

**2020**

# **Region VII Heart Disease Disparities Report**

Heartland RHEC  
Environmental Scan  
Addendum

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## Introduction

The Region VII Health Equity Council Data Committee created this report as an addendum to the Heartland Regional Health Equity Council (RHEC VII) Environmental Scan published in 2014. The Environmental Scan was published to provide an overview of demographics, health disparities, social determinants of health, and other health factors by highlighting challenges, opportunities, and steps that could be taken to promote health equity and eliminate health disparities in Region VII. The RHEC VII Council Data Committee reviewed the leading causes of death and health disparities data in Region VII and established heart disease as the priority area of focus for 2015. Heart disease and its risk factors exact a disproportionate toll on many racial and ethnic groups in Region VII.

Chronic conditions, such as heart disease, stroke, cancer, and diabetes, are the most common and most costly health conditions in the United States (U.S.). Seven out of the ten leading causes of death in 2017 were chronic diseases. Heart disease accounted for nearly 650,000 death in the U.S.<sup>1</sup> The U.S. Secretary of Health and Human Services released an action plan to help prevent and minimize the prevalence of heart disease and stroke in the U.S. According to the Centers for Disease Control and Prevention (CDC), heart disease refers to several types of heart conditions, and the most common type of heart disease in the U.S. is coronary artery disease, which usually affects the blood flow to the heart.<sup>2</sup> In other words, heart disease can be defined as any medical condition of the heart or the blood vessels supplying it that impairs cardiac functioning. Heart disease and stroke are among the leading causes of death and disability in the U.S. with an estimated cost of approximately \$351 billion between 2014 and 2015.<sup>3</sup> As the U.S. population ages, preventable chronic conditions such as heart disease are predicted to occur more frequently and at a greater cost.

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<sup>1</sup> Centers for Disease Control and Prevention. (2017). FastStats - leading causes of death. Retrieved from <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>

<sup>2</sup> Centers for Disease Control and Prevention. (2019). About heart disease. Retrieved from <https://www.cdc.gov/heartdisease/about.htm>

<sup>3</sup> American Heart Association. (2019). Heart disease and stroke statistics. Retrieved from <https://healthmetrics.heart.org/wp-content/uploads/2019/02/At-A-Glance-Heart-Disease-and-Stroke-Statistics-%E2%80%93-2019.pdf>

## Methodology

The data for racial and ethnic minority populations was obtained from the Behavioral Risk Factor Surveillance System (BRFSS) and Vital Statistics. The indicators described in this addendum include the mortality rates of heart disease, the prevalence of coronary heart disease (CHD) and myocardial infarctions (MI), and years of potential life lost (YPLL) due to heart disease. The statistical data used in this report covers the period between 2001 through 2015. Starting in 2011, the Division of Behavioral Surveillance (DBS) from the Centers for Disease Control and Prevention (CDC) made two significant changes to the BRFSS Survey methodology. The changes include weighting methodology and adding a cell phone sampling frame to improve the accuracy of BRFSS estimates. Even though the results obtained from these new methods are not comparable to the BRFSS estimates from previous years (2001-2010), most of the leading causes of death in this region have not changed. The state had also combined five years of BRFSS data to generate estimates for minority groups due to the small sample size issues. Heart disease prevalence questions were not asked in the CDC BRFSS survey core sections for each state in this region and only included in optional modules until 2005. Hence, prevalence data from 2001-2005 were not presented in this report.

For mortality rate trends, the data is presented from three five-year periods; 2001-2005, 2006-2010, and 2011-2015. All of the mortality rates and years of life lost data are age-adjusted to allow comparison of rates across different populations. Adjusted indicators are presented as a rate per 100,000 people and are calculated using a standard population. An age-adjusted death rate represents what the crude death rate would be if the population for which the rate is adjusted and the standard population had the same age distribution. The year “2000 U.S. Standard Population” was used for the calculation of age-adjusted mortality rates in this report. In the figures for mortality rate trends, the trend line for the White population often falls under the trend line for the total population because Whites make up the vast majority of each state in the region. Therefore, rates for the total population will closely mimic the rates for Whites, resulting in the overlapping of the two trend lines. As a result, the trend line for the total population was made thinner to increase the visibility of the line for non-Hispanic Whites. In some instances, data was omitted due to small population sizes. YPLL rate is used to compare years lost between populations with different sizes. YPLL rates are age-adjusted (75 years of life expectancy) to eliminate the effect of different age distributions in each population.

## Data Source

### Iowa (IA):

Mortality rates were populated from CDC WONDER, which is an acronym for Wide-ranging Online Data for Epidemiologic Research available from the CDC for both public health professionals and the general public. This useful tool can be accessed at <http://wonder.cdc.gov/>. Information for YPLL due to heart disease was derived from the Vital Statistics in the Iowa Department of Health, and percentages were populated from the IA BRFSS survey.

### Kansas (KS):

The data populated for heart disease indicators were prepared by the Bureau of Epidemiology and Public Health Informatics in the Kansas Department of Health and Environment. The percentages of adults with CHD and MIs came from the KS BRFSS survey.

### Missouri (MO):

The data gathered for the State of Missouri is the Missouri Information for Community Assessment (MICA) documents focused on the population and deaths in the state. These can be found at <http://health.mo.gov/data/mica/MICA/>. For the American Indian/Alaska Native and Asian populations, statisticians used special population estimates. Similar to the other states of Region VII, the prevalence of CHD and MI were derived from the MO BRFSS survey.

### Nebraska (NE):

The mortality rates and YPLL numbers for the State of Nebraska came from Vital Statistics in the Nebraska Department of Health and Human Services, and the prevalence of CHD and MI were from the NE BRFSS survey.

In the following figures and accompanying text, the terms and abbreviations for racial/ethnic groups are as follows:

**White:** Non-Hispanic White

**African American:** African American/Black

**American Indian:** American Indian/Alaska Native

**Asian:** Asian American/Native Hawaiian or Pacific Islander

**Hispanic:** Hispanic/Latino

**Other non-Hispanic:** includes Asian, Native Hawaiian or other Pacific Islander, American Indian/Alaska Native, and Multiracial. This term is used in the KS BRFSS data.

## Region VII 2018 Population Distribution

The table below shows the population counts for each state in Region VII based on race/ethnicity. Based on the table, Kansas appeared to be the most diverse state in Region VII. Kansas reported the highest percentage for each minority population compared to other states, except for African Americans. The highest percentage of the African American population was reported by the state of Missouri at 11.6%.

	Iowa		Kansas		Missouri		Nebraska	
	N	%	N	%	N	%	N	%
White, non-Hispanic	2,691,471	85.3%	2,202,954	75.7%	4,858,302	79.3%	1,515,603	78.6%
African American, non-Hispanic	119,189	3.8%	167,341	5.7%	710,969	11.6%	92,902	4.8%
American Indian/Alaska Native, non-Hispanic	9,533	0.3%	23,119	0.8%	26,659	0.4%	16,133	0.8%
Asian, non-Hispanic	84,180	2.7%	88,851	3.1%	128,422	2.1%	50,669	2.6%
Native Hawaiian/Pacific Islander, non-Hispanic	3,518	0.1%	2,715	0.1%	7,982	0.1%	1,185	0.1%
Hispanic	194,432	6.2%	351,180	12.1%	263,265	4.3%	215,872	11.2%
Two or More Races	60,579	1.9%	87,871	3.0%	143,702	2.3%	43,721	2.3%
<b>State Total</b>	<b>3,156,145</b>		<b>2,911,505</b>		<b>6,126,452</b>		<b>1,929,268</b>	

Source: U.S. Census Bureau, 2018 Population Estimates

## Population Change: 2010 to 2018

According to the U.S. Census Bureau, the White population in Iowa and Kansas had slightly decreased, whereas almost no change was reported in Missouri. The biggest change in population was reported by the Native Hawaiian population in Iowa at 91.3%, followed by the Asian populations in Iowa (58.2%) and Nebraska (57.3%).

	Iowa		Kansas		Missouri		Nebraska	
	N	%	N	%	N	%	N	%
White, non-Hispanic	-12,270	-0.5%	-30,587	-1.37%	2,309	0.0%	13,919	0.9%
African American, non-Hispanic	31,344	35.7%	3,798	2.32%	21,576	3.1%	10,980	13.4%
American Indian/Alaska Native, non-Hispanic	879	10.2%	-38	-0.16%	2,481	10.3%	1,279	8.6%
Asian, non-Hispanic	30,984	58.2%	21,122	31.19%	30,083	30.6%	18,461	57.3%
Native Hawaiian/Pacific Islander, non-Hispanic	1,679	91.3%	689	34.01%	2,134	36.5%	192	19.3%
Hispanic	42,861	28.3%	51,142	17.05%	50,796	23.9%	48,473	29.0%
Two or More Races	15,746	35.1%	14,641	19.99%	31,345	27.9%	11,419	35.4%
<b>State Total</b>	<b>109,273</b>	<b>3.6%</b>	<b>58,379</b>	<b>2.05%</b>	<b>137,500</b>	<b>2.3%</b>	<b>102,963</b>	<b>5.6%</b>

Source: U.S. Census Bureau, 2018 Population Estimates, 2010 Census Base



## Heart Disease Mortality by State

According to the CDC, approximately 647,000 Americans die from heart diseases every year, which translates to one in four deaths.<sup>4</sup> Heart disease was identified as the leading cause of death among men, women, and people of most racial and ethnic groups in the United States. The cost of health care services, medicines, and lost productivity due to heart disease totaled around \$219 billion each year from 2014 to 2015.<sup>5</sup> Coronary heart disease is the most common form of heart disease, causing approximately 370,000 deaths in 2017 alone.<sup>6</sup>

### Key Findings

- The age-adjusted heart disease mortality rates for the total population decreased from 2001 to 2015 for all race and ethnicity groups in all four states, except the Asian population in Iowa and Kansas.
- The mortality rates for African Americans continued to be the highest from 2001 to 2015, except for Nebraska, where American Indians reported the highest rate in the first five-year period (2001-2005).
- African Americans in Missouri reported the highest years of potential life lost due to heart disease in all three five-year periods.

The following charts describe the mortality rates and the years of potential life lost due to heart disease in each of the four states in Region VII, separated by race and ethnicities.

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<sup>4</sup> Centers for Disease Control and Prevention. (2019) Heart Disease Facts. Retrieved from <https://www.cdc.gov/heartdisease/facts.htm>

<sup>5</sup> *Ibit.*

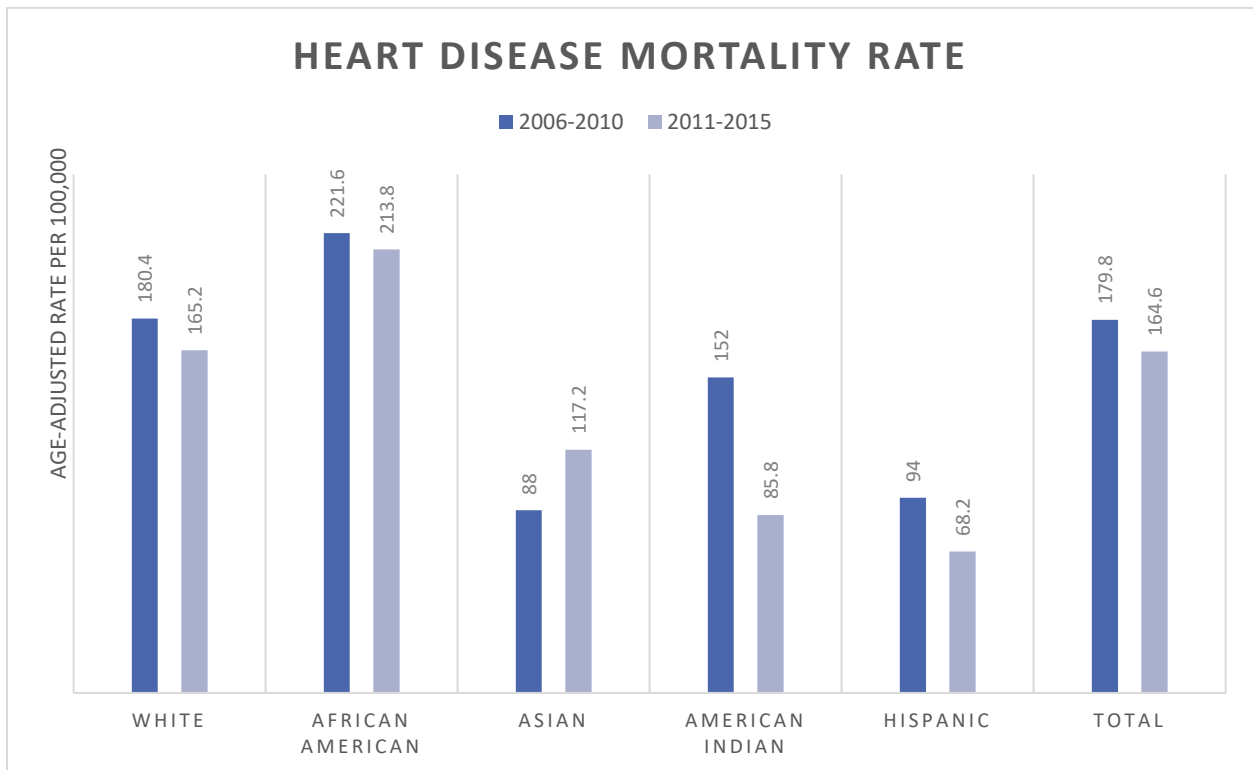
<sup>6</sup> *Ibit.*

# Iowa

The chart below represents the proportion of each population that died due to heart disease from 2006 to 2010 and 2011 to 2015.

