

# Summary Data Brief of the Changes in Health Disparities Between 2010-2017

## Introduction

This summary data brief focuses on health disparities and how they change in Michigan's populations over time. Group-level data for five racial and ethnic groups in Michigan compared to Michigan's White population are analyzed for two time periods (2008-2010) and (2015-2017). This brief describes how populations compare to one another in terms of population prevalence for several social determinants of health and health outcomes. These comparisons describe populations relative to each other and if the gap is narrowing (less disparate) or widening (more disparate) over time. The purpose of these data tables is to allow for routine monitoring of health disparities in Michigan and to evaluate their progress over time.

## Health Indicators

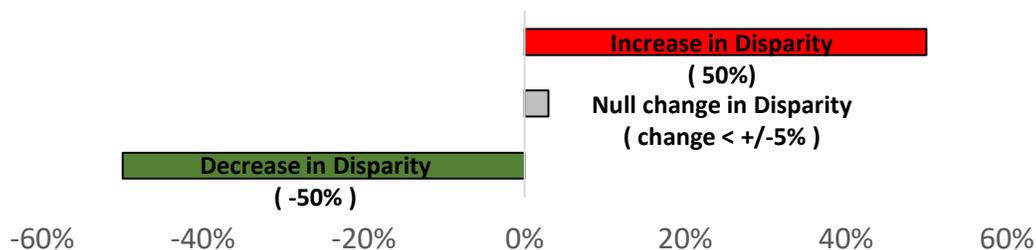
Each of the tables contains two sets of indicators with data for each minority racial and ethnic population. The first set of indicators include social, economic, and environmental determinants for individual and community health. The second set of indicators include health outcomes represented by mortality and morbidity rates and prevalence for several diseases. Monitoring social determinants along with health outcomes is optimal for evaluating success in achieving sustainable health equity for racial and ethnic minority populations in Michigan.

## Health Equity Measures

**Change in Pairwise Disparity Over Time:** The change in pairwise disparity over time describes whether the index population (racial/ethnic minority) prevalence has gotten closer to or farther from the White population prevalence from one time period to another.

The above listed health disparity measure is shown in tabular form with the population prevalence for both the Indexed and White population listed by each of the time periods followed by the **Percent (%) Change in Pairwise Disparity Over Time**. The percent change in pairwise disparity over time for each health indicator is then shown graphically in order from greatest increase in disparity (positive percent and by a red bar graphically) to greatest decrease in disparity (negative percent and by a green bar graphically).

Example chart of change in health disparity



Key: The above figure gives a graphical example of change in pairwise disparity over time. The percent change in pairwise disparity over time for each health indicator is shown graphically in order from greatest increase in disparity (positive percent and by a red bar graphically) to greatest decrease in disparity (negative percent and by a green bar graphically). Percent changes less than (+/-) 5% are represented by a grey bar.

## Change in Health Disparity: African American and White Community

- Within the African American community several decreases in disparity between the African American and White American communities have occurred such as a 19% reduction in the disparity of high school dropout rate.
- These reductions have mainly been due to improvements in the prevalence of these social determinants of health for African Americans.
- However, some of the biggest reductions in disparity have been due to a worsening of prevalence in the White community such as rise in the prevalence of female-headed households (3.60% in 2010 to 22.7% in 2017) and individuals with no personal health care provider (12% in 2010 to 15% in 2017).

Indicators	2008-2010		2015-2017		Change in Pairwise Disparity, %
	African American	White	African American	White	
<b>Social Determinants<sup>a</sup></b>					
Female-headed households, %	31.20%	9.60%	33.50%	22.70%	-55%
No personal health care provider, %	18%	12%	18%	15%	-20%
Living in different house than last year, %	21.90%	12.60%	17.30%	12.50%	-20%
High school dropout rate, %	20%	8%	14%	7%	-19%
No health care access due to cost, %	19%	12%	16%	12%	-15%
Population ≥ 3 years in preschool, %	4.90%	5.40%	5.60%	5.80%	-6%
Living in renter-occupied housing, %	53.30%	21.40%	58.20%	22.20%	5%
Poverty rate children <18 years, %	45.00%	15.90%	41.10%	13.40%	8%
Owner's mortgage cost >30% income, %	48.60%	35.00%	33.70%	21.80%	11%
Median housing value, \$	84,100	142,600	73,300	161,900	23%
Unemployment rate, %	13.70%	7.20%	13.60%	5%	59%
<b>Mortality and Morbidity Indicators<sup>b</sup></b>					
Diabetes prevalence, %	14%	8%	13%	9%	-20%
Septicemia mortality per 100,000	19.7	7.3	18.8	8.6	-19%
Pneumonia and flu mortality per 100,000	19.2	12.9	17.6	14	-16%
Suicides mortality per 100,000	7.2	13.8	9.7	16.4	-13%
Diabetes mortality per 100,000	36.2	22.3	35.3	20.2	8%
Kidney disease mortality per 100,000	24.9	14.1	28.3	13.1	22%
Accidents mortality per 100,000	34.6	36.6	64.3	51.2	33%

