5. Cardiovascular Disease & Stroke

Heart disease (also known as cardiovascular disease, ischemic heart disease or coronary artery disease) is the leading cause of death in the United States. AI/AN have similar rates of self-reported and diagnosed heart disease compared to NHW but higher rates of hospitalization and death due to these causes. Risk factors for heart disease include smoking, sedentary lifestyle and obesity. Other medical conditions that increase the risk of developing heart disease include hypertension, diabetes and hyperlipidemia. Heart disease is more common in men compared to women and increases with age.

Efforts to prevent heart disease in AI/AN include smoking cessation, dietary counseling, exercise programs and control of blood pressure, blood sugar and cholesterol. The Department of Health and Human Services launched a campaign in 2011 to prevent 1 million heart attacks and strokes by 2017— the Million Hearts campaign. Many of the efforts outlined by this campaign to prevent heart disease are tracked by IHS through the Government Performance and Reporting Act. IHS is working to prevent heart disease by setting goals for the control of blood pressure, diabetes, cholesterol, and obesity, and increasing smoking cessation.

Despite efforts at all levels of care, heart disease remains the number one killer of AI/AN in Idaho, and AI/AN are significantly more likely to die from the disease than NHW in the state. This disparity is greatest among younger AI/AN.

Stroke is another of the top ten causes of death for Idaho AI/AN, but rates are much lower than for heart disease. Looking at both sexes combined there was no disparity relative to NHW; female AI/AN did have 50% higher rates of stroke death than female NHW.

