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Washington

American Indian & Alaska Native Community Health Profile

Northwest Tribal Epidemiology Center
Northwest Portland Area Indian Health Board

Thank You.

The Northwest Portland Area Indian Health Board and the Northwest Tribal Epidemiology Center would like to acknowledge all the tribal members and families who have contributed to our understanding of health in Northwest Tribal communities; NPAIHB delegates and staff at the IHS and Tribal health facilities in the Portland Area; Portland Area IHS and State staff who have supported this project; and program officers at our funding agencies for their guidance and support.

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Washington State

American Indian & Alaska Native Community Health Profile

The Northwest Portland Area Indian Health Board (NPAIHB) is a tribal organization governed by the 43 federally recognized Tribes of Idaho, Oregon, and Washington. Tribal governments appoint a delegate to represent them on the Board, which meets on a quarterly basis. The delegates guide the priorities and programs of the NPAIHB.

This report was developed in an effort to provide Tribes in Washington with accurate health data on priority health issues. Our goal is to provide high quality health data for tribal nations in the Pacific Northwest to inform public health programs and priorities.

The development of this report was supported by grants from the Indian Health Service (#U1B9400001/15) and the Department of Health and Human Services Office of Minority Health (#AIAMP120012-01-00). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of grantor agencies or the U.S. government.

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Letter from the Director

AI/AN in the Pacific Northwest are a small but diverse population. Northwest Tribes have demonstrated their resilience and leadership in facing multiple historical, social, economic and health challenges. Tribal leaders recognize that valid and reliable health statistics are the foundation of a strong public health system. However, AI/AN are not well-represented in local, state, and national health status reports. Without reliable health information, tribes remain limited in their ability to identify priorities and actions that will improve the health of their communities.

This Community Health Profile report describes the health status of AI/AN residing in Washington State, and identifies health disparities experienced by this population. This comprehensive report enhances the available data on the health of AI/AN in Washington State, and can be used by tribal leaders for health policy development and public health decision making.

Since 1996, the Northwest Tribal Epidemiology Center has worked to provide accurate data, training and technical assistance to the 43 federally recognized Tribes in the Portland Area. This report is one of three state-level reports produced by the Improving Data and Enhancing Access – Northwest (IDEA-NW) project and the Northwest Tribal Epicenter.

Victoria Warren-Mears, PHD, RD
Northwest Tribal Epicenter Director

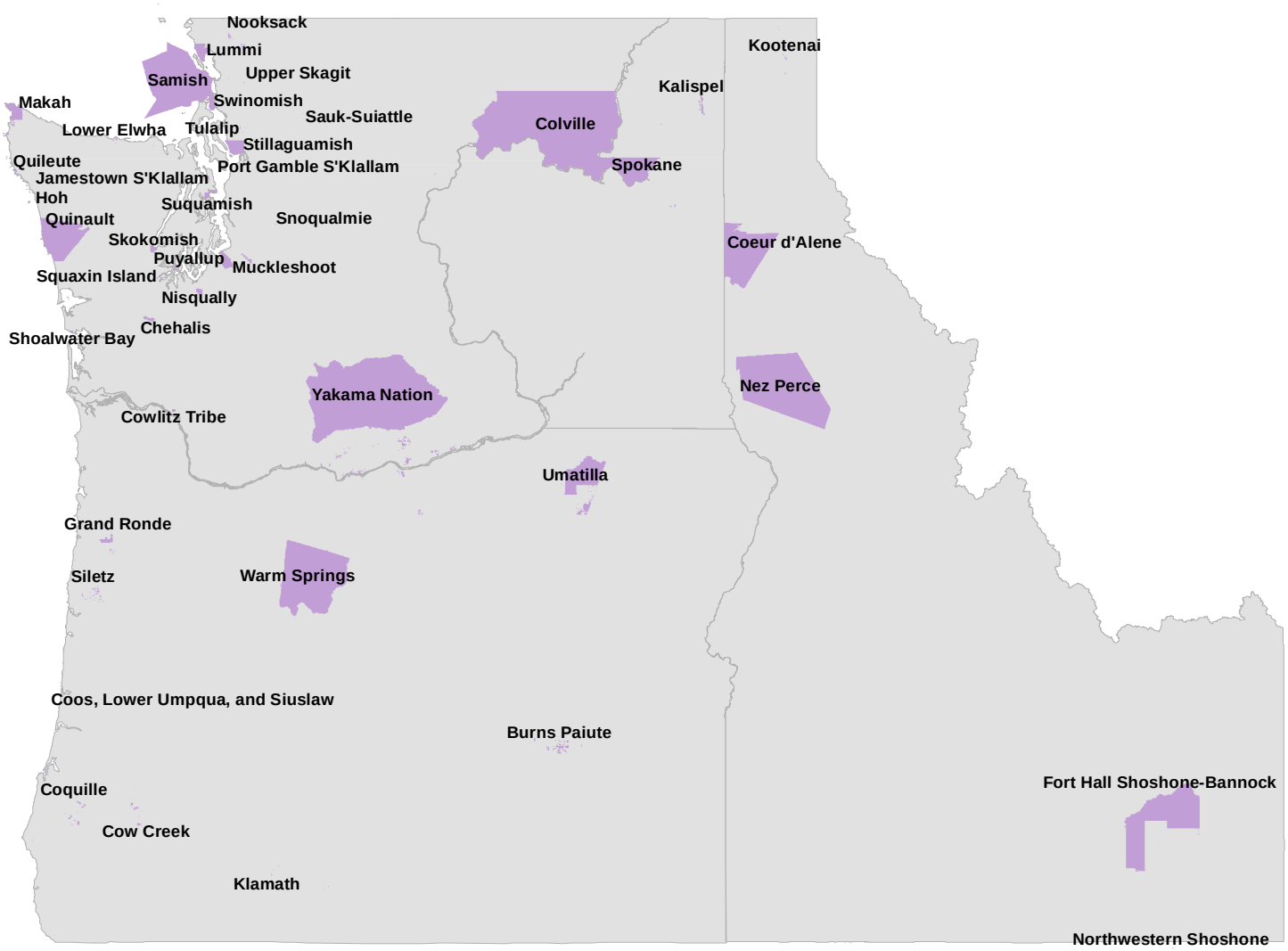
Introduction

Purpose and Objectives

The Northwest Tribal Epidemiology Center (NW TEC), part of the Northwest Portland Area Indian Health Board (NPAIHB), prepared this health profile report in order to provide Northwest Tribes with accurate and up-to-date information on the health of their communities. This report is intended to assist Tribes in Washington to:

- identify health priorities in NW Tribes and Tribal communities,
- aid in the development of new programs and guide allocation of resources,
- identify data gaps and prioritize areas for new research and data collection,
- monitor clinical performance measures for clinic patients, and
- provide supporting data and statistics for grant applications.

NPAIHB Member Tribes



Methods

Selection of Health Topics and Indicators

The NW TEC established a planning team for the health profile reports in December 2013. This core group of NW TEC employees holds planning meetings once or twice per month, with open attendance to anyone at NPAIHB. The planning team selected health topics and indicators based on the availability and quality of data, and whether the indicator was considered a high priority for Northwest Tribes (based on the results from a Tribal Health Priorities survey conducted during the April 2013 Quarterly Board Meeting).

Selection of Data Sources and Years

The most high-quality and recently available data were chosen for each health indicator. If statistically sound data on American Indian and Alaska Natives (AI/AN) were not available, we did not report on that indicator. For most indicators, we combined several years of data in order to obtain enough information for analysis and comparisons.

This report uses data from several state and federal data sources. We prioritized NW TEC data sets that have been corrected for AI/AN racial misclassification These data sets provide more accurate health statistics for the Northwest AI/AN population. In addition, we considered factors such as AI/AN sample size, sampling design, accessibility of the data set, and ability to examine AI/AN-specific data at the state level. Specific information on data sources can be found in the appendix, and data source information accompanies each indicator throughout this report.

Who is represented by the data?

This report focuses on AI/AN who are residents of Washington. For the most part, it does not include members of Washington Tribes who live in other places.

Birth certificate, death certificate and cancer data presented in this report come from vital statistics and cancer registry records held by the state. These data sets usually take their race information from medical records, which sometimes have inaccurate information about a person's race. If an AI/AN person is incorrectly listed as another race in these data sets, the numbers of AI/AN affected by disease or death appear lower than they actually are. In order to correct this, we compared the birth, hospitalization, death, and cancer data sets to our Northwest Tribal Registry (NTR). The NTR is a list of all AI/AN people who have been seen at an IHS or tribal clinic.

For all the data presented on these topics in this report, we have defined AI/AN as anyone who was originally listed as AI/AN in the vital

Methods

statistics or cancer registries, or who appeared in the NTR. It should be noted that the NTR does not include very many urban AI/AN, nor those who self-identify as AI/AN but are not enrolled in a federally recognized Tribe. The NTR also does not include patients who received care at tribal clinics that do not share their patient information with the IHS.

Data presented in this report from other sources such as the Behavioral Risk Factor Surveillance System and U.S. Census Bureau use different definitions of AI/AN, most commonly self-identification.

Data Analysis and Interpretation

When possible, we presented data on males, females, and the total population. Some indicators include a breakdown by age group. Most indicators include a comparison between AI/AN race and non-Hispanic whites (NHW) in the state. For some measures, we compared estimates to Healthy People 2020 targets or to Indian Health Service (IHS) performance goals.

Mortality rates presented in this report were calculated using the National Center for Health Statistics bridged race population estimates in the denominator and race-corrected death counts in the numerator. Population estimates were revised after the 2010 census, and as a result the rates presented in this report are not comparable with those found in earlier NW TEC reports.

Where appropriate, statistical tests were used to determine if there were changes over time or differences between groups. If a result is presented as statistically significant, it can be interpreted to mean that there is less than a 5% chance that the difference seen is just a result of random fluctuations. Put another way, it means there is a 95% or higher chance that it reflects a true difference in the population.

It should be noted that statistical significance does not give any insight into whether the difference is relevant clinically or useful for decision making. For example, with a large enough sample size, a tiny decrease in Hemoglobin A1c levels - say from 7.9% to 7.8% - may be statistically significant. However, 7.8% is still well into the diabetic range, and the difference will probably not change a patient's risk of complications. This would be an example of a result that is statistically significant but not clinically relevant.

Definitions and Abbreviations

AI/AN: American Indian or Alaska Native

Age-adjusted rate: A rate that controls for different age distributions in populations; allows for more accurate comparisons of health event rates between populations.

BRFSS: Behavioral Risk Factor Surveillance System *(see Data Sources)*

CDC: Centers for Disease Control and Prevention

CI: Confidence interval

GPRA: Government Performance and Results Act

ICD: International Classification of Diseases

IHS: Indian Health Service *(see Data Sources)*

Incidence: Number of new health event cases in a population that occur during a specified time period; usually presented as a rate (e.g., number of new HIV cases per 100,000 population that occurred in 2013).

n: Sample size

N: Population size

NHW: Non-Hispanic White

NPAIHB: Northwest Portland Area Indian Health Board ("the Board"); established in 1972 as a non-profit tribal advisory organization serving the 43 federally recognized Tribes of Oregon, Washington, and Idaho. NPAIHB is located in Portland, Oregon.

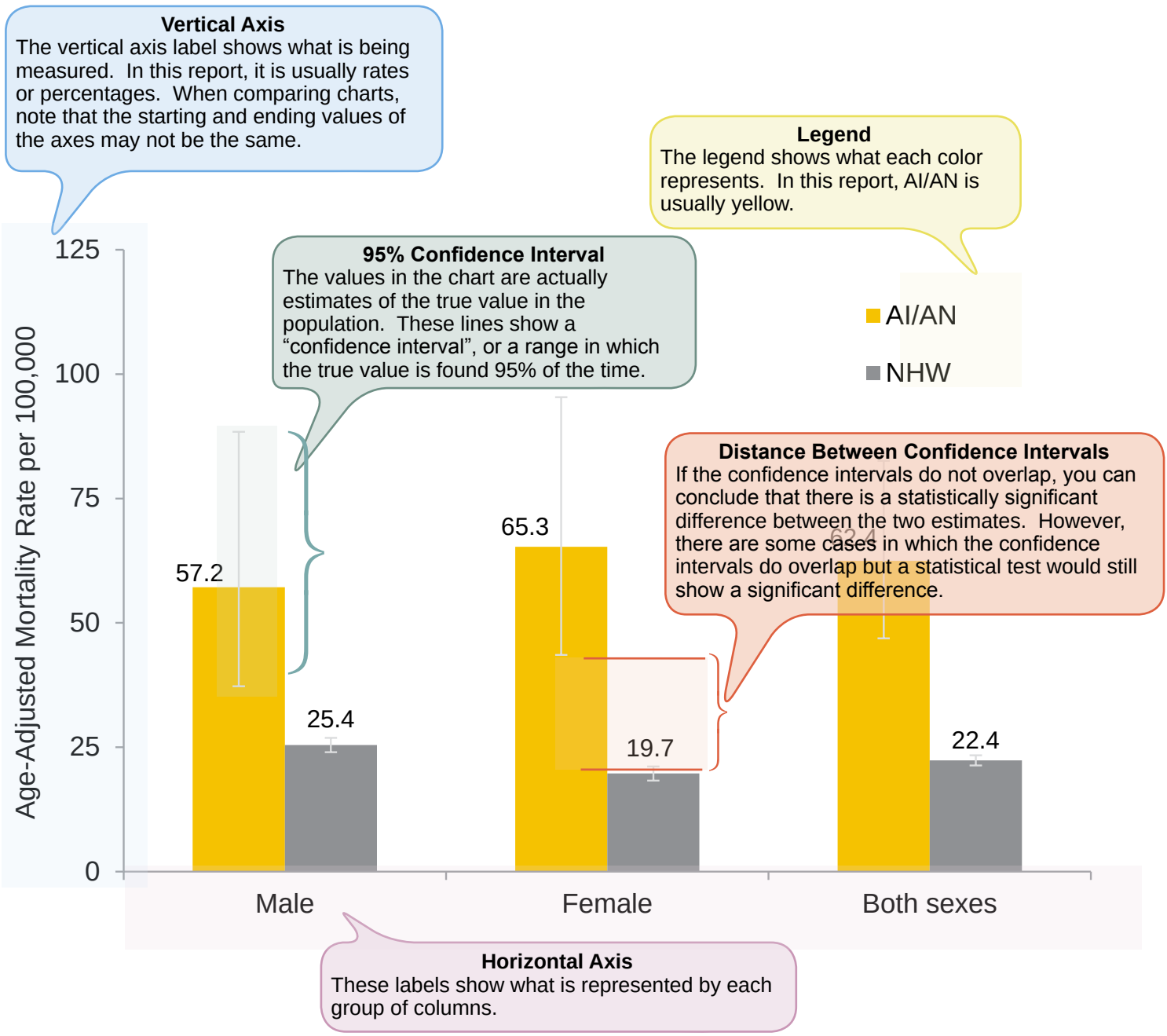
NW TEC: The Northwest Tribal Epidemiology Center, or "the Epicenter," is part of the Northwest Portland Area Indian Health Board. The mission of the EpiCenter is to collaborate with Northwest American Indian tribes to provide health-related research, surveillance, and training to improve the quality of life of AI/AN.

Prevalence: Number of people who have a disease, risk factor, or condition in a population; often presented as a percentage (e.g., percentage of current female smokers).

Principal diagnosis: In hospital discharge data, the reason a patient was admitted to the hospital for care.

Tribe: There are 43 federally recognized Tribes in Oregon, Washington, and Idaho, which are represented by the NPAIHB and NW TEC. There are 566 federally recognized Tribes in the U.S., plus an unknown number of tribes that are not federally recognized.

Guide to Reading a Column Chart



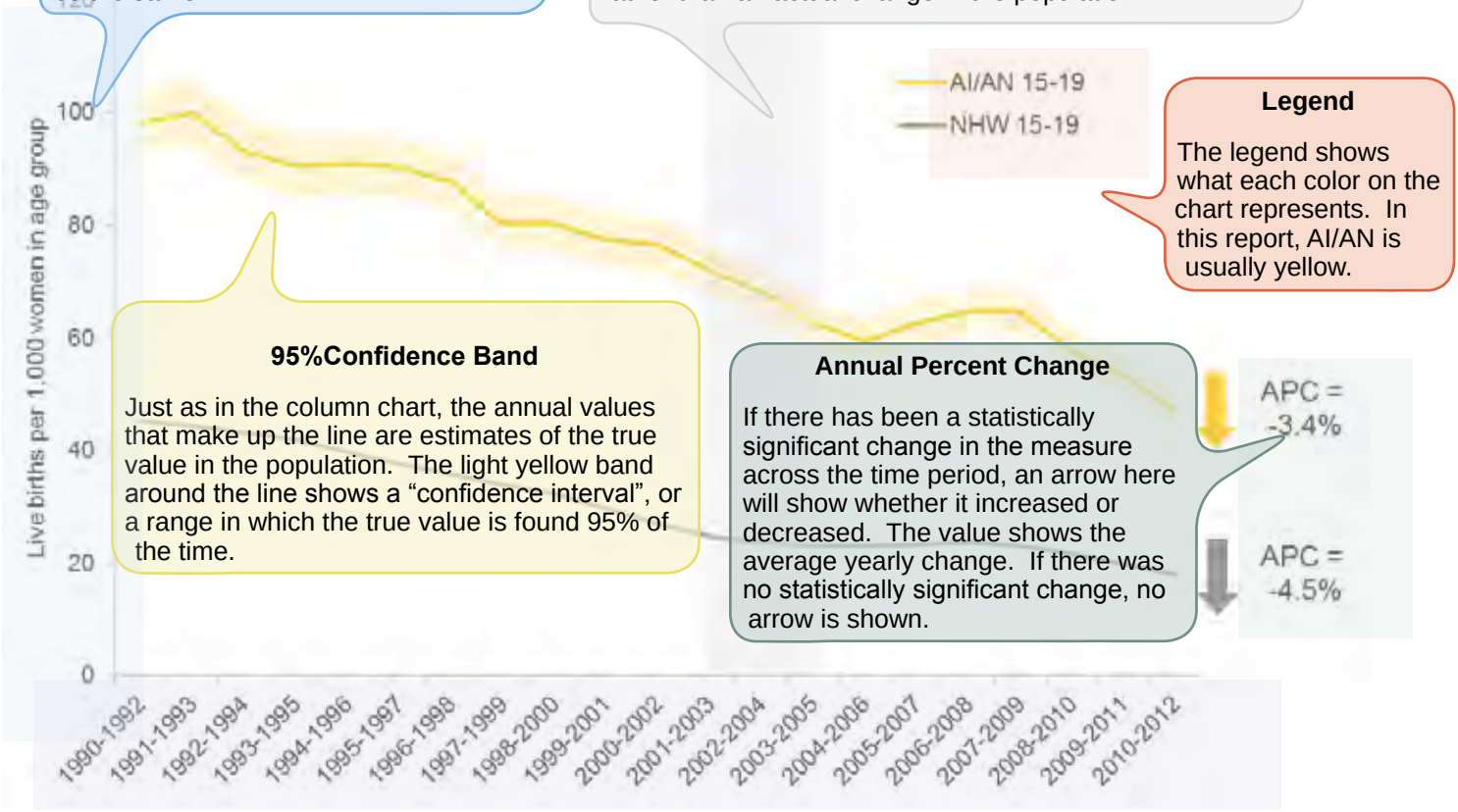
Guide to Reading a Line Chart

Vertical Axis

The vertical axis label shows what is being measured. In this report, it is usually rates or percentages. When comparing charts, note that the starting and ending values of the axes may not be the same.

Shaded Area

The line charts in this report show how a measure has changed over time. Some measures have undergone changes in definition or the way data are collected during the time frame being reported. Shaded areas on the chart indicate the point in time when changes like this occurred. Any abrupt changes across that time should be interpreted with caution - they may be a result of the definition change rather than an actual change in the population.



Legend

The legend shows what each color on the chart represents. In this report, AI/AN is usually yellow.

95%Confidence Band

Just as in the column chart, the annual values that make up the line are estimates of the true value in the population. The light yellow band around the line shows a "confidence interval", or a range in which the true value is found 95% of the time.

Annual Percent Change

If there has been a statistically significant change in the measure across the time period, an arrow here will show whether it increased or decreased. The value shows the average yearly change. If there was no statistically significant change, no arrow is shown.

Horizontal Axis

These labels show what years are being reported.

Data Sources

U.S. Census Bureau

The U.S. Census provides official population counts and demographic information for the United States. The U.S. Census provides information on population age, race, sex, household make-up, income, education, insurance status, and other demographics. Race information collected by the Census Bureau is self-reported, and individuals can report belonging to more than one race group.