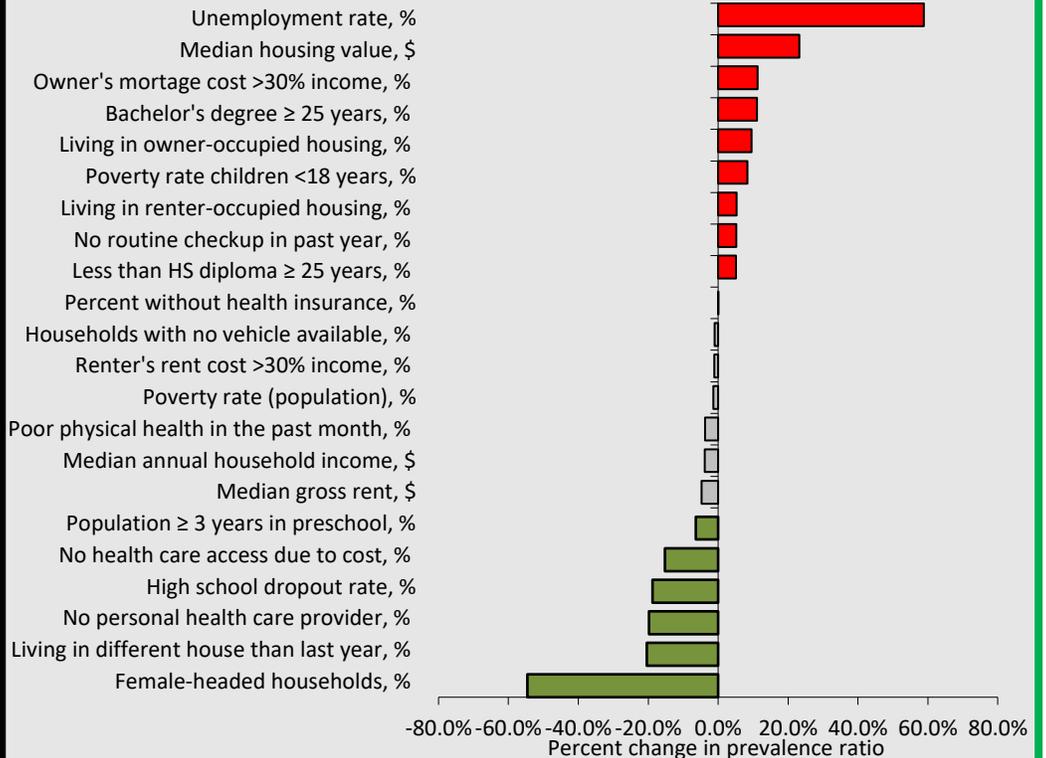
**Key:** Positive percentages represent an increase in disparity (difference) between the population of interest and the White population, while negative percentages represent a decrease in disparity. Percentages less than (+/-) 5% show no change in disparity. For ratios less than 1.00 these values are inverse.

- a. Data Source: American Community Survey, population profile 3-year estimate 2008-2010; 1-year estimate 2017. For these indicators Asian estimate does not include Pacific Islanders and all races are non-Hispanic. For Indicators of Hispanic estimates, Hispanics include combination with one or more races.
- b. Data Source: Michigan Behavioral Risk Factor Survey, 3-year estimates 2008-2010; 2015-2017. For these indicators all race and ethnicities are non-Hispanic. Calculations for change in pairwise disparity for disparity comparisons to White populations can be found in the Michigan Health Equity Data Project's Michigan Health Equity Data Tables and Related Technical Documents 2000-2009. [https://www.michigan.gov/documents/mdch/MI\\_Health\\_Equity\\_Data\\_Tables\\_-\\_May\\_2011\\_361639\\_7.pdf](https://www.michigan.gov/documents/mdch/MI_Health_Equity_Data_Tables_-_May_2011_361639_7.pdf)

# Change in Health Disparity: African American and White Community

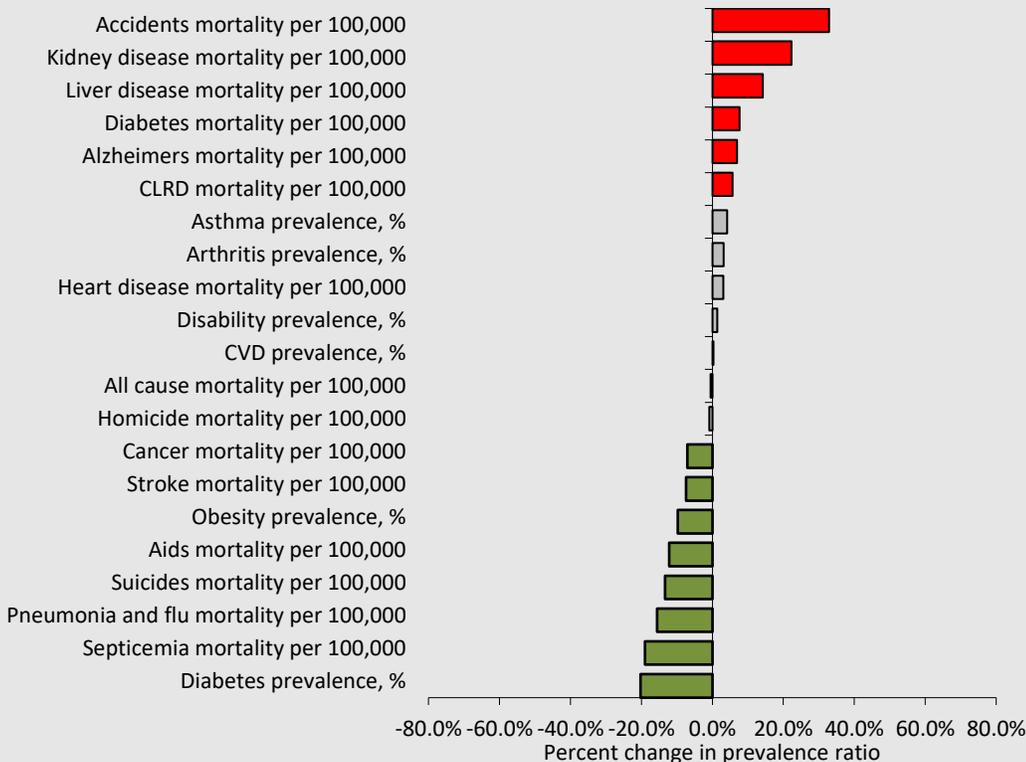
- The gap between African American and White American unemployment rates increased by 58.8% between 2010 and 2017.
- The unemployment rate of White Americans was higher in 2010 than in 2017 while African American unemployment stayed the same.
- In contrast, the gap in the percent of single-parent households decreased between White and African Americans by 54.6%.
- Overall, between 2010 and 2017 the disparity in many SDOH indicators decreased between African Americans and White Americans.

## Change in Health Disparities between African American and White Americans: Social Determinants of Health (2010-2017)



Key: The percent change in pairwise disparity over time for each health indicator is shown graphically in order from greatest increase in disparity (positive percent and by a red bar graphically) to greatest decrease in disparity (negative percent and by a green bar graphically). Percent changes less than (+/-) 5% are represented by a grey bar.

