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## Social Determinants of Health among the Rural Hispanic Population

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

- An estimated 4 million persons, 6.5% of all rural U.S. residents, identified as Hispanic in 2016. The Hispanic rural population was relatively young: 74.4% of the rural Hispanic population was age 44 or younger in 2016 compared to 49.0% of the white rural population.
- Rural Hispanic residents were more likely to have been born outside the U.S. than were white rural populations (26.7% v 1.2%).
- Rural Hispanic populations experienced disparities in educational attainment (34.6% less than high school versus 10.4% among rural white residents) and income (21.3% in poverty versus 10.4% among rural white populations).
- Rural Hispanic adults were less likely to report being disabled than were rural white residents (9.9% versus 15.6%).
- Rural Hispanic populations had lower age-adjusted mortality rates than did rural white residents in 2016.

### Introduction

The United States Census Bureau defines “Hispanic” or “Latino/a” individuals as persons of Cuban, Puerto Rican, Mexican, South and Central American, or Spanish culture or origin regardless of race.<sup>1</sup> Persons who identify as Hispanic are the largest non-white population in the country. The Hispanic population nationally has grown from 9.6 million in 1970 to 58 million in 2016 accounting for 17.8% of the population.<sup>2</sup> Both immigration and births have contributed to Hispanic population growth.<sup>3</sup>

While the majority of Hispanic individuals live in metropolitan counties, recent trends show that Hispanic residents are the fastest growing population in rural\* America.<sup>3</sup> In 2016, approximately 6.5% of all residents of non-metropolitan counties, an estimated 4 million persons, identified as Hispanic.<sup>1</sup> Hispanic residents are projected to become the largest rural minority in the U.S. by 2025.<sup>4</sup>

The rural Hispanic population is relatively young with a median age of 28.4 years which is approximately 15 years younger than non-Hispanic white (hereafter, white) residents (data not in table). Nearly three quarters of the rural Hispanic population (74.4%) were age 44 or younger in 2016 compared to 49.0% of the white rural population (Table A-1). The urban Hispanic population

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

parallels the rural population in which 73.7% were age 44 or younger. At the other end of the age distribution, only a small proportion of both rural and urban Hispanic populations (6.6% and 6.9%, respectively) were aged 65 or older versus much larger proportions of the white population (20.1% rural and 19.0% urban).

### **Social determinants of health within the rural Hispanic 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 Disease Control and Prevention.<sup>5, 6</sup> 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 (<https://www.ruralhealthinfo.org/>).

Social determinants of health contribute strongly to health disparities in Hispanic rural populations in the U.S.<sup>7</sup> Hispanic residents of rural areas are often socially and geographically isolated.<sup>8, 9</sup> Hispanic rural populations are disproportionately affected by poor health, housing, infrastructure, and inadequate local health care systems.<sup>10,11</sup> Gaps are larger for those who were born in the U.S. compared to those born outside the U.S.<sup>12,13</sup> In the sections that follow, we document current disparities within the rural Hispanic population.

#### *Educational attainment*

Hispanic individuals living in non-metro counties reported markedly lower educational attainment than their white peers (Appendix Table A-1). More than a third of rural Hispanic adults (34.6%) reported not completing high school compared to 10.4% among white rural adults. Hispanic adults in urban counties had higher educational attainment with only 32.7% having less than a high school diploma; however, this proportion still exceeded the overall urban value of 12.6% of adults with less than a high school education. Hispanic educational disparities may persist if current trends proceed unchanged. National data, not separated by residence, show that 79% of Hispanic high school freshmen completed high school in 2015-2016 compared to 88% of white freshmen.<sup>14</sup>

#### *Poverty status*

A higher proportion of rural Hispanic residents were living at or below the federal poverty level in 2016 than were white residents (Appendix, Table A-1). About 21.3 % of the non-metro Hispanic population lived below the poverty line versus 10.4% of the non-Hispanic white population. The proportion of urban Hispanic residents in poverty was similar to that for rural Hispanic individuals at 21.0%.