Website: http://www.census.gov/

American Community Survey (ACS)

The ACS is an ongoing national survey conducted by the Census Bureau. It is sent to approximately 250,000 addresses monthly (or 3 million per year), and provides population-level information on age, race, sex, household make-up, income, education, insurance status, and other demographics. Race information in the ACS is self-reported, and individuals can report belonging to more than one race group.

Website: http://www.census.gov/acs/www/

Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is a national telephone survey that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury annually. It is run by the Centers for Disease Control and Prevention (CDC) and conducted by individual state health departments.

Website: http://www.cdc.gov/brfss/

Indian Health Service (IHS) GPRA performance measures

The Indian Health Service (IHS) reports on performance measures to track the quality of care it provides to patients, in accordance with the Government Performance and Results Act (GPRA). Health topics covered by these measures include behavioral health, cancer screening, cardiovascular disease, dental health, diabetes, immunizations, and prenatal HIV screening.

Website: http://www.ihs.gov/qualityofcare/

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) Atlas

The NCHHSTP Atlas provides an interactive platform for accessing data collected by the CDC's NCHHSTP. This interactive tool provides an effective way to disseminate data on the reported occurrence of nationally notifiable infectious diseases in the U.S., including HIV, viral hepatitis, some sexually transmitted diseases (STDs), and tuberculosis (TB), while allowing users to observe trends and patterns by creating detailed reports, maps, and other graphics.

Website: http://www.cdc.gov/nchhstp/atlas/

Data Sources

Washington State birth certificate and linked birth-death files

Data from Washington State birth certificates and linked birth-death files are from the Washington State Department of Health's Center for Health Statistics. The data were accessed using Washington's Community Health Assessment Tool. The data included in this report have not been corrected for misclassified AI/AN race.

Website: http://www.doh.wa.gov/DataandStatisticalReports/VitalStatisticsData

Washington State death certificates, corrected for misclassified race

Washington State death certificate data are from the Washington State Department of Health's Center for Health Statistics. These data that have been corrected for misclassified AI/AN race by the IDEA-NW Project (part of the NW TEC). AI/AN includes all death records with any mention of AI/AN race in either the Washington state dataset or the Northwest Tribal Registry (NTR), which is maintained by the IDEA-NW Project.

Website: http://www.npaihb.org/epicenter/project/improving_data_enhancing_access_northwest_idea_nw

Washington State Cancer Registry (WSCR) data, corrected for misclassified race

Washington State cancer registry data are from the WSCR office at the Washington State Department of Health. These data that have been corrected for misclassified AI/AN race by the IDEA-NW Project (part of the NW TEC). AI/AN includes all records with any mention of AI/AN race in either the WSCR dataset or the Northwest Tribal Registry (NTR), which is maintained by the IDEA-NW Project.

Website: http://www.npaihb.org/epicenter/project/improving_data_enhancing_access_northwest_idea_nw

Washington State Comprehensive Hospital Abstract Reporting System (CHARS) inpatient hospital discharge data, corrected for misclassified race

Washington inpatient hospital discharge data are from the CHARS office at the Washington State Department of Health. These data that have been corrected for misclassified AI/AN race by the IDEA-NW Project (part of the NW TEC). AI/AN includes all inpatient hospitalizations with any mention of AI/AN race in either the CHARS dataset or the Northwest Tribal Registry (NTR), which is maintained by the IDEA-NW Project.

Website: http://www.npaihb.org/epicenter/project/improving_data_enhancing_access_northwest_idea_nw

1. Demographics

Demographics provide information on the age, gender, and geographic distribution of a population. Demographics also include data on social and economic factors that influence people's health, including income levels, educational attainment, and employment status. Demographic information can help health researchers, planners, and healthcare providers understand the communities they serve, and identify factors that might explain health outcomes and disparities experienced by a population.

AI/AN make up about 2.8% of the population in the Northwestern states of Idaho, Oregon, and Washington. AI/AN in the Northwest are noticeably different from the general population on several demographic indicators[1], including the following:

- **AI/AN in the Northwest are younger than the general population.** The median age for AI/AN in Idaho, Oregon, and Washington is about seven years younger than the general population in these states.
- **AI/AN have lower levels of educational attainment than the general population.** About 16% of adult AI/AN have not completed a high school degree (or equivalent), compared to 10% of the general population.
- **AI/AN have lower income levels and higher poverty rates than the general population.** The median income for AI/AN in the Northwest is $9,770 lower than the regional average. About 27% of AI/AN in the Northwest live in poverty, compared to 15.5% of the general population.

This section describes key demographic characteristics of AI/AN in Washington, and includes data on age distribution, geographic distribution, educational attainment, and economic indicators.

1. U.S. Census Bureau. American Community Survey 3-year Estimates, 2010-2012.

Population

In 2010, a total of 198,996 AI/AN were living in Washington state, which represents about 3% of the total state population (Table 1.1). Most of Washington's AI/AN population were living in counties that overlap with tribal lands and/or have large urban centers. This is shown in Figure 1.1, where dark blue shading indicates a larger AI/AN population. King County, which includes the Seattle metropolitan area, has the greatest number of AI/AN residents (N=37,724, or 19% of Washington's total AI/AN population).

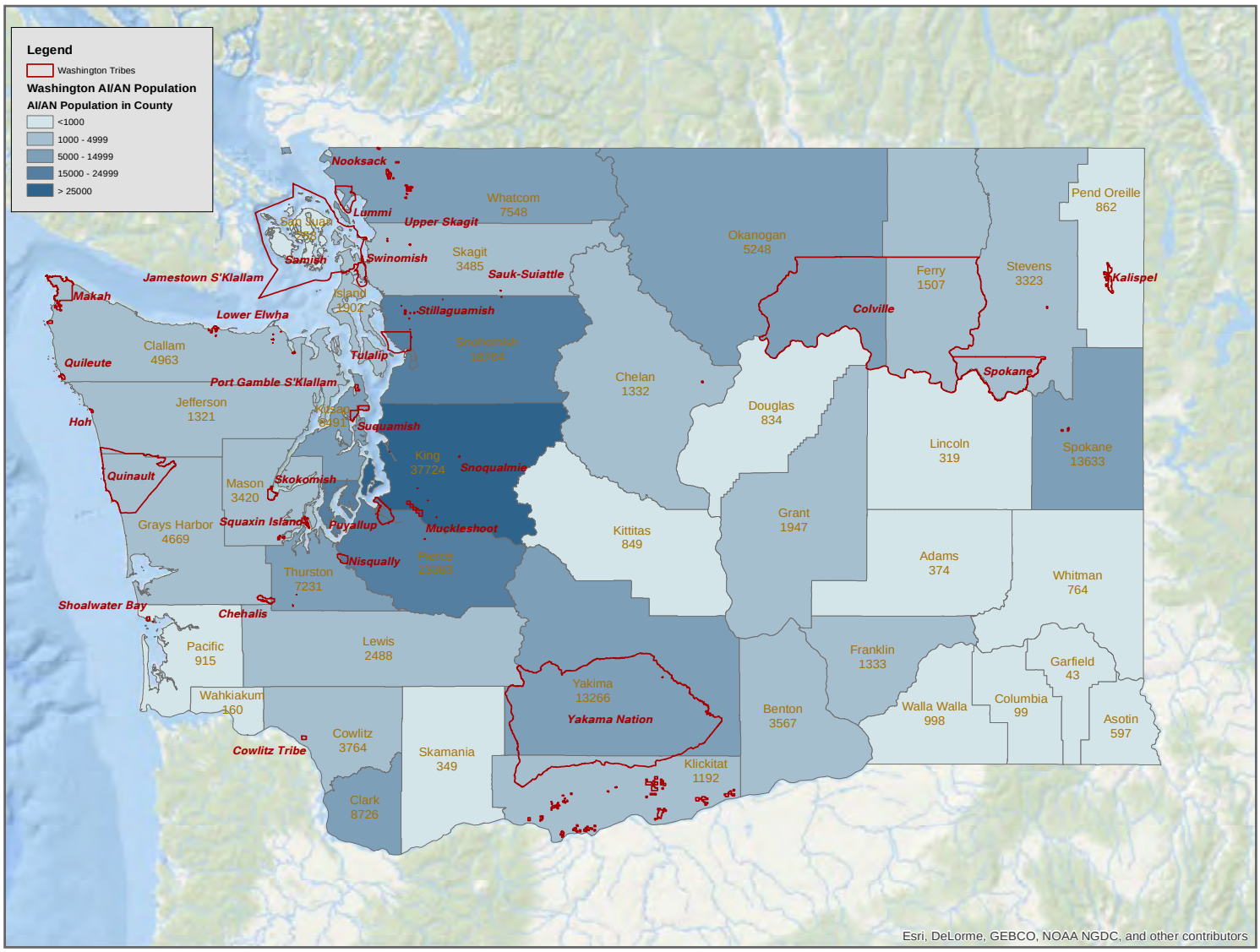
Table 1.1: Population by race and sex, Washington, 2010.

	Male Population N (%)	Female Population N (%)	Total Population N (%)
AI/AN	97,642 (2.9%)	101,356 (3.0%)	198,998 (3.0%)
NHW	2,420,941 (72.3%)	2,455,863 (72.8%)	4,876,804 (72.3%)
Other Races	831,124 (24.8%)	817,614 (24.2%)	1,666,738 (24.7%)
All Races	3,349,707 (100.0%)	3,374,833 (100.0%)	6,742,540 (100.0%)

Data Source: U.S. Census Bureau, 2010.

Data Notes: Data are from Census Summary File 2 Table QT-P1. AI/AN include people who identify as AI/AN alone or in combination with other races of both Hispanic and non-Hispanic ethnicity.

Figure 1.1: AI/AN population by county, Washington, 2007-2011.



Data Source: U.S. Census Bureau, American Community Survey 5-year estimates, 2007-2011.

Data Notes: AI/AN include people who identify as AI/AN alone or in combination with other races of both Hispanic and non-Hispanic ethnicity.

Age Distribution

AI/AN in Washington are younger than NHW in the state. In 2010, the median age for AI/AN was 28.8 years, which was 12.3 years younger than the median age for NHW (41.1 years). The age distribution for Washington AI/AN (Figure 1.2) is noticeably different than the age distribution for NHW in the state (Figure 1.3). A larger proportion of the AI/AN population is in the younger age groups, while a larger proportion of the NHW population is in the older age groups.

Data Source: U.S. Census Bureau, 2010.

Data Notes: Data are from Census Summary File 2 Table QT-P1. AI/AN include people who identify as AI/AN alone or in combination with other races of both Hispanic and non-Hispanic ethnicity.

Figure 1.2: Age distribution by sex for AI/AN, Washington, 2010.

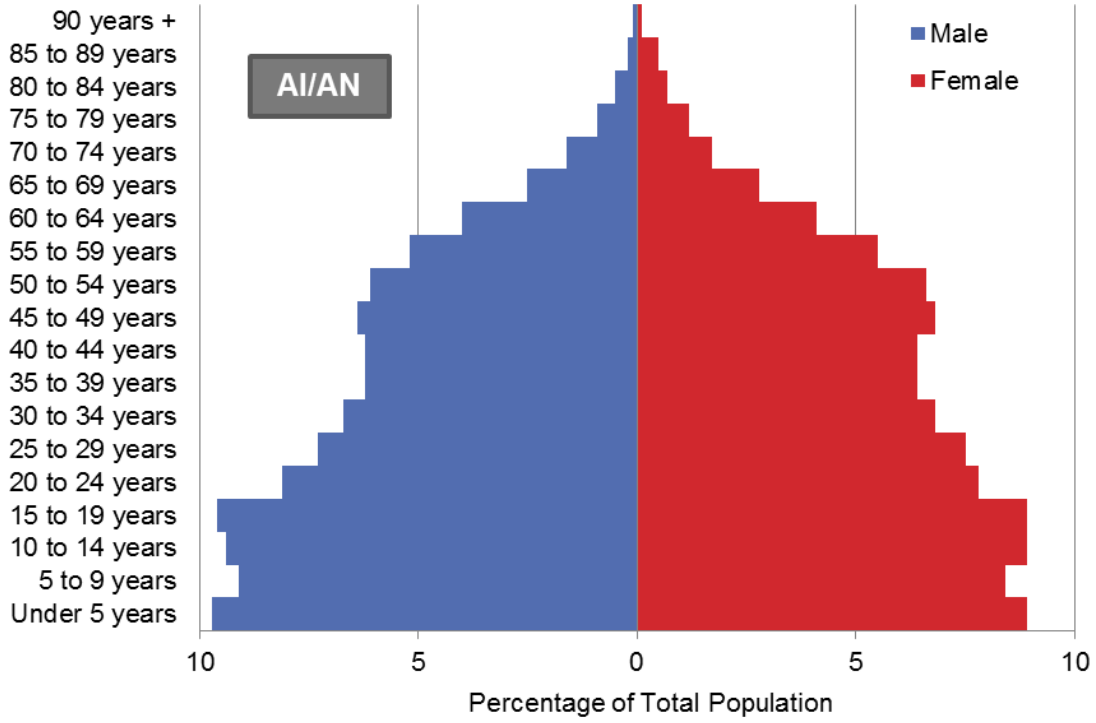
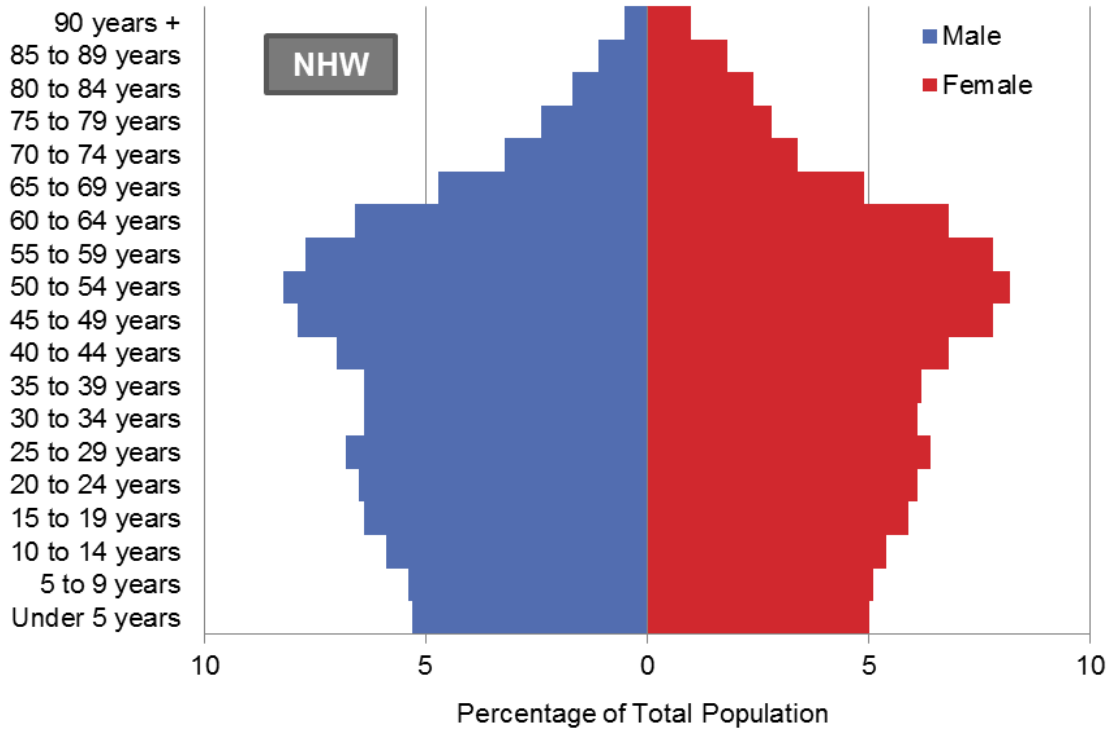


Figure 1.3: Age distribution by sex for NHW, Washington, 2010.



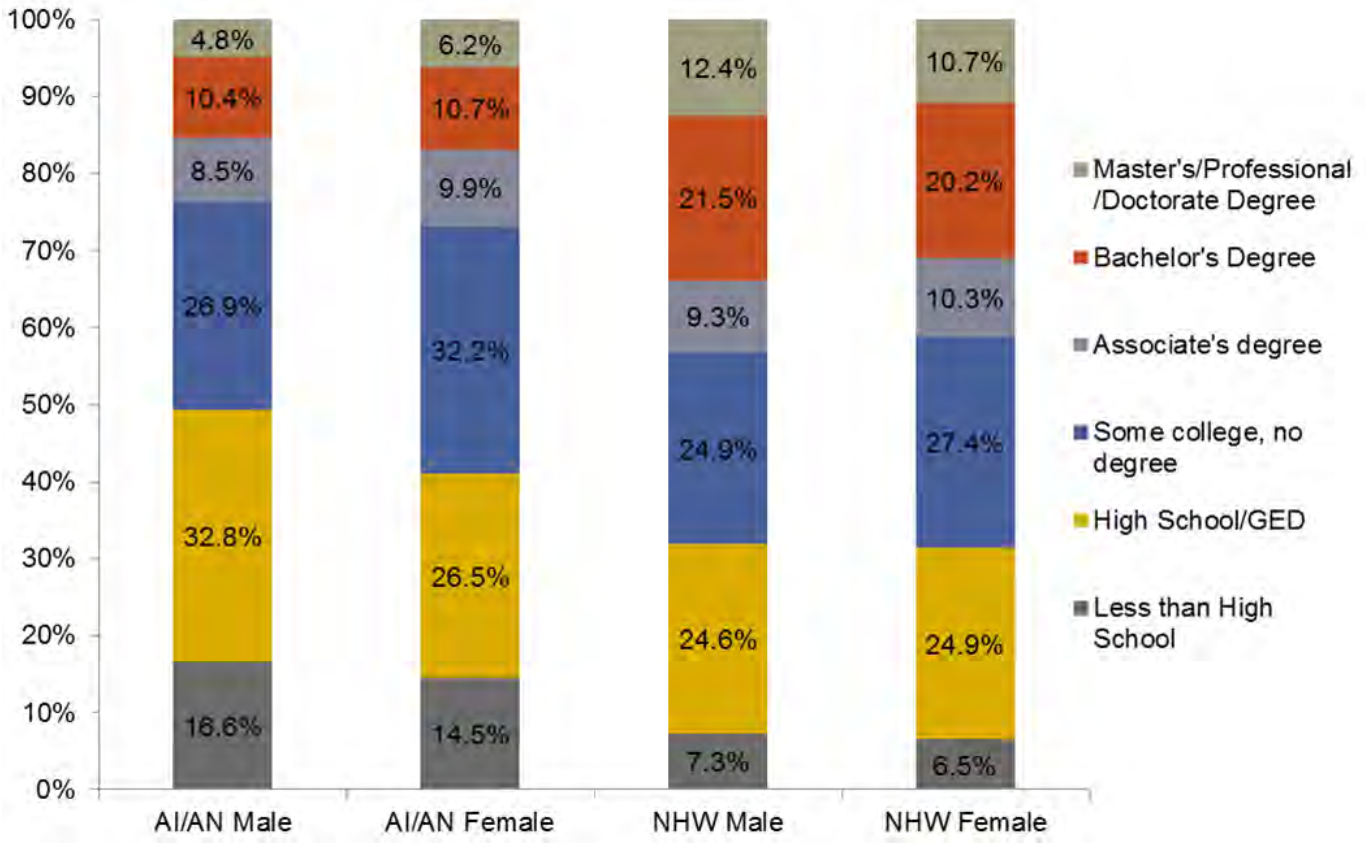
Educational Attainment

Figure 1.4 compares educational attainment for adult AI/AN and NHW in Washington. Compared to NHW, a higher percentage of AI/AN did not complete high school. About 33% of AI/AN males and 27% of AI/AN females had a high school diploma or GED as their highest degree of education, while less than 25% of NHW males and females had this level of educational attainment. AI/AN were more likely than NHW to have some college education but no degree. NHW males were most likely to have attained either a bachelor's or post-graduate degree (33.9%), followed by NHW females (30.9%), AI/AN females (16.9%), and AI/AN males (15.2%).

Data Source: American Community Survey (ACS), 2006-2010, selected population tables.

Data Notes: AI/AN include people who identify as AI/AN alone or in combination with other races of both Hispanic and non-Hispanic ethnicity.

Figure 1.4: Educational attainment for adults by race and sex, Washington, 2006-2010.



N (25yrs+): AI/AN males=49,864; AI/AN females=54,752; NHW males=1,674,125; NHW females=1,750,956.

GED = General Educational Development degree.

Economic Indicators

Table 1.2 shows some key economic indicators for AI/AN and NHW in Washington. From 2006-2010, the median income for AI/AN in Washington was almost $18,000 lower than NHW in the state. AI/AN families, individuals, and children were more than twice as likely to live in poverty than NHW in Washington. From 2006-2010, almost 15% of AI/AN were unemployed, and over 24% received food stamp benefits.

Data Source: American Community Survey (ACS), 2006-2010, selected population tables.

