

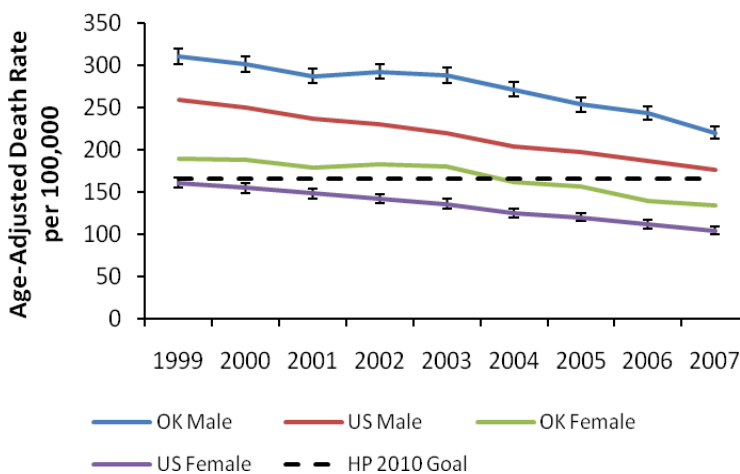
Heart Disease in Oklahoma

Burden of Disease:

- Heart disease is Oklahoma's leading killer for both men and women resulting in 9,602 deaths in 2007.¹
- Oklahoma ranked 2nd highest in heart disease death rates in the US in 2007 with an age-adjusted rate of 242.1/100,000.
- In 2007, rates of death from heart disease in Oklahoma were 28% higher for blacks compared to non-Hispanic whites.¹
- Heart disease as the primary diagnosis resulted in over 46,000 hospitalizations, totaling over \$2 billion in hospital charges in Oklahoma in 2009.²
- In 2010, the age-adjusted prevalence of Oklahoma adults reported having a history of myocardial infarction and/or coronary heart disease was 7.6% (9.2% of males and 6.3% of females).³

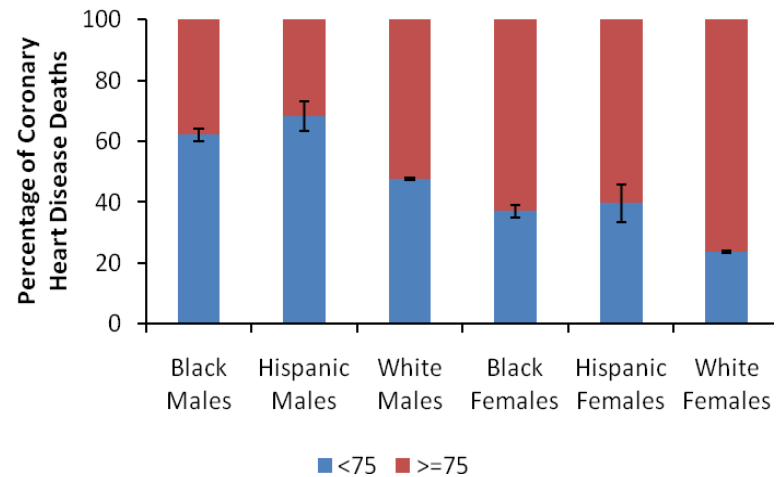
Figure 1 shows that Oklahoma male and female coronary heart disease (CHD) death rates have remained significantly higher than their US counterparts. The death rates for Oklahoma and U.S. males remain above the Healthy People 2010 goal of 166/100,000 while both Oklahoma and U.S. females were below this goal in 2005 and 2006. Figure 2 shows that the percentage of CHD deaths under the age of 75 is higher among black and Hispanic males and females compared to their white counterparts.

Figure 1. Age-Adjusted Coronary Heart Disease Death Rates by Gender



ICD-10 codes I11, I20-I25
Data Source: Compressed Mortality File, CDC Wonder

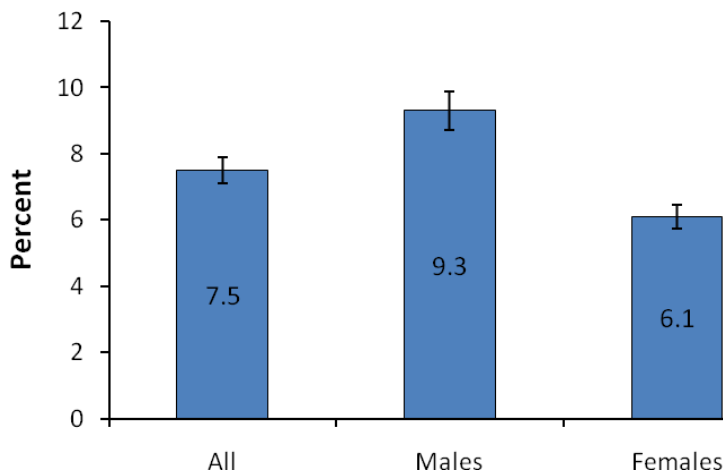
Figure 2. Percentage of Total Coronary Heart Disease Deaths by Age Group, Oklahoma 1999-2007



