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Social Determinants of Health among Rural Asian and Pacific Islander Populations

This policy brief is the fourth in a series of four policy briefs prepared by the Rural and Minority Health Research Center on the topic of social determinants of health.

- About 600,000 rural residents identify as Asian American or Pacific Islander (AAPI; 1%).
- A substantial portion of rural AAPI residents report being born outside the U.S. (60.7%).
- In general, rural AAPI households are less likely to be economically disadvantaged than others, with lower levels of poverty and disability, and higher levels of education and access to broadband internet, than rural white populations.
- Rural AAPI residents are more likely to report healthy behaviors and to have lower age-adjusted mortality rates than rural white residents.

Introduction

Asian Americans (AA) are defined as persons with ancestry in China, India, the Philippine Islands, Vietnam, or other parts of Asia or the Indian subcontinent.¹ Pacific Islanders (PI) are defined as individuals with ancestry in Hawaii, Guam, Samoa, or other Pacific Islands.² Together, the AAPI population constitutes about 5.6% of the nation's population. The AAPI population is highly diverse as its heritages include 50 different countries with distinct cultures and languages.³ Like other immigrant populations, AAPI residents new to the U.S. can face challenges and psychological stress from limited English fluency, acculturation, and social discrimination.^{4,5,6}

AAPI residents make up about 1% of the U.S. non-metro population,* or about 600,000 individuals. The majority of rural AAPI individuals are concentrated in three states: Texas, Hawaii and California. The AAPI rural population in 2016 was younger than its non-Hispanic white (hereafter, white) counterpart, with 61.1% of rural AAPI individuals being age 44 or younger versus 49.0% among rural white residents (See Table A-1). This difference was also present in urban populations with 63.3% of urban AAPI and 52.9% of urban white residents at age 44 or younger. Conversely, rural AAPI residents were less likely than their rural white peers to be age 65 or older (12.5% versus 20.1%), a pattern also present in urban residents (AAPI, 11.8% versus white, 19.0%).

Social determinants of health within the rural AAPI population

Social determinants of health, as defined by the World Health Organization, are “the conditions in which people are born, grow, live, work and age,” a definition paralleled by the Centers for

* In this brief, rurality is defined at the county level, with non-metropolitan counties considered as rural. The terms “rural” and “non-metro” are used interchangeably. Data are drawn from the 2016 Census and pertain to non-Hispanic Asian and Pacific Islander residents.

Disease Control and Prevention.^{7,8} Social determinants include both individual factors such as income, education, and access to health care as well as community conditions such as housing, safety, and the availability of employment. A general discussion of the social determinants of health for rural residents is available at the Rural Health Information Hub.⁹

Education

High school completion particularly is associated with economic well-being. Historically, AAPI residents have attained higher educational levels than other minority groups.¹⁰ The distribution of educational attainment among rural AAPI residents was bimodal. At one end of the spectrum, rural AAPI populations were more likely to report some college or more than were their white peers (69.2% versus 54.7%; Table A-1). At the lowest education level, AAPI rural residents were more likely to report fewer than 9 years of education than were white rural residents (6.9% versus 3.2%, respectively; Table A-1).

Poverty

Poverty is closely associated with unemployment, low education, adverse health outcomes, and risk behaviors including a sedentary lifestyle, unhealthy diet, and smoking.¹¹ In 2016, rural AAPI households were slightly less likely to fall below the poverty level (9.3%) than white households (10.4%; Table A-1). Poverty rates were higher among urban AAPI households (12.1%) than among rural AAPI populations. Previous research into the national AAPI population has found them to have the highest average household income in the nation with households characterized as Asian having higher average incomes than Pacific Islander groups.¹²

Disability

Overall, rural AAPI residents were less likely to report being disabled (7.7%) than were rural white residents (15.6%; Table A-1). Disability rates for urban AAPI individuals were similar to the rural proportion (7.2% disabled).