#### *Disability*

Rural Hispanic residents were less likely to be disabled (9.9%) than their white peers (15.6%) although slightly more likely to report disability than urban Hispanic populations (9.0%; Appendix Table A-1). This population-level advantage may stem from the relative youth of the rural Hispanic population; as noted earlier, the median age among rural Hispanic residents is about 15 years lower than that for white residents. Previous research into rural aging found measured disability to be more frequent among Hispanic than white women.<sup>15</sup> It is also possible that Hispanic residents underreport disability due to cultural norms that discourage individuals from discussing disability

and seeking support for it.<sup>16</sup> Finally, it is possible that rural Hispanic workers who experience a disability, if they are foreign born, return to their country of origin after becoming disabled.<sup>17</sup>

#### *Veteran status*

The proportion of the rural Hispanic population reporting veteran status, 4.6%, was lower than that of the rural white population (9.9%). Reported veteran status was even lower among urban Hispanic residents (3.0%; Table A-1). Rural veterans may experience barriers to health services including mental health services due to the travel distances and lack of awareness of services available.<sup>18</sup>

#### *Nativity*

Hispanic residents comprise the largest foreign-born population in the U.S. More than one quarter (26.7%) of rural Hispanic residents were born outside the U.S. versus 1.2% of rural white residents (Table A-1). The proportion of urban Hispanic residents born outside the U.S. is even higher (34.8%) than for rural populations. Although Hispanic immigrants have been more likely to settle in urban areas, recent trends show Hispanic settlement in rural areas bypassing the urban gateways.<sup>39</sup> Hispanic rural immigrants, particularly those settling in communities with little previous Hispanic presence, are likely to experience language barriers and the risk of isolation in addition to other challenges.<sup>10, 17</sup>

#### *Computer and broadband*

Across all racial/ethnic groups, rural households were more likely than urban households to lack a computer in 2016: 9.6% of all rural versus 6.3% of urban households did not have a computer, tablet, or smartphone. Within rural residents, white and Hispanic households were similar in the proportion lacking any computer at 9.0% for white and 10.0% for Hispanic homes. Ethnic disparities were larger for urban residents with 7.4% of Hispanic households and 5.5% of white households lacking a computer. Gaps also appear in the potential for internet use. While 82.5% of rural white households reported having a broadband internet subscription only 76.9% of rural Hispanic households had this service.

### **Concentration in high-risk counties**

In the U.S., minority groups are more likely to reside in low income and disadvantaged areas. County of residence is associated with several health-risk behaviors and health outcomes including life expectancy.<sup>11,19</sup> Lower socioeconomic conditions and lack of access to healthcare resources in such impoverished regions lead to behavioral risk factors and chronic health conditions.<sup>11, 12</sup> This section examines disparities of place: differing concentrations of white and Hispanic populations across the 1,976 rural counties.

In terms of economic resources in the counties in which they live, Hispanic rural residents nationally do not differ markedly from their white peers, and in some cases, do slightly better. A smaller proportion of rural Hispanic residents lived in counties in the highest quartile for poverty that is counties with 19.7% or more residents in poverty than do white residents (41.6% versus 46.0%; Table A-2). On the other hand, Hispanic rural residents were slightly more likely than white residents to live in counties falling in the lowest quartile for median household income (31.6% versus 26.5%; Table A-2). The distribution of Hispanic and white populations across counties by unemployment quartile does not suggest a clear advantage or disadvantage for either population. The proportion of Hispanic and white populations in the top two quartiles for unemployment is similar at 57.5% for Hispanic and 59.3% for white residents.

At the county level, poverty can be an enduring phenomenon. The U.S. Department of Agriculture (USDA) characterizes counties as having “persistent poverty” if 20% or more of the population have lived in poverty for the past 30 years. Overall, 15% of the rural population lived in the 301 persistent poverty counties (not shown in table). However, 18% of Hispanic residents lived in such rural counties compared with 9% of their white peers.

A similar metric is used by the USDA to define “persistent child poverty” counties as counties in which 20% or more of children have lived below the poverty line in each Census since 1980. Across rural America, 558 counties are labeled persistent child poverty counties; 28.2% of the overall rural population lived in these counties. More than one-third of rural Hispanic residents (35.4%) lived in persistent child poverty counties versus 20.9% of their white counterparts.