## Key Findings

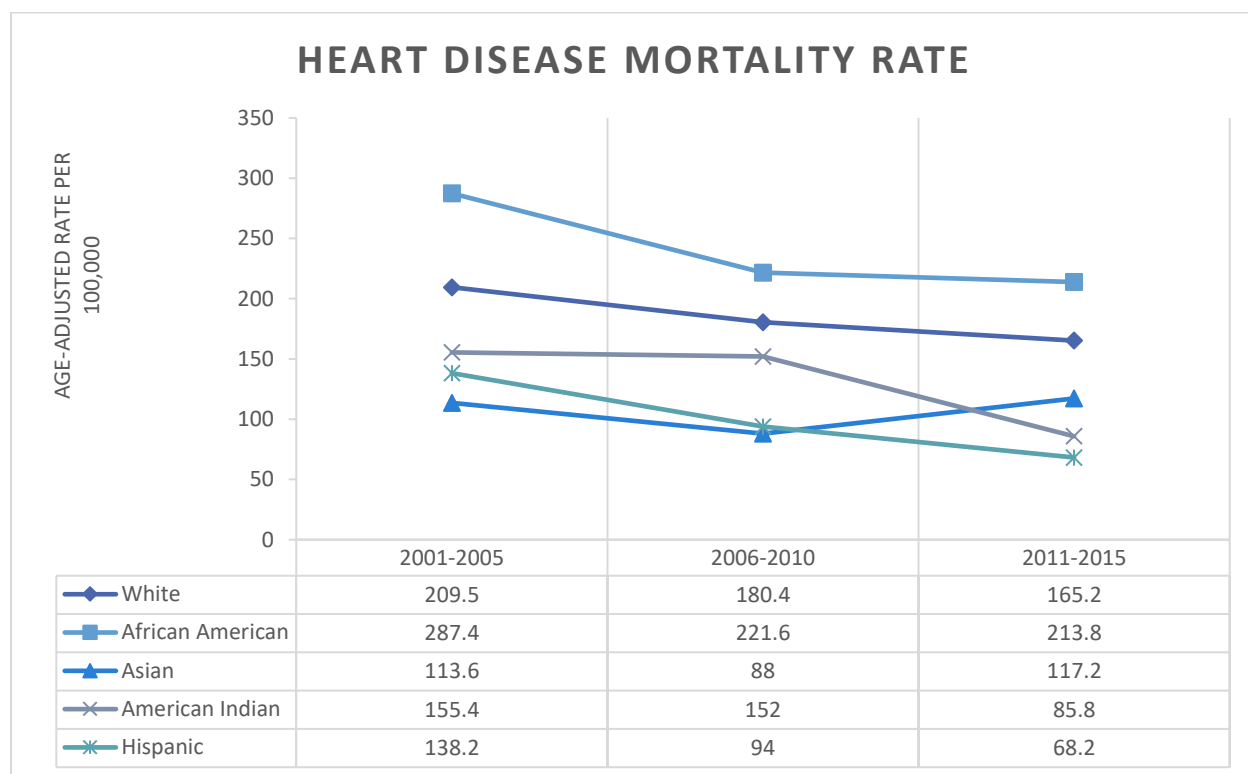
- The overall age-adjusted death rate due to heart disease from 2006-2010 in Iowa decreased from 179.8 per 100,000 people to 164.6 in 2011-2015.
- The rates for all racial and ethnic groups except Asians (increased by 29 points) also decreased between 2006-2010 and 2011-2015.
- The American Indian population had the highest difference in percentage (66.2 points lower), whereas African Americans had the highest mortality rate for both five-year periods with 221.6 and 213.8 per 100,000 people, respectively.



The chart below represents the age-adjusted heart disease mortality rates by race/ethnicity within three consecutive five-year periods.

Key Findings

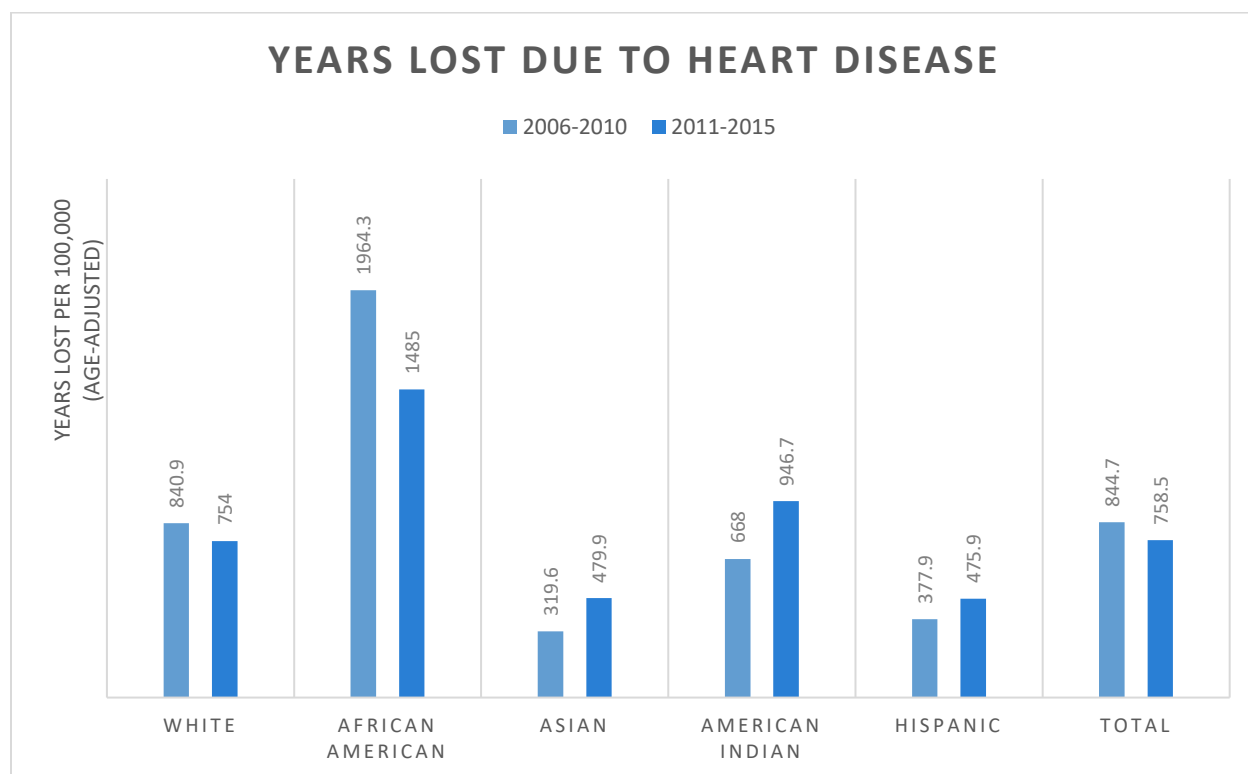
- Between 2001-2005 and 2006-2010, all populations showed a significant decrease in the death rate due to heart disease.
- In the next five-year period (2011-2015), all the populations except one saw a further decrease in death rate with American Indians showing the sharpest downturn from the previous five-year period.
- The Asian population is the only group to show an increase in mortality rate with 29 points higher on the recent five year period (2011-2015).
- Throughout the 15 years, the mortality rates for African Americans remained the highest of all the populations.



The chart below represents the years of potential life lost (YPLL) due to heart disease per 100,000 people in Iowa by race/ethnicity.

### Key Findings

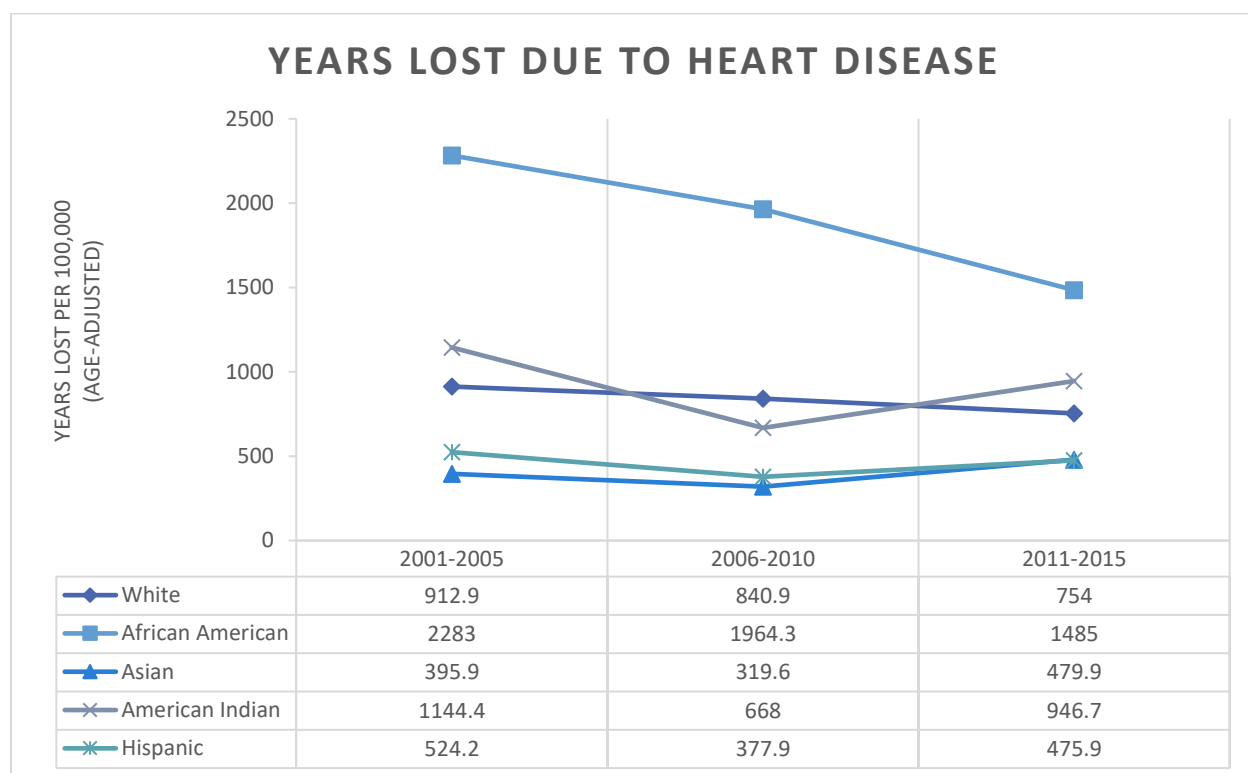
- The YPLL due to heart disease for the total population in Iowa decreased from 844.7 to 758.5 years per 100,000 people between 2006-2010 and 2011-2015.
- Most of the ethnic and racial groups saw an increase in the YPLL except for the White and African American populations.
- The years lost per 100,000 for African Americans remained the highest of all racial and ethnic groups, even with the huge drop in years lost (479 years) seen between the two five-year periods.
- Compared to Whites, the YPLL due to heart disease for African Americans was approximately two times higher in the recent five-year period (2011-2015).



The chart below represents the years of potential life lost (YPLL) due to heart disease per 100,000 people in Iowa by race/ethnicity within three consecutive five-year periods.

Key Findings

- African Americans saw the highest YPLL compared to other populations despite the continuous downturn since 2001.
- Between 2001-2005 and 2006-2010, all populations saw a decrease in YPLL with American Indians showing the highest drop (1144 to 668), almost one half less than the previous period.
- However, during the recent five-year period (2011-2015), the YPLL of the American Indian population increased drastically to 946.7 (approximately 40% higher).

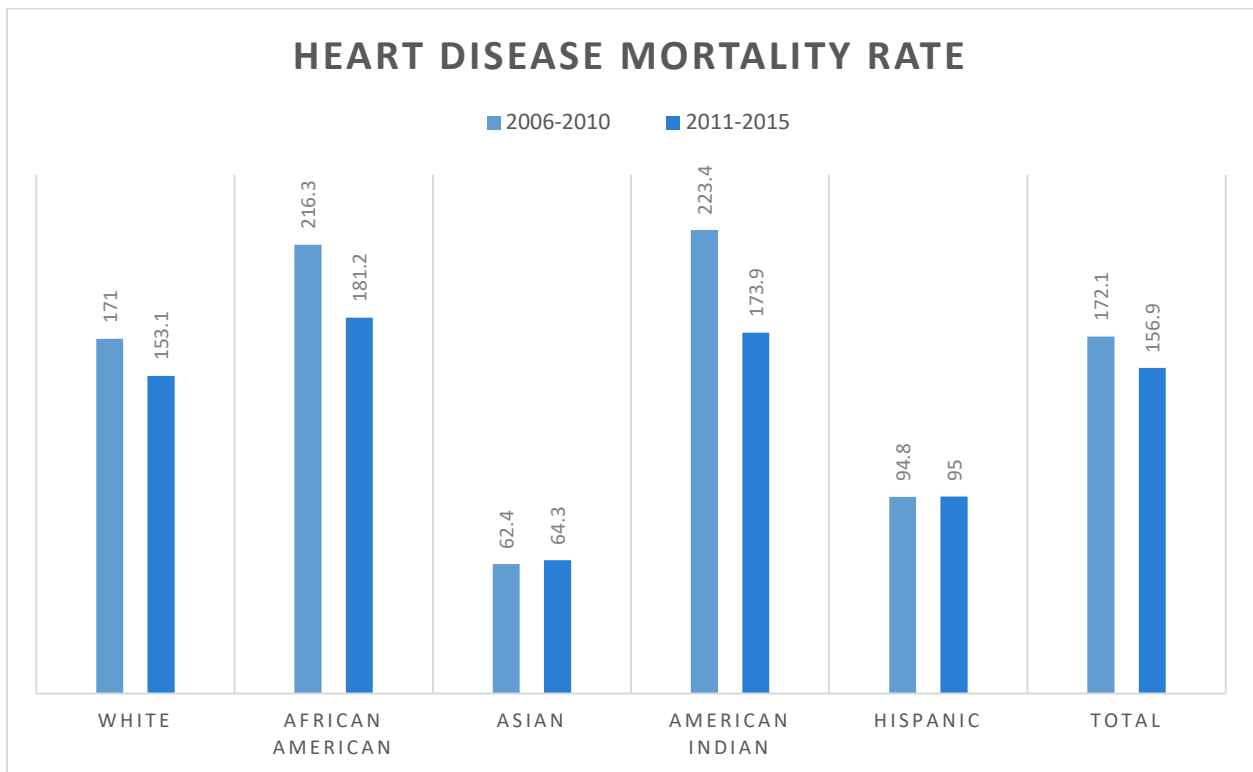


## Kansas

The chart below represents the proportion of each population that died due to heart disease from 2006 to 2010 and 2011 to 2015.