Veteran Status

Rural AAPI residents were less likely than their white counterparts to report being veterans of the U.S. military (3.4% versus 9.9%; Table A-1). Among urban AAPI individuals, veteran status was similar to that of their rural peers (2.3%). However, research suggests that increasing proportions of the AAPI population are entering military service potentially increasing the proportion of rural AAPI veterans in the future.¹³

Nativity

Rural AAPI residents were markedly more likely to report having been born outside the U.S. than are white residents (60.7% versus 1.2%; Table A-1). Foreign nativity was slightly more common among urban AAPI individuals (64.9%). In comparison, only 26.7% of the rural Hispanic population, which also includes a substantial proportion of new immigrants, was born outside the U.S. The high proportion of immigrants in the rural AAPI population suggests the possibility for cultural and linguistic isolation despite high educational attainment in the AAPI population overall.⁶ Language barriers can also result in the inability to access medical and social services as well as employment.¹⁴

Computer and broadband

Income and education level of the household are the major predictors of computer ownership and/or internet subscription.¹⁵ Rural AAPI households were less likely to be without a computer

than white households (5.3% versus 9.0%, respectively), and correspondingly more likely to report broadband internet access (89.7% versus 82.5%; Table A-1).

Concentration in high-risk counties

Income levels, employment, and education at the county level collectively contribute to residents’ social, health, and economic wellbeing. County of residence is associated with several health-risk behaviors and health outcomes including life expectancy.^{16, 17} This section examines disparities of place: differing concentrations of AAPI and white populations across rural counties.

Distinct among rural minority populations, rural AAPI persons were less likely to live in high-poverty counties than were rural white residents (Table A-2). Thus, 36.0% of rural AAPI residents, versus 46.0% of white residents lived in counties falling in the highest quartile for the proportion of persons living in poverty. Similarly, analysis also showed that AAPI individuals were more likely to live in counties with highest quartiles of median household income (Table A-2). Finally, rural AAPI residents were less likely than rural white residents to live in counties with the highest unemployment rates (19.6% versus 26.0%; Table A-2). These findings apply to the AAPI population as a whole; individual subgroups may have differing indicators.

The U.S. Department of Agriculture classifies a county as a “persistent poverty” county if 20% or more of its residents have fallen below poverty for three consecutive censuses (30 years). Of the 1,976 non-metropolitan counties, 301 are characterized as persistent poverty counties. The proportion of AAPI residents in persistent poverty counties in 2016 was slightly lower than the proportion of NH whites living in such counties (7.9% versus 8.9% for whites; data not in table). Similarly, the USDA has designated 558 counties as “persistent child poverty” counties in which 20% or more of children have lived below the poverty line in each Census since 1980. Paralleling findings with regard to poverty in general, 16% AAPI rural residents live in such counties compared with 21% white residents (data not in table).

AAPI rural residents and health care resources

Nearly all rural residents are challenged by reduced availability of health care providers and facilities.¹⁸ Non-metropolitan America’s sparse population and relatively low financial resources have not been conducive to attracting or retaining health care personnel. In consequence, many non-metro counties have been designated Health Professional Shortage Areas (HPSAs).[†] Overall, rural AAPI residents had better access to health care resources than their rural white peers (Table 1). A lower proportion of AAPI than white residents lived in health care shortage areas for primary, dental, and mental health care (Table 1). Mental health issues can face immigrant populations, which characterizes much of the AAPI group, due to the

Table 1: Health care resource availability, by race

Percent of population living in counties with indicated designation or facility status:	White Residents	AAPI Residents
Health Care Personnel Shortages		
Primary Care HPSA*	17.5%	12.5%
Dental HPSA*	11.7%	9.7%
Mental Health HPSA*	74.1%	59.3%
Health Care Facility Gaps		
No hospital	8.8%	4.8%
No skilled nursing facility	3.6%	3.4%
No home health agency	25.5%	19.2%
No Rural Health Clinic	40.2%	43.4%
No Federally Qualified Health Center	40.4%	31.3%
<i>Source: Area Health Resource File, 2015</i>		
<i>*Whole County Health Professions Shortage Area</i>		

[†] For a full definition of shortage areas, see <https://bhwh.hrsa.gov/shortage-designation/hpsas>

difficulty of assimilation and acculturation.^{5,19} While AAPI individuals were less likely to live in mental health HPSAs than the white population, the majority (59.3%) still lived in an area with reduced mental health care availability.

AAPI rural residents were generally less likely than white residents to live in a county lacking a hospital, a home health agency, or a Federally Qualified Health Center. (Table 1). Conversely, AAPI residents were slightly more likely to live in a county without a Rural Health Clinic.