ICD-10 codes I11, I20-I25
Data Source: Compressed Mortality File, CDC Wonder

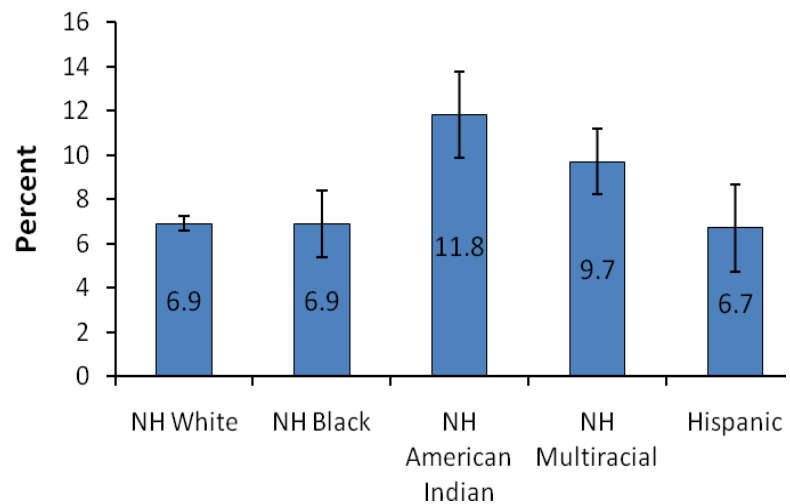
Figure 3 shows that the age-adjusted prevalence of history of heart attack or CHD is 7.5% with males having a significantly higher prevalence than females. Figure 4 shows that the age-adjusted prevalence of history of heart attack or CHD among American Indians is significantly higher than the prevalence among whites, blacks, or Hispanics.

Figure 3. Age-Adjusted Percentages and 95% Confidence Intervals of History of Heart Attack and/or Coronary Heart Disease by Gender, Oklahoma 2008-2010



Data Source: Oklahoma Behavioral Risk Factor Surveillance System

Figure 4. Age-Adjusted Percentages and 95% Confidence Intervals of History of Heart Attack and/or Coronary Heart Disease by Race/Ethnicity, Oklahoma 2008-2010



NH=Non-Hispanic

Data Source: Oklahoma Behavioral Risk Factor Surveillance System

Modifiable Risk Factors for Heart Disease

- Smokers are two to four times more likely to develop CHD than nonsmokers.⁴ The prevalence of current smokers among Oklahoma adults was 23.7% in 2010.³
- Heart disease death rates among adults with diabetes are two to four times higher than the rates for adults without diabetes.⁵ The prevalence of Oklahoma adults with diagnosed diabetes in 2010 was 10.4%.³
- Studies have shown that for every 20 mmHg systolic or 10 mmHg diastolic increase in blood pressure, there is a doubling of mortality from ischemic heart disease.⁶ The prevalence of Oklahoma adults with diagnosed high blood pressure in 2009 was 34.4%.³
- Studies have found a direct relationship between levels of LDL cholesterol (or total cholesterol) and the rate of new-onset CHD in men and women who were initially free of CHD.⁷ The prevalence of Oklahoma adults with diagnosed high blood cholesterol in 2009 was 40.3%.³
- The Framingham Heart Study showed that overweight and obesity were associated with increased risk for cardiovascular disease.⁴ The prevalence of obesity among Oklahoma adults in 2010 was 31.3%.³
- One study found that physical inactivity accounts for 12.2% of the global burden of heart attacks after accounting for other CVD risk factors.⁹ Over half (52.9%) of Oklahoma adults did not meet the recommended physical activity recommendations in 2009.³

Signs and Symptoms Recognition

Heart attack signs and symptoms recognition ranged from 57.3% for pain in jaw, neck or back to 92.8% for chest pain. Less than 1 in 7 Oklahoma adults correctly identified all heart attack signs and symptoms and correctly identified trouble seeing out of one or both eyes as not a symptom of a heart attack. A significantly higher percentage of females identified some of the individual symptoms as well as all five correct symptoms and the one incorrect symptom than males.

Percentages and 95% Confidence Intervals for Oklahoma Adults Who Correctly Identified Heart Attack Signs and Symptoms and Would Call 9-1-1, Oklahoma 2009

	All	Males	Females
Pain in jaw, neck, back	57.3% (55.2-59.4)	49.7% (46.2-53.2)	64.4% (62.2-67.0)
Feeling weak, lightheaded, faint	62.4% (60.4-64.5)	63.4% (60.1-66.7)	61.7% (59.3-64.1)
Chest pain	92.8% (91.7-94.0)	91.7% (89.7-93.8)	94.0% (92.8-95.2)
Pain in arms or shoulders	88.2% (86.7-89.7)	85.8% (83.2-88.3)	90.6% (89.0-92.1)
Shortness of breath	84.3% (82.8-85.9)	83.3% (80.7-85.8)	85.4% (83.6-87.2)
All five correct symptoms and one incorrect symptom identified	13.8% (12.4-15.1)	11.5% (9.3-13.7)	15.9% (14.3-17.6)
Would call 9-1-1 if they thought someone was having a heart attack or stroke	84.8% (83.4-86.2)	85.3% (83.0-87.5)	84.4% (82.7-86.3)

Data Source: Oklahoma Behavioral Risk Factor Surveillance System

- Oklahoma Vital Statistics
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August 2011