## Change in Health Disparities between African American and White American: Mortality/Morbidity Indicators (2010-2018)



- Overall preventable causes of mortality such as pneumonia, Septicemia, and AIDS and many chronic diseases like cardiovascular disease have decreased in the disparity between African American and White Americans.
- The reduction in disparity is mainly due to improvements in the prevalence of these health indicators in the African American community.
- However, there is still a great amount of absolute disparity between these populations.

## Change in Health Disparity: Hispanic American and White Community

- Between the Hispanic American and White American communities there is a 29% reduction in the disparity in enrollment of children in preschool.
- However, in terms of mortality and morbidity indicators the disparity between the Hispanic American and White American communities has increased.
- In some cases, increases in disparity have been due to the Hispanic American community having greater improvements in mortality than the White American community like in chronic lower respiratory disease (CLRD) mortality rates. In other cases the increase in disparity is due to a worsening of health indicator prevalence in the Hispanic community such as in obesity prevalence.

Indicators	2008-2010		2015-2017		Change in Pairwise Disparity, %
	Hispanic American	White	Hispanic American	White	
<b>Social Determinants<sup>a</sup></b>					
Population ≥ 3 years in preschool, %	7.10%	5.40%	5.40%	5.80%	-29%
High school dropout rate, %	20%	8%	13%	7%	-25%
Living in different house than last year, %	21.00%	12.60%	16.50%	12.50%	-21%
Female-headed households, %	19.60%	9.60%	38.60%	22.70%	-17%
Poverty rate (population), %	24.20%	8.40%	18%	7%	-13%
Less than HS diploma ≥ 25 years, %	33.00%	10.20%	27.30%	7.40%	14%
Percent without health insurance, %	22.20%	10.70%	11.10%	4.50%	19%
Poor physical health in the past month, %	11%	10%	11%	9%	20%
<b>Mortality and Morbidity Indicators<sup>b</sup></b>					
Arthritis prevalence, %	21%	30%	26%	28%	-31%
Suicides mortality per 100,000	8.1	13.8	12.1	16.4	-26%
Diabetes mortality per 100,000	36.3	22.3	26.8	20.2	-18%
Stroke mortality per 100,000	34.6	37.6	31.3	38.6	12%
Obesity prevalence,%	34%	29%	42%	31%	15%
Pneumonia and flu mortality per 100,000	12.3	12.9	15.6	14	17%
Heart disease mortality per 100,000	157.4	196.4	120.8	187.2	19%
CLRD mortality per 100,000	30.1	47.2	17.6	46.5	41%

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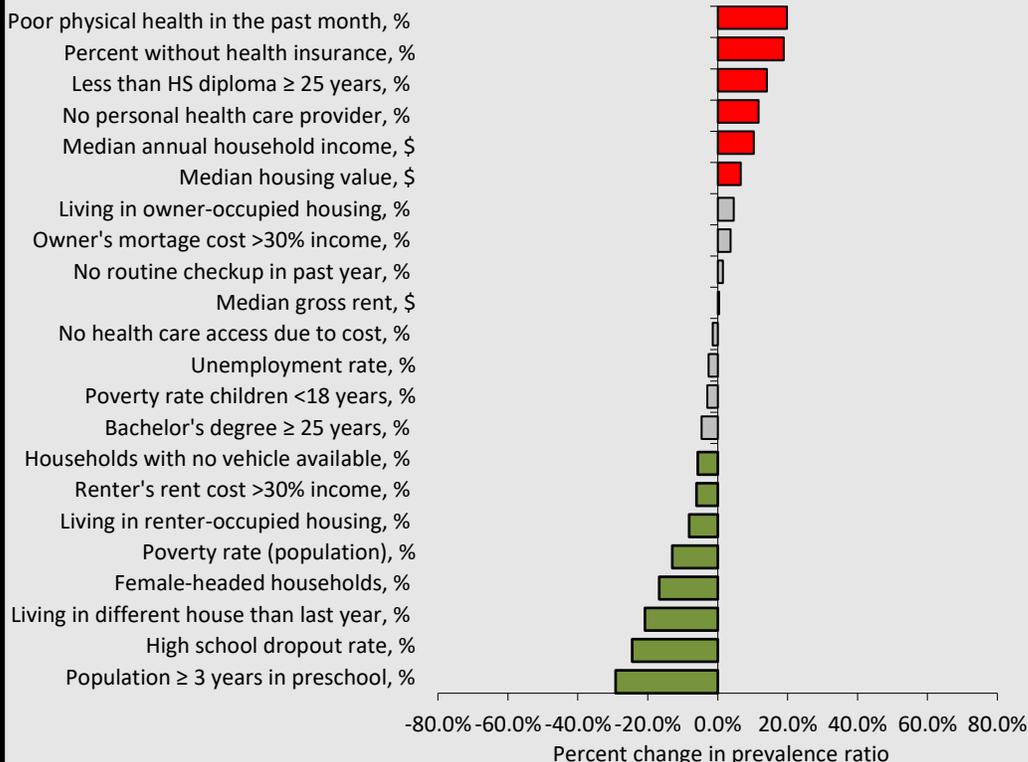
a. Data Source: American Community Survey, population profile 3-year estimate 2008-2010; 1-year estimate 2017. For these indicators Asian estimate does not include Pacific Islanders and all races are non-Hispanic. For Indicators of Hispanic estimates, Hispanics include combination with one or more races.

b. Data Source: Michigan Behavioral Risk Factor Survey, 3-year estimates 2008-2010; 2015-2017. For these indicators all race and ethnicities are non-Hispanic. Calculations for change in pairwise disparity for disparity comparisons to White populations can be found in the Michigan Health Equity Data Project's Michigan Health Equity Data Tables and Related Technical Documents 2000-2009. [https://www.michigan.gov/documents/mdch/MI\\_Health\\_Equity\\_Data\\_Tables\\_-\\_May\\_2011\\_361639\\_7.pdf](https://www.michigan.gov/documents/mdch/MI_Health_Equity_Data_Tables_-_May_2011_361639_7.pdf)