The most important factor leading to health care provider shortage and access is the absence of a substantial paying patient base to support institutions and individuals. AAPI rural residents were more likely to live in counties falling in the lowest quartile of uninsured population than were white residents (Table 2). However, the data did not allow us to determine variation, if any, within AAPI subpopulations.

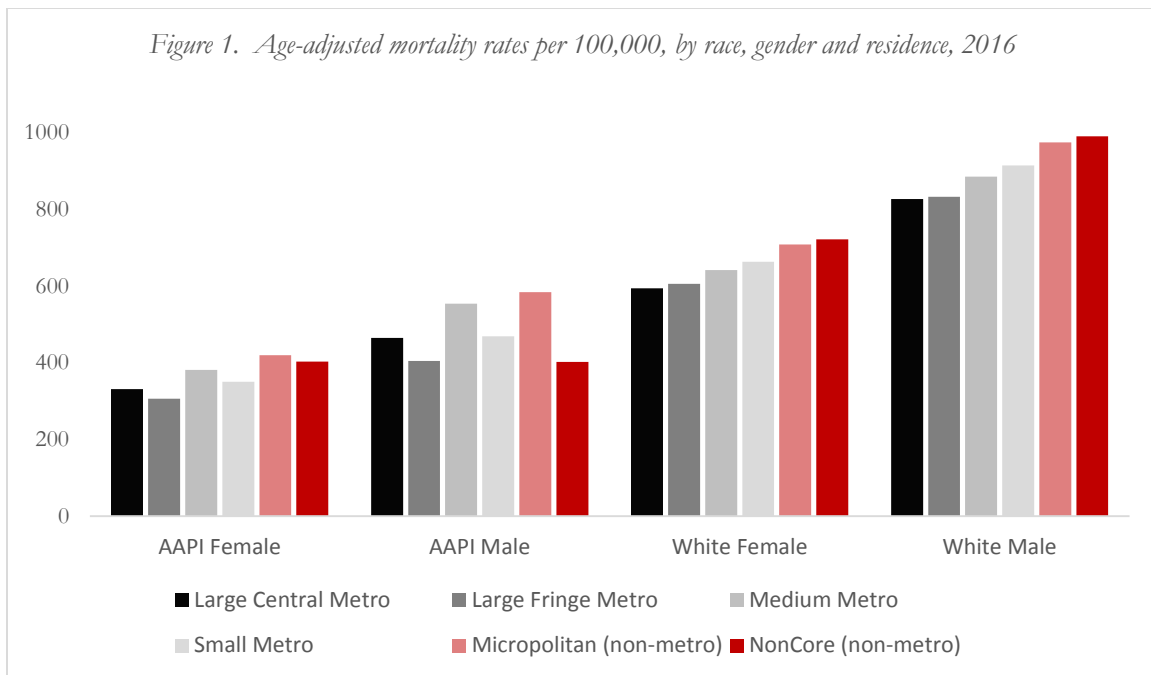
Table 2: Rural population distribution by quartiles of health insurance coverage, by race

Proportion of the population age ≤64 without health insurance (quartiles)	White Residents	AAPI Residents
< 8.6 (lowest quartile)	33.8%	41.8%
≥ 8.6 - < 12.2	24.8%	20.9%
≥ 12.2 - < 16.0	22.5%	18.9%
≥ 16.0 (highest quartile)	18.8%	18.4%

Source: Area Health Resource File, 2015

Mortality among rural AAPI residents

Age-adjusted mortality rates are generally higher in rural counties; declines in mortality over time have been faster in urban than rural counties.²⁰ Cancers, heart disease, and cerebrovascular disease are the major causes of mortality among AAPI populations at the national level.²¹ For the present report, data from the Centers for Disease Control and Prevention (CDC Wonder) were used to calculate age-adjusted death rates among AI/AN and white populations, by residence and gender, for the year 2016 (Figure 1).²²



AAPI populations had lower age-adjusted death rates than their white counterparts across all levels of rurality. Among micropolitan county residents, for example death rates were 420/100,000

for AAPI women compared to 709/100,000 for white women. Similarly, the age-adjusted death rate among AAPI men in micropolitan counties was 584/100,000, versus 974/100,000 for white men. It is unclear whether low death rates among AAPI populations stem from their advantages in education and income, the “healthy immigrant” effect, or migration back to home countries in older age.^{23,24, 25}