### Key Findings

- There was a decrease in the age-adjusted heart disease mortality rate from 172.1 per 100,000 people in 2006-2010 to 156.9 per 100,000 people in 2011-2015.
- In 2011-2015, the heart disease mortality rate for the African American population was the highest (181.2), followed by American Indians (173.9) and White (153.1).
- American Indians had the highest heart disease mortality rate in 2006-2010, but the rate had decreased by 50 points in 2011-2015.
- Each of the racial and ethnic groups saw a decrease in mortality rate except for Asians and Hispanics, which saw a slight increase between the two five-year periods (1.9 and 0.2 points respectively).

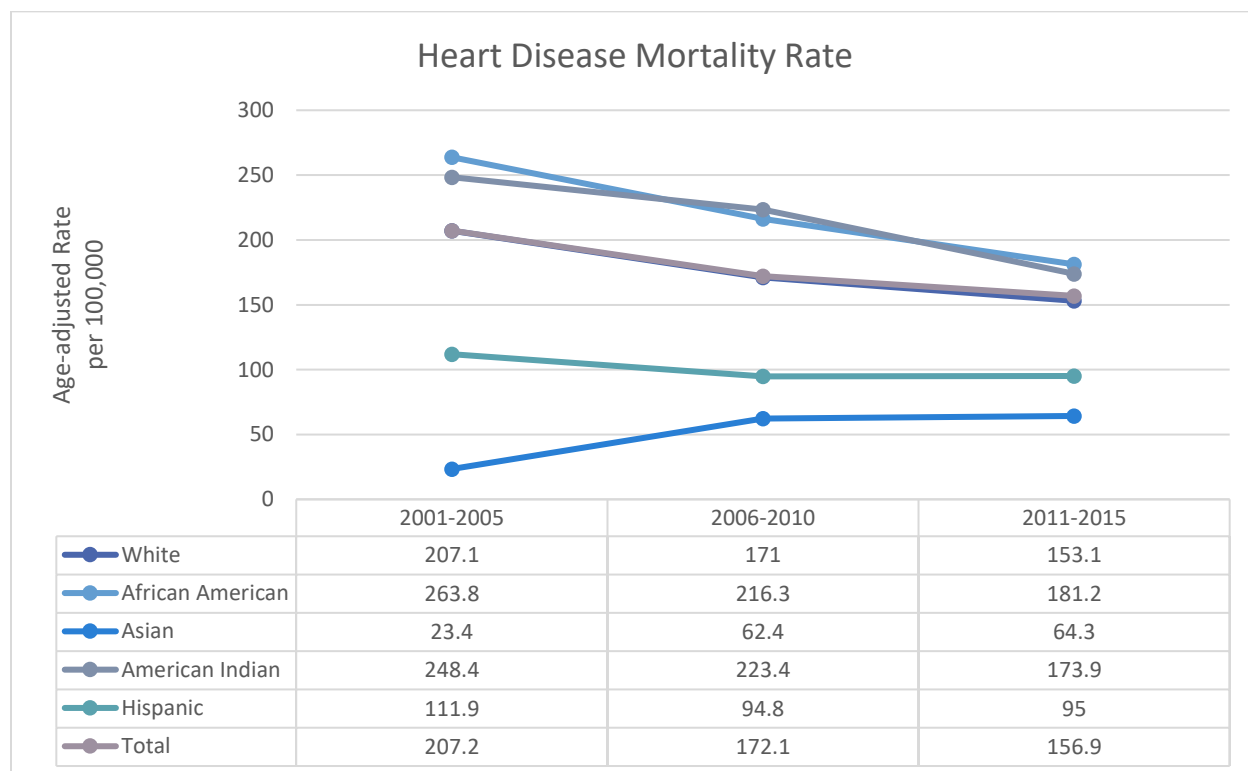


# Kansas

The chart below represents the age-adjusted heart disease mortality rates by race/ethnicity within three consecutive five-year periods.

## Key Findings

- Overall, the heart disease mortality rate in Kansas has been decreasing throughout the three five-year periods.
- All of the racial and ethnic groups saw a consistent drop in mortality rate per 100,000 people from 2001-2005 to 2006-2010 except for the Asian population.
- The mortality rate of the Asian population increased by 39 points from 2001-2005 to 2006-2010, and the rate continued to increase but only slightly (2 points) by the period of 2011-2015.
- In the recent period (2011-2015), all other populations saw only a slight decrease in mortality rate except for the Hispanic population, which shows a constant rate since the previous period.

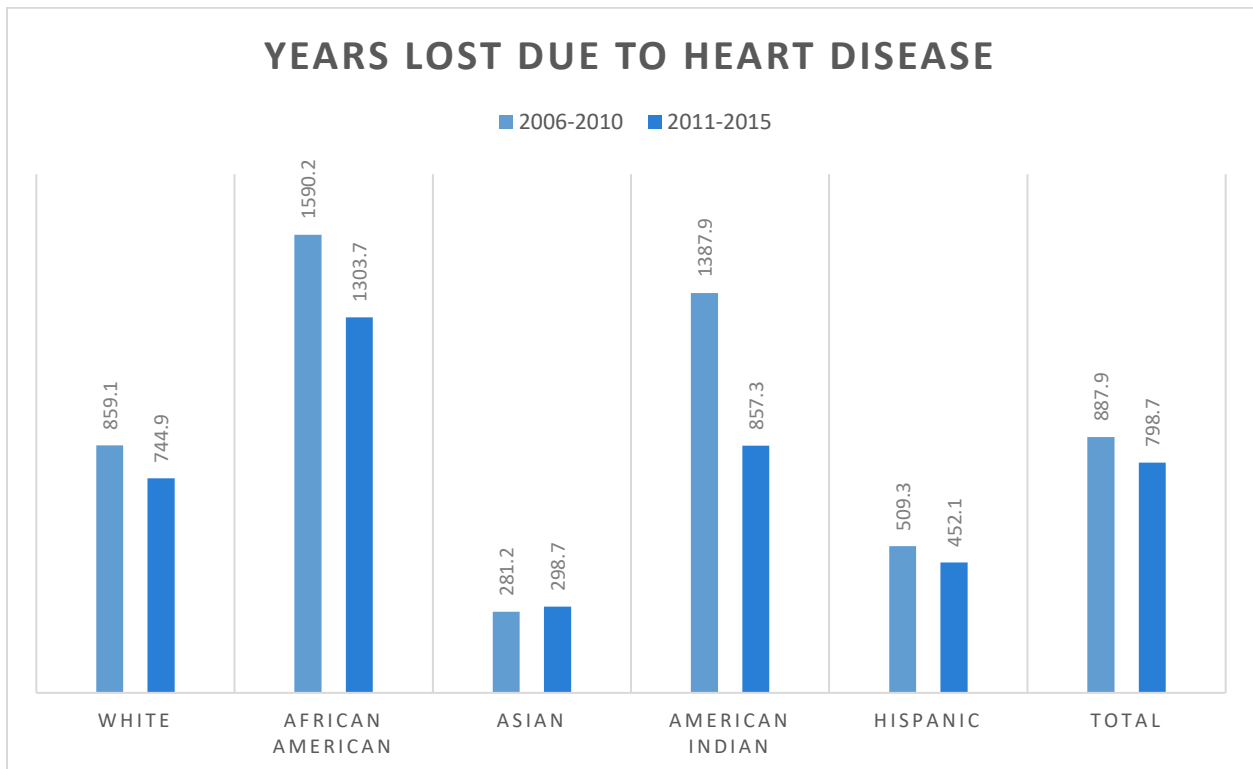


## Kansas

The chart below represents the years of potential life lost (YPLL) due to heart disease per 100,000 people in Kansas by race/ethnicity.

### Key Findings

- The YPLL due to heart disease decreased from 2006-2010 to 2011-2015 for all populations except Asians in Kansas.
- There was a slight increase in YPLL for Asians between 2006-2010 and 2011-2015 (281.2 to 298.7). American Indians saw the most drastic drop of the YPLL with 530 points lower than the previous period years, followed by African Americans with 287 points lower.
- In the 2011-2015 period, the YPLL for African Americans remained the highest of all populations similar to the previous period years (2006-2010) despite having a drastic decrease between the periods.



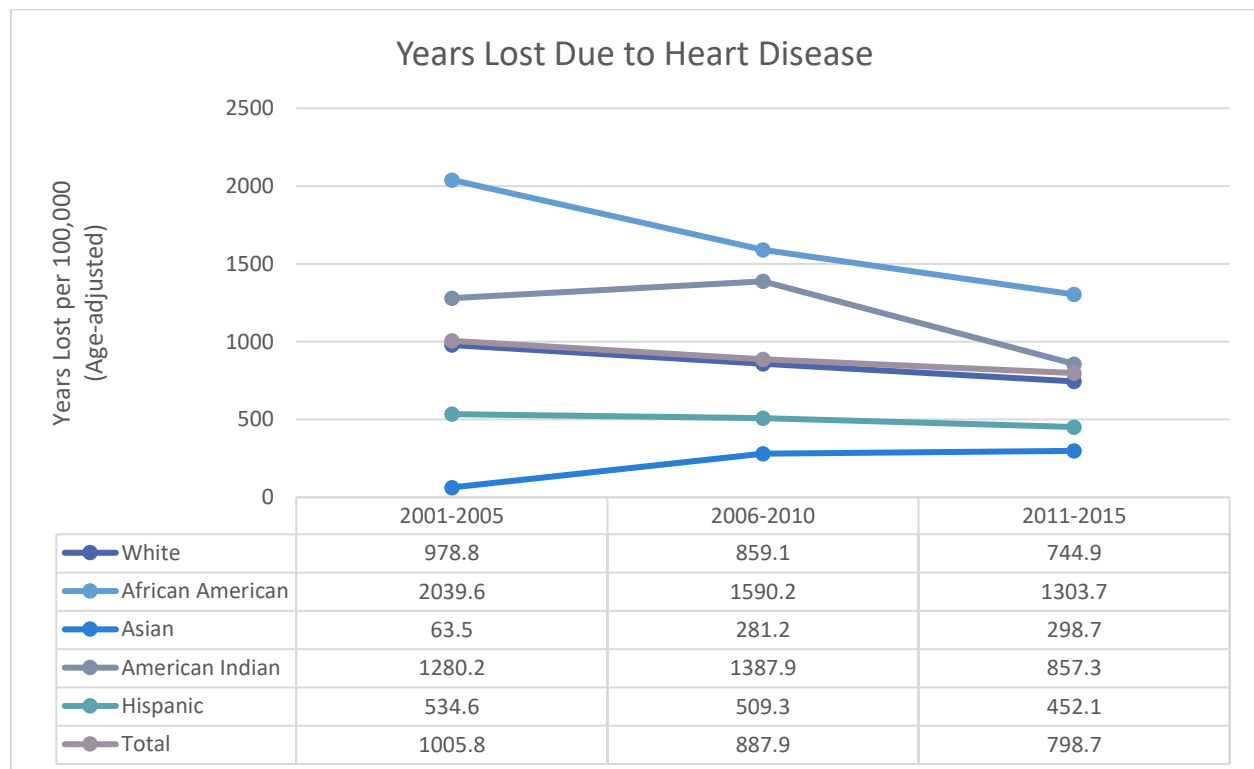


## Kansas

The chart below represents the years of potential life lost (YPLL) due to heart disease per 100,000 people in Kansas by race/ethnicity within three consecutive five-year periods.

### Key Findings

- The YPLL due to heart disease in Kansas decreased consequently since 2001-2005 until the recent period years (2011-2015).
- Between the period of 2001-2005 and 2006-2010, the YPLL for all ethnic and racial groups had decreased except for American Indian and Asian populations.
- The YPLL for American Indians and Asians had increased by 108 years and 218 years, respectively, between the earlier periods.
- By the period of 2011-2015, Asian was the only population that saw a slight increase in YPLL, whereas all other populations saw a drop in years lost compared to the previous period.

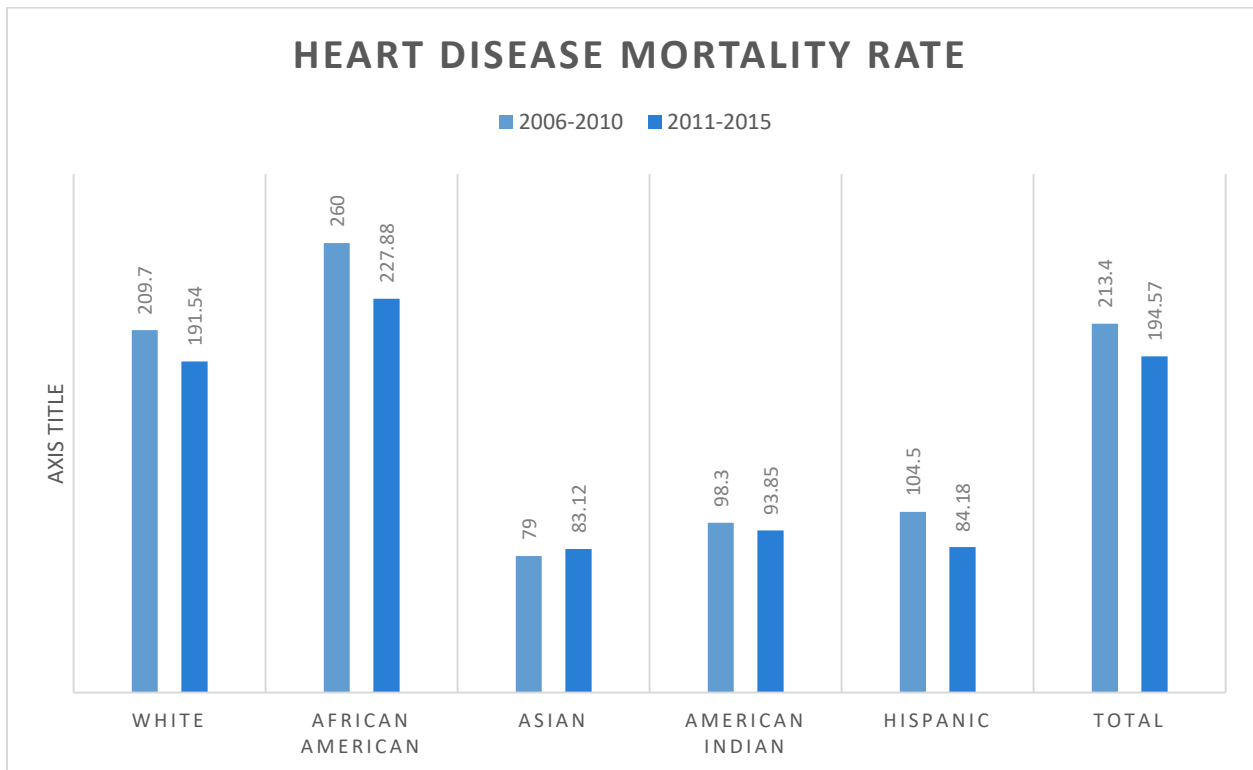


# Missouri

The chart below represents the proportion of each population that died due to heart disease from 2006 to 2010 and 2011 to 2015.