## Change in Health Disparity: Hispanic American and White Community

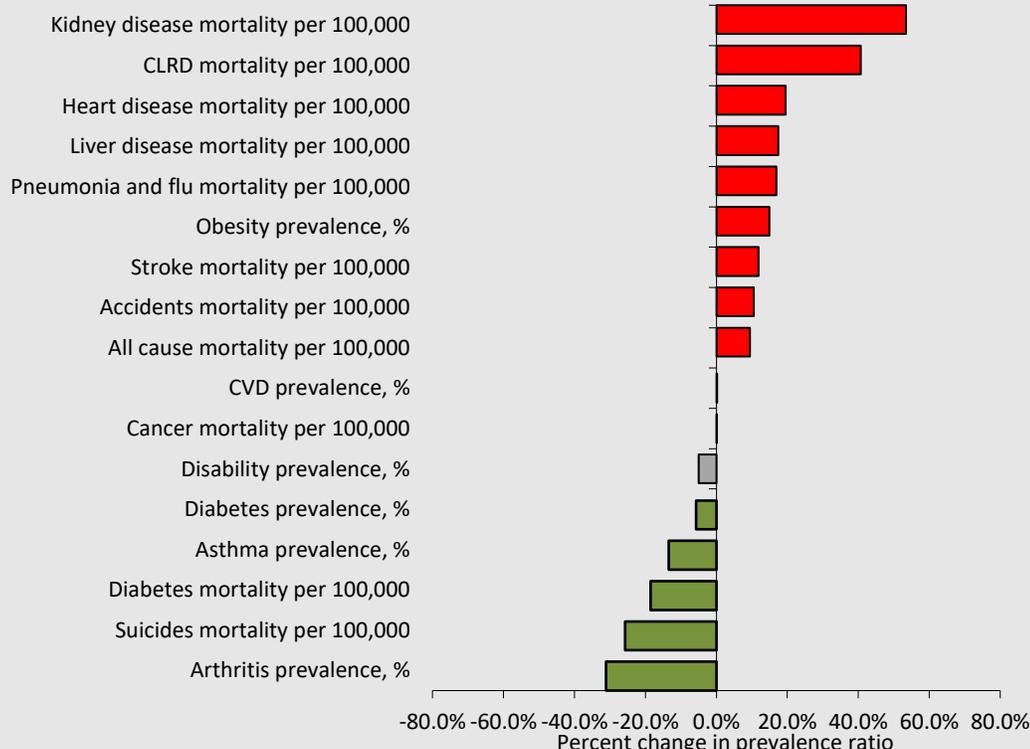
- The disparity between Hispanic and White Americans in many of the key SDOH indicators such as household income, poverty rate, and high school dropout rates have reduced.
- This reduction in disparity is mainly due to improvements within the Hispanic community for many of these indicators.
- Such as an increase in household income and a reduction in the poverty rate within the Hispanic community.

### Change in Health Disparities between Hispanic American and White Americans: Social Determinants of Health (2010-2017)



Key: The percent change in pairwise disparity over time for each health indicator is shown graphically in order from greatest increase in disparity (positive percent and by a red bar graphically) to greatest decrease in disparity (negative percent and by a green bar graphically). Percent changes less than (+/-) 5% are represented by a grey bar.

### Change in Health Disparities between Hispanic American and White American: Mortality/Morbidity Indicators (2010-2018)



- The disparity in chronic disease mortality between the Hispanic and White communities has increased for several key health issues like chronic lower respiratory disease and heart disease.
- Some of these increases are due to the health indicators prevalence for Hispanic Americans improving more than White Americans, but many are due to a worsening in prevalence.
- The Hispanic community has seen a reduction in disparities for chronic diseases like a 31% reduction in arthritis.

## Change in Health Disparity: Asian American and White Community

- Within the Asian American community, the prevalence of many social determinants of health are better than that of the White Americans.
- Some improvements in disparity are due to a worsening of prevalence in the Asian American community or improvement in the White community.
- For example, there is a 433% reduction in the disparity between Asian and White communities for poor physical health prevalence due to Asian American prevalence increasing from 2% in 2010 to 9% in 2017.
- Another example is the reduction in unemployment disparity due to White American unemployment decreasing from 7.2% in 2010 to 5% in 2017 gaining more parity with the Asian American unemployment rate.

Indicators	2008-2010		2015-2017		Change in Pairwise Disparity, %
	Asian American	White	Asian American	White	
<b>Social Determinants<sup>a</sup></b>					
Poor physical health in the past month, %	2%	10%	9%	9%	-433%
No health care access due to cost, %	15%	12%	11%	12%	-27%
Unemployment rate, %	5.60%	7.20%	4.20%	5%	-20%
Households with no vehicle available, %	6.40%	5.50%	5.10%	5.50%	-20%
No routine checkup in past year, %	36%	35%	27%	31%	-16%
No personal health care provider, %	12%	12%	16%	15%	8%
Median housing value, \$	208,300	142,600	261,500	161,900	11%
Median gross rent, \$	799	713	1,044	828	13%
Population ≥ 3 years in preschool, %	5.40%	5.40%	4.50%	5.80%	22%
Less than HS diploma ≥ 25 years, %	12.00%	10.20%	10.70%	7.40%	23%
Female-headed households, %	6.50%	9.60%	11.10%	22.70%	28%
High school dropout rate, %	6%	8%	4%	7%	30%
<b>Mortality and Morbidity Indicators<sup>b</sup></b>					
Obesity prevalence, %	6%	29%	14%	31%	-98.90%
Disability prevalence, %	6%	22%	11%	24%	-65.10%
CVD prevalence, %	10%	8%	4%	8%	-64%
Asthma prevalence, %	6%	15%	7%	16%	-12%
Stroke mortality per 100,000	32.2	37.6	26.3	38.6	20.40%
Accidents mortality per 100,000	16.4	36.6	15.8	51.2	31%