### Minority residents and health care resources

Nearly all rural residents are challenged by reduced availability of health care providers and facilities.<sup>20</sup> 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 are Health Professional Shortage Areas (HPSAs).<sup>†</sup> Hispanic rural residents are more likely than their white peers to live in a county that is a whole county health professions shortage area across each of the three health disciplines measured (Table 1, at right).

The proportion of residents living in a county that lacked a hospital was similar in Hispanic and white populations. Hispanic individuals were slightly more likely to reside in a county that lacked a skilled nursing facility. Hispanic residents were less likely than their white counterparts to reside in a county that lacked a home health agency, a Rural Health Clinic (RHC), or a Federally Qualified Health Center (FQHC). While the absence of relative disparity is a positive finding, it is uncertain whether these safety net facilities alone are sufficient to compensate for overall provider shortages in counties where Hispanic persons live.

Table 1: Health care resource availability, by ethnicity

Percent of rural population living in counties with indicated designation or facility status	White residents	Hispanic residents
<b>Health Care Personnel Shortages</b>		
Primary Care HPSA*	17.5%	28.4%
Dental HPSA*	11.7%	23.9%
Mental Health HPSA*	74.1%	82.9%
<b>Health Care Facility Gaps</b>		
No hospital	8.8%	7.4%
No skilled nursing facility	3.6%	7.0%
No home health agency	25.5%	22.6%
No Rural Health Clinic	40.2%	36.8%
No Federally Qualified Health Center	40.4%	32.3%
* Whole County Health Professions Shortage Area Source: Area Health Resource File, 2015 Population data in this file are drawn from the American Community Survey 2009 – 2013.		

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

One factor leading to health care provider shortages is the absence of a substantial paying patient base to support institutions and individual providers. Nationally, the Hispanic population has the lowest rates of health insurance of any racial/ethnic group.<sup>21</sup>

Compared to white rural residents, Hispanic residents were more likely to live in counties falling in the highest quartile for the proportion of the population that was uninsured during 2015 (Table 2, at right).

Disparities are notable in the highest quartile:

42.7% of Hispanic residents versus 18.8% of their white counterparts live in counties where 16.0% or more of the population is uninsured. Coupled with the substantial group of rural Hispanics who live in counties lacking a safety-net provider (RHC or FQHC), this creates the potential for inadequate access to care.

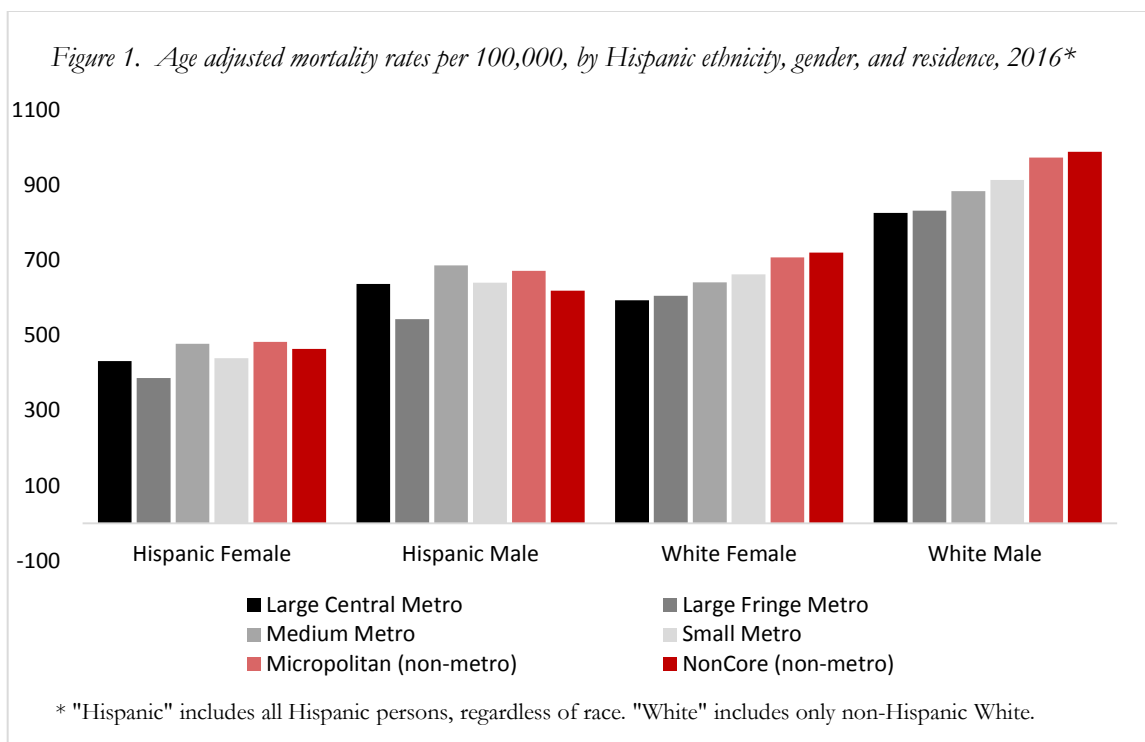
Table 2: Rural population distribution by quartiles of health insurance coverage, by race/ethnicity

