally, all three racial/ethnic minorities reported worse self-rated health than non-Hispanic whites in all age groups examined (55-64, 65-74, 75-85). An examination of these racial/ethnic differences in physical health using continuous versions of ADL difficulties and self-rated health mirrored the results seen for the dichotomous versions of these variables. A few differences were found for the continuous version of the chronic conditions variable in unadjusted models, however. Specifically, Asian/Pacific Islanders 55-64 were no longer significantly more likely to report chronic conditions compared to non-Hispanic whites ($\beta = .05$, $P = .17$). In addition, Latinos

65-74 ($\beta = .10, P < .05$) and ≥ 75 ($\beta = .14, P < .05$) reported significantly more chronic conditions compared to non-Hispanic whites.

Table 3 presents the results of racial/ethnic differences in physical health status by age group, adjusting for sociodemographic characteristics. Similar to results seen in the unadjusted models, African American/blacks in all age groups examined were significantly more likely to report the presence of chronic conditions compared to non-Hispanic whites. Only African American/blacks 65-74 years old were significantly more likely to report ADL difficulties, however. Finally, with the exception of Latinos ≥ 75 , racial/ethnic minorities in all three age groups examined (55-64, 65-74, 75-85) were significantly more likely to report fair/poor self-rated health compared to non-Hispanic whites. Racial/ethnic differences in physical health using continuous versions of each of the three health status indicators also were examined. The only difference that emerged when examining the continuous version of chronic conditions was for Asian/Pacific Islanders 65-74 years old, who reported significantly more chronic conditions than non-Hispanic whites in adjusted models ($\beta = .13, P < .05$). The findings for ADL difficulties and self-rated health mirrored the results for the dichotomous versions of these variables.

DISCUSSION

The current study sought to examine whether racial/ethnic differences in indicators of physical health status extend throughout later life, utilizing population-based data representative of the Californian non-institutionalized population. The findings suggest that although racial/ethnic disparities in health exist in later life – even after adjusting for sociodemographic characteristics – health status differences between Asian/Pacific Islanders, Latinos, and non-Hispanic whites appear to diminish with age. Specifically, Asian/Pacific Islanders and Latino respondents ≥ 75 years old were equally as likely as non-Hispanic whites to report having one or more chronic conditions or difficulties with activities of daily living in the current study. Perhaps individuals who survive the myriad of chronic conditions and associated disability that often manifest in the beginning stages of late adulthood are the physically hardiest of individuals, regardless of their racial/ethnic group. Support for this idea can be found in previous research that has examined a phenomenon called the crossover effect, in which the mortality trajectories of African American/blacks and non-Hispanic whites “crossover” at age 75. Specifically, African American/blacks have been shown to have increased mortality rates relative to non-Hispanic whites prior to age 75, but after that age, mortality rates for African American/blacks actually decrease, whereas mortality rates for whites continue to increase.²⁶⁻²⁷ Findings from the current study suggest that a similar phenomenon may be occurring among old-old Asian/Pacific Islanders and Latino respondents, highlighting the resilience among these individuals. This is consistent with findings from other studies that Asian/Pacific Islanders and Latinos are more advantaged with regard to mortality at later ages in late life.²⁸ Findings from the current study also may be explained, in part, by respondents’ nativity. In the current study, the majority of Asian/Pacific Islanders (82.3%) and Latinos (61.2%) were foreign-born. Evidence suggests that, in general, foreign-born minorities, especially those who immigrated in later life,²⁹⁻³⁰ have better health than native-born minorities.³¹ Potential reasons for why foreign-born minorities enjoy better health than native born minorities include the negative influences of U.S. culture with regard to health behaviors (e.g., smoking, diet) and the selection of healthier individuals migrating to the United States.² Another possible explanation for the relative lack of disparities among Asian/Pacific Islanders and Latinos relative to non-Hispanic whites is that the current study only assessed four chronic conditions (included in both the 2005 and 2007 versions of CHIS). Other conditions, notably cancer, were absent from analyses. Racial/ethnic disparities in cancer have been well documented among the Asian/Pacific Islander and Latino populations.³²

Thus, disparities in later life for these two racial/ethnic minorities may exist in other chronic conditions such as cancer. Nonetheless, findings from the current study suggest that for certain conditions (heart disease, high blood pressure, diabetes, and asthma), racial/ethnic disparities are diminished among the old-old. Future research needs to examine whether this same pattern is seen in other conditions.