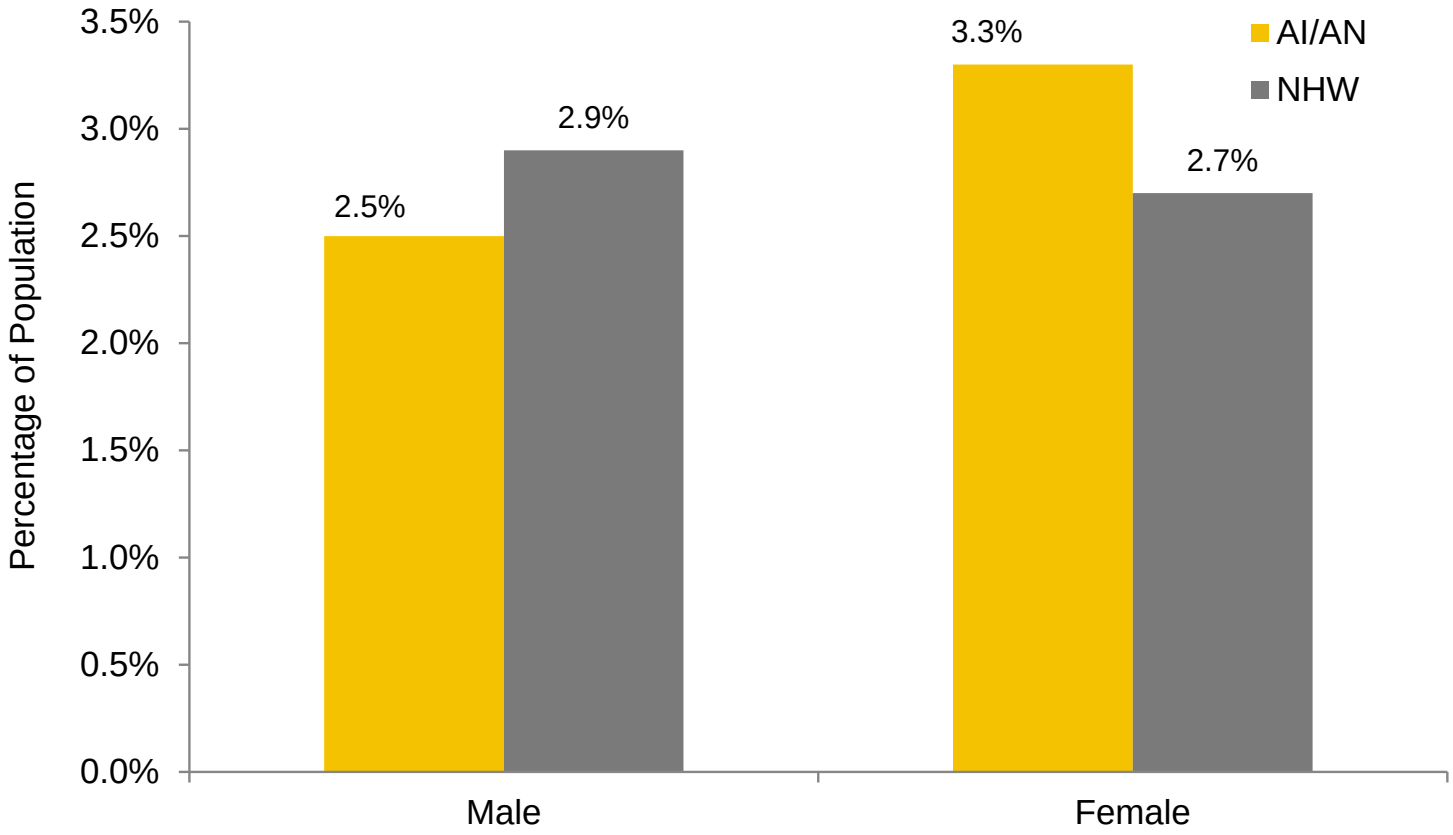
Self-Reported Heart Disease

Figure 5.1 shows the percentage of AI/AN and NHW adults who have ever been told they had angina or coronary heart disease by a health care provider. From 2006-2012, AI/AN males and AI/AN females had similar rates of self-reported heart disease (2.5% and 2.9% respectively). Compared to NHW, AI/AN did not experience a disparity in prevalence of self-reported heart disease.

Data Source: 2006 – 2012 CDC BRFSS

Data Notes: The BRFSS prevalence estimates (shown as a percentage) are weighted to make the survey responses representative of the Idaho population. The sample sizes presented below the figures are the unweighted number of people who answered this question for the indicated years.

Figure 5.1: Prevalence of self-reported heart disease by race and sex, Idaho, 2006-2012.



Sample sizes (n): AI/AN males=468; AI/AN females=770; NHW males=31,987; NHW females=49,551.

Heart Disease Management