## Key Findings

- Between 2006-2010 and 2011-2015, the overall age-adjusted mortality rate due to heart disease in Missouri declined from 213.4 to 194.57 per 100,000 people.
- Heart disease mortality rate for each population in Missouri declined from 2006-2010 to 2011-2015 except for Asians.
- Although Asians showed the lowest mortality rate over the five-year period, Asians are the only population that had a slight increase in the rate.
- African Americans experienced the highest mortality rate (227.88) due to heart disease in 2011-2015, followed closely by Whites (191.4).
- These two populations showed the biggest reduction compared to other populations (32.1 and 18.2, respectively) between 2006-2010 and 2011-2015.

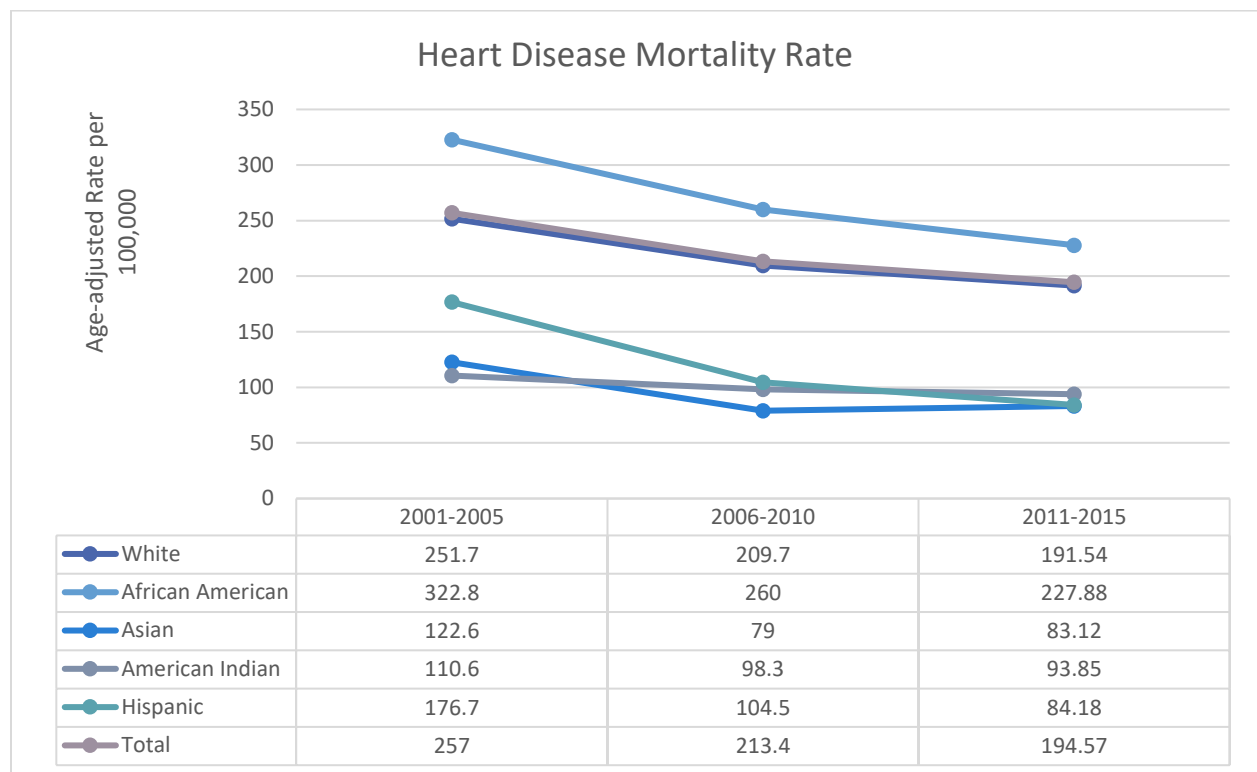


## Missouri

The chart below represents the age-adjusted heart disease mortality rates by race/ethnicity within three consecutive five-year periods.

### Key Findings

- Overall, heart disease mortality rate from the 2001-2005 to 2011-2015 period show a steady decline for the whole population except for Asians.
- Asians experienced a drop in mortality rate per 100,000 people (122.6 to 79) from 2001-2005 to 2006-2010, but the rate slightly increased by 4.12 points in the recent period years (2011-2015).
- Hispanics saw the biggest decline in the mortality rate (72 points) between 2001-2005 and 2006-2010 but only a slight decrease was seen in 2011-2015.
- African Americans in Missouri continued to have the highest mortality rate due to heart disease compared to other racial and ethnic groups since 2001.

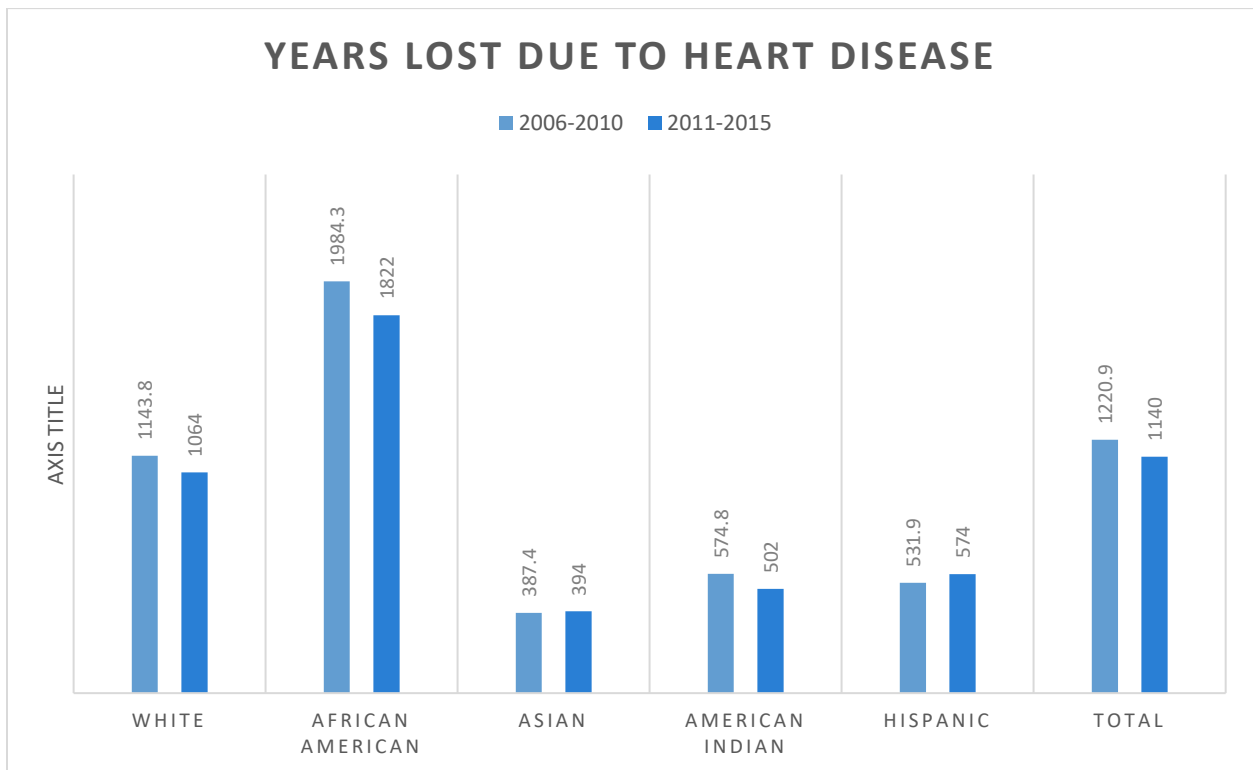


## Missouri

The chart below represents the years of potential life lost (YPLL) due to heart disease per 100,000 people in Missouri by race/ethnicity.

### Key Findings

- There was a marked reduction in the YPLL from less than 1,221 per 100,000 people (2006-2010) to 1,140 (2011-2015).
- African American in Missouri has more YPLL due to heart disease than any other racial and ethnic groups during both five-year periods.
- When compared to Whites, African Americans had 218 YPLL per 100,000 people more during the 2011-2015 period.
- All racial and ethnic groups decreased in YPLL between the two periods except Asians.
- The YPLL for Asians increased from 387.4 in 2006-2010 to 394 (2011-2015).

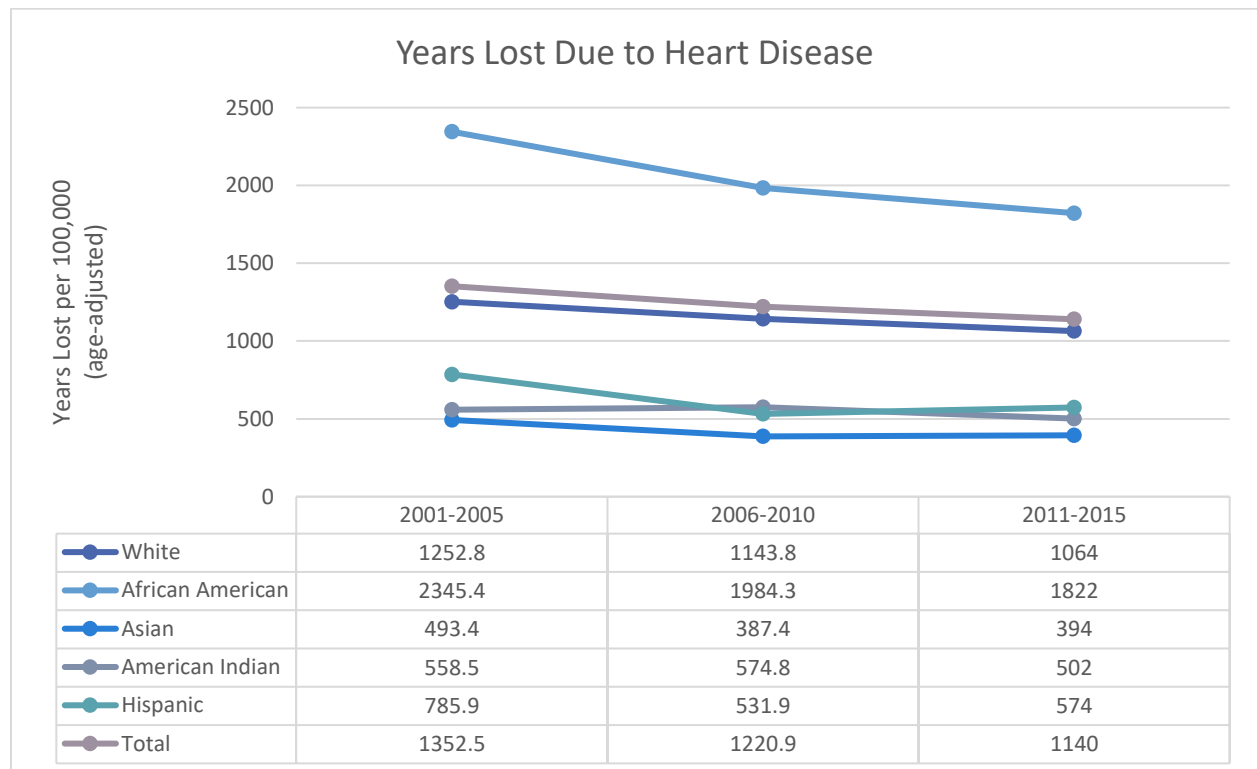


## Missouri

The chart below represents the years of potential life lost (YPLL) due to heart disease per 100,000 people in Missouri by race/ethnicity within three consecutive five-year periods.

### Key Findings

- Since 2001, the overall YPLL due to heart disease in Missouri has been steadily decreasing except for American Indians.
- The YPLL of American Indians increased by approximately 16 years from 2001-2005 to 2006-2010; however, the rate decreased (574.8 to 502) by 2011-2015.
- The African American population remained to have the highest YPLL due to heart disease from 2001-2005 up until the 2011-2015 period, whereas Asians had the lowest rate compared to all other populations.
- There was a noticeable gap between African Americans and the population with the second-highest YPLL (White) for all three five-year periods.