In the current study, African American/black respondents still were more likely than non-Hispanic white respondents to report the presence of one or more chronic conditions throughout later life, even after adjusting for sociodemographic characteristics that have been established risk factors for health disparities.^{9, 14} In understanding why these disparities persist into later life for African American/blacks, it is important to consider the specific conditions that commonly afflict individuals in this racial group. African American/blacks are particularly susceptible to heart disease, as research has shown that they have 2-3 times the likelihood of dying from cardiovascular disease, compared to non-Hispanic whites.³ Although the prevalence of heart disease increases with advancing age, a majority of individuals with heart disease are younger than age 65.³ Thus, African American/black respondents older than 75 may have survived heart disease in early life, but now face other common chronic conditions such as diabetes³³ and high blood pressure.³⁴ This is consistent with findings that racial/ethnic minorities, in particular, are experiencing longer life expectancies,¹ coupled with increasing rates of lifestyle diseases.^{33, 34} These diseases are of particular interest to clinicians because they involve modifiable lifestyle factors (e.g., diet, exercise) that, if implemented, can greatly reduce the risk of these diseases, and at the same time, decrease racial/ethnic disparities in health that may persist into late life.

Notably, disparities in ADL difficulties were attenuated for African American/blacks and Latinos after inclusion of covariates. These findings are consistent with other research that has found disparities narrowed or diminished after socioeconomic factors such as education level, income, and insurance status were taken into account.^{9, 14} African American/blacks and Latinos in the current study had less educational attainment and were less continuously insured than their non-Hispanic white counterparts. Taken together, these findings suggest that the racial/ethnic disparity in disability may stem, in part, from the limited socioeconomic resources available to African American/blacks and Latinos compared to non-Hispanic whites. In a related vein, access to, and the quality of, health care received by minorities without insurance may not be as good as that received by individuals who are more likely to be continuously insured.¹⁴ Moreover, educational and other socioeconomic resources have been linked to access to and use of preventative services,³⁵ which may not only help prevent the development of a condition, but also may aid in the prevention of any associated complications or disability.

Finally, consistent with previous research, racial and ethnic differences in self-rated health remained throughout late adulthood.^{2, 16} Self-rated health is considered a subjective assessment of one's health status.³⁶ Perhaps people of varying ethnic and racial backgrounds ascribe different meanings to self-rated health than non-Hispanic whites. Indeed, some studies suggest that racial/ethnic differences in views of self-rated health may be a function of cultural beliefs and language.^{17, 37} For example, research has shown that Asians and Latinos, in particular, include other aspects of health, including mental health, in reports of their overall health.^{17, 37} Given evidence that racial/ethnic minorities report worse mental health than non-Hispanic whites,³⁸ racial/ethnic minorities therefore may be using their mental health status as an index of their overall health, despite the relative absence of disparities in other physical health problems.

In evaluating the results of the current study, some limitations need to be considered. First, CHIS only assessed the non-institutionalized population of one specific geographic area,

namely California. Results from the current study therefore may differ from those seen in samples of institutionalized older adults, who may be more likely to suffer from more severe physical illnesses. Given that non-Hispanic whites are more likely to be in nursing homes than racial/ethnic minorities,³⁹ the racial/ethnic differences reported in the current study may be more pronounced than if older adults from all living situations were sampled. The sampling area for the current study also precludes us from making any firm conclusions about older adults living in other areas of the United States. Moreover, only households who had access to a telephone were sampled. Individuals of lower income, particularly minorities, therefore may have been excluded from the current study. Thus, the results from the current study may have underestimated the health status of older adults with more serious illness and those without access to certain resources, who are more likely to be of a racial/ethnic minority. Second, each racial/ethnic minority was examined as a homogenous group, rather than examining specific subgroups within each minority. Results may differ when specific ethnicities are examined within each group. For example, the Asian/Pacific Islander population is a heterogeneous group, with differences seen in health risk factors among subgroups.⁴⁰ Previous research has demonstrated that older Vietnamese Americans are especially vulnerable to physical health issues compared to other Asian subgroups.⁴¹ Future research needs to examine whether disparities in specific subgroups of minorities extend into later life. In a related vein, CHIS only was administered in some Asian languages, but not others. Notably, it was not administered in Japanese or Filipino, the languages of the second and third largest Asian subgroups in California. Thus, the survey may have excluded less acculturated individuals, with findings from the current study underestimating the poor health status of these older Asians. Although this is a possible limitation of the current study, it is important to note that English has been one of the national languages of the Philippines since 1987, and Japanese are considered among the most acculturated of the Asian ethnic groups.⁴² Nonetheless, future research should include not only language-specific, but also culture-specific, measures to more accurately assess health disparities.^{43, 44}