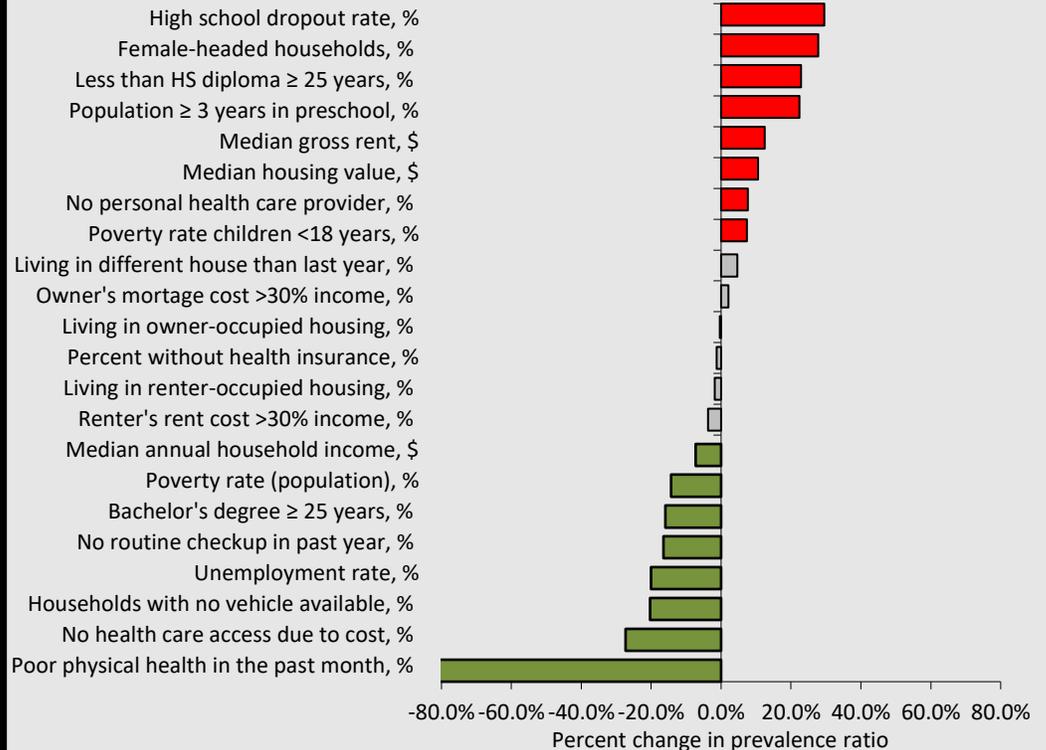
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## Change in Health Disparity: Asian American and White Community

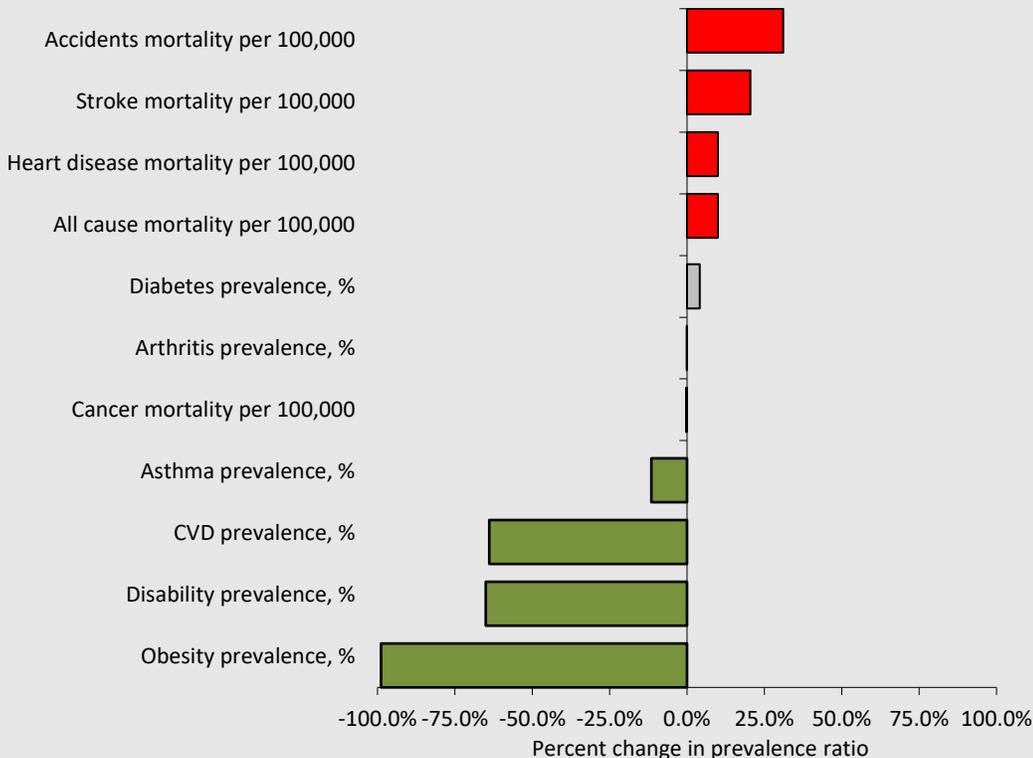
- The prevalence of many social determinant indicators in the Asian American community are lower than the White American community.
- The increase in disparity for high school dropout rates of 29.5%, for example, is due to a worsening of prevalence in the White community.
- However the reduction in disparities for social determinant indicators is due largely to improvements in prevalence in the Asian American community.

### Change in Health Disparities between Asian American and White Americans: Social Determinants of Health (2010-2017)



Key: The percent change in pairwise disparity over time for each health indicator is shown graphically in order from greatest increase in disparity (positive percent and by a red bar graphically) to greatest decrease in disparity (negative percent and by a green bar graphically). Percent changes less than (+/-) 5% are represented by a grey bar.

### Change in Health Disparities between Asian American and White American: Mortality/Morbidity Indicators (2010-2018)



- Many of the reductions in disparity for health indicators between the White and Asian communities are due to the increase of prevalence in the Asian American community over time.
- For example, the prevalence of obesity among Asian Americans increased from 6% in 2010 to 14% in 2017 approaching White obesity prevalence.
- Additionally, the increases in disparities are due to the lowering of Asian American prevalence and an increase in the White American prevalence.