Data Notes: AI/AN includes people who identify as AI/AN alone or in combination with other races of both Hispanic and non-Hispanic ethnicity.

Table 1.2: Economic indicators by race, Washington, 2006-2010.

Economic Indicator	AI/AN	NHW
Median Income	$41,883	$59,820
Percent of Families in Poverty	18.5%	5.8%
Percent of People in Poverty	22.8%	9.5%
Percent of Children† in Poverty	27.3%	10.7%
Percent Unemployed	14.9%	6.9%
Receive Food Stamp Benefits	24.2%	8.0%

† Under 18 years of age

2. Maternal & Child Health

Maternal and child health indicators describe the health and well-being of mothers, infants, children, and families. We focus attention on this specific group because their health and well-being affects not only the present generation, but also the health and well-being of future generations. A mother's health and well-being before, during, and after pregnancy has direct and sometimes lifelong effects on the health of her child. Promoting healthy practices before, during, and after pregnancy is critical to ensuring that children will have the chance to begin life with good health.

The U.S. has shown improvement on several maternal and child health indicators over the last 20 years. However, we continue to see disparities by race and ethnicity, with some of the greatest burden in American Indian and Alaska Native populations. It is a nation-wide priority to eradicate these disparities and improve the health and well-being of AI/AN women, children, and communities.

While teenage birthrates in Washington have decreased since the 1990s, AI/AN teen birthrates are still significantly higher compared to NHW in the state. The infant mortality rate for AI/AN is 2.4 times higher compared to NHW, and has increased since the mid-1990s. Over 25% of AI/AN mothers in Washington report smoking during pregnancy, and only 61% receive adequate prenatal care. Compared to NHW infants, a larger percentage of AI/AN infants have low weight at birth and are born premature.

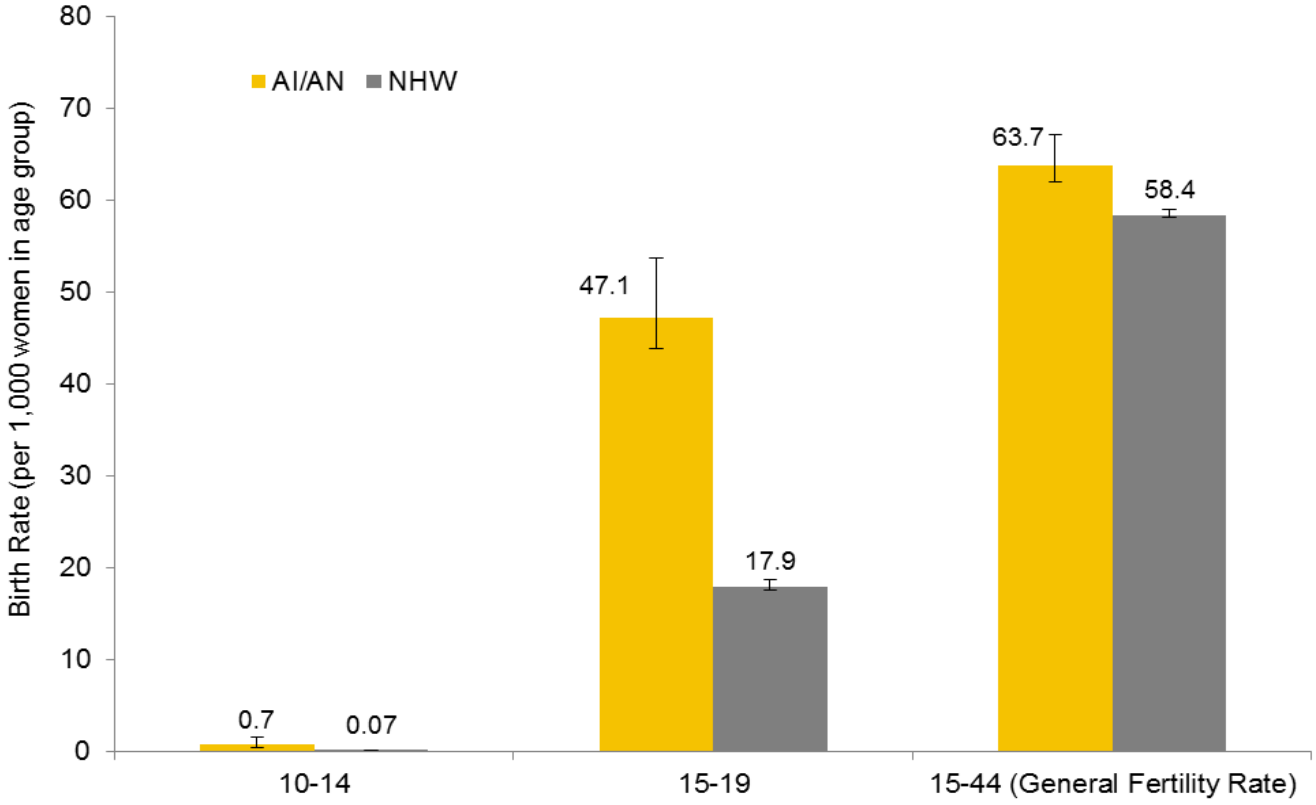
Birth Rates

The general fertility rate (GFR) is the birth rate among women of reproductive age (15-44 years). From 2010-2012, the GFR for AI/AN in Washington was significantly higher compared to NHW (63.7 vs. 58.4 live births/1,000 women) (Figure 2.1). During the same time period, AI/AN had significantly higher teenage birth rates compared to NHW in the state. The birth rate for AI/AN ages 10-14 was 0.7 births/1,000 women, compared to 0.07 births/1,000 women for NHW. The AI/AN birth rate among 15-19 year olds was 2.6 times higher than the NHW rate.

Data Source: Washington State Department of Health, Center for Health Statistics birth certificate file. Data accessed using Washington's Community Health Assessment Tool.

Data Notes: AI/AN data are not corrected for misclassified race.

Figure 2.1: Birth rates by age group and race, Washington, 2010-2012.



Trends in Teenage Birth Rates

Birth rates for AI/AN and NHW teenagers (ages 10-19) in Washington have decreased since 1990. However, the rates for AI/AN teenagers have consistently been higher than the rates for their NHW counterparts. On average, AI/AN birth rates for 10-14 year-olds decreased by 6.3% each year since 1990, compared to 8.7% for NHW (Figure 2.2). AI/AN birth rates for 15-19 year olds have decreased by 3.4% each year, versus 4.5% for NHW (Figure 2.3).

Data Source: Washington State Department of Health, Center for Health Statistics Birth Certificate file. Data accessed using Washington's Community Health Assessment Tool.

Data Notes: APC = Annual Percentage Change. AI/AN data are not corrected for misclassified race. The State of Washington revised its birth certificate in 2003; any abrupt changes in rates around this time should be interpreted with caution.

Figure 2.2: Trends in birth rates for 10-14 year olds by race, three year moving averages, Washington, 1990-2012.

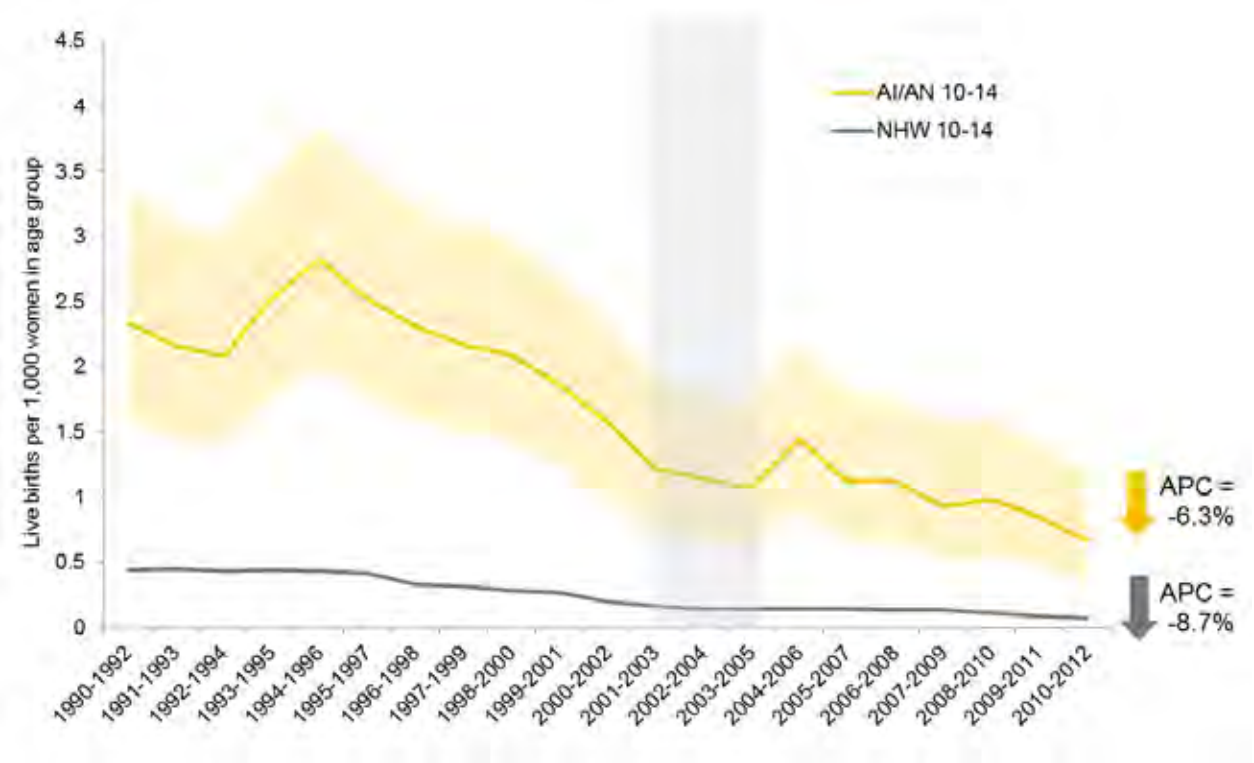
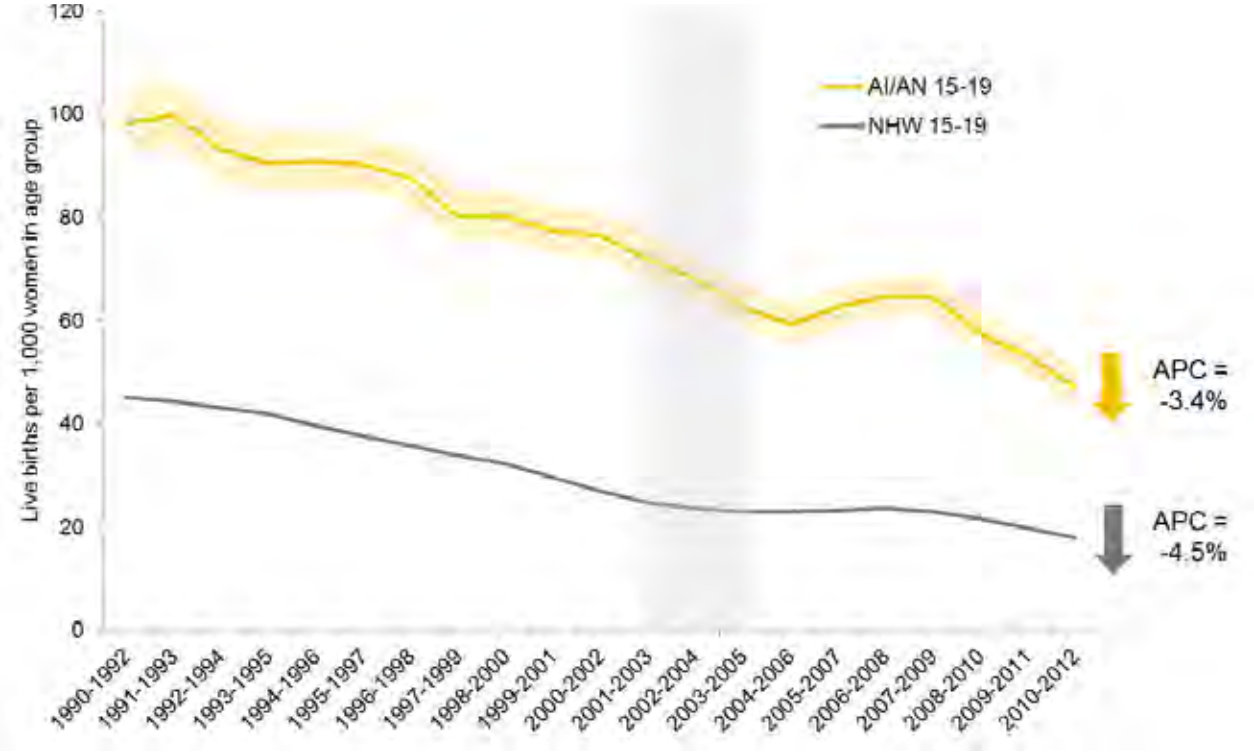


Figure 2.3: Trends in birth rates for 15-19 year olds by race, three year moving averages, Washington, 1990-2012.



Note: The shaded rectangles show the time periods where rates may be affected by changes in Washington's birth certificate.

Infant Mortality

From 2010-2012, the infant mortality rate for AI/AN in Washington was 10.3 deaths per 1,000 live births (Figure 2.4). This was 2.4 times higher than the rate for NHW in the state (4.3 deaths per 1,000 live births). Over half of infant deaths for AI/AN and NHW occurred during the first 27 days of life (neonatal period). Deaths during the neonatal period accounted for 57% of infant deaths for AI/AN and 66% for NHW. AI/AN had a higher proportion of deaths during the postneonatal period compared to NHW (42% vs. 34% for NHW).

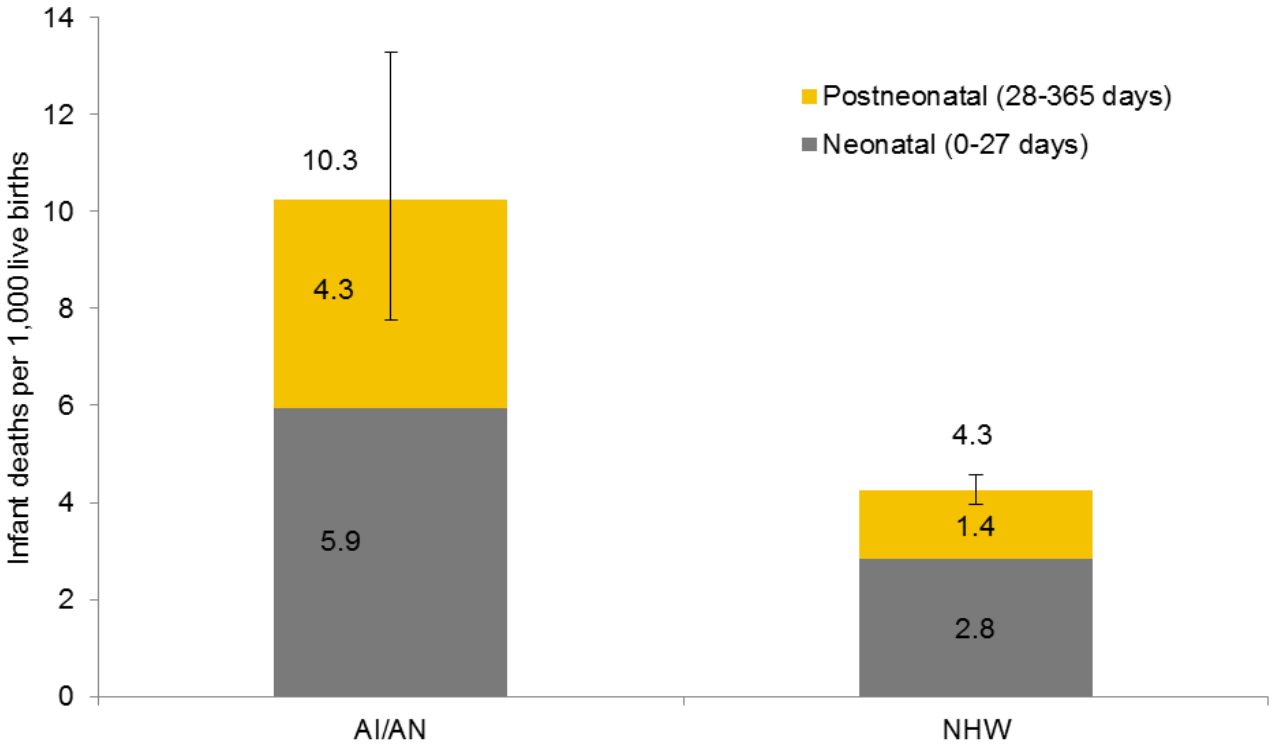
Deaths during the neonatal period are often related to prematurity (i.e., short gestation and/or low birthweight), complications during pregnancy, and birth defects. Postneonatal deaths are often from accidents, infections, and sudden infant death syndrome (SIDS).[1]

[1]Centers for Disease Control and Prevention. QuickStats: Leading Causes of Neonatal and Postneonatal Deaths, United States, 2002. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a8.htm.

Data Source: Washington State Department of Health, Center for Health Statistics Birth Certificate and Linked Birth and Death files. Data accessed using Washington's Community Health Assessment Tool.

Data Notes: AI/AN data are not corrected for misclassified race.

Figure 2.4: Infant mortality rates by race and infant's age at death, Washington, 2010-2012.



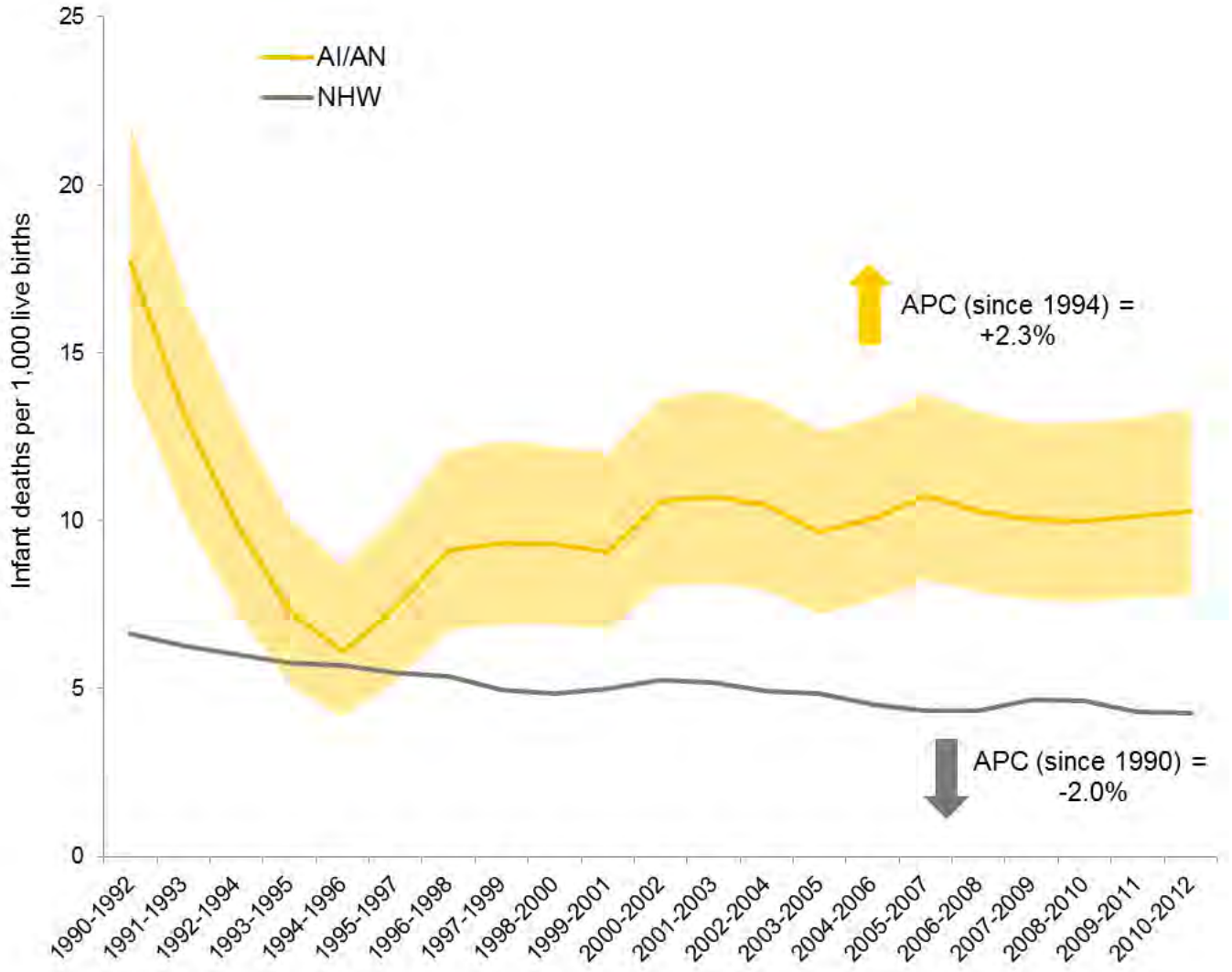
Infant Mortality Trends

The infant mortality rate for AI/AN in Washington dropped rapidly during the early 1990s, and was almost the same as the NHW rate by the middle of the decade (Figure 2.5). Since that time, the AI/AN rate has increased by 2.3% per year. The infant mortality rate for NHW in the state has steadily decreased by 2% per year since the 1990s. The gap between AI/AN and NHW has widened over time.