Finally, the cross-sectional nature of the CHIS does not allow us to examine the actual trajectories of physical health in later life. Disparities in late life may differ as a function of when individuals were diagnosed with physical health conditions, as research has shown that racial/ethnic disparities are more pronounced in persistently ill adults.⁴⁵ Future research therefore should include prospective data to examine whether or not disparities persist into later life, in general, and advanced old age, in particular, for individuals with varying degrees of illness duration.

Despite these limitations, the current study adds to the literature on racial/ethnic disparities in physical health status trends in later life. Findings from this study suggest that although some racial/ethnic disparities in physical health continue into late adulthood for African American/blacks, they are not as evident in the latest part of life for Asian/Pacific Islanders and Latinos, after adjustment for well-established risk factors. Thus, physicians need to be attentive to racial/ethnic differences in indicators of physical health status during especially critical periods (between the ages of 55-64) in which patients initially present with symptoms of life-threatening conditions (e.g., heart disease) and disparities are most prominent.^{46, 47} Given that many of the conditions examined in the current study involve treatment regimens that include health behavior change, multilevel interventions targeted toward encouraging healthy lifestyles may be especially effective in reducing disparities when administered in mid-life. For African American/blacks, disparities in physical health are prominent throughout later life, suggesting a need for geriatric clinicians to continue to recommend engagement in health-enhancing behaviors throughout late life. Finally, although it is important to be aware of racial/ethnic disparities in disability, this indicator of physical health is less mutable as it occurs as a result of chronic conditions that are

manifested already. Thus, to reduce racial/ethnic disparities in subsequent mortality, clinicians should focus on both the prevention of chronic conditions (even in the absence of disability as in the case of hypertension) as well as the enhancement of overall self-rated health, which for minorities, often includes physical and mental health.