## Change in Health Disparity: Native American and White Community

- The disparity between the Native American and White communities increased across most social determinants of health due in most part to worsening prevalence in the Native American community.
- Native Americans had increases in prevalence such as the proportion of renter's whose rent cost exceeded more than 30% of their income (50.90% in 2010 to 54.40% in 2017).
- However Native Americans have had a reduction in disparity for many morbidity and mortality indicators due to improvements in Native American prevalence for indicators like diabetes and cardiovascular disease mortality.

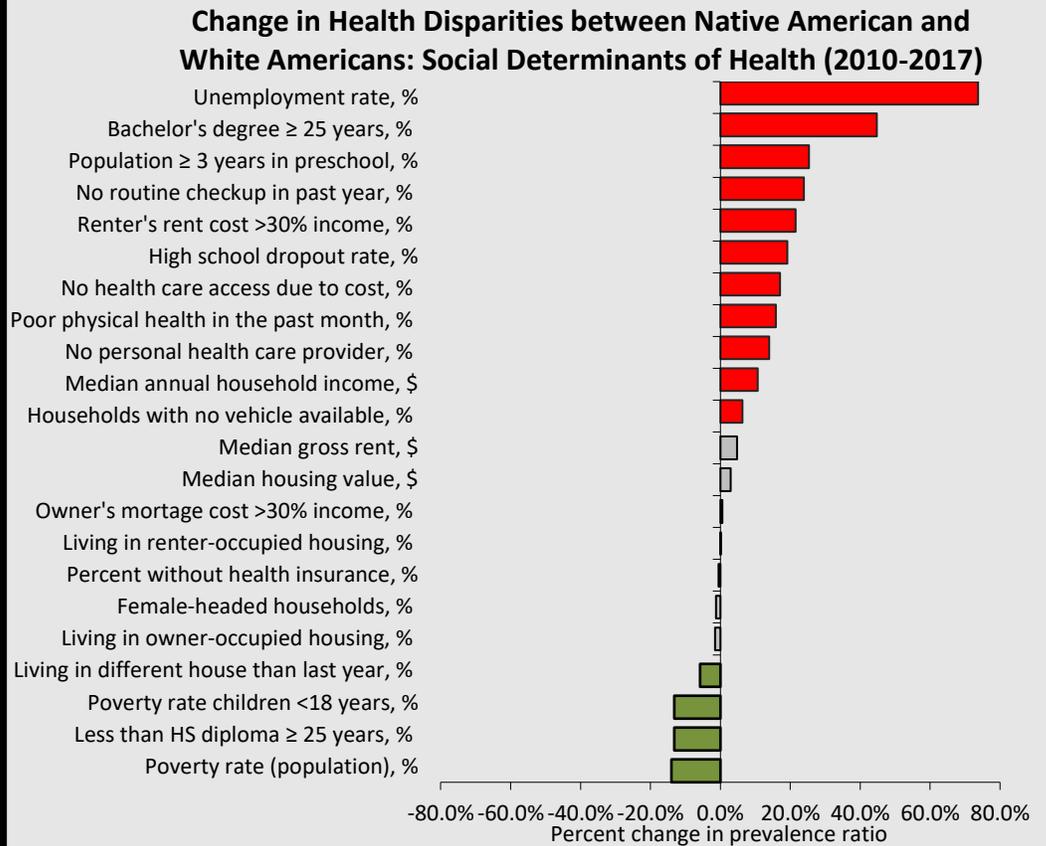
Indicators	2008-2010		2015-2017		Change in Pairwise Disparity, %
	Native American	White	Native American	White	
<b>Social Determinants<sup>a</sup></b>					
Poverty rate (population), %	24.20%	8.40%	17.60%	7%	-14%
Less than HS diploma ≥ 25 years, %	18.90%	10.20%	11.90%	7.40%	-13%
Poverty rate children <18 years, %	34.70%	15.90%	25%	13.40%	-13%
No health care access due to cost, %	18%	12%	21%	12%	17%
High school dropout rate, %	15%	8%	15%	7%	19%
Renter's rent cost >30% income, %	50.90%	52.20%	54.40%	45.90%	22%
No routine checkup in past year, %	30%	35%	33%	31%	24%
Population ≥ 3 years in preschool, %	4.90%	5.40%	6.60%	5.80%	25%
Bachelor's degree ≥ 25 years, %	7.50%	16.20%	12.60%	18.80%	45%
Unemployment rate, %	10.50%	7.20%	11.40%	5%	74%
<b>Mortality and Morbidity Indicators<sup>b</sup></b>					
Diabetes prevalence, %	13%	8%	9%	9%	-39%
CVD prevalence, %	17%	8%	14%	8%	-20%
Obesity prevalence, %	41%	29%	37%	31%	-16%
Cancer mortality per 100,000	205.5	180.3	160.9	160.7	-12%
Diabetes mortality per 100,000	41.4	22.3	33.3	20.2	-11%
All cause mortality per 100,000	875.4	763.6	818.4	763.5	-6%
Asthma prevalence, %	19%	15%	24%	16%	22%
Disability prevalence, %	25%	22%	38%	24%	38%

**Key:** Positive percentages represent an increase in disparity (difference) between the population of interest and the White population, while negative percentages represent a decrease in disparity. Percentages less than (+/-) 5% show no change in disparity. For ratios less than 1.00 these values are inverse.