Data Source: Washington State Department of Health, Center for Health Statistics Birth Certificate and Linked Birth and Death files. Data accessed using Washington's Community Health Assessment Tool.

Data Notes: AI/AN data are not corrected for misclassified race. APC = Annual Percentage Change.

Figure 2.5: Trends in infant mortality rates by race, three year moving averages, Washington, 1990-2012.



Maternal Risk Factors

Table 2.1 shows selected maternal risk factors during pregnancy for AI/AN and NHW mothers in Washington. AI/AN women have higher risks for some factors, which could affect their babies' health and the outcomes of their pregnancies. These factors include the following:

- Over 25% of AI/AN women reported smoking during their pregnancy. This was 1.8 times higher than the smoking rate among NHW pregnant women.
- Almost 40% of AI/AN mothers had a pre-pregnancy body mass index (BMI) in the obese category, compared to 24% of NHW women.
- Only 26.1% of AI/AN mothers gained the recommended amount of weight during pregnancy. About 26% of women gained less than the recommended amount, and 48% gained more than the recommended amount.
- Compared to NHW, a lower percentage of AI/AN women began prenatal care during the early stages of their pregnancy (69.4% vs. 83.0%). Almost 3% of AI/AN mothers received no prenatal care. Around 61% of AI/AN women received adequate prenatal care (i.e., had at least 80% of the prenatal care visits expected, based on when they started prenatal care).

Data Source: Washington State Department of Health, Center for Health Statistics Birth Certificate file. Data accessed using Washington's Community Health Assessment Tool.

Data Notes: AI/AN data are not corrected for misclassified race.

Table 2.1: Maternal risk factors by race, Washington, 2010-2012.

	AI/AN (%)	NHW (%)
Smoked during pregnancy	25.3	13.8
Pre-pregnancy BMI		
Underweight (<18.5)	1.7	2.6
Normal (18.5-24.9)	31.6	47.9
Overweight (25.0-29.9)	27.0	25.5
Obese (30.0-39.9)	31.1	19.5
Morbidly Obese (40.0 - 99.8)	8.6	4.5
Weight Gain During Pregnancy		
Below Recommended Amount	26.4	18.8
Recommended Amount	26.1	30.8
Above Recommended Amount	47.5	50.4
Diabetes		
Pre-pregnancy	1.0	0.6
Gestational	6.2	5.2
Hypertension		
Pre-pregnancy	1.8	1.4
Gestational	6.3	5.9
Prenatal Care Initiation		
First Trimester	69.4	83.0
Second Trimester	21.3	12.9
Third Trimester	6.4	3.1
No Care	2.9	1.0
Received Adequate Prenatal Care (>=80% of expected visits)	61.1	71.6

N (total number of birth certificates): AI/AN = 5,557; NHW = 166,772
% of records missing data for indicator (AI/AN, NHW):
Smoking (0.9%, 0.7%); BMI (7.4%, 5.1%); Weight gain (7.4%, 5.1%); Diabetes/Hypertension (0%, 0%); Prenatal care initiation (8.8%, 5.8%); Adequacy of prenatal care (14.5%, 9.8%)

Birth Outcomes: Birth Weight & Prematurity

From 2010-2012, the majority of AI/AN and NHW babies in Washington were born with normal weight at birth. About 12% of AI/AN and NHW infants were born with high birth weight (Figure 2.6). A larger percentage of AI/AN babies had low weight at birth (7.8% vs 5.7% for NHW).

From 2010-2012, 15.4% of AI/AN babies were born premature (before 37 weeks gestation) (Figure 2.7). Most of these premature births were moderately premature (from 32 to less than 37 weeks), and 2.5% were very premature (less than 32 weeks). For NHW, 7.6% of babies were moderately premature and 1.3% were very premature.

Data Source: Washington State Department of Health, Center for Health Statistics birth certificate file. Data accessed using Washington's Community Health Assessment Tool.

Data Notes: AI/AN data are not corrected for misclassified race.

Figure 2.6: Birth weight by race, Washington, 2010-2012.

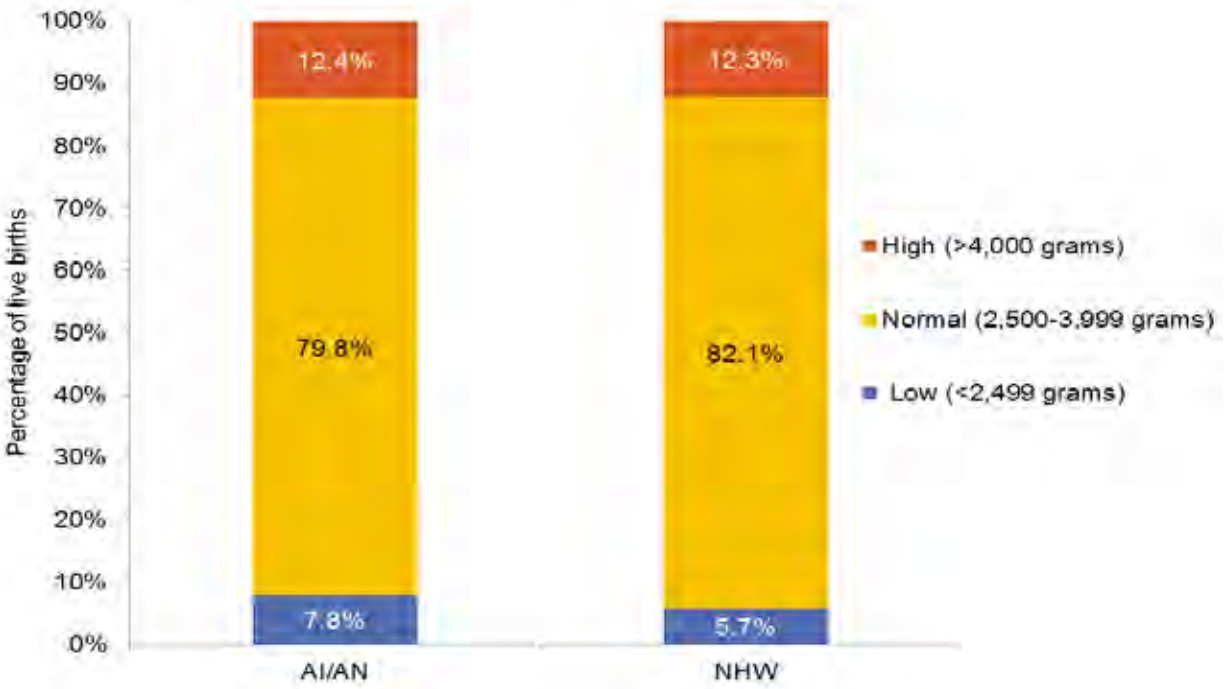
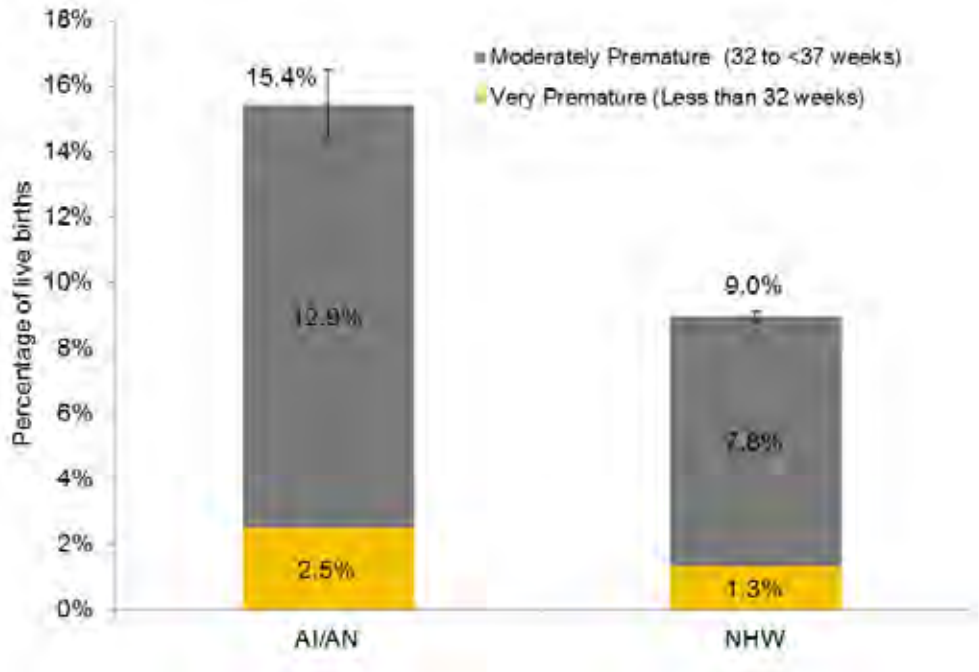


Figure 2.7: Premature births by race, Washington, 2010-2012.



Program Spotlight: Native CARS

NPAIHB's Native CARS (Native Children Always Ride Safe) is working with tribal communities to design, implement and test the effectiveness of tribal interventions to improve the use of child safety seats among AI/AN children.

Working in partnership with the six Northwest tribes, Native CARS sought to identify the barriers to and facilitators of proper and consistent use of child restraints. The study partnership used this information to design and implement community-level interventions. The interventions resulted in significant reductions in the percentage of children riding completely unrestrained in motor vehicles from 29% in 2009 to 14% in 2013 and increased proper restraint from 49% in 2009 to 60% in 2013. NATIVE CARS is currently working to disseminate its evidence-based protocols and intervention materials through the **Native CARS Atlas**, which can be used by other tribes in the Northwest and nationwide.

For more information, please contact:

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Project Director/Junior Investigator

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nativecars@npaihb.org http://www.npaihb.org/epicenter/project/native_cars_study

Program Spotlight: Northwest Tribal Fetal Alcohol Spectrum Disorder (FASD) Project

The consumption of alcohol during pregnancy is one of the leading preventable causes of birth defects and childhood disabilities in the United States. The Northwest Tribal FASD Project seeks to reduce the incidence of FASD and to assist tribal communities to improve the quality of life of those living with FASD by providing prevention education about the effects of fetal exposure to alcohol. The project also provides training for community members in diagnosing FASD, and works with communities to develop services that support and protect community members already affected by FASD. The Northwest FASD Project has worked with Northwest Tribes to develop tribal coalitions, develop long-term goals, and implement interventions to address FASD within their communities.

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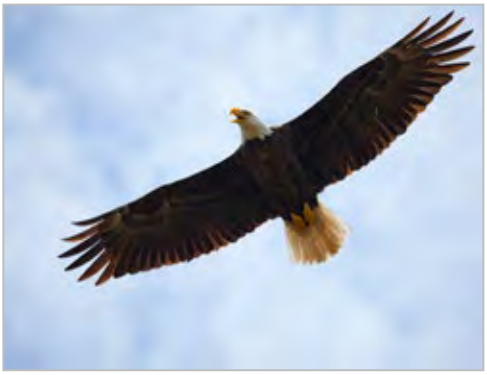
jlefthandbull@npaihb.org 503-416-3258

http://www.npaihb.org/programs/the_northwest_tribal_fetal_alcohol_spectrum_disorders_project

3. Mortality



Mortality rates, also known as death rates, are a measure of the number of deaths in a community compared to the population size during a given time period. These statistics are one of the most fundamental measures of the health of a community. Consistent monitoring of mortality is key to knowing whether interventions and programs are working or not. By examining the leading causes of mortality, we can identify new threats to health and well-being and focus limited resources. Comparing mortality across geography, gender and age groups shows us which populations are facing the greatest challenges, and allows us to identify areas of success that can be shared with others.

Nationally, the mortality rate for AI/AN is 964.4 per 100,000.[1] This is about 19% higher than the national rate for whites. In Washington, the all-cause mortality rate for AI/AN was 1233.6, which was 71% higher than the rate for NHW in Washington, and higher than the rates for AI/AN in Idaho and Oregon. Heart disease, cancer, unintentional injury, and diabetes were the top causes of death for AI/AN in the state, which highlights the need to build upon initiatives aimed at supporting healthy lifestyles. Unintentional injury is of particular concern for youth in Washington. The largest disparities in unintentional injury mortality rates were seen among Washington AI/AN under the age of 30.

The statistics reported here show only the numbers; what they fail to capture is the profound impact each preventable or early death has on tribal communities. The loss of each young person who will never have the opportunity to grow into the leader he or she could have become is a tragedy. The death of a middle aged person may have the widest spread impact, as they are often vital members of the community upon whom both children and elders rely for support and care. And, of course, the premature passing of every elder results in a loss of the history, language and knowledge of their Tribe.

The following section provides detailed information on mortality rates and leading causes of death, as well as life expectancy estimates. Mortality rates for each specific topic area are presented throughout the report.

1. Espey DK, Jim MA, Cobb N, Bartholomew M, Becker T, Haverkamp D, et al. Leading causes of death and all-cause mortality in American Indians and Alaska Natives. American Journal of Public Health. 2014;104 Suppl 3:S303-11.

Leading Causes of Death

Table 3.1 shows the top ten causes of mortality for AI/AN and NHW in Washington during 2006-2010. Both AI/AN and NHW shared the same top two causes of death: heart disease and cancer. These two leading causes accounted for a larger proportion of deaths among NHW (48%) than AI/AN (39%). Unintentional injury was the third leading cause for AI/AN, accounting for over twice as many deaths as for NHW. Diabetes and chronic liver disease were the fourth and fifth leading causes of death, respectively, for AI/AN, but these did not appear in the top five for NHW. Alzheimer's disease was the third leading cause of death for NHW, but only the ninth for AI/AN.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race.

Data Notes: ICD classification follows WISQARS; excludes deaths of infants under one year old. AI/AN includes all deaths with any mention of AI/AN race in either the Washington state death certificate data or the Northwest Tribal Registry (NTR), which is maintained by the IDEA-NW Project at NPAIHB.

Table 3.1: Top ten causes of death by race, Washington, 2006-2010.

Rank	AI/AN	N† (%)	NHW	N† (%)
1	Heart Disease	871 (19.3%)	Cancer	52,046 (24.6%)
2	Cancer	863 (19.2%)	Heart Disease	48,584 (23.0%)
3	Unintentional Injury	543 (12.6%)	Alzheimer's Disease	13,557 (6.4%)
4	Diabetes	212 (4.8%)	Chronic Lower Respiratory Disease	13,117 (6.2%)
5	Chronic Liver Disease	205 (4.7%)	Stroke	11,770 (5.6%)
6	Chronic Lower Respiratory Disease	199 (4.5%)	Unintentional Injury	11,050 (5.2%)
7	Stroke	171 (3.9%)	Diabetes	6,454 (3.1%)
8	Suicide	139 (3.2%)	Suicide	3,801 (1.8%)
9	Alzheimer's Disease	107 (2.4%)	Influenza & Pneumonia	3,250 (1.5%)
10	Influenza & Pneumonia	71 (1.6%)	Chronic Liver Disease	2,941 (1.4%)
Total deaths		4,408 (100%)		211,477 (100%)

† N = number of deaths

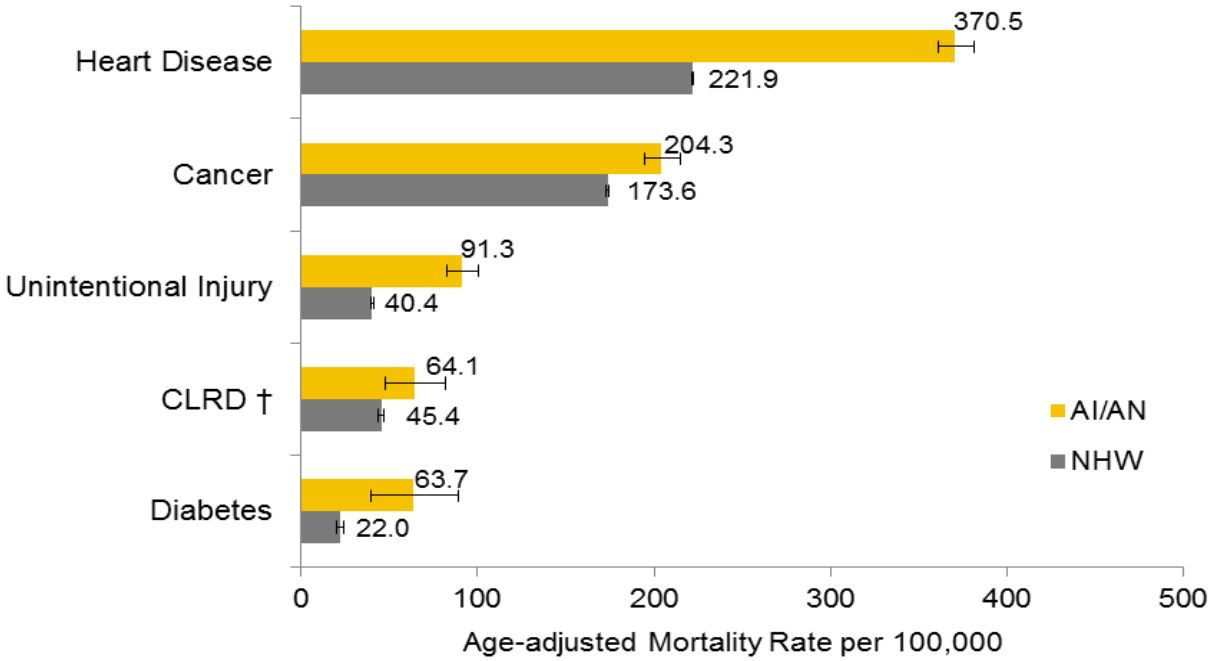
Mortality Rates

From 2006-2010, the all-cause mortality rate for AI/AN was 1.7 times higher than the rate for NHW in Washington. Figure 3.1 shows the five highest age-adjusted mortality rates for AI/AN in Washington. AI/AN rates were higher than NHW rates for these five causes of death. AI/AN mortality rates for liver disease (not shown) and diabetes are notable for particularly large disparities when compared to NHW; AI/AN rates were about four times higher for liver disease and nearly three times higher for diabetes.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race.

Data Notes: AI/AN includes all deaths with any mention of AI/AN race in either the Washington state death certificate data or the Northwest Tribal Registry (NTR), which is maintained by the IDEA-NW Project at NPAIHB.

Figure 3.1: Top five age-adjusted mortality rates for AI/AN, Washington, 2006-2010.