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REFERENCES

- Centers for Disease Control and Prevention. Public health and aging: Trends in aging - United States and worldwide. *MMWR*. 2003; 52:101–106. [PubMed: 12645839]
- National Research Council. Critical perspectives on racial and ethnic differences in health in late life. The National Academies Press; Washington, D.C.: 2004.
- Mensah GA, Brown DW. An overview of cardiovascular disease burden in the United States. *Health Aff*. 2007; 26:38–48.
- Narayan KM, Boyle JP, Thompson TJ, et al. Lifetime risk for diabetes mellitus in the United States. *JAMA*. 2003; 290:1884–1890. [PubMed: 14532317]
- Burt VL, Cutler JA, Higgins M, et al. Trends in the prevalence, awareness, and control of hypertension in the adult US population: Data from the health examination surveys. *Hypertension*. 1995; 26:60–69. [PubMed: 7607734]
- Gorman BK, Chu M. Racial and ethnic differences in adult asthma prevalence, problems, and medical care. *Ethn Health*. 2009; 14:527–552. [PubMed: 19533477]
- Kramer H, Han C, Post W, et al. Racial/ethnic differences in hypertension and hypertension treatment and control in the Multi-Ethnic Study of Atherosclerosis (MESA). *Am J Hypertens*. 2004; 17:963–970. [PubMed: 15485761]
- Freedman VA, Martin LG, Schoeni RF. Recent trends in disability and functioning among older adults in the United States: A systematic review. *JAMA*. 2002; 288:3137–3146. [PubMed: 12495394]
- Schoeni RF, Martin LG, Andreski PM, et al. Persistent and growing socioeconomic disparities in disability among the elderly: 1982–2002. *Am J Public Health*. 2005; 95:2065–2070. [PubMed: 16254235]
- Tennstedt S, Chang B. The relative contribution of ethnicity versus socioeconomic status in explaining differences in disability and receipt of informal care. *J Gerontol B Psychol Sci Soc Sci*. 1998; 53B:S61–S70. [PubMed: 9520931]
- Ciol MA, Shumway-Cook A, Hoffman JM, et al. Minority disparities in disability between Medicare beneficiaries. *J Am Geriatr Soc*. 2008; 56:444–453. [PubMed: 18179505]
- Hayward MD, Heron M. Racial inequality in active life among adult Americans. *Demography*. 1999; 36:77–91. [PubMed: 10036594]
- Kington RS, Smith JP. Socioeconomic status and racial and ethnic differences in functional status associated with chronic diseases. *Am J Public Health*. 1997; 87:805–810. [PubMed: 9184510]
- Dunlop DD, Song J, Manheim LM, et al. Racial/ethnic differences in the development of disability among older adults. *Am J Public Health*. 2007; 97:2209–2215. [PubMed: 17971548]
- Lee SJ, Moody-Ayers SY, Landefeld CS, et al. The relationship between self-rated health and mortality in older black and white Americans. *J Am Geriatr Soc*. 2007; 55:1624–1629. [PubMed: 17697102]
- Mead, H.; Cartwright-Smith, L.; Jones, K., et al. Racial and ethnic disparities in U.S. health care: A chartbook. http://www.commonwealthfund.org/usr_doc/mead_raceethnicdisparities_chartbook_1111.pdf
- Kandula NR, Lauderdale DS, Baker DW. Differences in self-rated health among Asians, Latinos, and non-Hispanic whites: The role of language and nativity. *Ann Epidemiol*. 2007; 17:191–198. [PubMed: 17320786]