Behavioral risk factors for AAPI rural residents

Rural residents generally engage more in high-risk health behaviors and are more likely to report their health as poor.¹⁴ However, little research has addressed rural-residing AAPI populations. In other reports in the current series, we used information from counties with a high proportion of minority residents ($\leq 20\%$ for each group) to get some idea of behavioral patterns in such counties. Unfortunately, only 5 rural counties, none of which are located in the continental U.S., have a high proportion of AAPI residents: Hawaii (HI), Kauai (HI), Kodiak Island (AK), Aleutians East (AK) and Aleutians West (AK). This group of counties is both too small and too atypical to be useful for analysis, and thus, no ecological analysis provided in the companion briefs for other minority rural populations was developed for the AAPI population.

To provide some information for readers of this brief, we drew data from two reports issued by the CDC in 2017. Each of these reports has limitations: the report on health risk behavior is restricted to the smallest rural counties excluding micropolitan counties.²⁶ The report on general health-related behaviors included all rural counties in its analysis but provides only an aggregate indicator and does not tally specific behaviors.²⁷

Among AAPI adults living in noncore rural counties, CDC analysis found that self-reported behavioral health risks were generally lower than or equal to those of non-Hispanic white residents in the same counties. AAPI rural adults were less likely than their white rural counterparts to describe their health as only fair or poor (10.4% of AAPI versus 18.5% of white adults). AAPI adults were markedly less likely to have a body mass index (BMI) of 30 or more; only 15.5% of AAPI adults, versus 32.0% of white rural adults have this weight level. There were similar differences in the proportion of AAPI rural adults who were current smokers (10.9% versus 24.7% among rural white adults) or who reported binge drinking (9.9% among AAPI versus 16.3% among white rural adults). Rural AAPI and white adults were about equally likely to report no leisure-time physical activity during the past month (27.6% for AAPI versus 27.7% among rural white adults).²⁷



The CDC analysis of healthy behaviors used a score rather than an assessment of individual items.²⁶ Adults who reported four or more healthy behaviors from a list of five (sufficient sleep, current nonsmoking, nondrinking or moderate drinking, maintaining normal body weight, and meeting aerobic leisure time physical activity recommendations) met the healthy behavior cutpoint. Among non-Hispanic white rural adults, 29.2% of those living in metropolitan rural counties and 27.6% of those living in noncore rural counties attained this score. The race/ethnicity analysis provided by CDC distinguished between Asian and Native Hawaiian/Pacific Islander respondents with differing results for each group. Among those who identified as Asian, 42% of residents in micropolitan counties and 58.2% of those in noncore rural counties reported at least four healthy behaviors; these values exceed those among white rural residents. Among adults who identified as Native Hawaiian/Pacific Islander, 21.9% in micropolitan counties met the criterion which is lower than among white rural adults (there were insufficient numbers of respondents to provide Native Hawaiian/Pacific islander estimates for noncore rural counties).²⁸

Conclusions

Overall, rural AAPI residents fared better on most socioeconomic and health indicators in 2016 than did rural NH white residents. AAPI residents tend to live in counties with more health care resources and higher rates of health insurance, and analyses developed by the CDC suggest that AAPI populations have better health outcomes. However, this overall picture must be balanced by local assessments of individual populations.

Grouping Asian and Pacific Island populations without regard to differences in cultures and origins is problematic. Researchers are beginning to distinguish more carefully between Asian American populations comprised of immigrants and their descendants and indigenous populations from the U.S. and its territories such as Hawaiian and Other Pacific Islander (HOPI) groups. The small size of some of these population groups presents a challenge to routine public health surveillance. While the National Health and Nutrition Examination Survey recently highlighted its additional sampling of Asian Americans,²⁸ it has not yet extended this strategy to HOPI populations and may never be able to do so because of their small numbers. Research examining subpopulations within the Asian category is equally needed and equally difficult. The situation of small immigrant groups who may have had minority status within their countries of origin, such as the Hmong, will differ from that of highly educated professionals.