IHS has a performance goal for the percentage of adult heart disease patients who receive a comprehensive cardiovascular disease (CVD) assessment. Prior to 2012, IHS measured the percentage of AI/AN patients ages 22 and older with ischemic heart disease who received a comprehensive CVD assessment. In 2013, IHS changed the definition to the percentage of AI/AN patients ages 22 and older with coronary heart disease who received a CVD assessment. A comprehensive CVD assessment includes having the following:

- blood pressure measured at least twice in the past two years;
- low-density lipoprotein (LDL) cholesterol measured in the past year;
- tobacco use screened in the past year;
- BMI calculated in the past year; and,
- lifestyle adaptation counseling (e.g., nutrition counseling, exercise education) in past year.

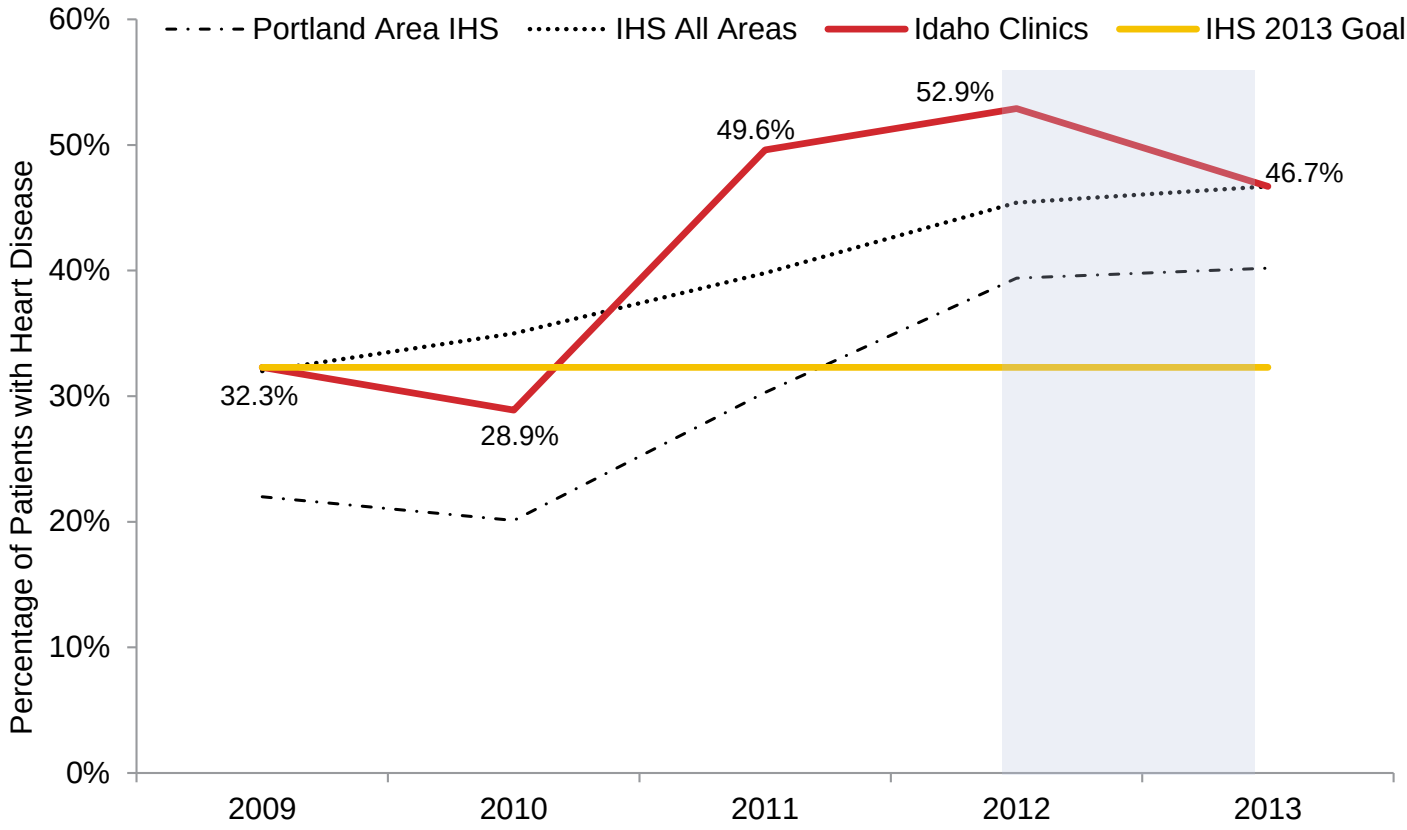
Since 2010, the percentage of at-risk patients who received a comprehensive CVD assessment has increased for Idaho clinics, the Portland Area IHS, and the national IHS (Figure 5.2). In 2013, all three areas exceeded the IHS goal of 32.3%.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Idaho clinics. The shaded area shows the year when the definition for comprehensive CVD assessment changed.