18. Shetterly SM, Baxter J, Mason LD, et al. Self-rated healthy among Hispanic vs. non-Hispanic white adults: The San Luis Valley Health and Aging Study. *Am J Public Health*. 1996; 86:1798–1801. [PubMed: 9003141]
19. Institute of Medicine. *Unequal treatment: Confronting racial and ethnic disparities in health care*. National Academies Press; Washington, DC: 2002.
20. U.S. Census Bureau. International database. Table 094. Midyear population by age and sex. [Accessed September 14, 2009]. <http://www.census.gov/population/www/projections/natdet-D1A.html>
21. U.S. Census Bureau. State and national population projections. [Accessed September 14, 2009]. <http://www.census.gov/population/www/projections/popproj.html>
22. Lubitz J, Cai L, Kramarow E, et al. Health, life expectancy, and health care spending among the elderly. *N Engl J Med*. 2003; 349:1048–1055. [PubMed: 12968089]
23. Shah A, Doe P, Deverill K. Ethnic minority elders: Are they neglected in published geriatric psychiatry literature? *Int Psychogeriatr*. 2008; 20:1041–1045. [PubMed: 18307827]
24. California Health Interview Survey. CHIS Survey Methodology and Sample Design. [Accessed February 20, 2008]. http://www.chis.ucla.edu/methods_main.html
25. Ponce N, Lavarreda SA, Yen W, et al. The California Health Interview Survey 2001: Translation of a major survey for California's multiethnic population. *Public Health Rep*. 2004; 119:388–395. [PubMed: 15219795]
26. Jackson, JJ. Race, national origin, ethnicity, and aging. In: Binstock, RH.; Shanass, E., editors. *Handbook of aging and the social sciences*. Van Nostrand Reinhold; New York, NY: 1985. p. 264–291.
27. Manton KG, Poss SS, Wing S. The Black/White mortality crossover: Investigation from the perspectives of the components of aging. *Gerontologist*. 1979; 19:291–300. [PubMed: 551024]
28. Hoyert DL, Arias E, Smith BL, et al. Deaths: Final data for 1999. *Natl Health Stat Rep*. 2001; 49:1–113.
29. Frisbie WP, Cho Y, Hummer RA. Immigration and the health of Asian and Pacific Islander adults in the United States. *Am J Epidemiol*. 2001; 153:372–380. [PubMed: 11207155]
30. Cho Y, Frisbie WP, Hummer RA, et al. Nativity, duration of residence, and the health of Hispanic adults in the United States. In *Migr Rev*. 2004; 38:184–211.
31. Cunningham SA, Ruben JD, Narayan KMV. Health of foreign-born people in the United States: A review. *Health Place*. 2008; 14:623–635. [PubMed: 18242116]
32. Ward E, Jemal A, Cokkinides V, et al. Cancer disparities by race/ethnicity and socioeconomic status. *CA Cancer J Clin*. 2004; 54:78–93. [PubMed: 15061598]
33. Narayan KMV, Boyle JP, Thompson TJ, et al. Lifetime risk for diabetes mellitus in the United States. *JAMA*. 2003; 290:1884–1890. [PubMed: 14532317]
34. Bosworth HB, Powers B, Grubber JM, et al. Racial differences in blood pressure control: Potential explanatory factors. *J Gen Intern Med*. 2008; 23:692–698. [PubMed: 18288540]
35. Sambamoorthi U, McAlpine DD. Racial, ethnic, socioeconomic, and access disparities in the use of preventative services among women. *Prev Med*. 2003; 37:475–484. [PubMed: 14572431]
36. Watson D, Pennebaker JW. Health complaints, stress, and distress: Exploring the central role of negative affectivity. *Psychol Rev*. 1989; 96:234–254. [PubMed: 2710874]
37. Bzostek S, Goldman N, Pebley A. Why do Hispanics in the USA report poor health? *Soc Sci Med*. 2007; 65:990–1003. [PubMed: 17574713]
38. Sorkin DH, Pham E, Ngo-Metzger Q. Racial and ethnic differences in the mental health needs and access to care of older adults in California. *J Am Geriatr Soc*. 2009; 57:2311–2317. 57. Epub 2009 Nov 23. [PubMed: 19943830]
39. Wallace SP, Levy-Storms L, et al. The persistence of race and ethnicity in the use of long-term care. *J Gerontol B Psychol Sci Soc Sci*. 1998; 53B:S104–S112. [PubMed: 9520935]
40. Chen MS Jr, Hawks BL. A debunking of the myth of healthy Asian Americans and Pacific Islanders. *Am J Health Promot*. 1995; 9:261–268. [PubMed: 10150729]
41. Sorkin DH, Tan A, Hays RD, et al. Self-reported health status of older Vietnamese and non-Hispanic Whites in California. *J Am Geriatr Soc*. 2008; 56:1543–1548. [PubMed: 18637981]

42. Min, PG. Asian Americans: Contemporary trends and issues. Sage Publications; Thousand Oaks, CA: 1995.
43. Stahl SM, Hahn AA. The National Institute on Aging's Resource Centers for Minority Aging Research: Contributions to measurement in research on ethnically and racially diverse populations. *Med Care*. 2006; 44:S1–S2. [PubMed: 17060815]
44. Resource Centers for Minority Aging Research. <http://www.rcmar.ucla.edu/>
45. Breslau J, Aguilar-Gaxiola S, Kender KS, et al. Specifying race-ethnic differences in risk for psychiatric disorder in a USA national sample. *Psychol Med*. 2006; 36:57–68. [PubMed: 16202191]
46. Beach MC, Gary TL, Price EG, et al. Improving health care quality for racial/ethnic minorities: A systematic review of the best evidence regarding provider and organization interventions. *BMC Public Health*. 2006; 6:104–115. [PubMed: 16635262]
47. van Ryn M, Burke J. The effect of patient race and socio-economic status on physicians' perceptions of patients. *Soc Sci Med*. 2000; 50:813–828. [PubMed: 10695979]