Given the diversity of AAPI populations, state and territorial public health authorities are best situated for the responsibility of monitoring the health of these potentially vulnerable groups. Funding from federal or philanthropic sources may be needed for periodic in-depth studies of health and health behavior in rural AAPI communities. Interventions, if appropriate, will need to be tailored to the distinct background and culture of each group.

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APPENDIX

Supporting Tables

Table A-1. Characteristics of non-Hispanic white and American Asian and Pacific Islander (AAPI) populations, 2016

	Rural			Urban		
	NH White*	AAPI	All Rural	NH White*	AAPI	All Urban
Age						
< 18 years	20.5%	23.9%	22.1%	18.5%	20.2%	22.9%
18 – 44 years	28.5%	37.2%	29.8%	34.4%	43.1%	37.3%
45 – 64 years	31.0%	26.4%	29.7%	28.1%	24.9%	25.2%
65 years and older	20.1%	12.5%	18.4%	19.0%	11.8%	14.5%
Education (adults, 25 and older)						
< 9 years	3.2%	6.9%	4.3%	1.9%	8.0%	5.6%
< High school	7.2%	5.2%	8.1%	4.6%	5.5%	7.0%
High school	34.9%	18.7%	34.6%	24.8%	15.4%	25.4%
College or more	54.7%	69.2%	53.1%	68.6%	71.1%	62.0%
Poverty						
Poor	10.4%	9.3%	12.3%	9.9%	12.1%	14.5%
Disability status						
Disabled	15.6%	7.7%	15.3%	13.6%	7.2%	12.3%
Veteran status						
Veteran (yes)	9.9%	3.4%	9.4%	8.8%	2.3%	7.0%
Nativity						
Born outside the US	1.2%	60.7%	3.5%	5.0%	64.9%	15.9%
Computer Broadband (household)						
With a broadband Internet subscription	82.5%	89.7%	81.0%	89.1%	92%	86.2%
With dial-up Internet subscription alone	0.6%	0.2%	0.6%	0.3%	0.2%†	0.3%
Without an Internet subscription	7.9%	4.8%	8.8%	5.1%	4.5%	7.2%
No computer††	9%	5.3%	9.6%	5.5%	3.0%	6.3%

*Non-Hispanic.

**Poverty uses the Federal Poverty Level income guidelines. In 2016, the FPL was \$24,300 for a family of four.

† Estimate is based on fewer than 10 observations and is thus unreliable.

†† “Computer” includes any computer, tablet or smartphone.

Source: US Census Bureau, 2016

Table A-2. Rural American Asian and Pacific Islander (AAPIs) population, by county-level economic status, Area Health Resource File 2015

Counties, by quartile based on national distribution of values	Proportion living in these counties among:	
	Rural White Residents	Rural AAPI Residents
Population in poverty (in quartiles, low to high)		
<11.5%	12.1%	12.8%
≥ 11.5 - < 15.2%	15.0%	17.9%
≥ 15.2 - <19.7 %	26.8%	33.3%
≥ 19.7 %	46.0%	36.0%
Unemployment (in quartiles, low to high)		
<4.2%	18.9%	24.2%
≥ 4.2 - <5.3%	21.8%	30.0%
≥ 5.3 - <6.6%	33.3%	26.2%
≥ 6.6%	26.0%	19.6%
Median household income (in quartiles, low to high)		
< \$40,426	26.5%	18.9%
≥ \$40,426 - < \$46,800	32.3%	26.8%
≥ \$46,800 - < \$54,153	26.4%	21.1%
≥ \$54,153	14.9%	33.2%

Source: Area Health Resource File, 2015
Note: AHRF data in this file are drawn from the American Community Survey 2009 – 2013 and thus do not directly parallel the data in Table A-1.

Table A-3. Age adjusted mortality rates per 100,000 residents, by gender and race, 2016.

Rural/Urban Status of County, based on 2013 Urbanization Codes	AAPI Female	AAPI Male	White Female	White Male
Large Central Metropolitan	332	465	594	827
Large Fringe Metropolitan	306	405	606	833
Medium Metropolitan	381	554	642	885
Small Metropolitan	351	469	663	915
Micropolitan (rural)	420	584	709	974
Noncore (rural)	403	402	722	990

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