† CLRD = chronic lower respiratory disease

All-Cause Mortality Trends

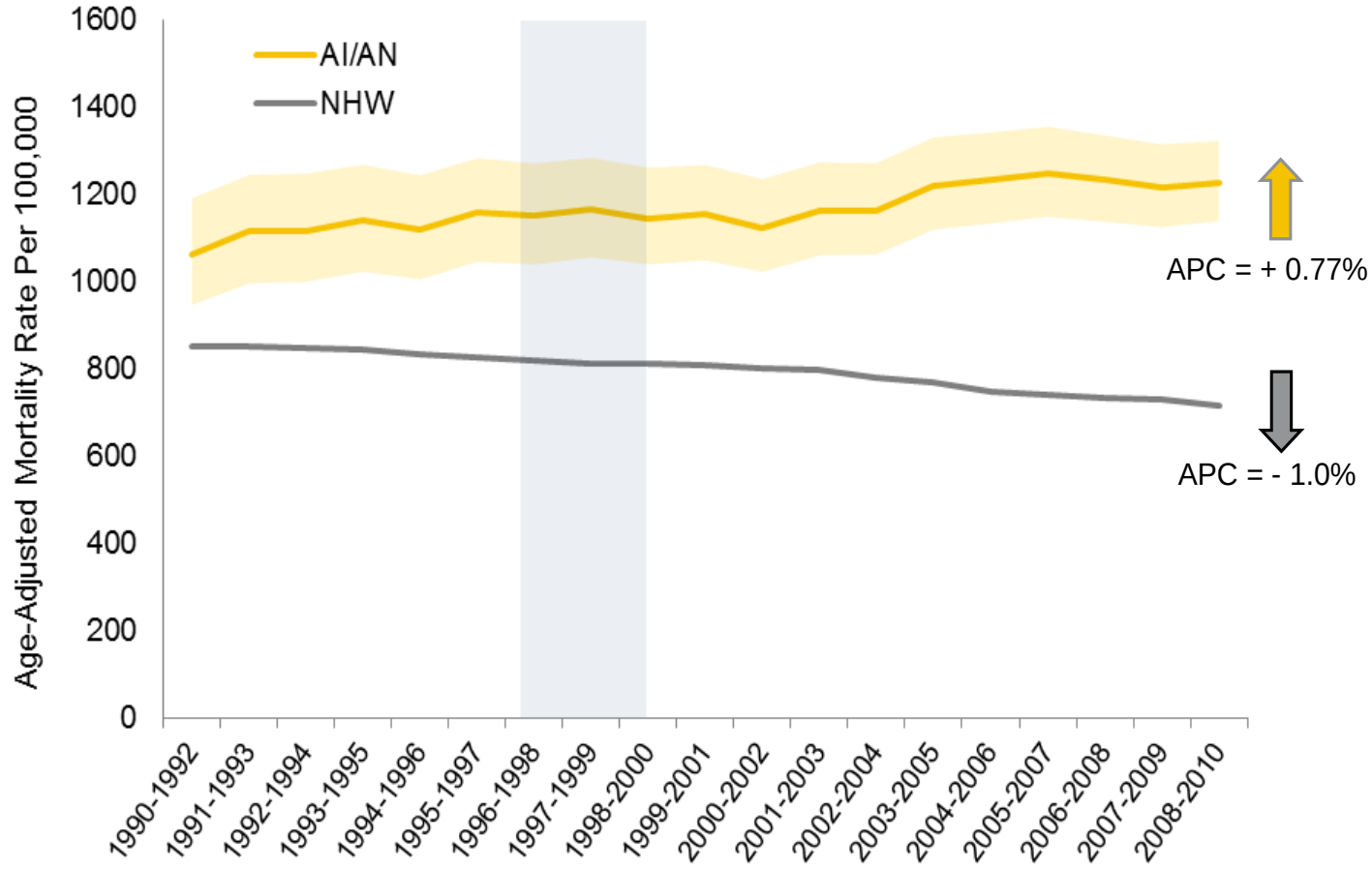
Figure 3.2 shows all-cause mortality trends for the AI/AN and NHW population in Washington between 1990 and 2010. The rates shown are three-year rolling averages, and the yellow shaded section around the AI/AN line represents a 95% confidence interval band.

AI/AN mortality rates have remained consistently higher than NHW rates during this time period, and have gradually risen at an average rate of 0.77% per year. On the other hand, NHW rates have decreased slightly. As a result, the gap between the races has grown. This trend has become more pronounced in the most recent decade.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: APC = Annual Percentage Change. Cause of death coding on death certificates underwent a change from ICD-9 to ICD-10 between 1998 and 1999.

Figure 3.2: AI/AN and NHW all-cause mortality rates, Washington, three year rolling averages, 1990-2010.



Note: The shaded rectangle indicates the year cause of death coding changed from ICD-9 to ICD-10. Any abrupt changes between 1998 and 1999 should be interpreted with caution.

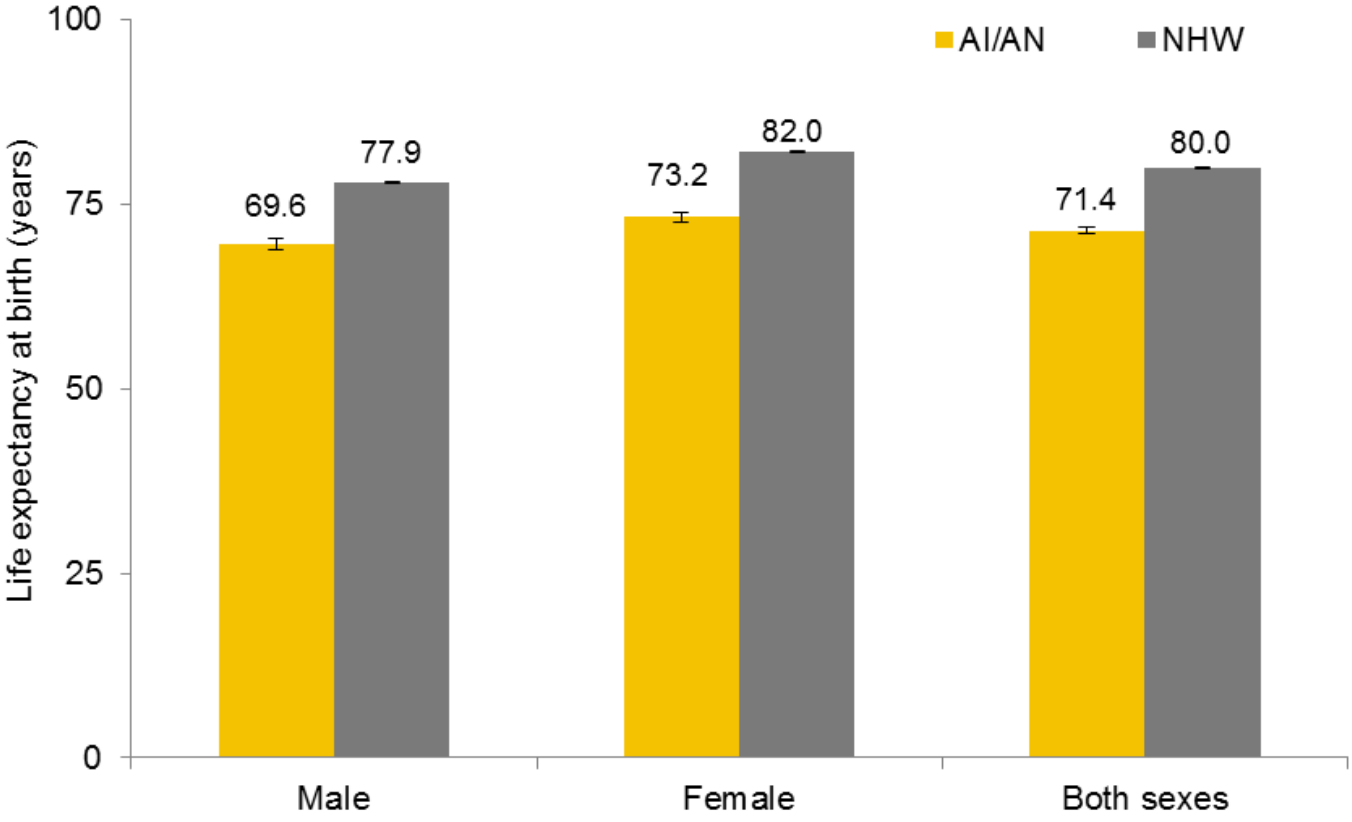
Life Expectancy at Birth

Life expectancy at birth for Washington AI/AN was 8.6 years lower than that of NHW in the state (Figure 3.3). AI/AN men tend to die 8.2 years earlier than NHW men, while AI/AN women die 8.8 years earlier than NHW women. AI/AN females can expect to live 3.7 years longer than their male counterparts, while NHW females live 4.1 years longer than male NHW.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: Life tables were generated using death counts and mortality rates computed from Washington state death certificate data.

Figure 3.3: Life expectancy at birth by race and sex, Washington, 2008-2010.



4. Diabetes

Diabetes (also called diabetes mellitus) is a chronic disease caused by high levels of blood glucose (or blood sugar). Blood glucose levels are controlled by the hormone insulin, which moves glucose from the blood into cells to be used as energy. In type 1 diabetes, the body does not make enough insulin to control blood sugar levels. In type 2 diabetes (the most common type), the body no longer uses insulin efficiently. Although the two forms are different in many ways, the end result of both is high blood sugar. If left untreated, diabetes can damage nearly every tissue in the body, and can cause heart attacks, stroke, blindness, kidney failure, and amputations of toes, feet, or legs.[1]

AI/AN adults have among the highest rates of diabetes in the U.S. From 2010-2012, the age-adjusted percentage of AI/AN adults with diabetes was 15.9%, compared to 7.6% for NHW, 12.8% for Hispanics, and 13.2% for African Americans.[2] AI/AN diabetes rates vary by region, from 6% for Alaska Natives to 24.1% for American Indians in Arizona.[2] Diabetes is the fourth leading cause of death for AI/AN nationwide.

While AI/AN in Washington have higher rates of diabetes than NHW in the state, the prevalence of diabetes among IHS patients is lower in Washington compared to the national IHS average. Diabetes is the fourth leading cause of death for AI/AN in Washington. The death rate from diabetes is three times higher for AI/AN compared to NHW, and AI/AN men have a higher risk of dying from diabetes than AI/AN women. On average, the death rate from diabetes for AI/AN in Washington has increased by 2.3% per year since 1990.

While diabetes is a life-long disease, it can be managed by exercising regularly, eating a healthful diet, taking medications, and getting regular health check-ups. People with pre-diabetes can reduce their risk by getting regular physical activity, losing a moderate amount of weight, and eating a balanced diet. Since 1997, the Special Diabetes Program for Indians (SDPI) has funded initiatives to prevent and treat diabetes in AI/AN communities. These initiatives have resulted in improved access to treatment and prevention services and improved clinical outcomes for diabetes patients.[3]

1. National Diabetes Information Clearinghouse. Your guide to diabetes: Type 1 and Type 2. Available at: http://www.diabetes.niddk.nih.gov/dm/pubs/type1and2/index.aspx.

2. Centers for Disease Control and Prevention. National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States, 2014. Atlanta, GA: US Department of Health and Human Services; 2014.

3. Indian Health Service Division of Diabetes Treatment and Prevention. Special Diabetes Program for Indians: Successful Interventions and Sustained Achievements (2012). Available at: http://www.ihs.gov/MedicalPrograms/Diabetes/index.cfm?module=resourcesFactSheets#2

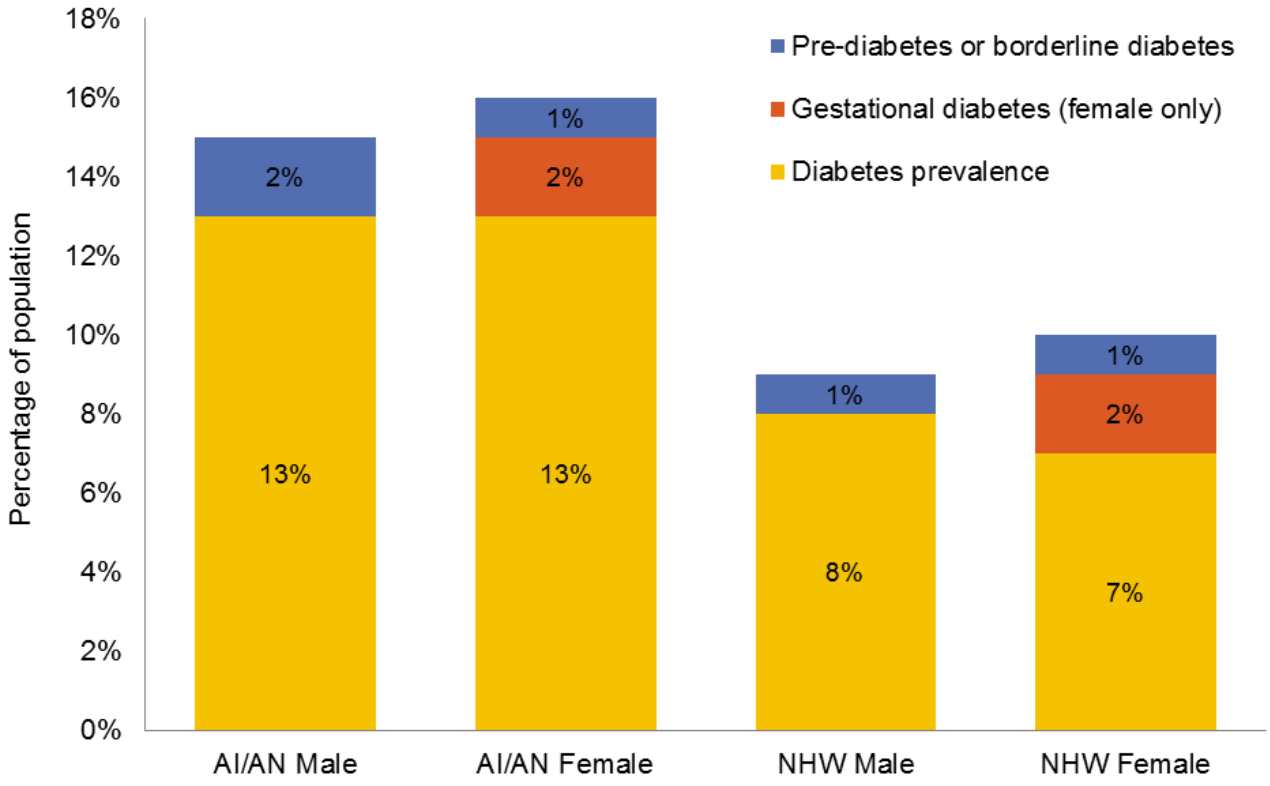
Self-Reported Diabetes

Figure 4.1 shows the prevalence of self-reported diabetes among AI/AN and NHW adults in Washington. From 2006-2012, AI/AN males and females had similar rates of diabetes (13%). This was higher than the rate among NHW males (8%) and females (7%). The rate of gestational diabetes was the same for females of both races (2%), and the rate of pre-diabetes was similar across race and sex.

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

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

Figure 4.1: Self-reported diabetes by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=783; AI/AN females=1,148; NHW males=49,342; NHW females=77,177.

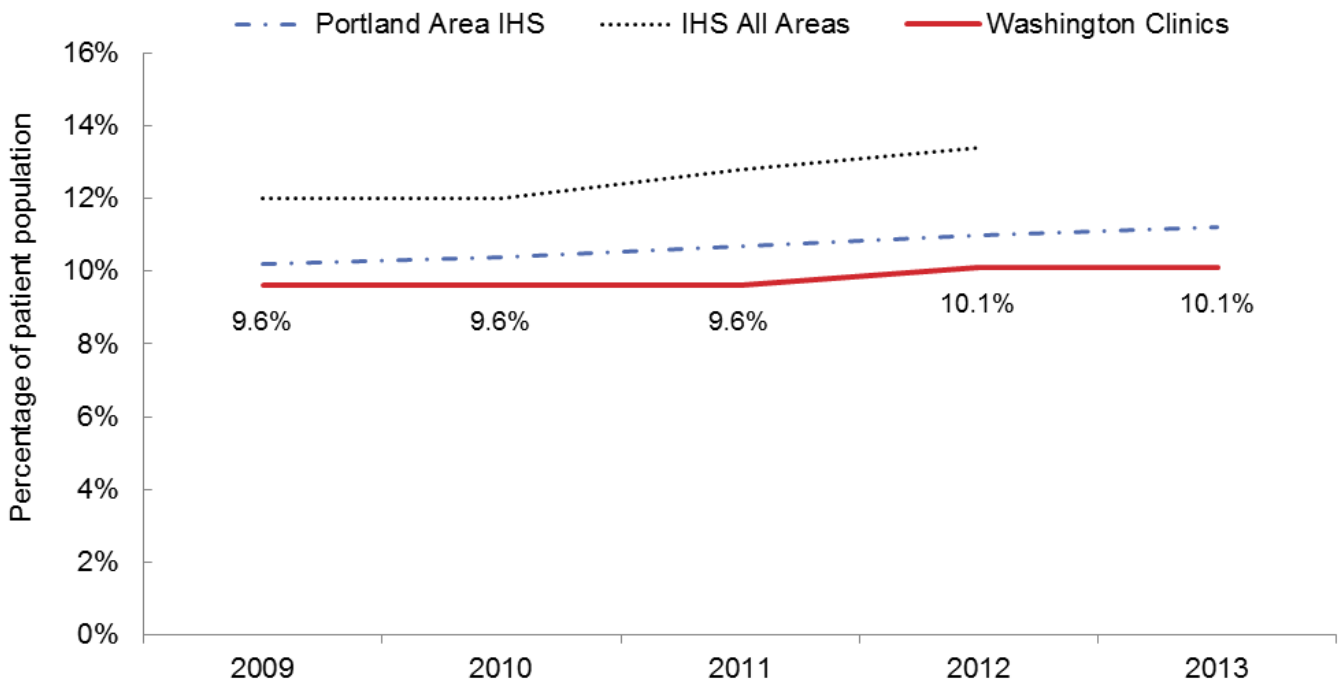
Diabetes Prevalence

From 2009-2013, AI/AN patients who received care at Indian health facilities in Washington had a lower prevalence of diabetes compared to all Portland Area IHS patients and IHS patients nationwide (Figure 4.2). The diabetes prevalence in the Washington patient population has remained relatively stable during this time period, while the prevalence rates in the Portland Area and national IHS patient population have increased over time.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. 2013 data not available for IHS All Areas. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 4.2: Diabetes prevalence among IHS patients, 2009-2013.



Diabetes Control and Management: Blood Sugar Control

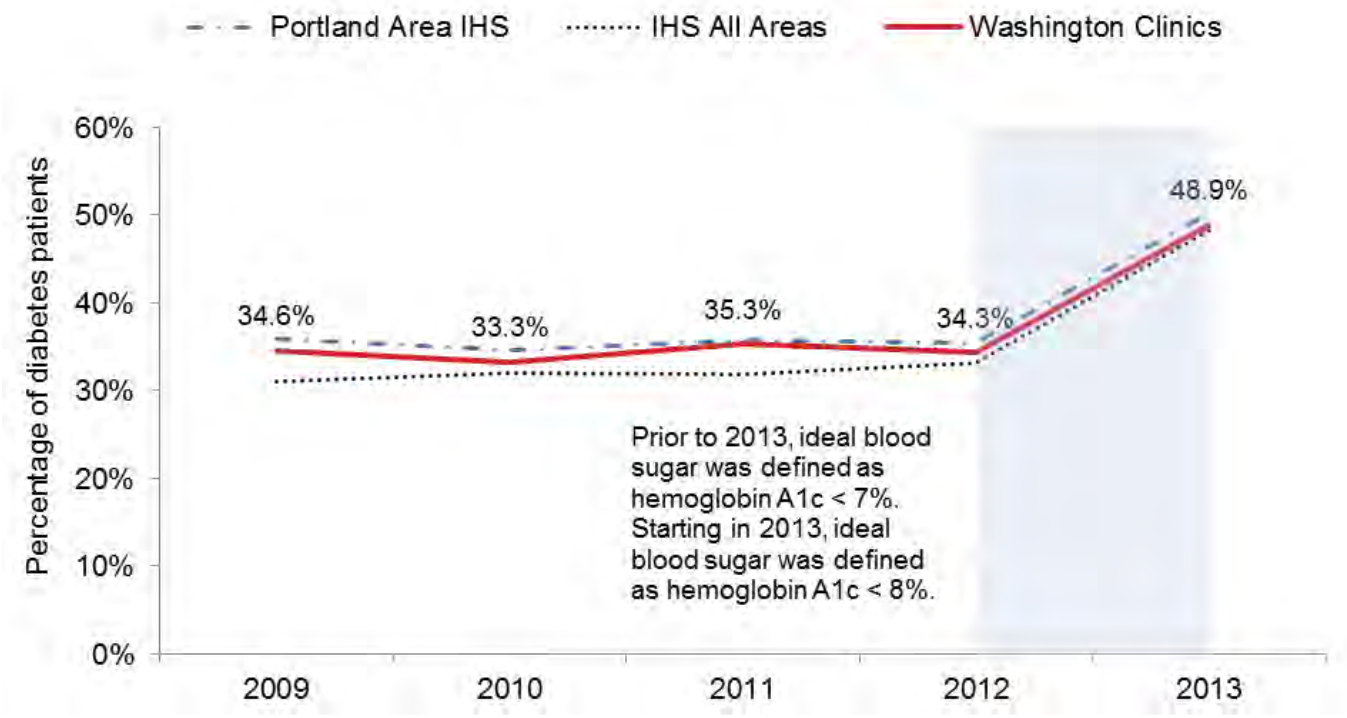
Blood sugar control, as measured by hemoglobin A1c, is an important indicator of how well diabetes patients are managing their disease. The U.S. has a Healthy People 2020 goal for 58.9% of adults with diabetes to have a hemoglobin A1c level below 7%, which is considered to be ideal blood sugar control.

Until 2012, IHS defined ideal blood sugar control as having a hemoglobin A1c level below 7%. This treatment goal was changed in 2013 to a hemoglobin A1c result below 8%. From 2009 to 2012, between 33-35% of AI/AN diabetes patients seen in Washington clinics had ideal blood sugar levels. In 2013, this increased to 48.9% as a result of the definition change. Washington clinics have a slightly lower percentage of patients with controlled blood sugar compared to the Portland Area IHS overall, but exceed the national IHS average.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 4.3: Percentage of IHS diabetes patients with ideal blood sugar control, 2009-2013.



Note: The shaded area shows the year when the definition for ideal blood sugar control changed.