Proportion of county residents lacking health insurance (age ≤ 64)	White residents	Hispanic residents
< 8.6% (lowest quartile)	33.8%	14.1%
≥ 8.6% - < 12.2%	24.8%	19.2%
≥ 12.2% - < 16.0%	22.5%	24.0%
≥ 16.0% (highest quartile)	18.8%	42.7%
<i>Source: Area Health Resource File, data for 2015</i>		

### Mortality among Rural Hispanic Residents

The “Hispanic Paradox” refers to the phenomenon of lower death rates among Hispanic populations despite lower socioeconomic status, lower health insurance rates, and lack of access to healthcare.<sup>22</sup> For the present report, data from the Centers for Disease Control and Prevention (CDC Wonder) were used to calculate age-adjusted death rates among Hispanic and non-Hispanic white populations, by residence and gender, for the year 2016.<sup>23</sup>

The “Hispanic Paradox” phenomenon is observable in the analysis (see Figure 1 and Table A-3). Hispanic populations at all levels of rurality have lower death rates than their white peers. For example, Hispanic female age-adjusted death rates in noncore counties, 465 per 100,000, are markedly lower than white female rates in those counties, 722 per 100,000. In addition, the rural penalty that is apparent in the white population is not present for Hispanic deaths. Inadequate coding of ethnicity on death certificates is not common enough to significantly affect rates; thus findings are likely to be reasonably accurate.<sup>24</sup> It has been suggested that Hispanic death rates are influenced by selective migration of healthy individuals to the U.S. and reverse migration of older adults.<sup>25</sup>



### Risk factors in rural counties with a high proportion of Hispanic residents

Rural residents generally are more likely to report their health as poor and more likely to engage in high-risk health behaviors.<sup>25</sup> Due to data restrictions, we were not able to use person-level information to assess health-related quality of life and behaviors among rural Hispanic residents directly. As an approximation, we used county rankings data from the Robert Wood Johnson Foundation<sup>‡</sup> to look at health outcomes in rural counties that have a proportionately high representation of Hispanic residents (more than 20% of the population reporting ethnicity as Hispanic; n=228; hereafter, high Hispanic concentration counties) and compared them to other rural counties. The underlying assumption is that in the “high Hispanic concentration” counties, Hispanic residents would contribute more to total overall health than in other counties. Details are provided in Table A-4.

Self-reported health has been noted as a single, valid, and robust indicator associated with adverse health outcomes.<sup>26</sup> A higher proportion of adults reported fair or poor health in high Hispanic concentration rural counties than in counties with proportionately fewer Hispanic residents (21.2% vs 16.4%). Average physically unhealthy days and poor mentally unhealthy days were similar in high Hispanic concentration counties and other rural counties at approximately four (4) of the past 30 days.

Health behaviors and environmental access to exercise and food differed only slightly between high Hispanic concentration and other rural counties. In high Hispanic concentration rural counties, 16.2% of adults reported smoking versus 17.9% in other rural counties. Obesity rates, based on reported height and weight, averaged 29.1% in high Hispanic concentration counties and 31.7% in

<sup>‡</sup> Data available at <http://www.countyhealthrankings.org/>.

other rural counties. Non-job related physical activity was slightly lower in high Hispanic concentration counties (25.8%) than in other rural counties (27.4%). About three-fifths of residents in both groups of rural counties reported access to exercise facilities (high Hispanic concentration counties, 60.0%; other counties 60.6%).