Table 1
Sociodemographic Characteristics of Respondents by Race/Ethnicity (N = 40,631)

| Characteristic | Non-Hispanic white (n=33,488) | African American/black (n=1,858) | Asian/Pacific Islander (n=2,872) | Latino (n=2,412) |
|---------------------------------|----------------------------------|-------------------------------------|-------------------------------------|---------------------|
| | n (%) | | | |
| Age* | | | | |
| 55-64 | 13,712 (46.2) | 864 (53.0) | 1,305 (45.2) | 1,298 (52.9) |
| 65-74 | 9,743 (25.4) | 578 (26.0) | 956 (31.7) | 716 (29.5) |
| 75-85 | 10,034 (28.4) | 416 (21.1) | 611 (23.1) | 398 (17.6) |
| Gender (female)* | 20,587 (54.0) | 1,224 (60.7) | 1,665 (55.9) | 1,464 (51.8) |
| Marital status* | | | | |
| Married | 16,161 (60.8) | 598 (39.5) | 1,870 (71.2) | 1,229 (62.0) |
| Not married | 17,328 (39.2) | 1,260 (60.5) | 1,002 (28.8) | 1,183 (38.0) |
| Level of education* | | | | |
| High school or less | 1,877 (7.8) | 222 (14.0) | 441 (17.8) | 1,192 (58.9) |
| Some college or more | 31,612 (92.2) | 1,636 (86.1) | 2,431 (82.2) | 1,220 (41.1) |
| English proficiency* | | | | |
| Very well/well | 33,362 (99.1) | 1,857 (99.9) | 1,747 (62.9) | 1,416 (50.4) |
| Not well/not at all | 127 (0.9) | 1 (0.1) | 1,125 (37.1) | 996 (49.6) |
| Country of birth* | | | | |
| United States | 30,940 (91.1) | 1,767 (94.8) | 590 (17.7) | 1,087 (38.8) |
| Foreign born | 2,549 (8.9) | 91 (5.2) | 2,282 (82.3) | 1,325 (61.2) |
| Health insurance status* | | | | |
| Currently insured | 32,002 (95.6) | 1,742 (92.7) | 2,581 (90.6) | 2,041 (82.1) |
| Currently not insured | 1,487 (4.4) | 116 (7.3) | 291 (9.4) | 371 (17.9) |
| Doctor visit in past year* | | | | |
| Visited doctor | 30,602 (91.4) | 1,683 (89.4) | 2,462 (85.0) | 2,074 (83.8) |
| Did not visit doctor | 2,887 (8.6) | 175 (10.6) | 410 (15.0) | 338 (16.2) |
| Presence of chronic conditions* | | | | |
| 0 | 12,484 (37.4) | 395 (21.5) | 1,116 (34.9) | 814 (35.3) |
| 1 | 12,918 (38.6) | 828 (44.9) | 1,113 (40.8) | 849 (32.2) |
| 2 | 6,182 (18.3) | 456 (23.4) | 509 (19.1) | 558 (21.9) |
| 3 | 1,709 (5.0) | 143 (8.7) | 114 (4.1) | 166 (6.7) |
| 4 | 196 (0.7) | 36 (1.5) | 20 (1.1) | 25 (0.9) |
| ADL difficulties* | | | | |
| 0 | 22,417 (67.3) | 1,120 (61.2) | 2,183 (73.2) | 1,473 (62.8) |
| 1 | 7,881 (22.9) | 431 (22.0) | 433 (16.6) | 629 (24.9) |
| 2 | 2,058 (6.5) | 169 (9.2) | 149 (6.2) | 200 (8.1) |
| 3 | 1,133 (3.3) | 138 (7.6) | 107 (4.0) | 110 (4.2) |

| Characteristic | Non-Hispanic white (n=33,488) | African American/black (n=1,858) | Asian/Pacific Islander (n=2,872) | Latino (n=2,412) |
|--------------------|-------------------------------------|--|--|---------------------|
| | n (%) | | | |
| Self-rated health* | | | | |
| Excellent | 6,317 (18.4) | 167 (9.7) | 214 (8.5) | 328 (9.2) |
| Very good | 10,974 (31.6) | 436 (24.8) | 377 (13.2) | 599 (21.4) |
| Good | 9,436 (28.9) | 632 (31.8) | 708 (29.5) | 863 (30.4) |
| Fair | 4,739 (14.9) | 421 (23.9) | 772 (34.9) | 720 (26.0) |
| Poor | 2,023 (6.2) | 202 (9.8) | 341 (13.9) | 362 (13.0) |

* $P < .001$. Sample sizes are unweighted. All percentages are weighted.