Idaho clinics include non-urban federal and tribal Indian health facilities in Idaho. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 5.2: Percentage of IHS AI/AN patients (ages 22 years and older) with heart disease who received a comprehensive CVD assessment.



Heart Disease Mortality

Heart disease is the number one killer for Idaho AI/AN. Figure 5.3 shows the age-adjusted death rates for heart disease among AI/AN and NHW in Idaho. Male and female rates are very similar for AI/AN. Compared to NHW, AI/AN heart disease death rates are 20% higher (Table 5.1). This disparity is attributable to the fact that AI/AN women are 1.4 times more likley to die from heart disease than NHW women. Male AI/AN heart disease mortality rates did not differ from NHW males.

Among AI/AN in the Northwest region, Idaho AI/AN have lower heart disease death rates than Washington's AI/AN population, but higher rates than those seen in Oregon AI/AN.

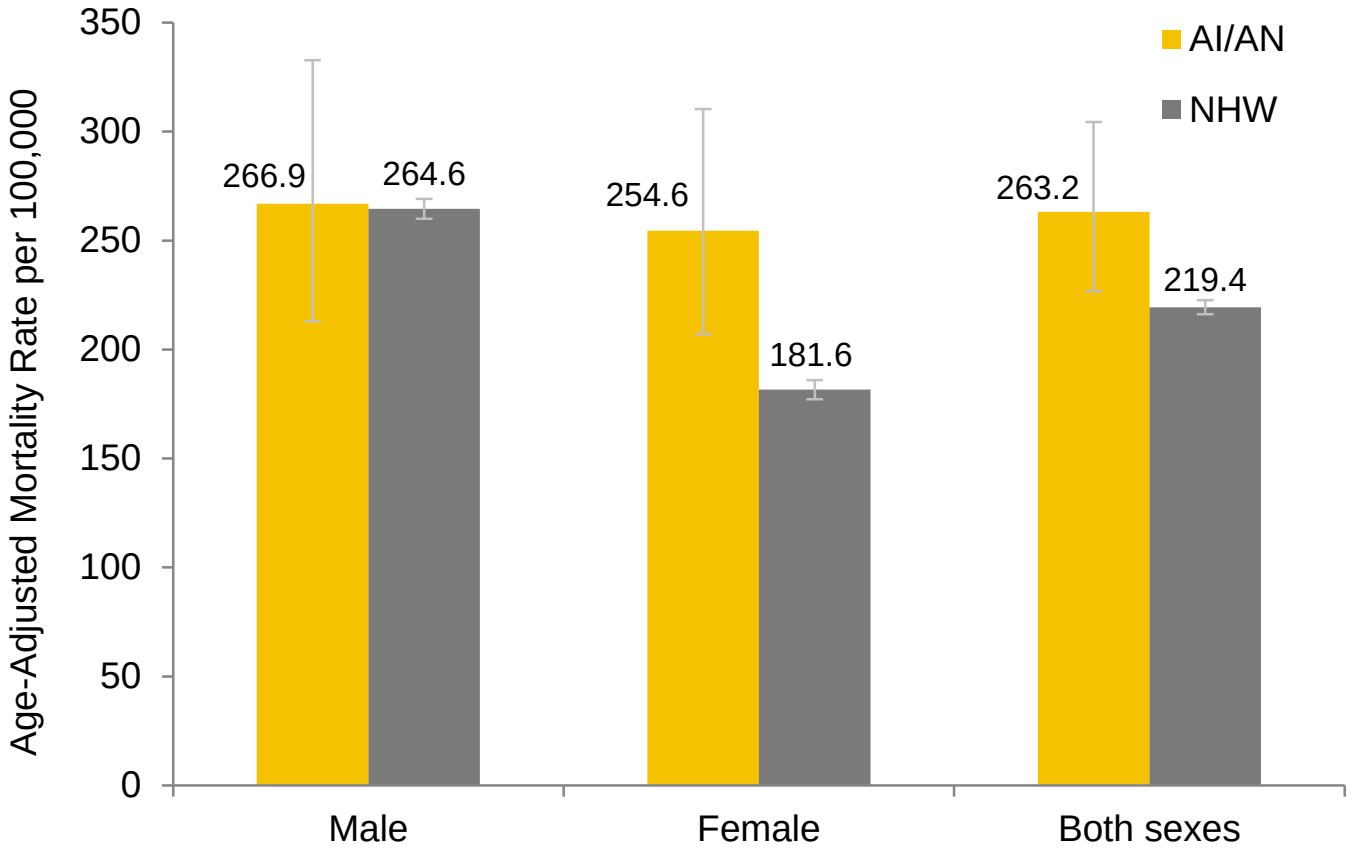
Table 5.1: Age-adjusted heart disease mortality rates by race and sex, Idaho, 2006-2012.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	266.9 (226.7, 304.4)	264.6 (216.2, 222.6)	1.01 (0.8, 1.2)
Female	254.6 (213.0, 332.7)	181.6 (260.0, 269.1)	1.40 (1.2, 1.7) ‡
Both Sexes	263.2 (207.1, 310.3)	219.4 (177.2, 186.0)	1.20 (1.1, 1.4)‡

CI = confidence interval
‡ Indicates a statistically significant difference (p<.05).

Data Source: Idaho Death Certificate File (Idaho Dept. of Health and Welfare), 2006-2012, corrected for misclassified AI/AN race

Figure 5.3: Age-adjusted heart disease mortality rates by race and sex, Idaho, 2006-2012.