Blood Pressure Control

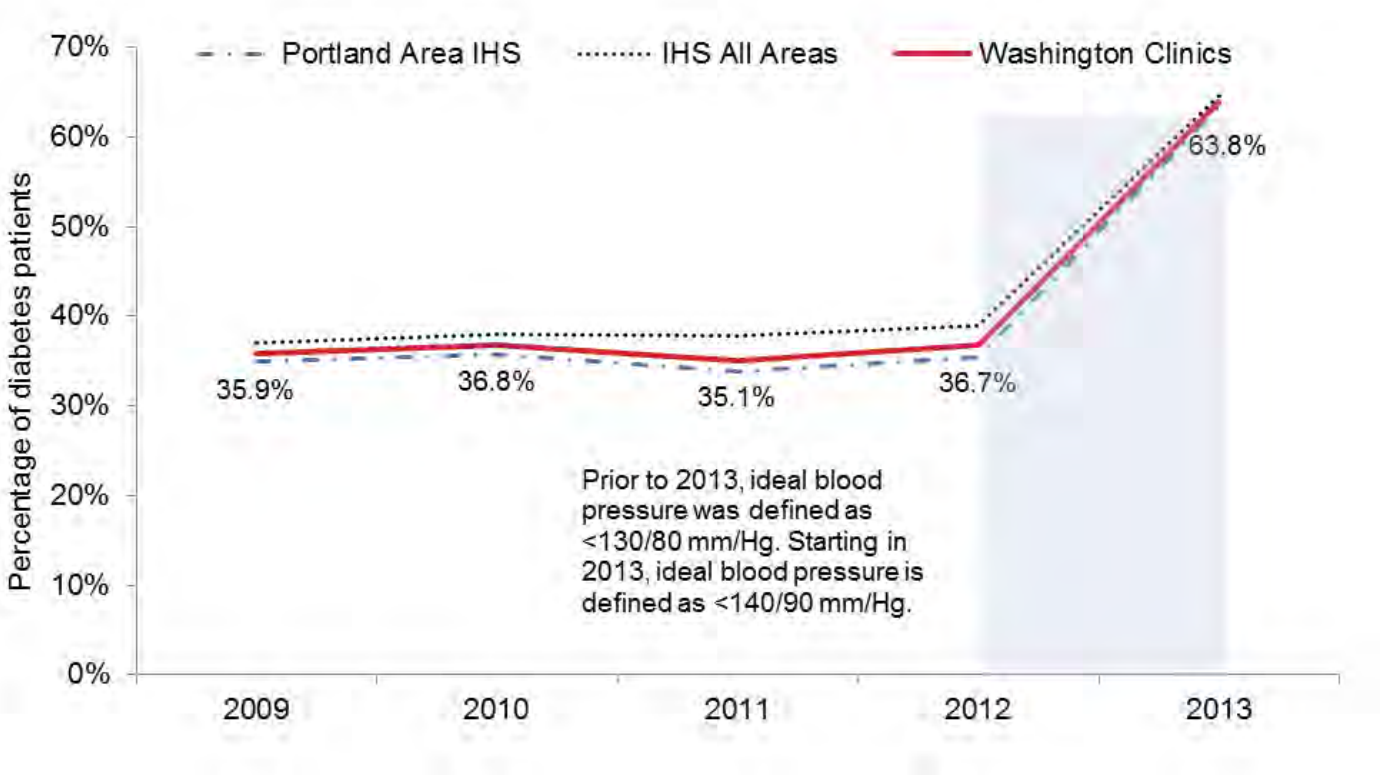
Diabetes patients have increased risks for heart disease, and can reduce these risks by managing their blood pressure. The U.S. has a Healthy People 2020 goal for 57% of adults with diabetes to have their blood pressure under control.

Until 2012, IHS defined ideal blood pressure control as having a blood pressure level below 130/80 mm Hg. This definition changed in 2013 to a blood pressure level below 140/90 mm Hg. From 2009 to 2012, approximately 36% of AI/AN diabetes patients seen in Washington clinics had ideal blood pressure levels (Figure 4.4). In 2013, this increased to 63.8% as a result of the definition change. Washington clinics had a lower percentage of patients with controlled blood sugar compared to all IHS areas, but exceeded the Portland Area IHS average.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 4.4: Percentage of IHS diabetes patients with ideal blood pressure, 2009-2013.



Note: The shaded area shows the year when the definition for ideal blood pressure control changed.

Recommended Screening - LDL Assessment

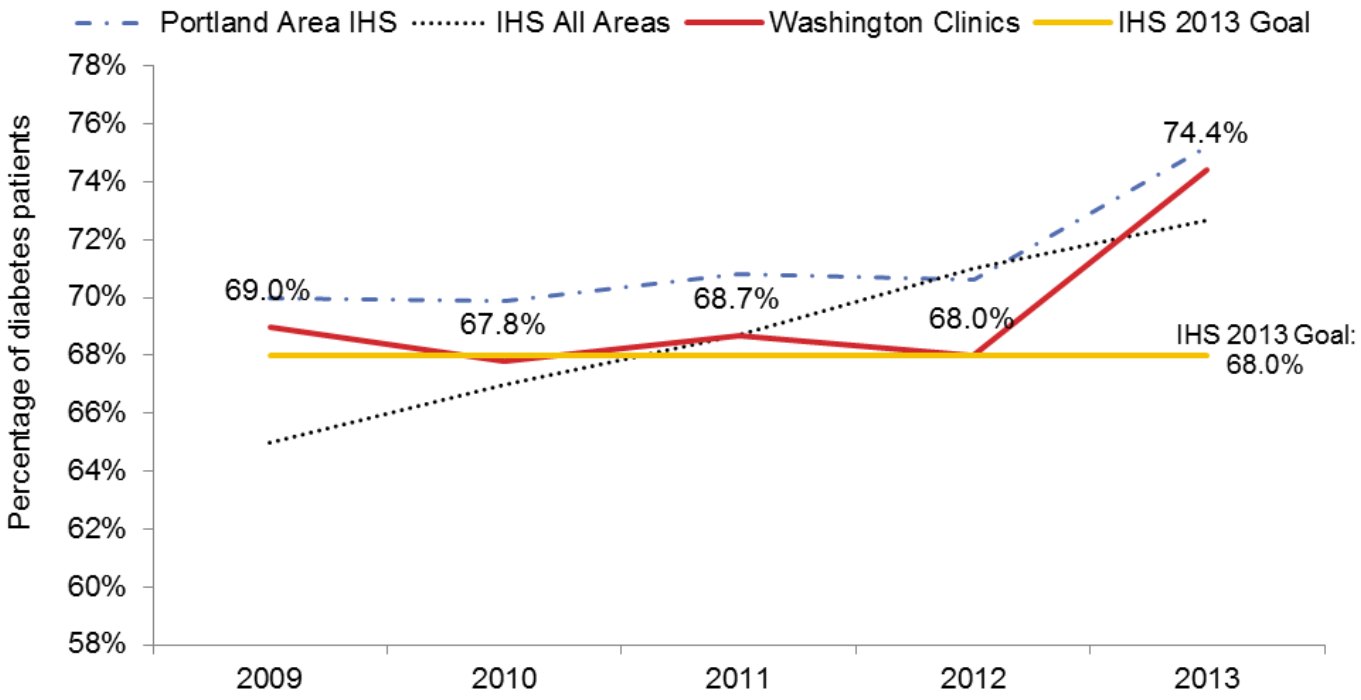
Diabetes patients are at increased risk for heart disease, kidney disease, eye problems, and other health issues. Diabetes patients can reduce their risk for these complications by receiving regular screening and monitoring exams. Routine physical examinations and tests can help patients and their healthcare providers to manage diabetes and related health issues. The IHS has performance goals to measure how many diabetes patients receive yearly exams for LDL (low density lipoprotein) cholesterol (related to heart disease risk), nephropathy (related to kidney disease risk), and diabetic retinopathy (or diabetic eye disease).

LDL Cholesterol Assessment: From 2009-2012, approximately 68.0% of AI/AN diabetes patients seen in Washington clinics had their LDL cholesterol levels assessed. This increased to 74.4% in 2013, which exceeded the IHS goal of 68.0% (Figure 4.5). Since 2009, the Portland Area IHS has performed better on this measure than Washington clinics alone. The national IHS average has increased since 2009 and also exceeded 2013 goal.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 4.5: Percentage of IHS diabetes patients who received an LDL assessment, 2009-2013.



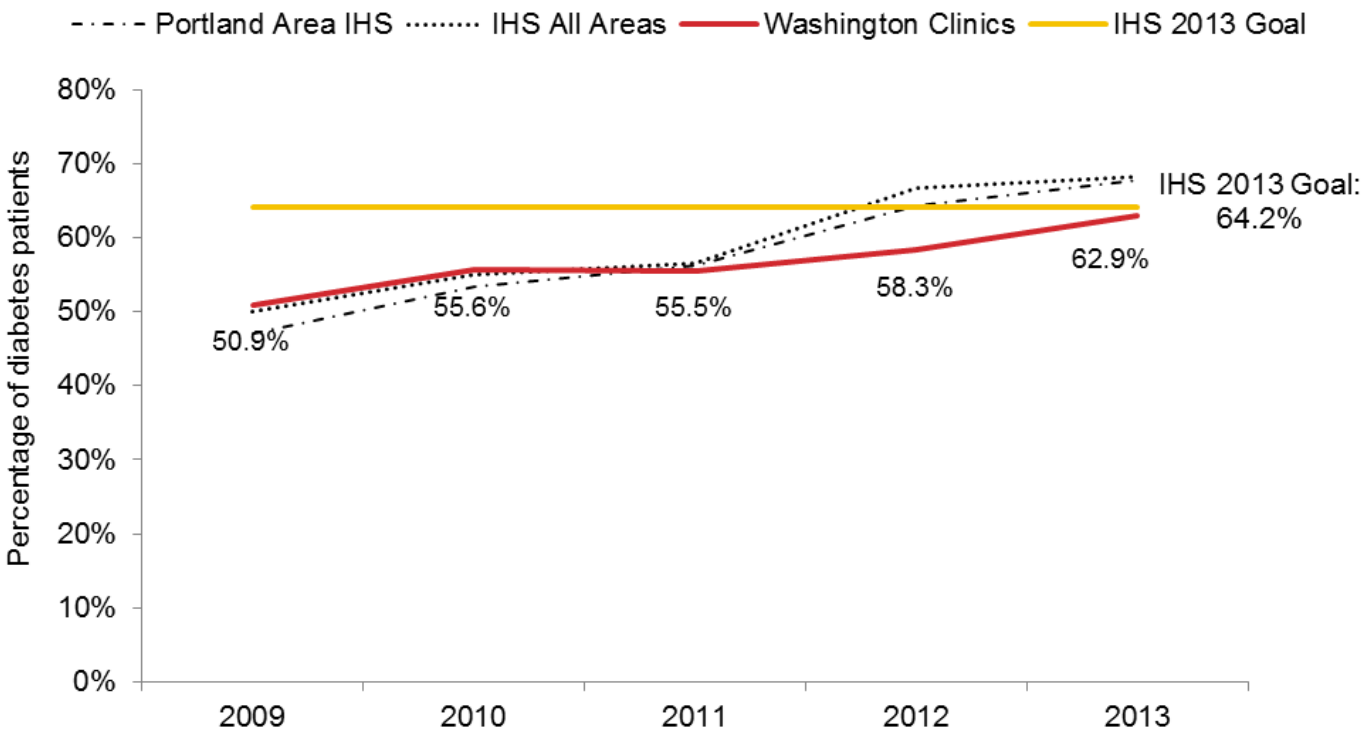
Recommended Screening - Nephropathy Assessment

Diabetic Nephropathy: The percentage of Washington AI/AN diabetes patients who had a diabetic nephropathy assessment has increased from 50.9% in 2009 to 62.9% in 2013 (Figure 4.6). Washington clinics did not meet the IHS goal of 64.2% in 2013. In recent years, Washington clinics have had a lower percentage of patients who received this recommended screening compared to the Portland Area IHS and national IHS. Both the Portland Area and national IHS exceeded the 2013 goal for this measure.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 4.6: Percentage of IHS diabetes patients who received a nephropathy assessment, 2009-2013.



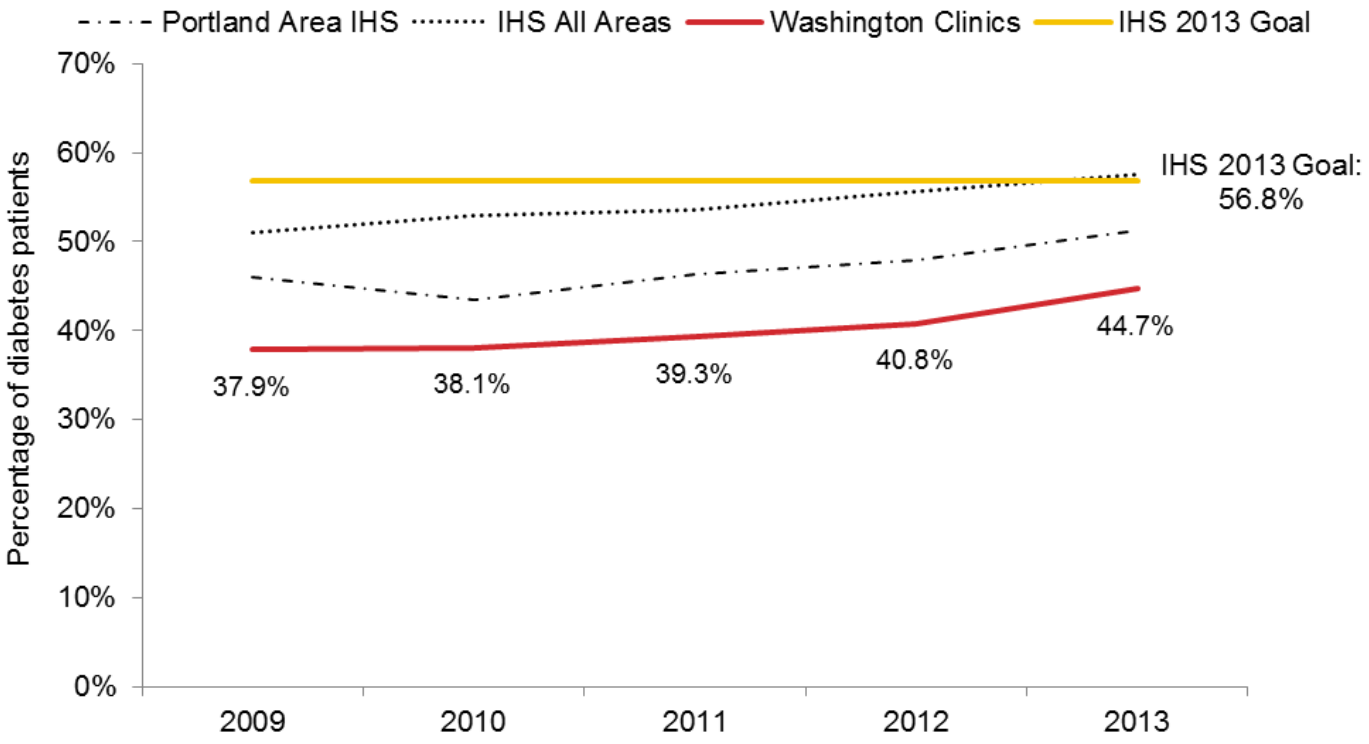
Recommended Screening - Retinopathy Assessment

Diabetic Retinopathy: The U.S. has a Healthy People 2020 goal for 58.7% of adults with diabetes to have had a dilated eye exam in the past year. The percentage of Washington AI/AN diabetes patients who had a diabetic retinopathy exam has increased from 37.9% in 2009 to 44.7% in 2013. Since 2009, Washington clinics have had a lower percentage of patients who received this recommended screening compared to the Portland Area IHS and national IHS (Figure 4.7). Washington clinics and the Portland Area IHS did not meet the IHS goal of 56.8% in 2013. The national IHS average has increased over time and met the 2013 goal for this measure.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 4.7: Percentage of IHS diabetes patients who received a retinopathy assessment, 2009-2013.



Diabetes Hospitalizations

In 2011, there were 260 hospitalizations for diabetes mellitus (types I and II) among AI/AN in Washington (Table 4.1). Diabetes accounted for a higher proportion of all hospitalizations for AI/AN compared to NHW (0.2% vs. 0.1%). For both races, males had a higher proportion of diabetes-related hospitalizations than females. The age-adjusted hospitalization rate for diabetes mellitus was higher for AI/AN males than females (Figure 4.8). The rate of diabetes hospitalizations for AI/AN of both sexes was over twice that of NHW.

Data Source: Washington state hospital discharge data (CHARS), 2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

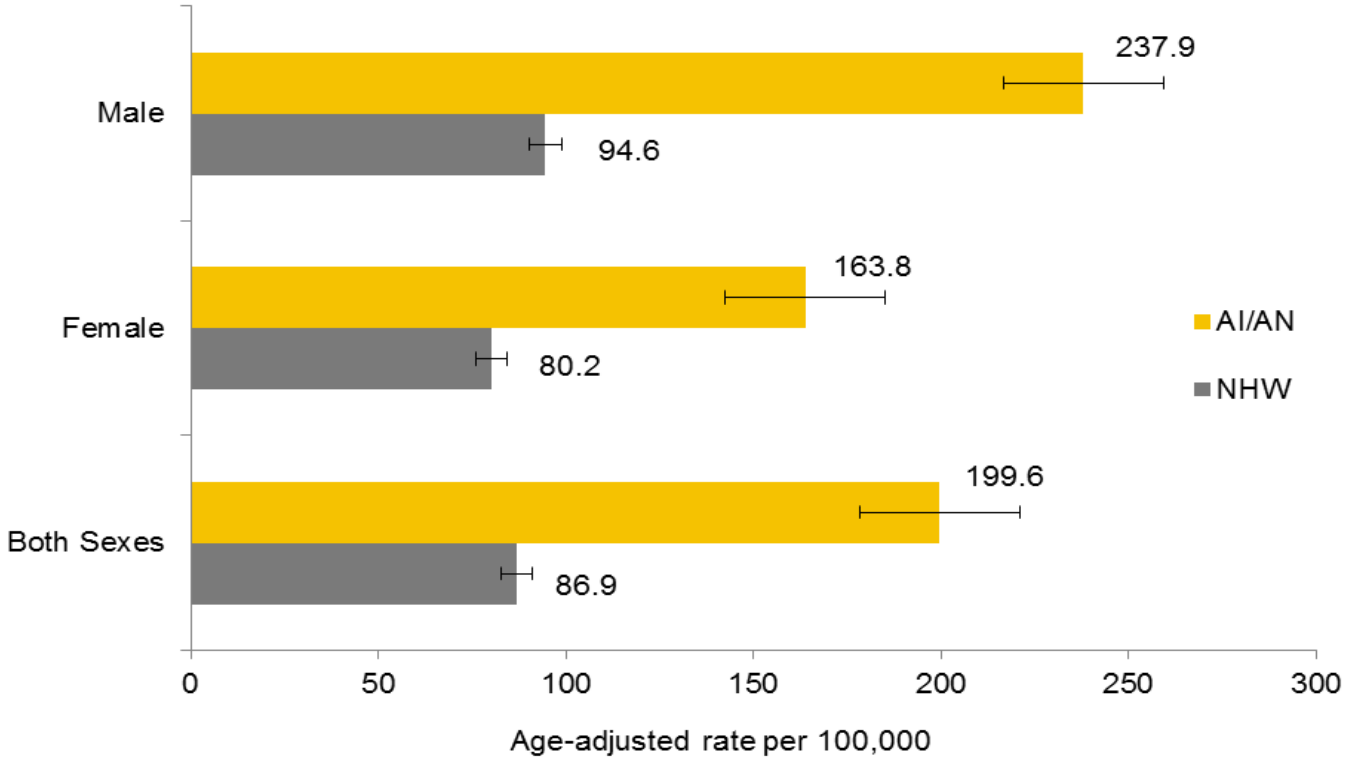
Data Notes: Principal diagnosis codes categorized using the Agency for Healthcare Research and Quality's Clinical Classification Software. The following level-2 principal diagnosis codes were included: 3.2 (diabetes mellitus without complications), and 3.3 (diabetes mellitus with complications).

Table 4.1: Inpatient hospital discharges for diabetes mellitus by race and sex, Washington, 2011.

Sex	AI/AN N (%)†	NHW N (%)†
Male	153 (2.7%)	2,504 (1.6%)
Female	107 (1.2%)	2,087 (1.0%)
Both Sexes	260 (0.2%)	4,591 (0.1%)

†N = number of inpatient hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (5,731), AI/AN female (8,741), AI/AN total (14,472), NHW male (159,142), NHW female (212,276), NHW Total (371,418)

Figure 4.8: Age-adjusted hospital discharge rates for diabetes by race and sex, Washington, 2011.