High Hispanic concentration counties and other rural counties have a similar environment for healthy eating as measured by the Food Environment Index (FEI) developed by the County Health Rankings authors.<sup>27</sup> The FEI combines the two concepts of access to food as measured by income and geographic proximity to a grocery store and food insecurity as measured by consistent access to food. It is measured on a scale of 0-10, where 0 is the worst and 10 is the best. The FEI within high Hispanic concentration counties (7.3) was close to that within other rural counties (7.5; data not in table).



High Hispanic concentration counties had markedly higher rates for teen births and HIV prevalence than other rural counties. The teen birth rate in high Hispanic concentration counties was 51.5 per 1,000 live births versus 32.8 in other rural counties. In part, this may stem from marriage at an earlier age among Hispanic women.<sup>28</sup> As might be expected with a high teen birth rate, the percentage of low birth weight babies was also slightly higher in high Hispanic concentration rural counties than other rural counties (8.1% versus 7.5%). Diabetes prevalence in high Hispanic concentration rural counties was similar to that in other rural counties (10.1% versus 11.3%).

The HIV rate in high Hispanic concentration counties, 164.1 per 100,000 residents, was markedly higher than that in other rural counties (102.7/100,000). At the national level, Hispanic persons are disproportionately likely to have HIV with 24% of new cases coming from the Hispanic population.<sup>29</sup> The Centers for Disease Control and Prevention attribute high HIV rates to a combination of socio-economic disparities, stigma, and lack of access to care. Of note, earlier research found that 75% of rural residents with HIV live in a county that lacks a Ryan White care provider.<sup>30</sup>

## Conclusions

As the largest American rural minority, Hispanic residents contribute to the country's economic development and cultural diversity. Social determinants of health and health outcomes among this population are mixed when compared to those of their white peers. Hispanic rural populations lagged behind their white counterparts in multiple socioeconomic indicators in 2016 including education, income, and access to broadband. On the other hand, the rural Hispanic population contains proportionately more children and adults under the age of 44 than is the case with the white rural population potentially contributing to lower rates of disability at the population level. While mortality rates continue to demonstrate the "Hispanic paradox" of lower age-adjusted death rates than comparable white populations, it remains to be seen whether this paradox will continue as the current Hispanic population ages.

State and local public health organizations are encouraged to monitor the status of rural Hispanic populations particularly in areas with large proportions of foreign-born residents and in areas where the Hispanic presence is a recent phenomenon. High rates of HIV in counties with proportionately large Hispanic populations are of particular concern and suggest a need for proactive prevention programs.

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APPENDIX

Supporting Tables

Table A-1. Characteristics of non-Hispanic white and Hispanic populations, by metropolitan status of county of residence, 2016

	Rural			Urban		
	NH* White	Hispanic Residents	All Rural Residents	NH* White	Hispanic	All Urban Residents
Age						
Less than 18 years	20.5%	34.9%	22.1%	18.5%	31.7%	22.9%
18 – 44 years	28.5%	39.5%	29.8%	34.4%	42.0%	37.3%
45 – 64 years	31.0%	19.0%	29.7%	28.1%	19.4%	25.2%
65 years and older	20.1%	6.6%	18.4%	19.0%	6.9%	14.5%
Education (adults, 25 and older)						
< 9 years	3.2%	19.8%	4.3%	1.9%	19.3%	5.6%
< High school	7.2%	14.8%	8.1%	4.6%	13.4%	7.0%
High school	34.9%	28.8%	34.6%	24.8%	27.7%	25.4%
College or more	54.7%	36.6%	53.1%	68.6%	39.5%	62.0%
Poverty**						
Poor	10.4%	21.3%	12.3%	9.9%	21.0%	14.5%
Disability status						
Disabled	15.6%	9.9%	15.3%	13.6%	9.0%	12.3%
Veteran status						
Veteran (yes)	9.9%	4.6%	9.4%	8.8%	3.0%	7.0%
Nativity						
Born outside the US	1.2%	26.7%	3.5%	5.0%	34.8%	15.9%
Computer Broadband (household)						
With a broadband Internet subscription	82.5%	76.9%	81.0%	89.1%	81.4%	86.2%
With dial-up Internet subscription alone	0.6%	0.3%	0.6%	0.3%	0.2%	0.3%
Without an Internet subscription	7.9%	13.3%	8.8%	5.1%	11.1%	7.2%
No computer†	9%	10%	9.6%	5.5%	7.4%	6.3%