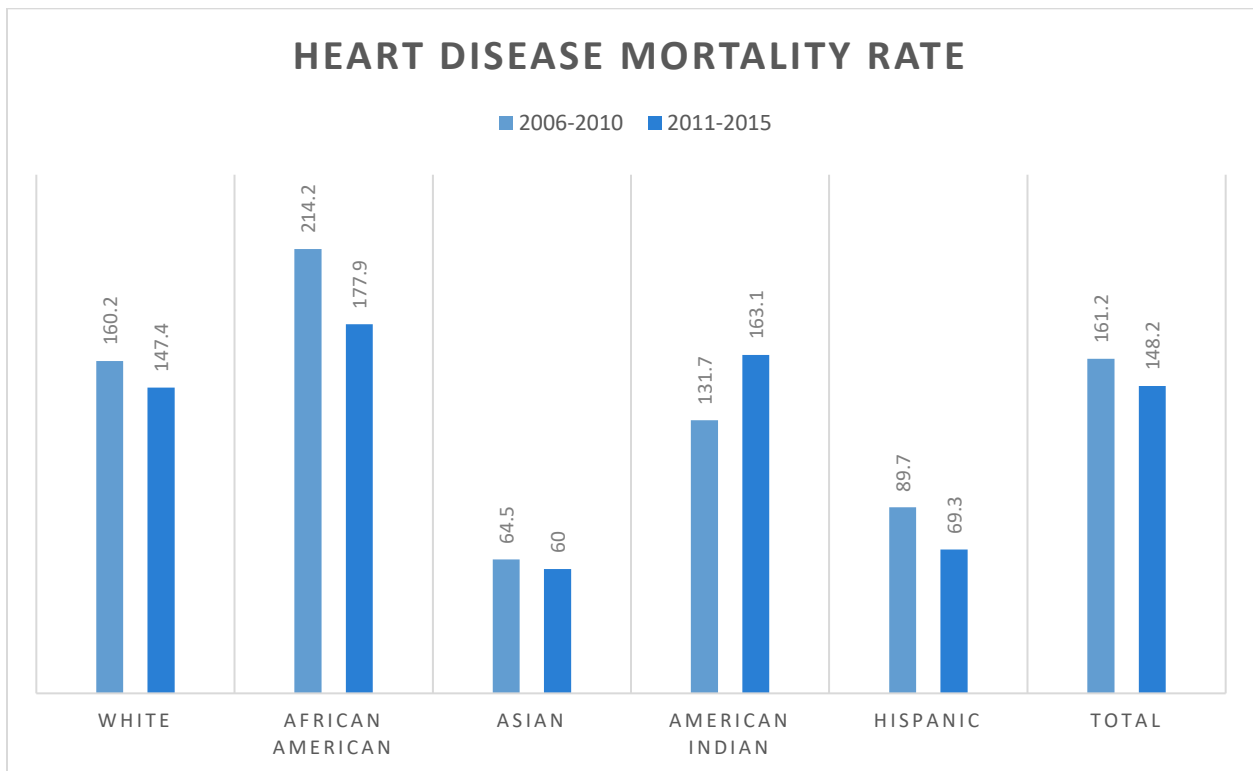


# Nebraska

The chart below represents the proportion of each population that died due to heart disease from 2006 to 2010 and 2011 to 2015.

## Key Findings

- Nebraska’s African American population continued to have the highest heart disease death rate in 2011-2015 (177.9 per 100,000 people) after being ranked the highest in 2006-2010 compared to other racial and ethnic groups.
- Asians had the lowest death rate at 60 per 100,000 people in both 2006-2010 and 2011-2015.
- Heart disease mortality decreased across all racial and ethnic groups from 2006-2010 to 2010-2015, except for American Indians who saw an increase of 31.4 points.
- Overall, the heart disease mortality rate in Nebraska had decreased by 13 points from the previous five-year period (2006-2010).

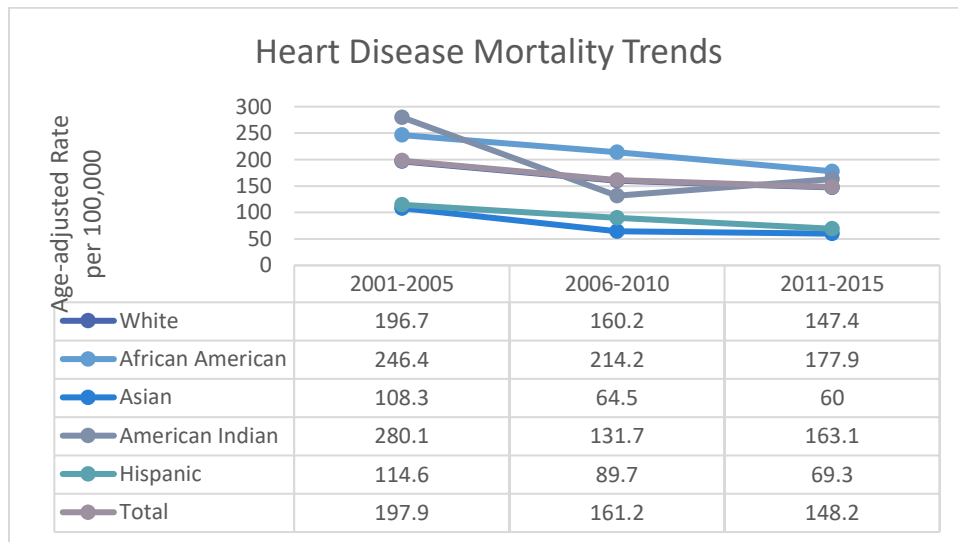


## Nebraska

The chart below represents the age-adjusted heart disease mortality rates by race/ethnicity within three consecutive five-year periods.

### Key Findings

- The mortality rate of American Indians in Nebraska had decreased significantly between the earlier periods (from 280.1 to 131.7 per 100,000), but the rate had increased to 163.1 per 100,000 by 2011-2015.
- American Indian mortality rate was ranked the highest in 2001-2005 and dropped to be the third highest in 2006-2010, making them be the only population that has a fluctuating rate over the three five-year periods.
- All other racial/ethnic groups had shown a steady decrease in mortality rates since the first five-year period (2001-2005).

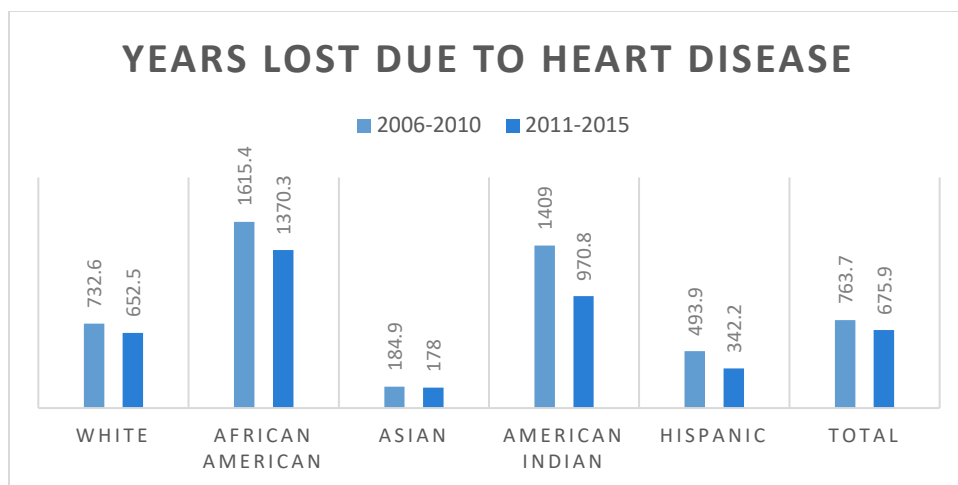


## Nebraska

The chart below represents the years of life lost (YPLL) due to heart disease per 100,000 people in Nebraska by race/ethnicity.

### Key Findings

- Nebraska's African American population had the highest amount of YPLL due to heart disease (1,370.3 per 100,000) in 2011-2015 and a total of 1,615.4 years lost due to heart disease in the previous five-year period (2011-2015).
- Overall, the number of years lost due to heart disease decreased across all groups between 2006-2010 and 2011-2015, with American Indians seeing the largest gap between the two five years periods (438.2 years less).
- Asian population remained to have the lowest YPLL (178 per 100,000) in 2011-2015 compared to other racial/ethnic group, followed by the Hispanics at 342.2 per 100,000.
- The YPLL due to heart disease in Nebraska as a whole had decreased to 675.6 per 100,000 (87.8 years less) by 2011-2015.



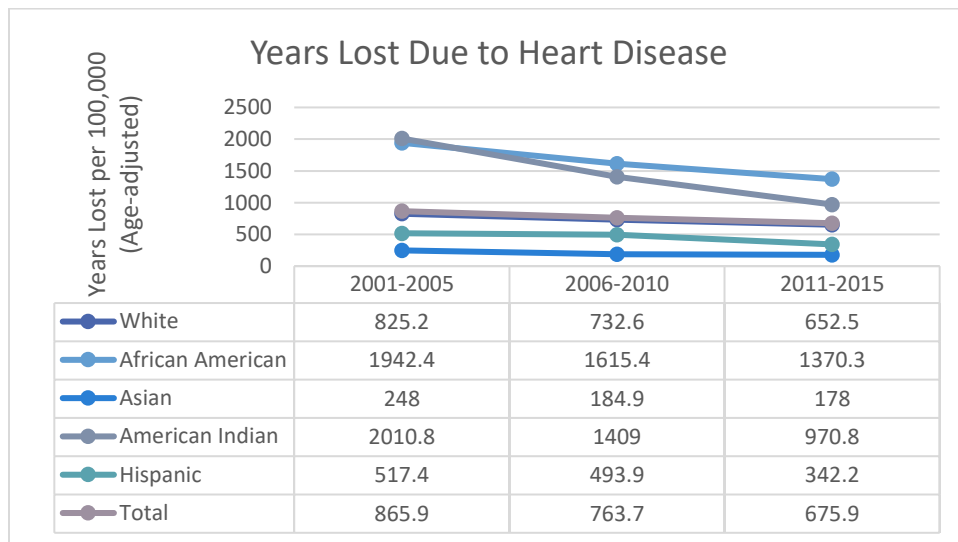


## Nebraska

The chart below represents the years of life lost (YPLL) due to heart disease per 100,000 people in Nebraska by race/ethnicity within three consecutive five-year periods.

### Key Findings

- African Americans had the highest rate of heart disease mortality throughout the three five-year periods except in 2001-2005, where American Indians showed a slightly higher rate (68.4 years more).
- In the following five-year periods, American Indians remained to have the second-highest rate of mortality at 1409 in 2006-2010 and 970.8 in 2011-2015.
- Whites, Asians, and Hispanics showed much lower and consistent rates with a slight decrease in each period of years.
- Asians remained to have the lowest mortality rate from 2001-2005 until the recent period of years (2011-2015).



## Heart Disease Prevalence

A myocardial infarction that is also known as a heart attack is the irreversible necrosis of the heart muscle that causes an interruption in the supply of blood to the heart. Myocardial infarction occurs when the flow of blood to the heart is blocked due to coronary heart disease (CHD).<sup>7</sup> CHD is a build-up of fat, cholesterol, and other substances, forming a plaque in the arteries that feed the heart (coronary arteries). The indicator of myocardial infarction (MI) or coronary heart disease illustrates the percentage of people who have suffered from either of these conditions.

### Risk Factors for Heart Disease



Prevalence or the percentage of people with heart disease varies across populations. Disparities are linked to several complex factors in addition to the ones in the diagram above. Other factors include race, income, education, social determinants of health, lifestyle and health behaviors, genetic/physiological factors, access to care, and communication barriers.

### Key Findings

- In 2011-2015, the overall percentage of those with myocardial infarction ranged from approximately 4% to 5% in all four states.
- African Americans in Missouri had a significantly high percentage of individuals that were diagnosed with myocardial infarction in 2011-2015 at 11.0%.
- The overall percentage of individuals with coronary heart disease in 2011-2015 for all four states ranged from 3.4% to 4.8%.
- In 2011-2015, American Indians in Iowa (6.2%) and American Indians in Missouri (10.4%) had the highest proportion of those diagnosed with coronary heart disease.

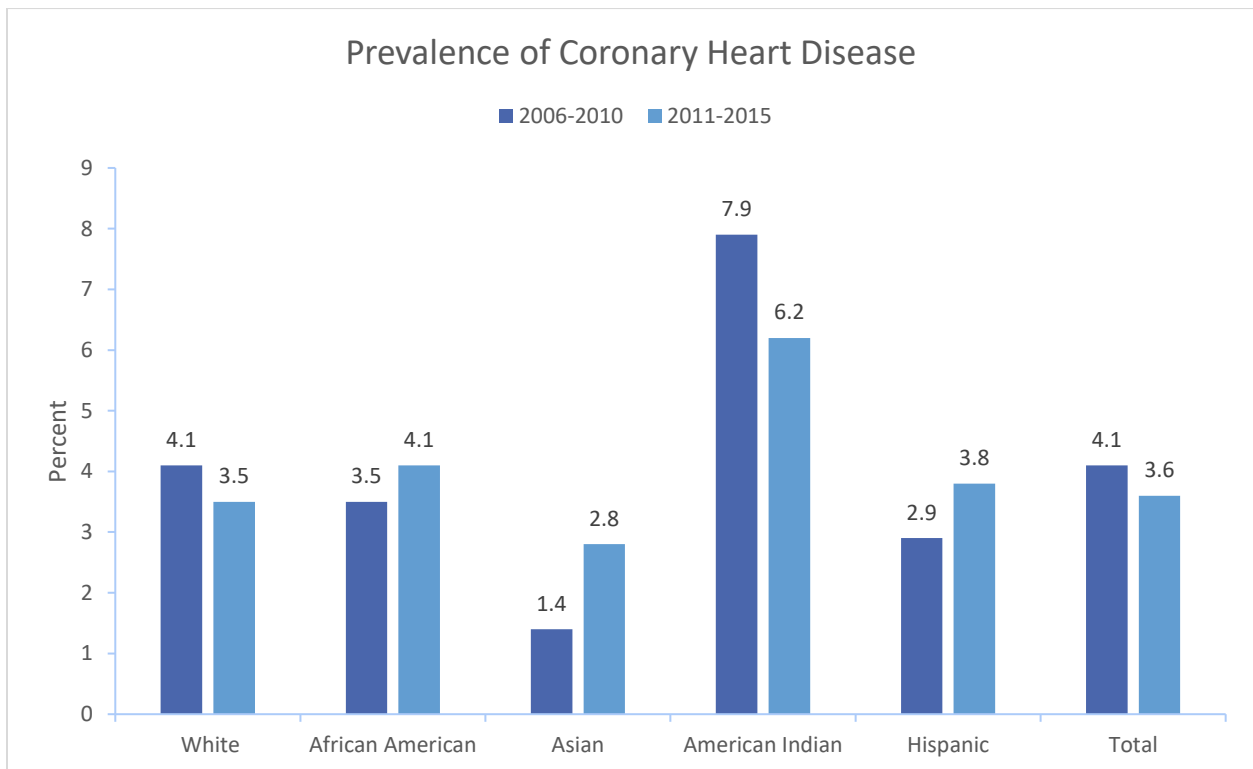
<sup>7</sup> Mayo Clinic. (2018) Heart attack. Retrieved from <https://www.mayoclinic.org/diseases-conditions/heart-attack/symptoms-causes/syc-20373106>

## Iowa

The chart below represents the proportion of each population that were diagnosed with coronary heart disease from 2006 to 2010 and 2011 to 2015.