Diabetes Mortality

From 2006-2010, diabetes was the fourth leading cause of death among AI/AN in Washington. Table 4.2 and Figure 4.9 show the age-adjusted mortality rates for diabetes among AI/AN and NHW in Washington. AI/AN males were about 40% more likely to die from diabetes than AI/AN females. Diabetes mortality rates for AI/AN were almost three times higher than NHW. Throughout the Northwest, AI/AN in the states of Idaho, Oregon, and Washington have very similar diabetes mortality rates.

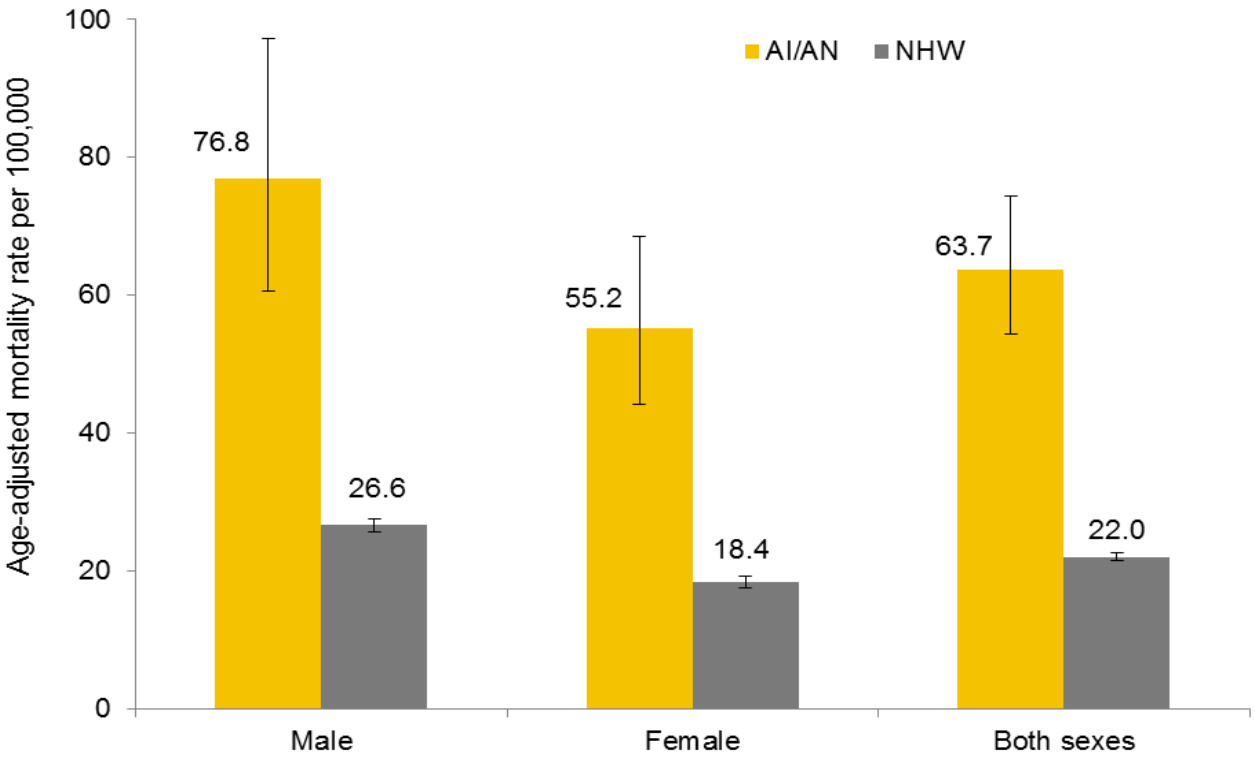
Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Table 4.2: Diabetes mortality rates by race and sex, Washington, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	76.8 (60.5, 97.3)	26.6 (25.7, 27.5)	2.89 (2.39, 3.49) ‡
Female	55.2 (44.1, 68.4)	18.4 (17.5, 19.2)	3.01 (2.46, 3.67) ‡
Both Sexes	63.7 (54.4, 74.3)	22.0 (21.4, 22.7)	2.89 (2.52, 3.31) ‡

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

Figure 4.9: Age-adjusted diabetes mortality rates by race and sex, Washington, 2006-2010.



Diabetes Mortality Trends

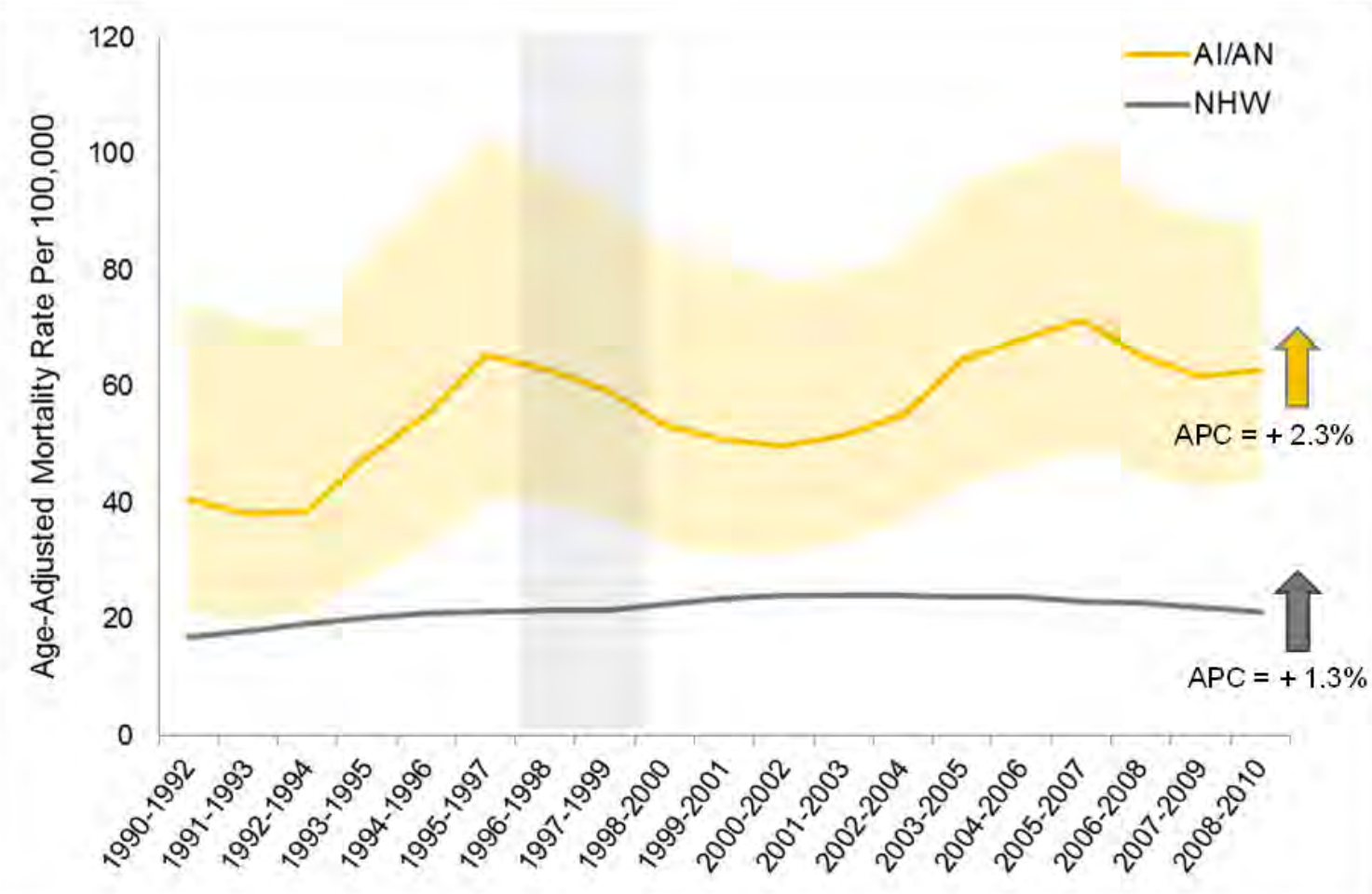
Figure 4.10 shows diabetes mortality trends for the AI/AN and NHW population in Washington between 1990 and 2010. The yellow shaded section around the AI/AN line represents a 95% confidence interval band.

Both populations have seen increases in diabetes mortality over time, with AI/AN rates increasing on average 2.3% percent per year. The increase in AI/AN rates was driven by increases in male diabetes mortality rates; AI/AN females diabetes mortality rates did not show significant change. While AI/AN rates have been consistently higher than NHW over the time period, the disparity between the two populations has not changed.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: APC = Annual Percentage Change. Cause of death coding on death certificates underwent a change from ICD-9 to ICD-10 between 1998 and 1999. Data shown in the trend charts in this report have not been adjusted to reflect this change. Comparability ratios for the broad categories reported here show that the change did not have a large impact for these statistics, however any abrupt changes between 1998 and 1999 should be interpreted with caution.

Figure 4.10: Age-adjusted diabetes mortality rates, three year rolling averages, by race, Washington, 1990-2010.



Note: The shaded rectangle indicates the year cause of death coding changed from ICD-9 to ICD-10. Any abrupt changes between 1998 and 1999 should be interpreted with caution.

Program Spotlight: Western Tribal Diabetes Project

The WTDP assists tribal programs in tracking, reporting, and utilizing accurate data on patients with diabetes. This information is used to improve the quality of patient care, gain additional resources, and plan effective intervention programs to reduce the burden of diabetes at the local level. WTDP provides tribes with training, technical assistance, and tools so they can:

- Build a foundation to provide complete and accurate information about patients with diabetes
- Estimate the burden of disease and impact of diabetes by using an electronic diabetes register
- Improve health outcomes by using an electronic diabetes register to make informed decisions about clinical diabetes care
- Prevent diabetes in high-risk individuals.

WTDP holds regular trainings on the Diabetes Management System, provides technical assistance with completing the Annual IHS Diabetes Audit and maintaining local diabetes registers, prepares tribe and area-level reports on patient care and outcomes, and provides information on best practices to prevent and manage diabetes. WTDP also partners with the Portland Area IHS and Nike to host Nike Native Fitness workshops at the Nike World Headquarters in Beaverton, OR. WTDP is funded by an annual 5% set-aside from the Portland Area's allocation for the Special Diabetes Program for Indians.

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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 Non-Hispanic Whites (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. Concerted effort has led to improvements in all of these risk factors in Washington Tribes.

Despite efforts at all levels of care, mortality rates for heart disease among AI/AN in Washington remain significantly higher than for NHW. The health disparity is currently increasing, as the reduction in mortality from heart disease for AI/AN is outpaced by reduction in heart disease mortality for NHW.

Hospitalizations and mortality for stroke (cerebrovascular disease) are higher for Washington AI/AN than for NHW. Improvements in early recognition of stroke and early treatment of stroke have had a positive impact on decreasing mortality from stroke over the past ten years. Although there is still a disparity for stroke mortality, the rate of decrease in stroke mortality for AI/AN is much closer to that for NHW than it is for heart disease mortality.

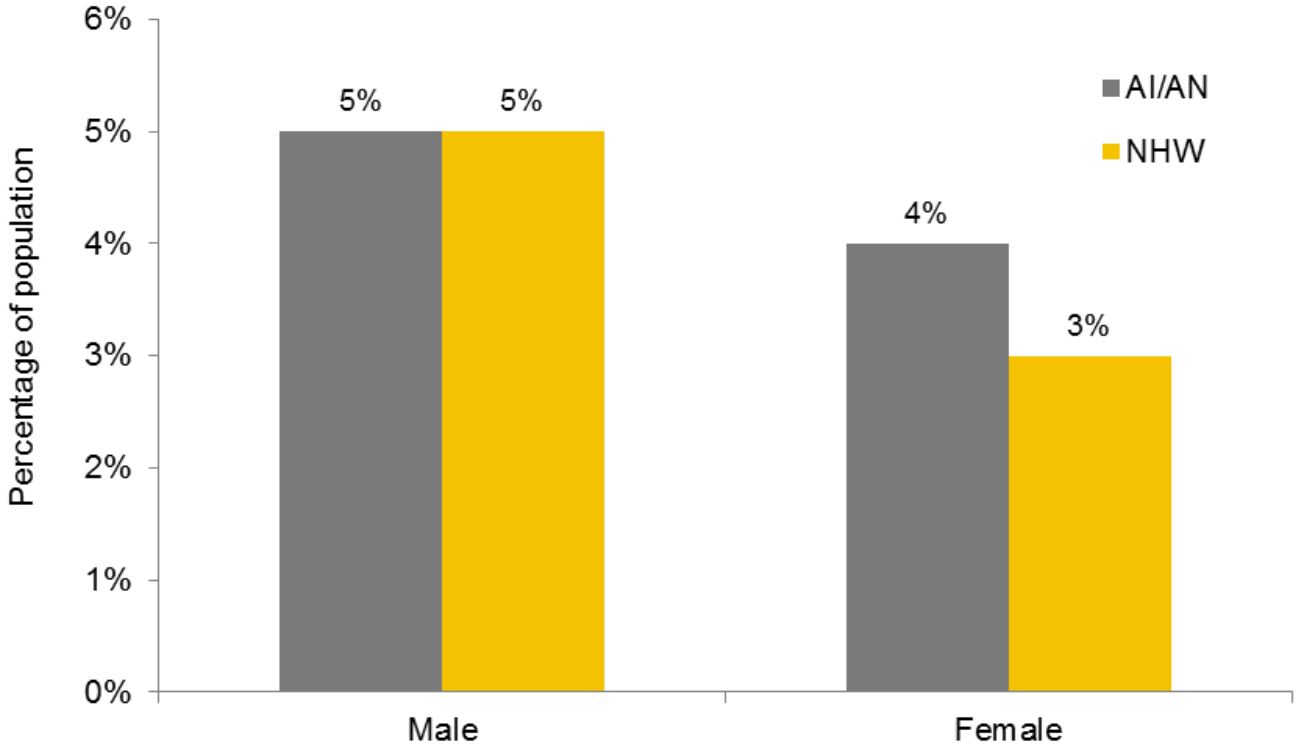
Self-Reported Heart Disease

Figure 5.1 shows the percentage of AI/AN and NHW adults who had ever been told they had angina or coronary heart disease by a health care provider. From 2006-2012, AI/AN and NHW males in Washington had similar rates of self-reported heart disease (5%). The prevalence of heart disease in AI/AN females was slightly higher than NHW females in Washington (4% vs. 3%).

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

Data Notes: The BRFSS prevalence estimates (shown as a percentage) are weighted to make the survey responses representative of the Washington population. The sample sizes shown 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, Washington, 2006-2012.



Sample sizes (n): AI/AN males=783; AI/AN females=1,148; NHW males=49,342; NHW females=77,177.

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:

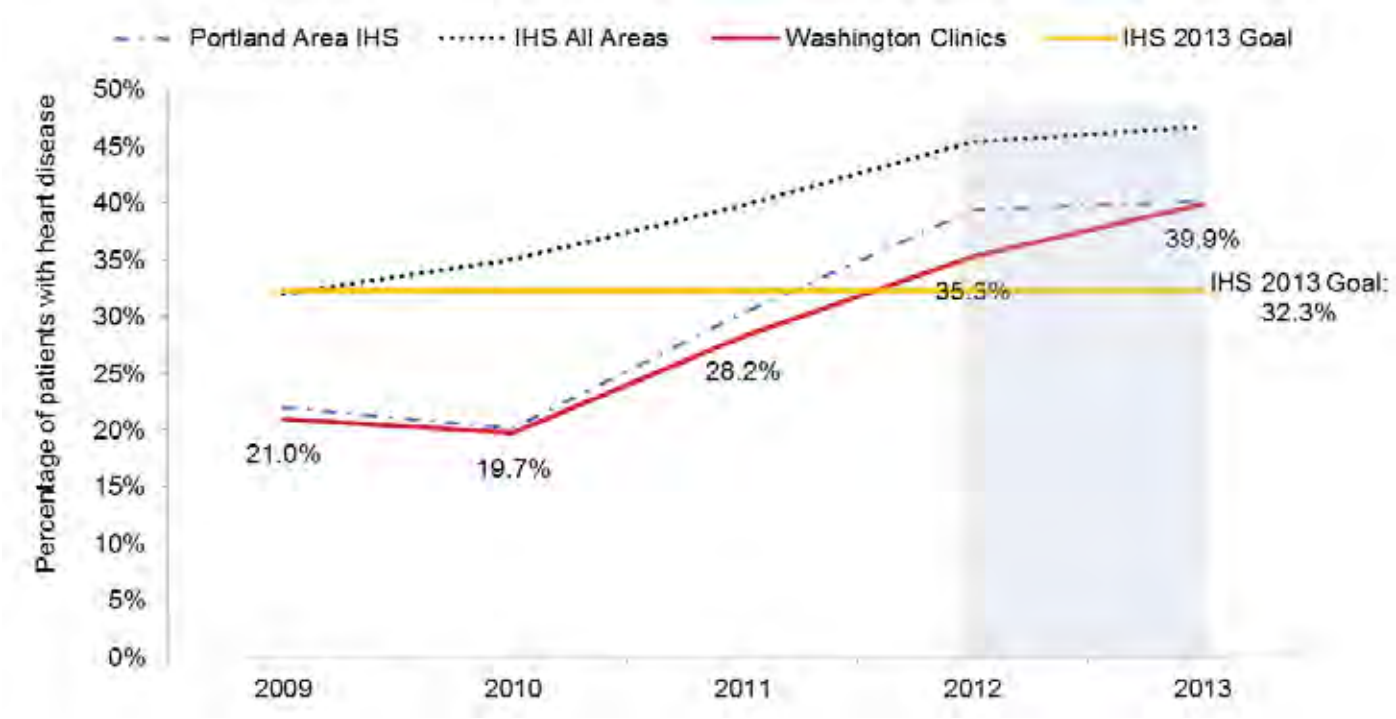
- blood pressure measured at least twice in the past two years;
- low-density lipoprotein (LDL) cholesterol measured in the past year;
- tobacco use screened in the past year;
- BMI calculated in the past year; and,
- lifestyle adaptation counseling (e.g., nutrition counseling, exercise education) in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

Since 2010, the percentage of at-risk patients who received a comprehensive CVD assessment has increased for Washington 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 Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. 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, 2009-2013.



Note: The shaded area shows the year when the definition for comprehensive CVD assessment changed.

Hospitalizations for Hypertension

In 2011, there were 65 hospitalizations with a principal diagnosis of hypertension among AI/AN in Washington. The percentage of AI/AN inpatient hospitalizations for hypertension was the same as that of NHW (Table 5.1). AI/AN females had significantly higher hypertension hospitalization rates than their NHW counterparts (Figure 5.3). The age-adjusted hypertension hospitalization rate was three times higher for AI/AN females compared to NHW females.

Data Source: Washington state hospital discharge data (CHARS), 2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

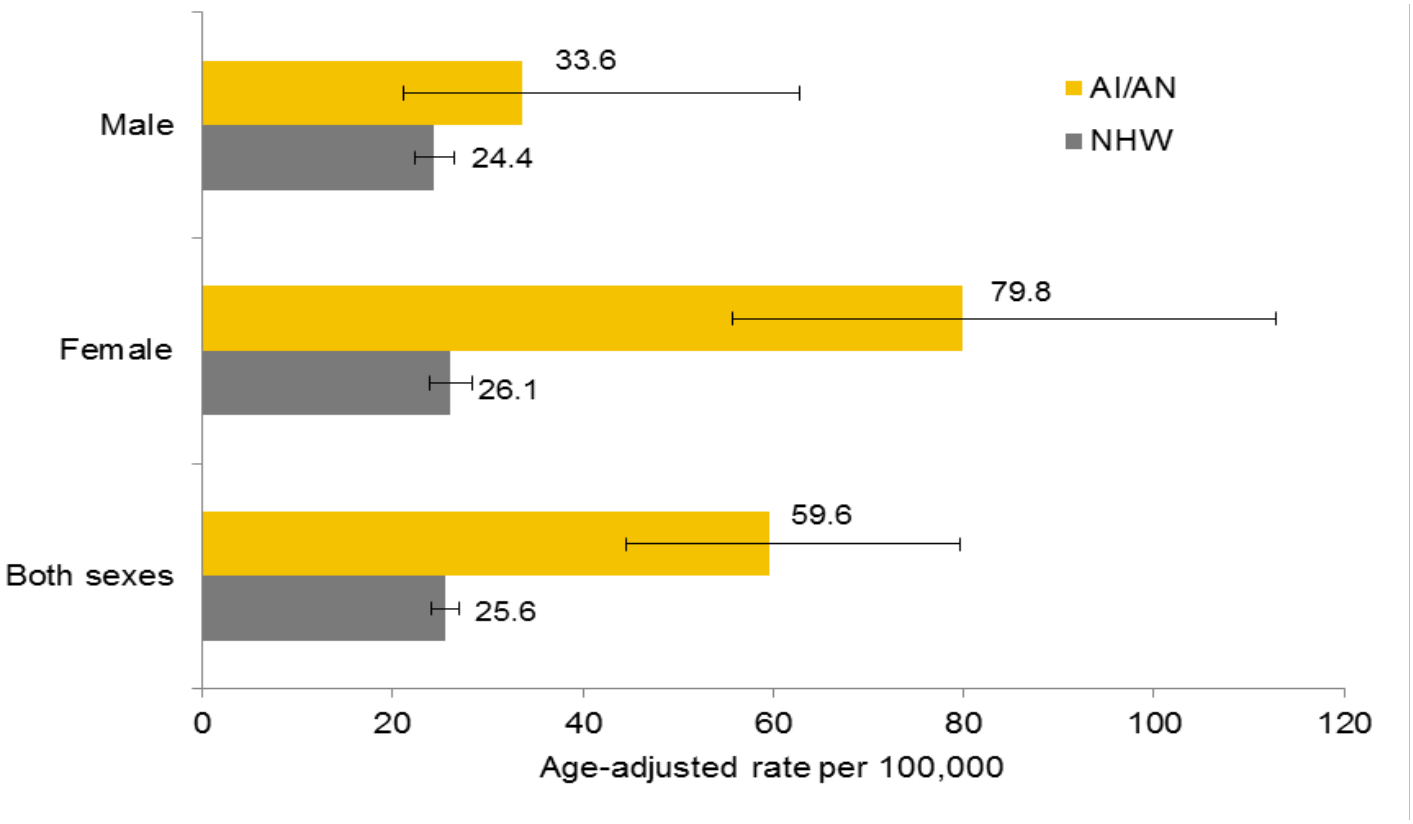
Data Notes: Principal diagnosis codes categorized using the Agency for Healthcare Research and Quality's Clinical Classification Software. The following level-2 principal diagnosis codes were included: 7.1 (hypertension).