Table 2Unadjusted Racial/Ethnic Differences in Physical Health Status by Age Group ($N = 40,631$)

| | Presence of chronic conditions | ADL difficulties | Fair/Poor Self-rated health |
|---------------------------------|--------------------------------|------------------------|-----------------------------|
| | Unadjusted OR (95% CI) | Unadjusted OR (95% CI) | Unadjusted OR (95% CI) |
| Age 55-64 | | | |
| White | REF | REF | REF |
| African American/black | 2.68 (2.16, 3.33)*** | 1.28 (1.03, 1.59)* | 2.16 (1.71, 2.74)*** |
| Asian/Pacific Islander | 1.22 (1.01, 1.47)* | 0.67 (0.51, 0.89)** | 2.61 (2.13, 3.19)*** |
| Latino | 1.20 (1.02, 1.42)* | 1.34 (1.13, 1.59)** | 4.43 (3.78, 5.20)*** |
| Age 65-74 | | | |
| White | REF | REF | REF |
| African American/black | 2.20 (1.57, 3.07)*** | 1.74 (1.35, 2.23)*** | 1.93 (1.45, 2.57)*** |
| Asian/Pacific Islander | 1.09 (0.91, 1.32) | 0.71 (0.55, 0.92)* | 2.52 (2.02, 3.13)*** |
| Latino | 1.19 (0.94, 1.52) | 1.55 (1.24, 1.94)*** | 3.96 (3.31, 4.75)*** |
| Age ≥ 75 | | | |
| White | REF | REF | REF |
| African American/black | 1.71 (1.09, 2.69)* | 1.37 (1.03, 1.80)* | 1.86 (1.41, 2.45)*** |
| Asian/Pacific Islander | .96 (0.70, 1.33) | 1.02 (0.82, 1.26) | 2.22 (1.67, 2.96)*** |
| Latino | 1.11 (0.83, 1.50) | 1.07 (0.83, 1.39) | 2.56 (1.97, 3.33)*** |

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 3Adjusted Racial/Ethnic Differences in Physical Health Status by Age Group ($N = 40,631$)

| | Presence of chronic conditions | ADL difficulties | Fair/Poor Self-rated health |
|---------------------------------|--------------------------------|----------------------|-----------------------------|
| | Adjusted OR (95% CI) | Adjusted OR (95% CI) | Adjusted OR (95% CI) |
| Age 55-64 | | | |
| White | REF | REF | REF |
| African American /black | 2.65 (2.15, 3.28)*** | 1.08 (0.86, 1.34) | 1.85 (1.45, 2.36)*** |
| Asian/Pacific Islander | 1.69 (1.39, 2.06)*** | 0.79 (0.58, 1.08) | 1.79 (1.34, 2.38)*** |
| Latino | 1.40 (1.15, 1.72)** | 1.15 (0.96, 1.38) | 1.67 (1.34, 2.09)*** |
| Age 65-74 | | | |
| White | REF | REF | REF |
| African American/black | 2.20 (1.56, 3.10)*** | 1.60 (1.25, 2.05)*** | 1.77 (1.33, 2.36)*** |
| Asian/Pacific Islander | 1.25 (0.99, 1.57) | 0.83 (0.61, 1.14) | 1.76 (1.33, 2.33)*** |
| Latino | 1.16 (0.89, 1.50) | 1.23 (0.90, 1.68) | 1.55 (1.18, 2.03)** |
| Age ≥ 75 | | | |
| White | REF | REF | REF |
| African American/black | 1.83 (1.19, 2.81)** | 1.22 (0.93, 1.61) | 1.74 (1.31, 2.30)*** |
| Asian/Pacific Islander | 1.14 (0.79, 1.66) | 0.91 (0.73, 1.14) | 1.47 (1.09, 1.98)* |
| Latino | 1.05 (0.75, 1.45) | 0.84 (0.64, 1.10) | 1.23 (0.90, 1.69) |

Note: Analyses are adjusted for gender, education, marital status, insurance status, health care utilization, English-language proficiency, and nativity.

* $p < .05$

** $p < .01$

*** $p < .001$