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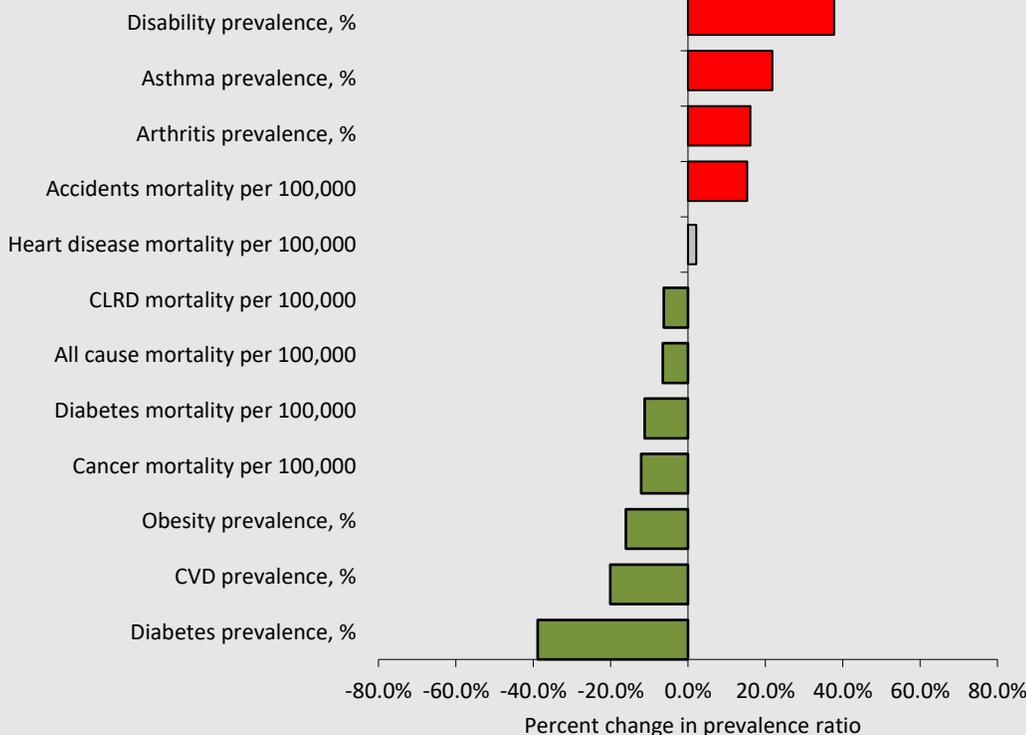
## Change in Health Disparity: Native American and White Community

- Many of the social determinants of health indicators saw an increase in disparity for the Native American community.
- The largest increases were in the unemployment rate (73.7% increase), attainment of bachelor's degrees (44.8% increase), and children enrolled in preschool (25.4%).
- The increases in disparity are due to the worsening of prevalence in the Native American community and improving prevalence in the White community.



Key: The percent change in pairwise disparity over time for each health indicator is shown graphically in order from greatest increase in disparity (positive percent and by a red bar graphically) to greatest decrease in disparity (negative percent and by a green bar graphically). Percent changes less than (+/-) 5% are represented by a grey bar.

## Change in Health Disparities between Native American and White American: Mortality/Morbidity Indicators (2010-2018)



- Reductions in the disparity between the Native American and White American communities were seen across many chronic disease indicators.
- These included all-cause, diabetes, and cancer mortalities which had disparities reductions due to improvements in the rates of mortality and morbidity for Native Americans.
- There were increases in disparity for disability and asthma morbidity due to a worsening in prevalence in the Native American community.

## Change in Health Disparity: Arab American and White Community

- The Arab American community saw decreases in disparity for poor physical health (35% reduction), children enrolled in preschool (29% reduction) and no access to health care due to cost (25% reduction).
- Many of these reductions were due to improvements in the Arab American prevalence for these social determinants.
- However many indicators for mortality and morbidity saw increases in disparity in the Arab American community such as stroke mortality (68% increase) and diabetes mortality (44% increase) which were due to worsening rates for mortality and morbidity in Arab Americans.

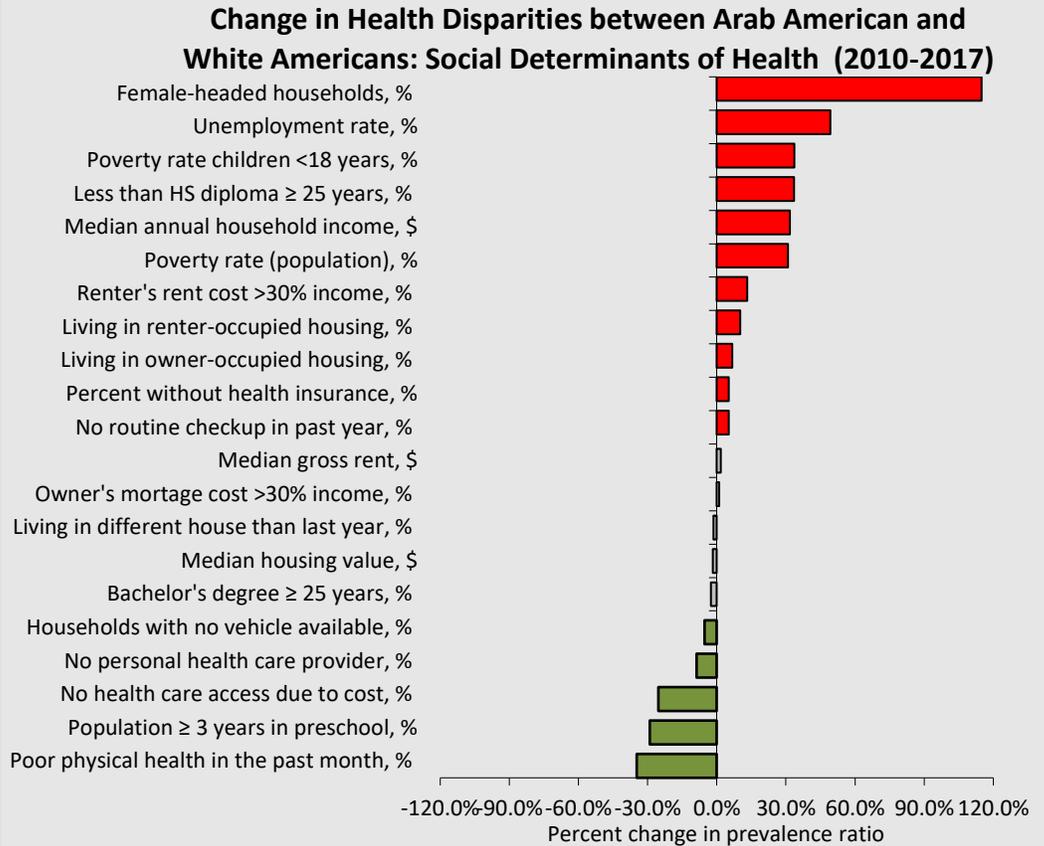
Indicators	2008-2010		2015-2017		Change in Pairwise Disparity, %
	Arab American	White	Arab American	White	
<b>Social Determinants<sup>a</sup></b>					
Poor physical health in the past month, %	14%	10%	8%	9%	-35%
Population ≥ 3 years in preschool, %	5.90%	5.40%	4.50%	5.80%	-29%
No health care access due to cost, %	25%	12%	19%	12%	-25%
No personal health care provider, %	14%	12%	16%	15%	-9%
Living in owner-occupied housing, %	65%	78.60%	60.10%	77.80%	7%
Poverty rate (population), %	25.40%	8.40%	28%	7%	31%
Median annual household income, \$	42,288	50,009	43,058	74,581	32%
Less than HS diploma ≥ 25 years, %	22.70%	10.20%	22.00%	7.40%	34%
Poverty rate children <18 years, %	36.50%	15.90%	41.10%	13.40%	34%
Unemployment rate, %	7.50%	7.20%	7.00%	5%	49%
<b>Mortality and Morbidity Indicators<sup>b</sup></b>					
Obesity prevalence, %	31%	29%	27%	31%	-18%
Cancer mortality per 100,000	221.77	180.3	239.44	160.7	21%
Asthma prevalence, %	15%	15%	13%	16%	22%
Arthritis prevalence, %	25%	30%	18%	28%	24%
Kidney disease mortality per 100,000	22.8	14.1	27.72	13.1	31%
Diabetes mortality per 100,000	28.39	22.3	37	20.2	44%
Stroke mortality per 100,000	35.98	37.6	62.23	38.6	68%