### Key Findings

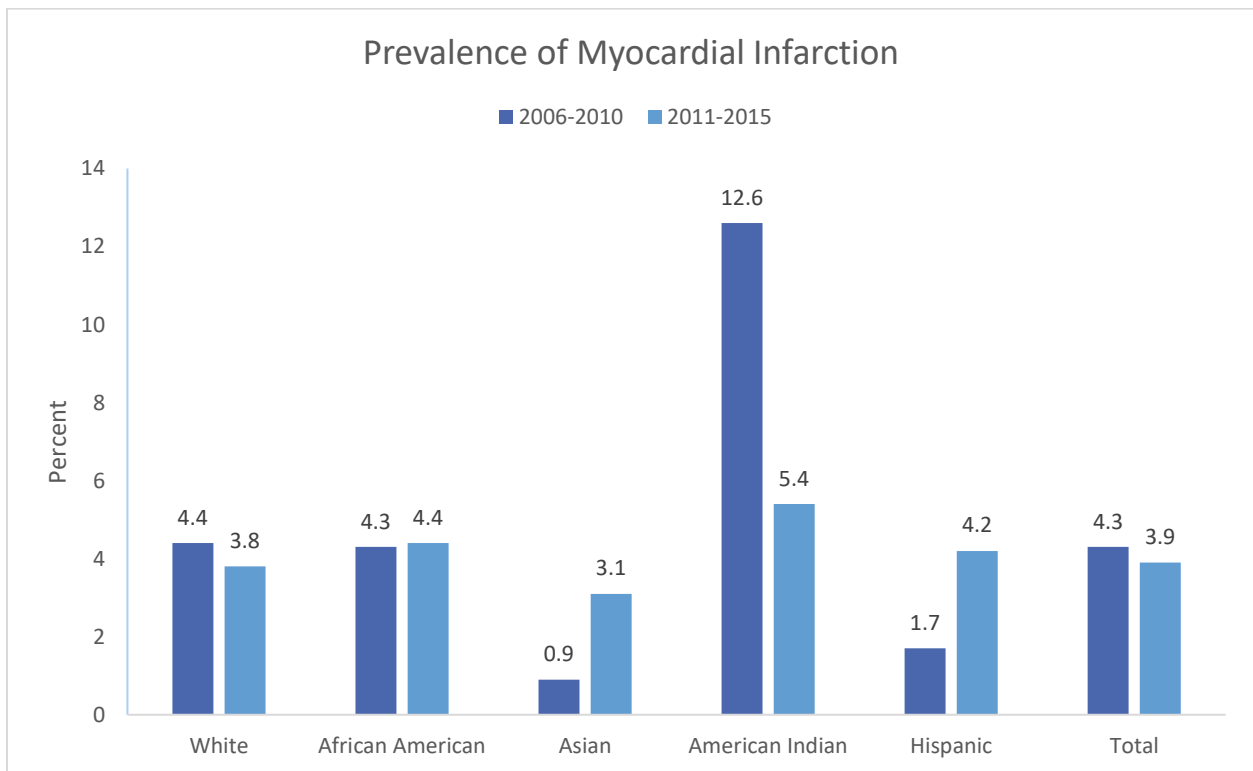
- The overall prevalence of coronary heart disease in Iowa decreased by 0.5 percentage points between 2006-2010 and 2011-2015.
- American Indians had the highest coronary heart disease prevalence (6.2%) than the other ethnic/racial groups in 2011-2015, approximately 75% higher than the percentage for the non-Hispanic Whites (4.1%).
- Although there was a considerable increase in the percentage of coronary heart disease for the Asian population, the rate remained the lowest compared to others for both five-year periods.



The chart below represents the proportion of each population that was diagnosed with myocardial infarction from 2006 to 2010 and 2011 to 2015.

Key Findings

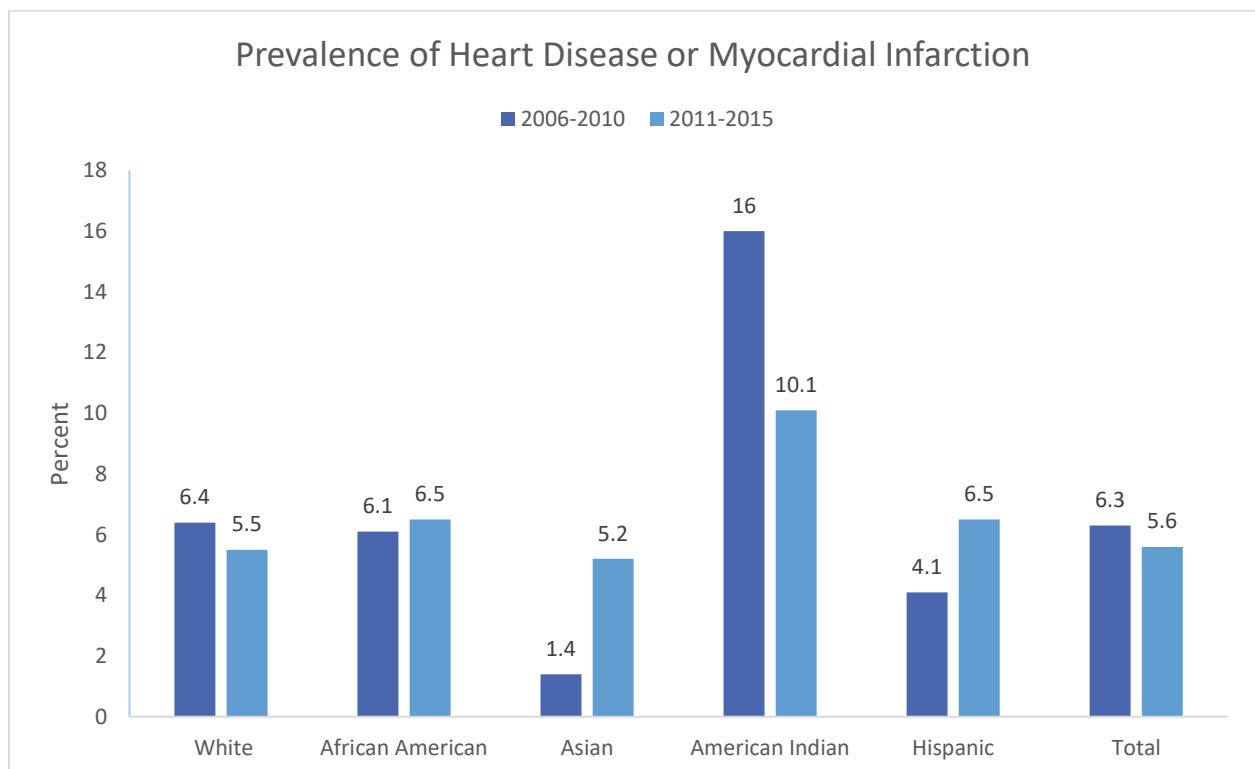
- In the state of Iowa, the prevalence of myocardial infarction among residents slightly decreased from 4.3% (2006-2010) to 3.9 (2011-2015).
- Although the percentage for the American Indian population drastically reduced by 7.2 percentage points, American Indians remained to have the highest percentage of myocardial infarction compared to other racial/ethnic groups.
- In contrast, the significant increase of the rate for Asians between the two five-year periods did not prevent the population from having the lowest rate in 2011-2015.



The chart below represents the proportion of each population that was diagnosed with either coronary heart disease or myocardial infarction from 2006 to 2010 and 2011 to 2015.

### Key Findings

- The percentage of the residents in Iowa that were diagnosed with either coronary heart disease or myocardial infarction slightly decreased from 6.3 (2006-2010) to 5.6 (2011-2015).
- Despite the six percentage point reduction seen between the two five-year periods, American Indians remained to have the highest percentage of those with coronary heart disease (16%) or myocardial infarction (10.1%).
- Asians saw a huge incline in the recent five-year period with 3.8 increments in percentage points.

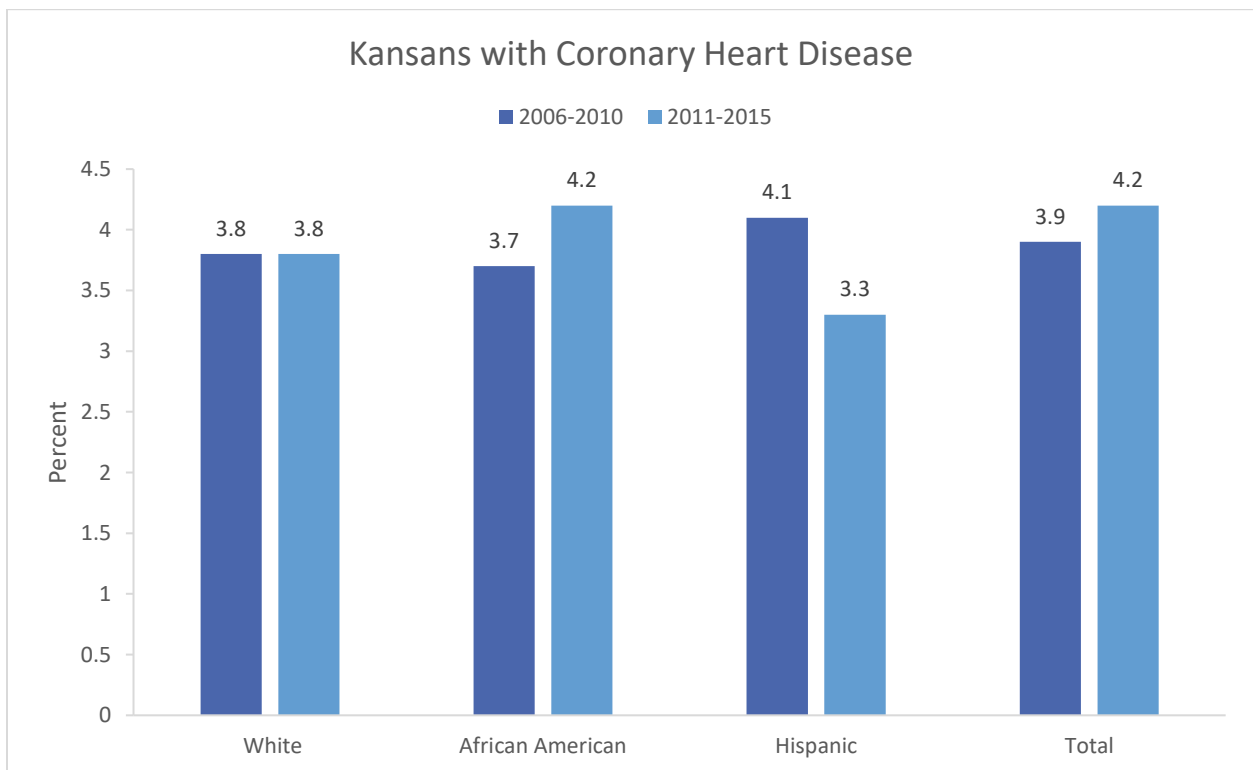


# Kansas

The chart below represents the proportion of each population that were diagnosed with coronary heart disease from 2006 to 2010 and 2011 to 2015.

## Key Findings

- In general, the prevalence of coronary heart disease in Kansas slightly increased from 3.9% (2006-2010) to 4.2% (2011-2015).
- The Hispanic population had a drastic drop in coronary heart disease prevalence, whereas the African American population slightly increased between the two five-year periods.
- The White population saw a similar percentage in 2006-2010 and 2011-2015 (3.8%).

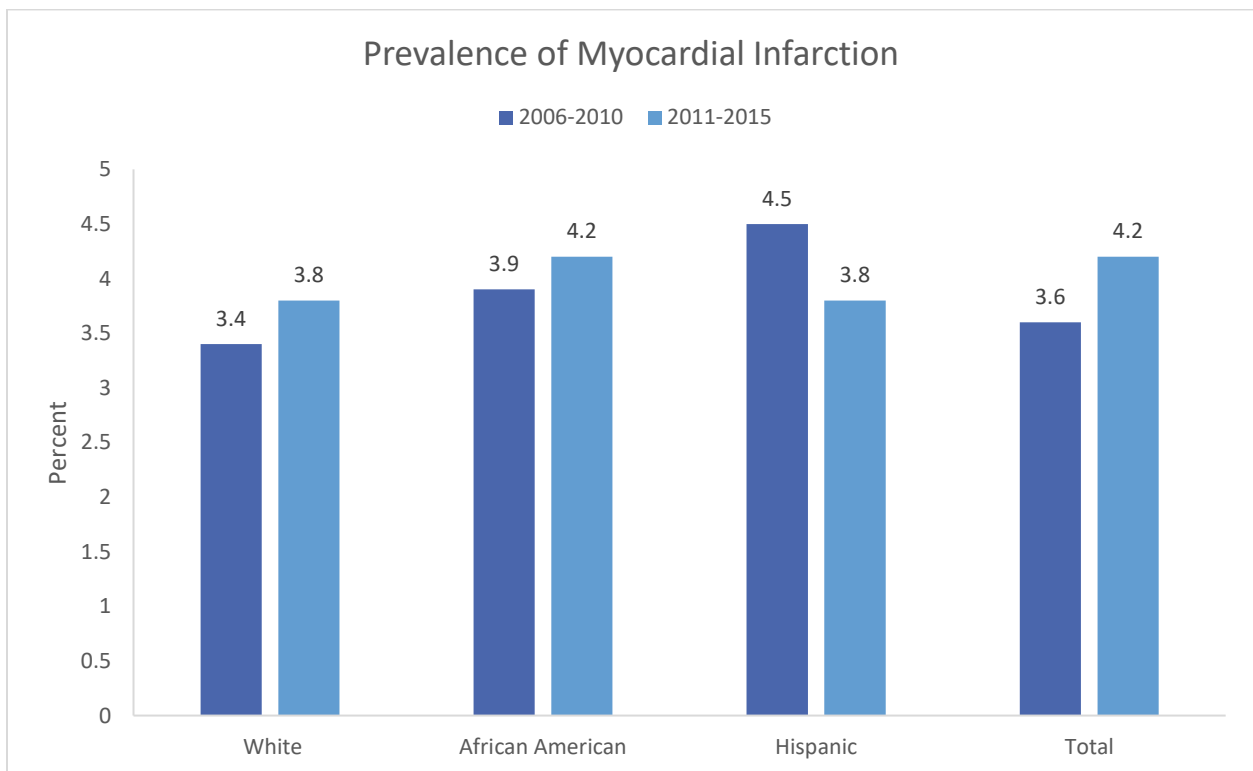


## Kansas

The chart below represents the proportion of each population that was diagnosed with myocardial infarction from 2006 to 2010 and 2011 to 2015.