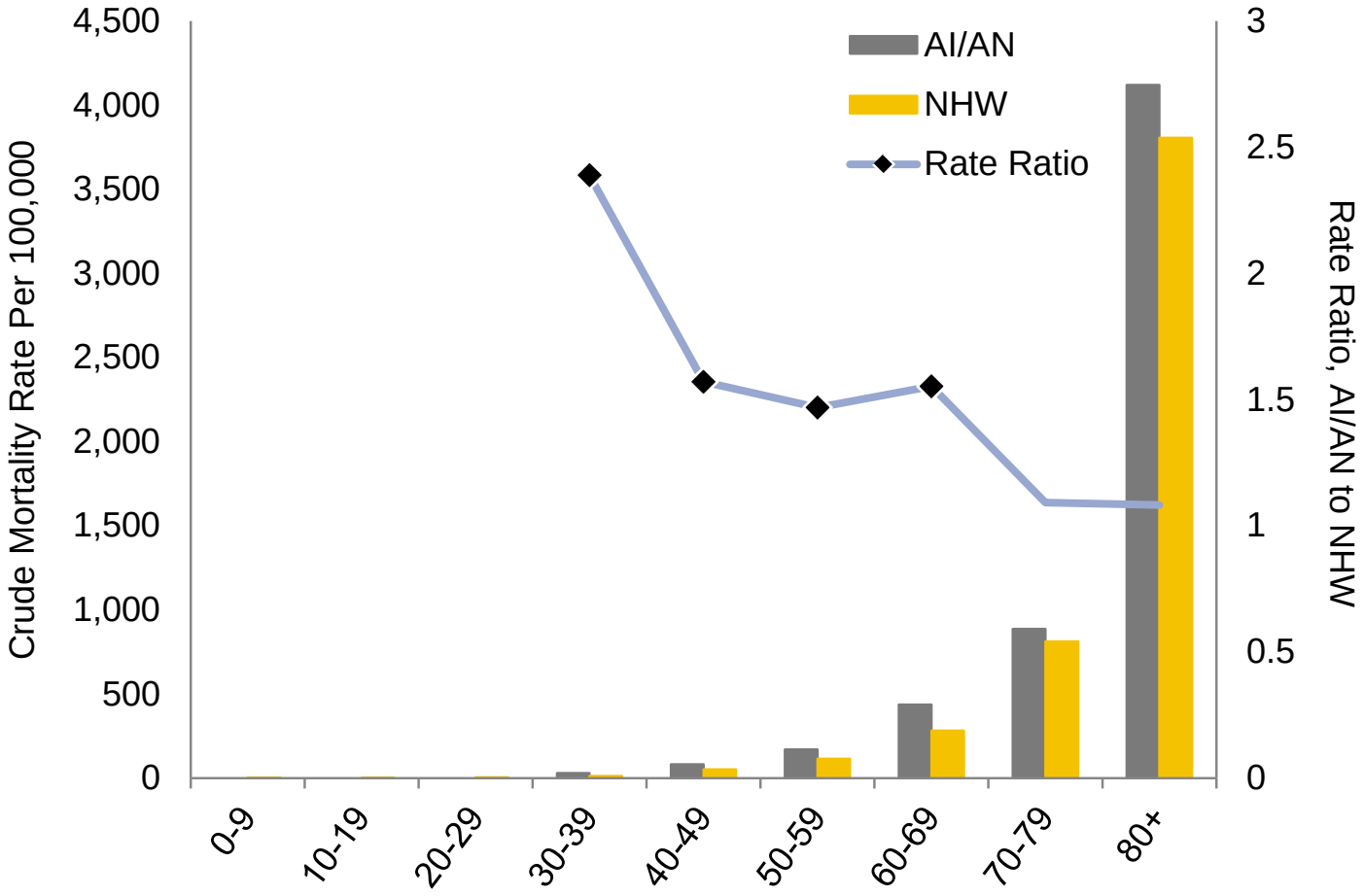


Heart Disease Mortality Across Life Span

While the majority of heart disease deaths for both populations occurred in the older ages, the disparity was largest among 30-39-year-olds, with AI/AN 2.4 times more likely to die from heart disease in this age group (Figure 5.4). The rate ratio declined steadily throughout the life span, and by age 70 there was no statistically significant difference between AI/AN and NHW in heart disease death rates.

Data Source: Idaho Death Certificate File (Idaho Dept. of Health and Welfare), 2006-2012, corrected for misclassified AI/AN race

Figure 5.4: Age-specific heart disease mortality rates by race and sex, Idaho, 2006-2012.



Note: Rate Ratio is a comparison of AI/AN to NHW rates; a value above 1 indicates AI/AN rates are higher than NHW. Black markers are shown for age groups in which the AI/AN rates are statistically significantly higher than NHW rates. Categories for which AI/AN had fewer than 5 deaths are not shown (0 – 29 years).

Stroke Mortality

Stroke is the eighth leading cause of death for Idaho AI/AN, accounting for about 4% of all deaths. Figure 5.5 shows the age-adjusted death rates for stroke among AI/AN and NHW in Idaho. AI/AN females have almost double the risk of death from stroke compared to males, and are 50% more likely to die than NHW females (Table 5.2). Idaho AI/AN have lower rates of stroke than other AI/AN in the Northwest region.

Table 5.2: Age-adjusted stroke mortality rates by race and sex, Idaho, 2006-2012.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	32.9 (15.3, 64.4)	41.7 (39.9, 43.5)	0.79 (0.5, 1.4)
Female	62.6 (40.3, 93.7)	41.4 (39.3, 43.5)	1.51 (1.1, 2.2) ‡
Both Sexes	49.4 (34.2, 69.9)	41.7 (40.3, 43.1)	1.19 (0.9, 1.6)

CI = confidence interval
‡ Indicates a statistically significant difference (p<.05).

Data Source: Idaho Death Certificate File (Idaho Dept. of Health and Welfare), 2006-2012, corrected for misclassified AI/AN race

Figure 5.5: Age-adjusted stroke mortality rates by race and sex, Idaho, 2006-2012.