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- b. Data Source: Michigan Behavioral Risk Factor Survey, 3-year estimates 2008-2010; 2015-2017. For these indicators all race and ethnicities are non-Hispanic. Calculations for change in pairwise disparity for disparity comparisons to White populations can be found in the Michigan Health Equity Data Project's Michigan Health Equity Data Tables and Related Technical Documents 2000-2009. [https://www.michigan.gov/documents/mdch/MI\\_Health\\_Equity\\_Data\\_Tables\\_-\\_May\\_2011\\_361639\\_7.pdf](https://www.michigan.gov/documents/mdch/MI_Health_Equity_Data_Tables_-_May_2011_361639_7.pdf)

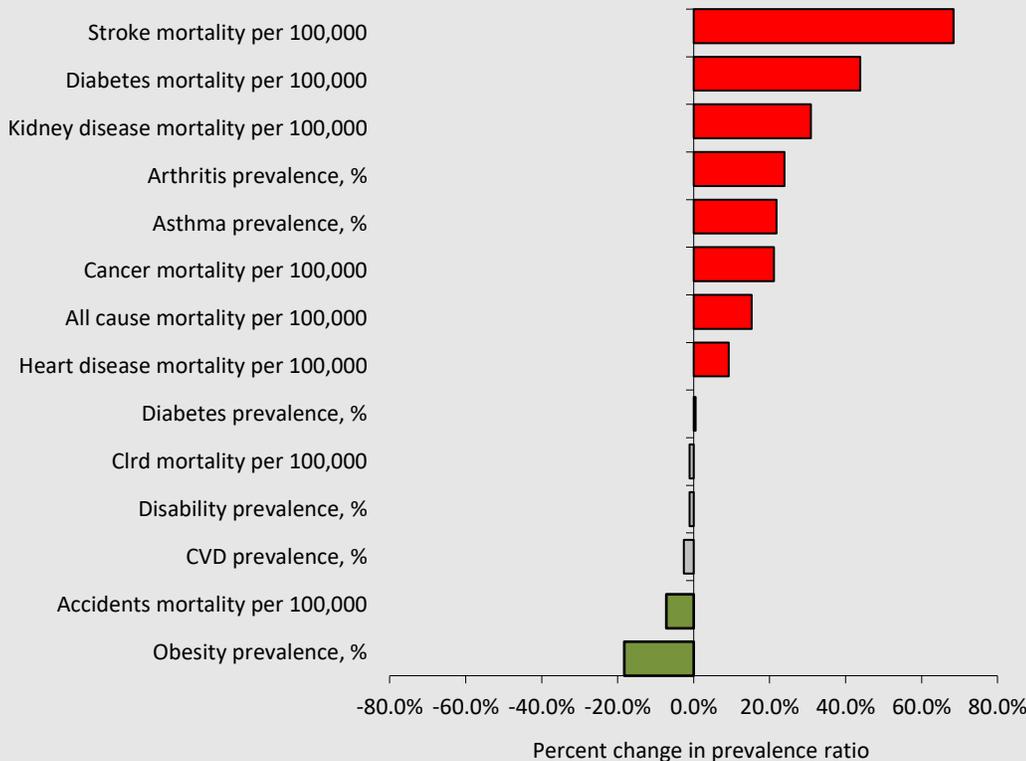
## Change in Health Disparity: Arab American and White Community

- While several social determinants of health indicators related to income saw increases in disparity, like renter cost burden (13.2% increase), several indicators did decrease in disparity.
- Among them was the disparity in individuals having poor physical health with a 34.7% decrease.
- However, many of the greatest changes in disparity for Arab Americans were increases in disparity.



Key: The percent change in pairwise disparity over time for each health indicator is shown graphically in order from greatest increase in disparity (positive percent and by a red bar graphically) to greatest decrease in disparity (negative percent and by a green bar graphically). Percent changes less than (+/-) 5% are represented by a grey bar.

### Change in Health Disparities between Arab and White American: Mortality/Morbidity Indicators (2010-2018)



- Most morbidity and mortality indicators for chronic diseases saw increases in disparity for Arab Americans.
- This is reflected in the 15.3% increase in disparity for all-cause mortality which was mainly due to rises in the mortality rates of Arab Americans across most indicators.
- However, reductions in disparity for morbidity indicators were seen in obesity prevalence and accident prevalence.