### Key Findings

- In 2011-2015, the African American population (4.2%) showed the highest prevalence of myocardial infarction, followed by White and Hispanics at a similar rate (3.8%).
- Hispanics are the only population that saw a drop in percentage between 2006-2010 and 2011-2015, whereas the percentages for Whites and African Americans increased.
- Overall, the prevalence of myocardial infarction for the whole state of Kansas increased by 0.6 percentage points over the two five-year periods.

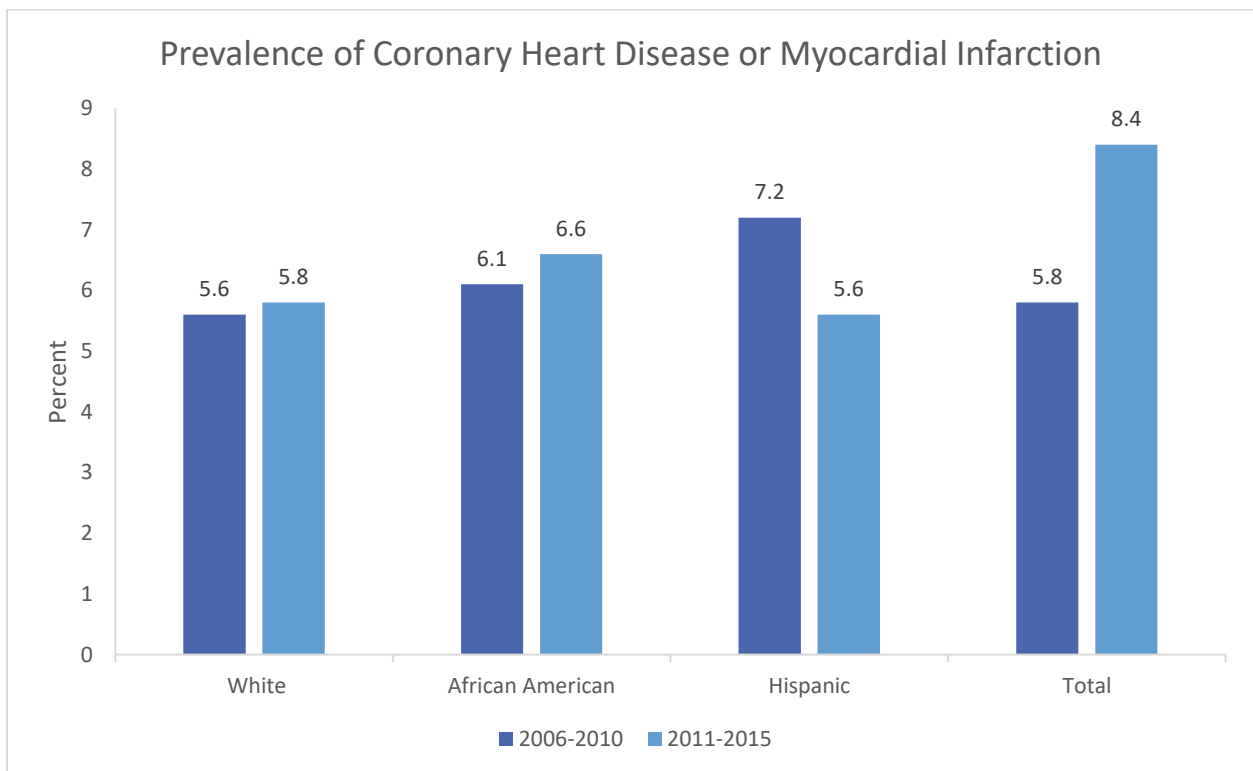


## Kansas

The chart below represents the proportion of each population that was diagnosed with coronary heart disease or myocardial infarction from 2006 to 2010 and 2011 to 2015.

### Key Findings

- The overall percentage of Kansas residents with either coronary heart disease or myocardial infarction significantly increased from 5.8% in 2006-2010 to 8.4% in 2011-2015.
- There was a slight increment in the percentage for the White population (5.6% to 5.8%) and the African American population (6.1% to 6.6%) between the two five-year periods.
- The Hispanics saw the highest percentage compared to other populations in 2006-2010, but the percentage decreased and was the lowest in the period of 2011-2015.



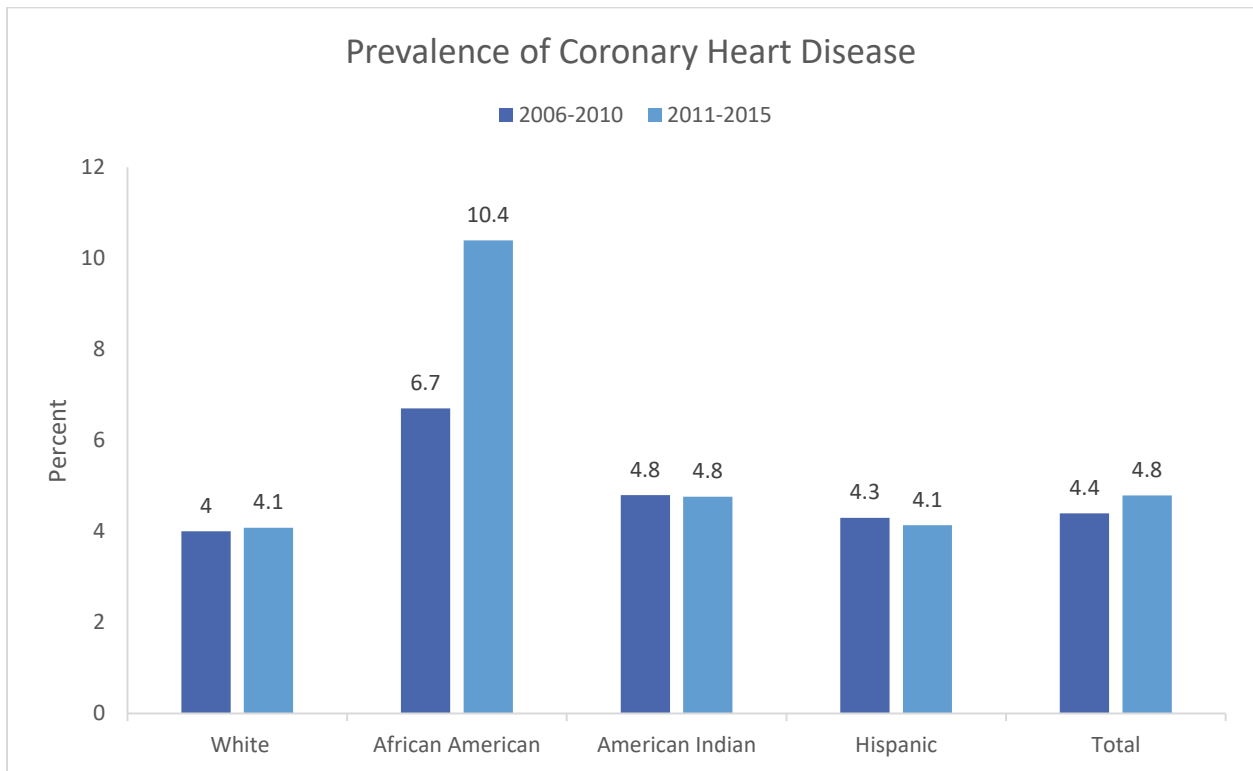


# Missouri

The chart below represents the proportion of each population that were diagnosed with coronary heart disease from 2006 to 2010 and 2011 to 2015.

## Key Findings

- The prevalence of coronary heart disease across all races and ethnicities in the state of Missouri slightly increased from 4.4% (2006-2010) to 4.8% (2011-2015).
- There was no change in the percentage between the two five-year periods for Whites, American Indians, and Hispanics.
- The percentage of African Americans with coronary heart disease was the highest (6.7%) in 2006-2010, and the percentage increased even higher (10.4%) in 2011-2015.

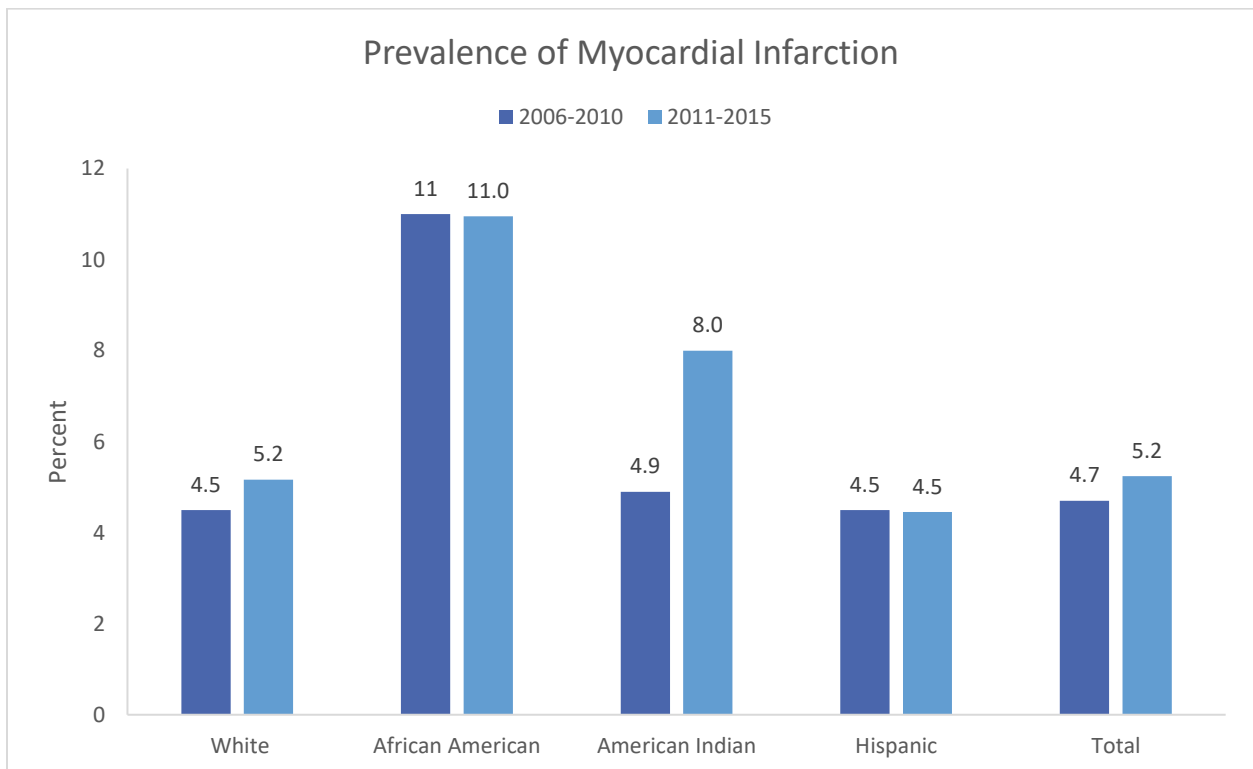


## Missouri

The chart below represents the proportion of each population that was diagnosed with myocardial infarction from 2006 to 2010 and 2011 to 2015.

### Key Findings

- There was a slight increase from 2006-2010 (4.7%) to 2011-2015 (5.2%) in the percentage of Missourians with myocardial infarction.
- The rates for African Americans and Hispanics remained the same between the two five-year periods.
- American Indians saw a considerable increase in percentage (3.1 percentage points higher) by the period of 2011-2015, whereas the percentage for the Whites only slightly increased from 4.5% to 5.2%.

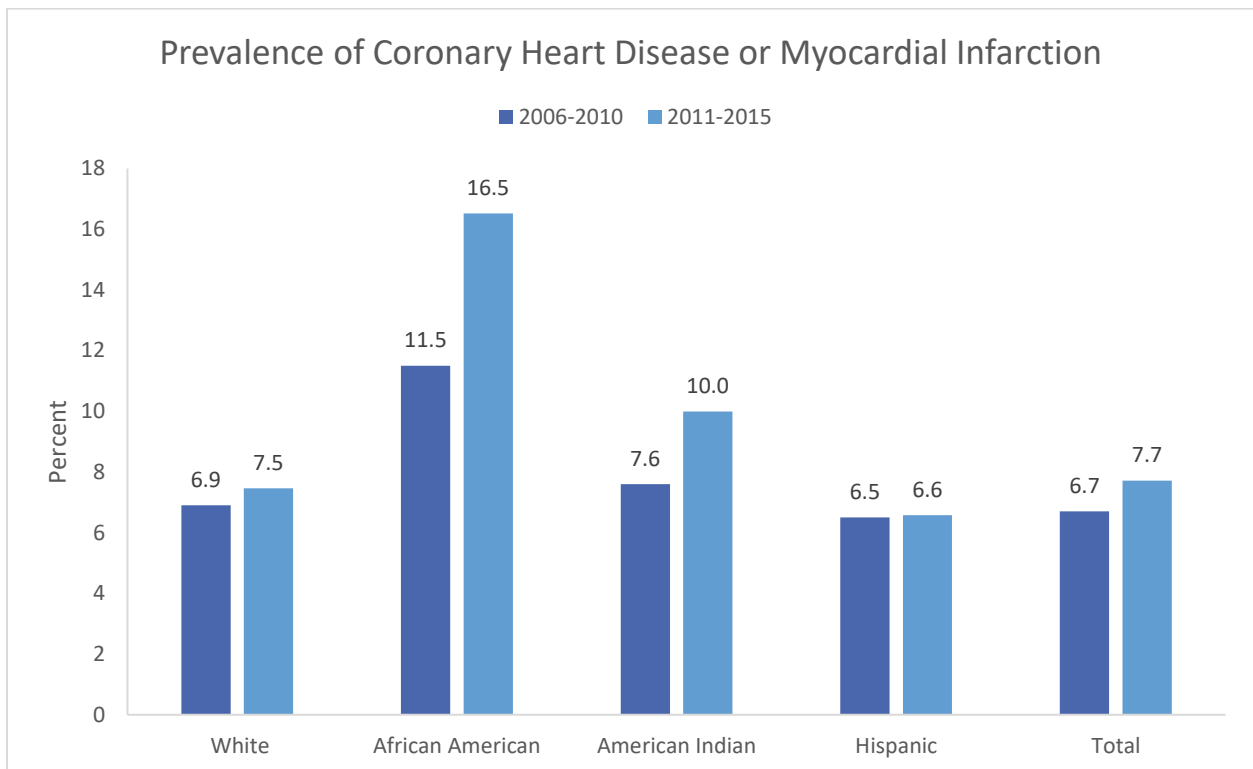


## Missouri

The chart below represents the proportion of each population that was diagnosed with coronary heart disease or myocardial infarction from 2006 to 2010 and 2011 to 2015.