\* Non-Hispanic \*\*Poverty uses the Federal Poverty Level income guidelines. In 2016, the FPL was \$24,300 for a family of four.  
† “Computer” includes any computer, tablet or smartphone.  
Source: US Census Bureau, 2016

Table A-2. Rural Hispanic population, by county economic status, Area Health Resource File 2015

Counties, by quartiles based on national distribution of values  (n = 1985 rural counties)	Proportion living in these counties among:	
	Rural White Residents	Rural Hispanic Residents
Population in poverty (in quartiles, low to high)		
<11.5%	12.1%	16.2%
≥ 11.5 - < 15.2%	15.0%	19.5%
≥ 15.2 - <19.7 %	26.8%	22.6%
≥ 19.7 %	46.0%	41.6%
Unemployment (in quartiles, low to high)		
<4.2%	18.9%	21.8%
≥ 4.2 - <5.3%	21.8%	20.7%
≥ 5.3 - <6.6%	33.3%	28.6%
≥ 6.6%	26.0%	28.9%
Median household income (in quartiles, low to high)		
< \$40,426	26.5%	31.6%
≥ \$40,426 - < \$46,800	32.3%	30.3%
≥ \$46,800 - < \$54,153	26.4%	22.9%
≥ \$54,153	14.9%	15.2%
<i>Source: Area Health Resource File (AHRF), 2015</i>		
<i>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.</i>		

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

Rural/Urban Status of County, based on 2013 Urbanization Codes	Hispanic Female	Hispanic Male	White Female	White Male
Large Central Metropolitan	432	637	594	827
Large Fringe Metropolitan	387	544	606	833
Medium Metropolitan	478	688	642	885
Small Metropolitan	440	641	663	915
Micropolitan (non-metro or rural)	483	673	709	974
Noncore (non-metro or rural)	465	620	722	990

Table A-4: Characteristics of adults in rural counties with more than 20% Hispanic population versus rural counties with no concentrated minority population, selected health indicators, 2015 County Health Rankings data.

	Rural counties with >20% Hispanic residents (n=228)	Other rural counties* (n=1413)
Health indicators:		
Self-reported poor or fair health (%)	21.2%	16.4%
Unhealthy days in the last 30 days		
Physical health days	4.0%	3.9%
Mental health days	3.8%	3.9%
Health-related behaviors:		
Adult smoking (%)	16.2%	17.9%
Adult obesity (%)	29.1%	31.7%
Physical inactivity (%)	25.8%	27.4%
Access to exercise opportunities (%)	60.0%	60.6%
Health outcomes:		
Average Teen births per 1,000 births	51.5	32.8
Average Low birth weight rate (%)	8.1%	7.5%
Average HIV prevalence per 100,000 residents	164.1	102.7
Average Diabetes prevalence (%)	10.1%	11.3%

Source: Robert Wood Johnson Foundation County Health Rankings, 2015.

\*"Other" counties are those in which no single minority population, defined as African American, Hispanic, American Indian/Alaska Native, and Asian and Pacific Islander populations, makes up more than 20% of the population.

Health indicator data are drawn from the 2006 – 2012 Behavioral Risk Factor Surveillance System.

Health-related behaviors are drawn from the 2006 – 2012 Behavioral Risk Factor Surveillance system (smoking); the 2011 CDC Diabetes Interactive Atlas (obesity and physical inactivity); and the 2010 and 2013 Business Analyst and map data (opportunities to exercise).

Health outcomes data are drawn from 2006 – 2012 National Center for Health Statistics natality files (teen birth rate and low birth rate); 2010 National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention (HIV prevalence); and the 2011 CDC Diabetes Interactive Atlas (diabetes prevalence)

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