### Key Findings

- The proportion of the racial and ethnic groups in Missouri that were diagnosed with coronary heart disease or myocardial infarction was the highest among African Americans (16.5%), followed by the American Indians (10%) in the period of 2011-2015.
- Each of the population had an increment in the percentage between the two five-year periods, with African Americans showing the most substantial increment (5 percentage points higher).
- Overall, the rate of Missourians with either coronary heart disease or myocardial infarction increased by 1 percentage point by the recent period (2011-2015).

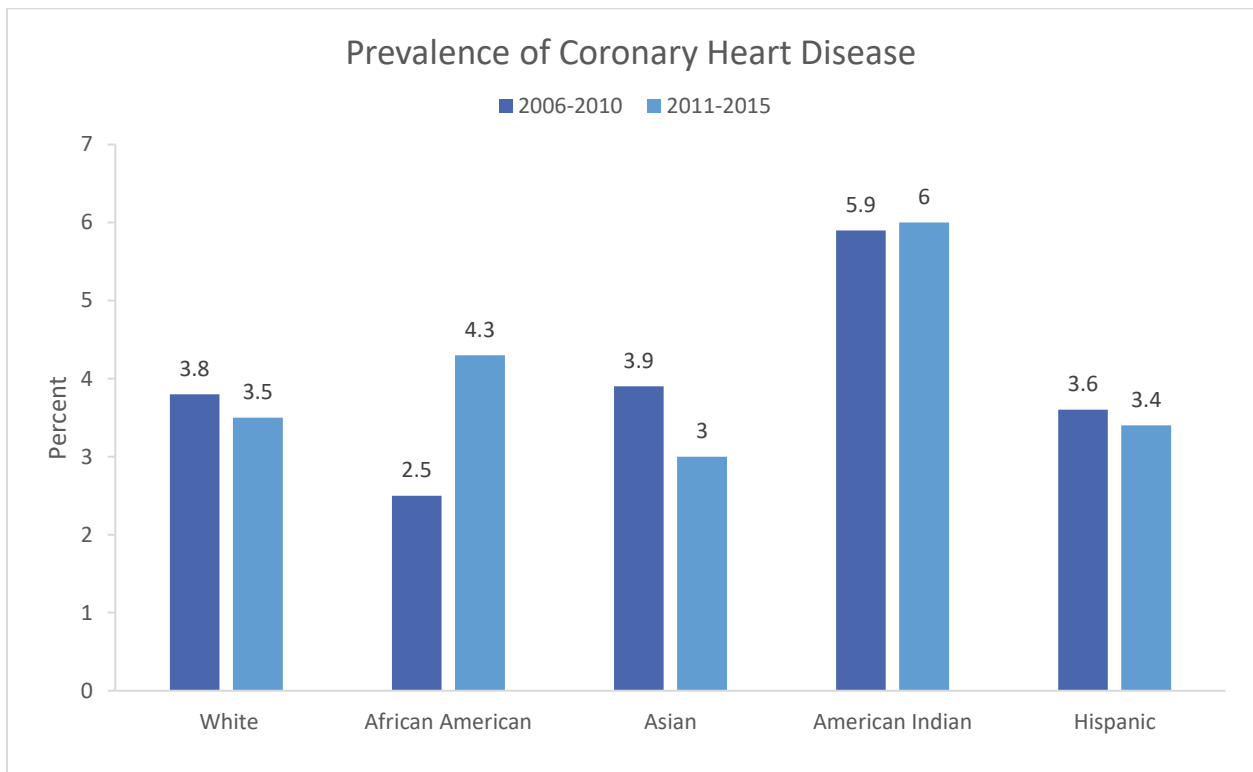


# Nebraska

The chart below represents the proportion of each population that were diagnosed with coronary heart disease from 2006 to 2010 and 2011 to 2015.

## Key Findings

- Nebraska’s American Indian population had the highest percentage of people who had been told that they have coronary heart disease (6%) in 2011-2015, followed by African Americans (4.3%).
- The percentage for African Americans had noticeably increased (2.5% to 4.3%) from the previous period (2006-2010).
- Asians saw the lowest rate of people diagnosed with coronary heart disease at 3% in 2011-2015.

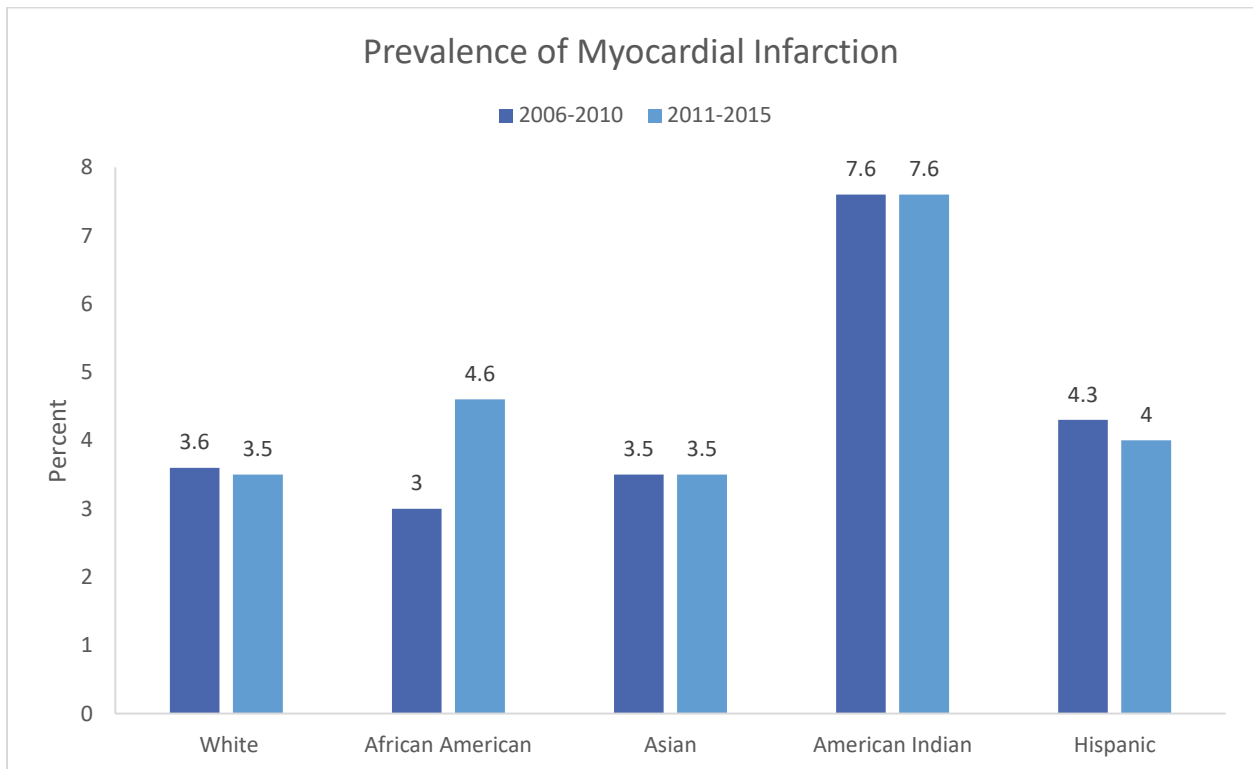


## Nebraska

The chart below represents the proportion of each population that was diagnosed with myocardial infarction from 2006 to 2010 and 2011 to 2015.

### Key Findings

- The percentage of American Indians diagnosed with myocardial infarction remained the same and was the highest of all racial/ethnic groups between 2006-2010 and 2011-2015.
- The prevalence of myocardial infarction reported for Asians and Whites remained similar throughout both periods at approximately 3.5%.
- African Americans showed the biggest gap between the two periods of years, with 1.6 increase in percentage points.

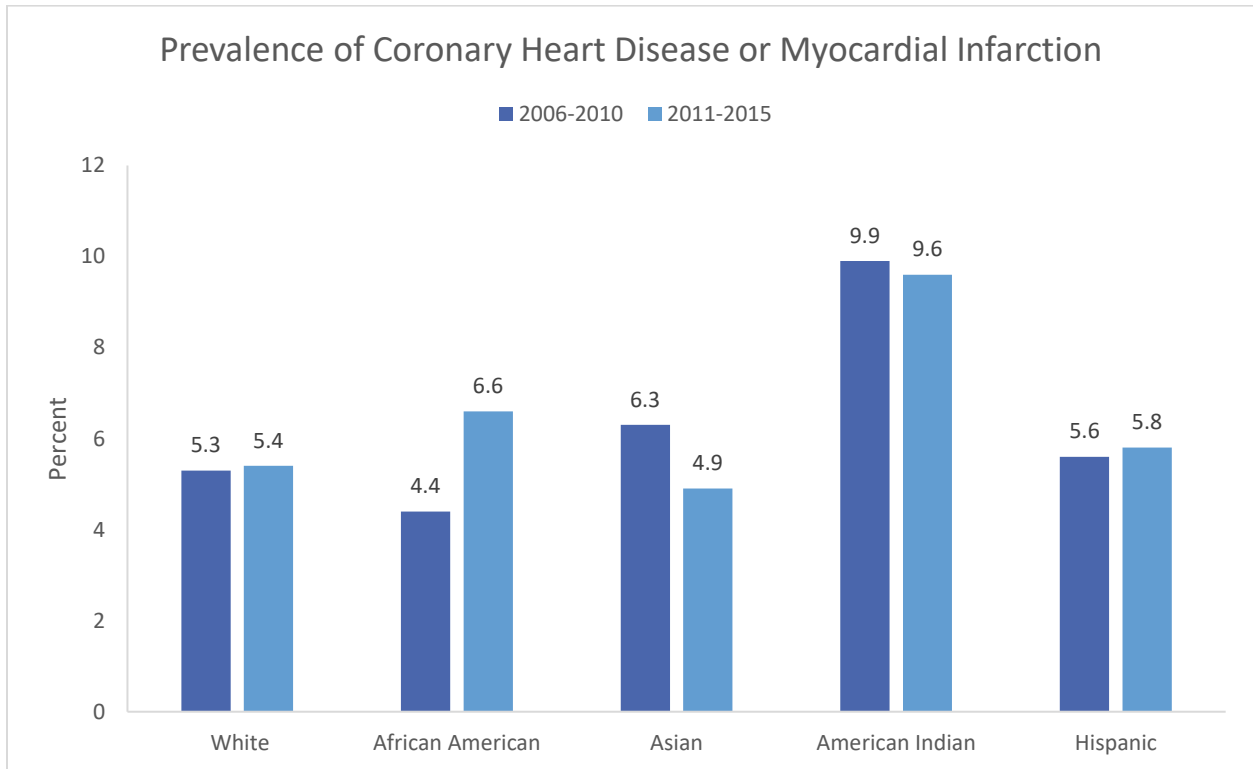


## Nebraska

The chart below represents the proportion of each population that was diagnosed with coronary heart disease or myocardial infarction from 2006 to 2010 and 2011 to 2015.

### Key Findings

- In Nebraska, approximately 10% of American Indians suffered from coronary heart disease from 2006-2010 to 2011-2015, the highest percentage reported out of all racial/ethnic groups.
- The prevalence of coronary heart disease or myocardial infarction for White and Hispanics remained between 5.3% and 5.8% throughout the time periods.
- African Americans saw an increase in percentage (4.4% to 6.6%), whereas Asians saw a decrease in percentage (6.3% to 4.9%).



## Conclusion

Overall, American Indians and African Americans experienced the most significant disease burdens in all four states between 2001 and 2015. Despite the higher rates reported by these ethnic groups, almost every population experienced a general improvement in health, given the reduction of mortality rates and years of potential life lost reported over the years.

The risk factors associated with heart disease are mainly behavioral. For example, smoking and unhealthy diets are implicated in the development of heart disease, but these risk factors can be eliminated through smoking cessation and proper nutrition. Similarly, physical inactivity can be reversed with a regular exercise regimen, from daily walks to running marathons. A reduction in individuals experiencing the various risk factors associated with heart disease leads to a consequent decrease in healthcare costs, loss of productivity, and disease mortality.

Despite some racial and ethnic groups having higher disease prevalence or higher mortality rates, Region VII as a whole fares relatively well compared to national numbers. The national age-adjusted mortality rate for heart disease as of 2015 was 168.5 deaths per 100,000 people. All states in Region VII, except Missouri, had total mortality rates that were close or lower than the national rate in 2015.

Additionally, the prevalence of coronary heart disease among African Americans for each state was lower than the national percentage (6.7%). Hispanics of all states had smaller proportions of individuals with coronary heart disease than the national population of Hispanics (6.1%). Although figures reported were comparable or lower than national rates, local public health professionals should maintain or increase efforts in disease prevention and education to further reduce the number of individuals who are diagnosed with heart disease, especially those among racial and ethnic minorities. The fact that heart disease is preventable but is the number one killer among Americans, combined with it costing hundreds of billions of dollars per year, demonstrates it should be a primary public health issue.