Table 5.1: Inpatient hospital discharges for hypertension by race and sex, Washington, 2011.

Sex	AI/AN N (%)†	NHW N (%)†
Male	23 (0.4%)	693 (0.4%)
Female	42 (0.5%)	845 (0.4%)
Both Sexes	65 (0.4%)	1,538 (0.4%)

†N = number of inpatient hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (5,731), AI/AN female (8,741), AI/AN total (14,472), NHW male (159,142), NHW female (212,276), NHW Total (371,418)

Figure 5.3: Age-adjusted hospital discharge rates for hypertension by race and sex, Washington,



Hospitalizations for Heart Disease

In 2011, there were 872 hospitalizations for heart disease among AI/AN in Washington. The percentage of total hospitalizations for heart disease was lower for AI/AN compared to NHW (6.0% vs. 9.5% for both sexes, Table 5.2). However, after adjusting for differences in age distributions, heart disease hospitalization rates were higher for AI/AN compared to NHW (Figure 5.4). While AI/AN males had higher heart disease hospitalization rates than AI/AN females, the disparity compared to NHW was larger for AI/AN females.

Data Source: Washington state hospital discharge data (CHARS), 2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

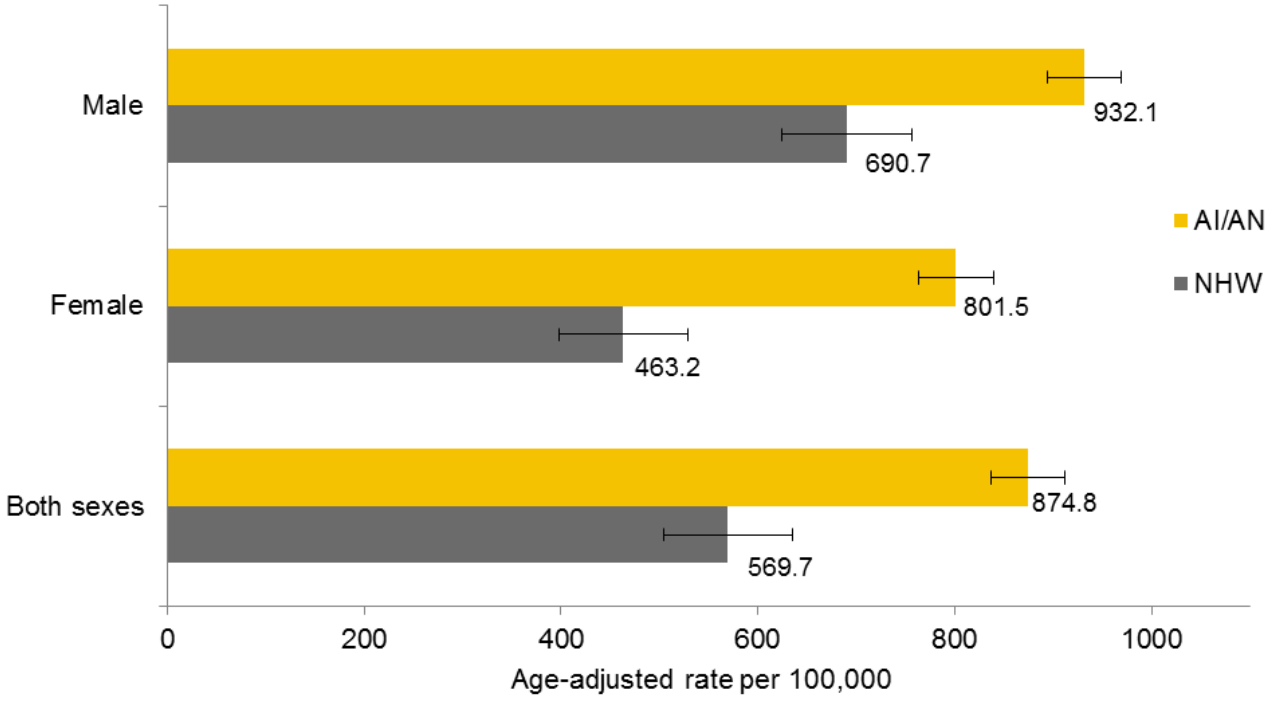
Data Notes: Principal diagnosis codes categorized using the Agency for Healthcare Research and Quality's Clinical Classification Software. The following level-2 principal diagnosis codes were included: 7.2 (diseases of the heart).

Table 5.2: Inpatient hospital discharges for heart disease by race and sex, Washington, 2011.

Sex	AI/AN N (%)†	NHW N (%)†
Male	474 (8.3%)	19,613 (12.3%)
Female	398 (4.6%)	15,810 (7.4%)
Both Sexes	872 (6.0%)	35,423 (9.5%)

†N = number of inpatient hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (5,731), AI/AN female (8,741), AI/AN total (14,472), NHW male (159,142), NHW female (212,276), NHW Total (371,418)

Figure 5.4: Age-adjusted hospital discharge rates for heart disease by race and sex, Washington, 2011.



Hospitalizations for Cerebrovascular Disease

Cerebrovascular disease (which includes stroke) was the principal diagnosis for 1.6% (N=231) of hospitalized AI/AN in Washington, which was lower than NHW (2.6%, Table 5.3). After adjusting for differences in age distributions, AI/AN of both sexes had higher cerebrovascular disease hospitalization rates than NHW (Figure 5.5). AI/AN females had higher hospitalization rates than AI/AN males, and a larger disparity when compared to their NHW counterparts in the state.

Data Source: Washington state hospital discharge data (CHARS), 2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

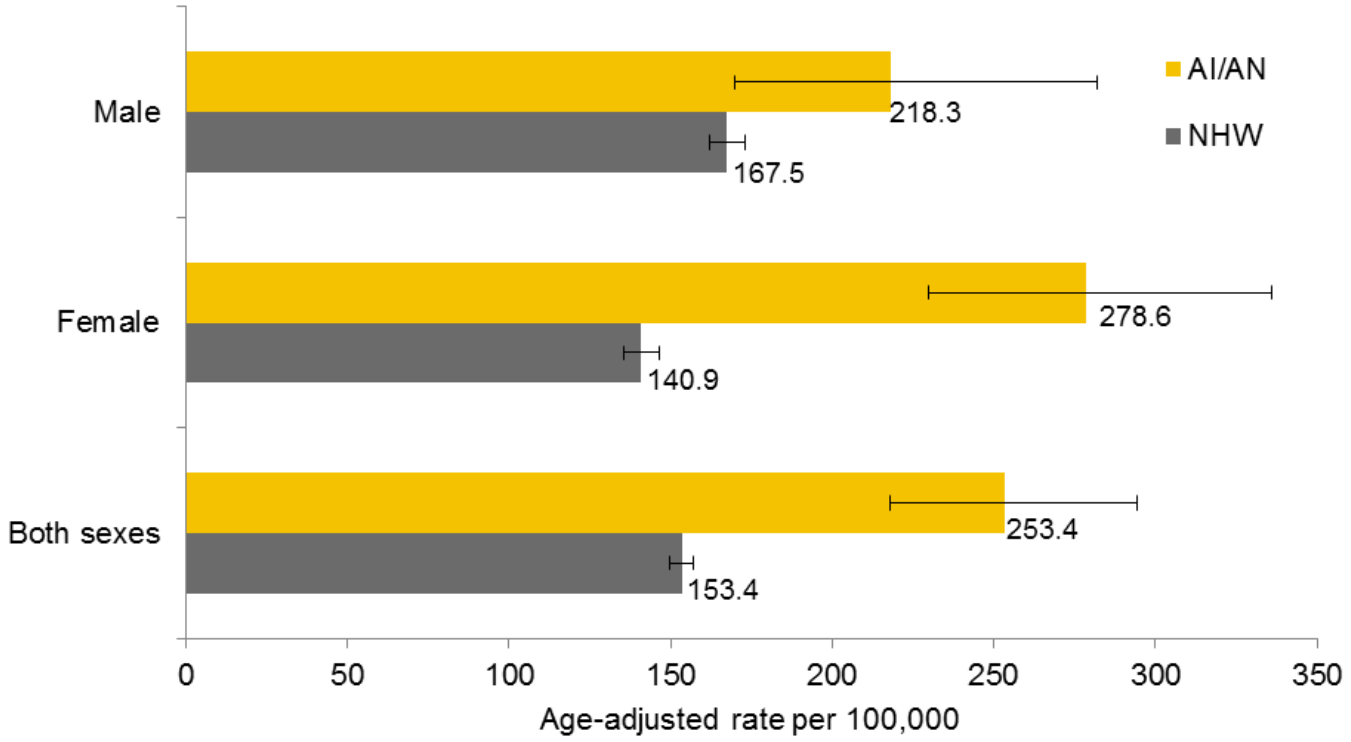
Data Notes: Principal diagnosis codes categorized using the Agency for Healthcare Research and Quality's Clinical Classification Software. The following level-2 principal diagnosis codes were included: 7.3 (cerebro-vascular disease [stroke]).

Table 5.3: Inpatient hospital discharges for cerebrovascular disease by race and sex, Washington, 2011.

Sex	AI/AN N (%)†	NHW N (%)†
Male	94 (1.6%)	4,679 (2.9%)
Female	137 (1.6%)	4,878 (2.3%)
Both Sexes	231 (1.6%)	9,557 (2.6%)

†N = number of inpatient hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (5,731), AI/AN female (8,741), AI/AN total (14,472), NHW male (159,142), NHW female (212,276), NHW Total (371,418)

Figure 5.5: Age-adjusted hospital discharge rates for cerebrovascular disease by race and sex, Washington, 2011.



Heart Disease Mortality

Heart disease was the leading cause of death for AI/AN in Washington from 2006-2010. Figure 5.6 shows the age-adjusted mortality rates for heart disease among AI/AN and NHW in Washington. AI/AN males were about 35% more likely to die of heart disease than females. Compared to NHW, AI/AN heart disease mortality rates were 67% higher (Table 5.4). AI/AN living in Washington had higher mortality rates for heart disease compared to AI/AN living in Idaho and Oregon.

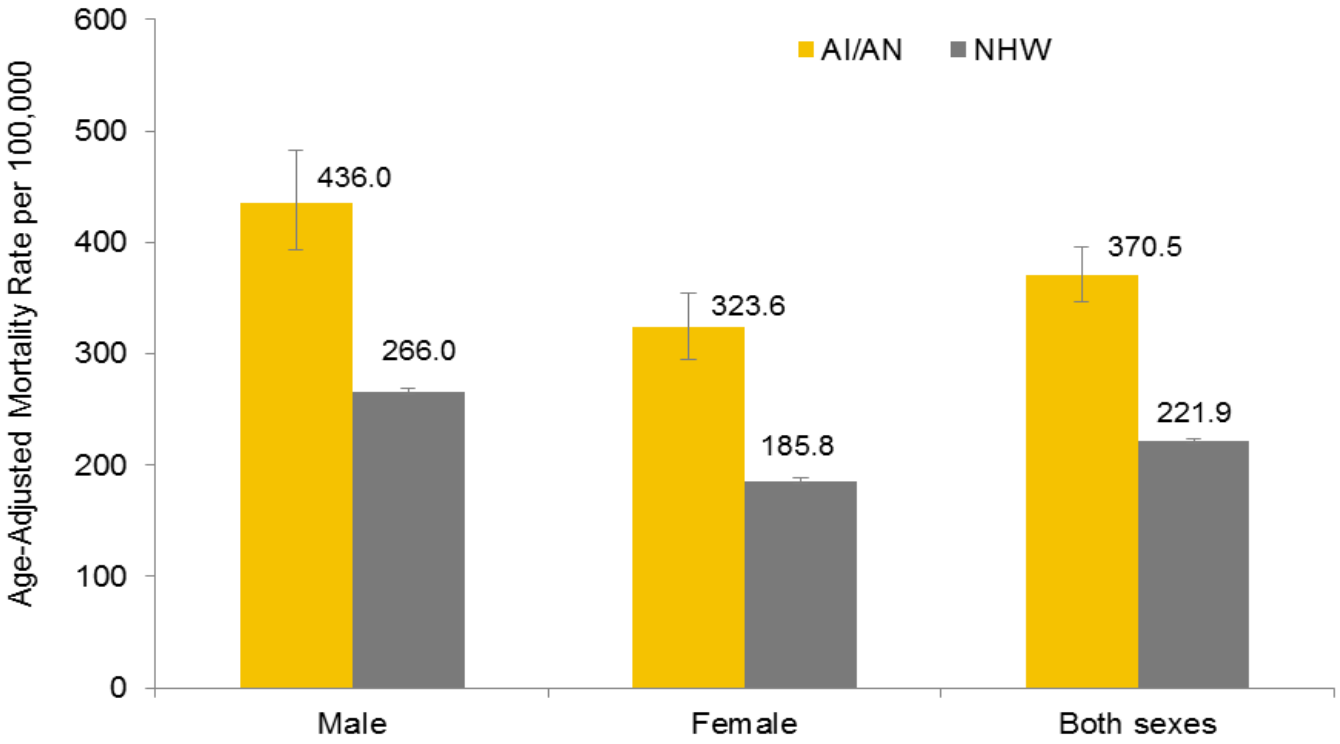
Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Table 5.4: Age-adjusted heart disease mortality rates by race and sex, Washington, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	436.0 (393.7, 482.3)	266.0 (263.1, 268.9)	1.64 (1.51, 1.78)‡
Female	323.6 (294.6, 354.9)	185.8 (182.9, 188.7)	1.74 (1.60, 1.90)‡
Both Sexes	370.5 (346.4, 396.0)	221.9 (219.8, 223.9)	1.67 (1.57, 1.77)‡

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

Figure 5.6: Age-adjusted heart disease mortality rates by race and sex, Washington, 2006-2010.



Heart Disease Mortality Trends

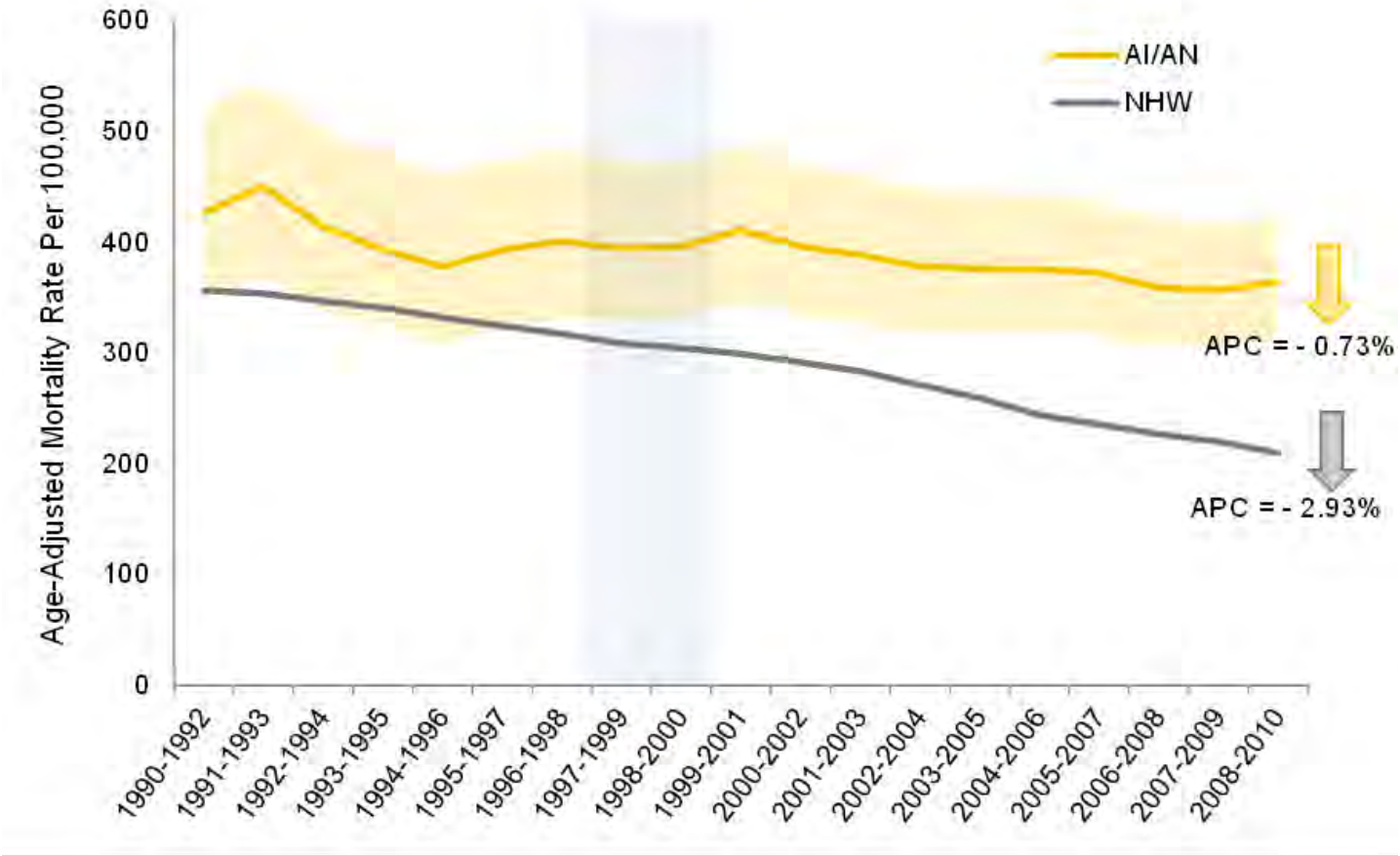
Figure 5.7 shows heart disease mortality trends for the AI/AN and NHW population in Washington between 1990 and 2010. The yellow shaded section around the AI/AN line represents a 95% confidence interval band.

AI/AN heart disease mortality rates were consistently higher than NHW rates throughout the time period, and the disparity increased in the latter decade. Both populations saw significant decreases in rates of heart disease mortality over the time period. AI/AN rates decreased at an average of 0.73% per year, while NHW rates dropped more rapidly at an average of 2.93% per year. Decreases in AI/AN heart disease mortality rates arose from changes in male rates; female AI/AN heart disease rates did not show significant change during the time period.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: APC = Annual Percentage Change. Cause of death coding on death certificates underwent a change from ICD-9 to ICD-10 between 1998 and 1999. Data shown in the trend charts in this report have not been adjusted to reflect this change. Comparability ratios for the broad categories reported here show that the change did not have a large impact for these statistics, however any abrupt changes between 1998 and 1999 should be interpreted with caution.

Figure 5.7: Age-adjusted heart disease mortality rates, three year rolling averages, by race, Washington, 1990-2010.



Note: The shaded rectangle indicates the year cause of death coding changed from ICD-9 to ICD-10. Any abrupt changes between 1998 and 1999 should be interpreted with caution.

Stroke Mortality

Stroke was the seventh leading cause of death among Washington AI/AN. Figure 5.8 shows the age-adjusted mortality rates for stroke among AI/AN and NHW in Washington. Female AI/AN were about 12% more likely to die from stroke than males. Compared to NHW, AI/AN stroke mortality rates were 58% higher (Figure 5.5). AI/AN living in Washington had higher mortality rates for stroke than AI/AN living in Idaho and Oregon.

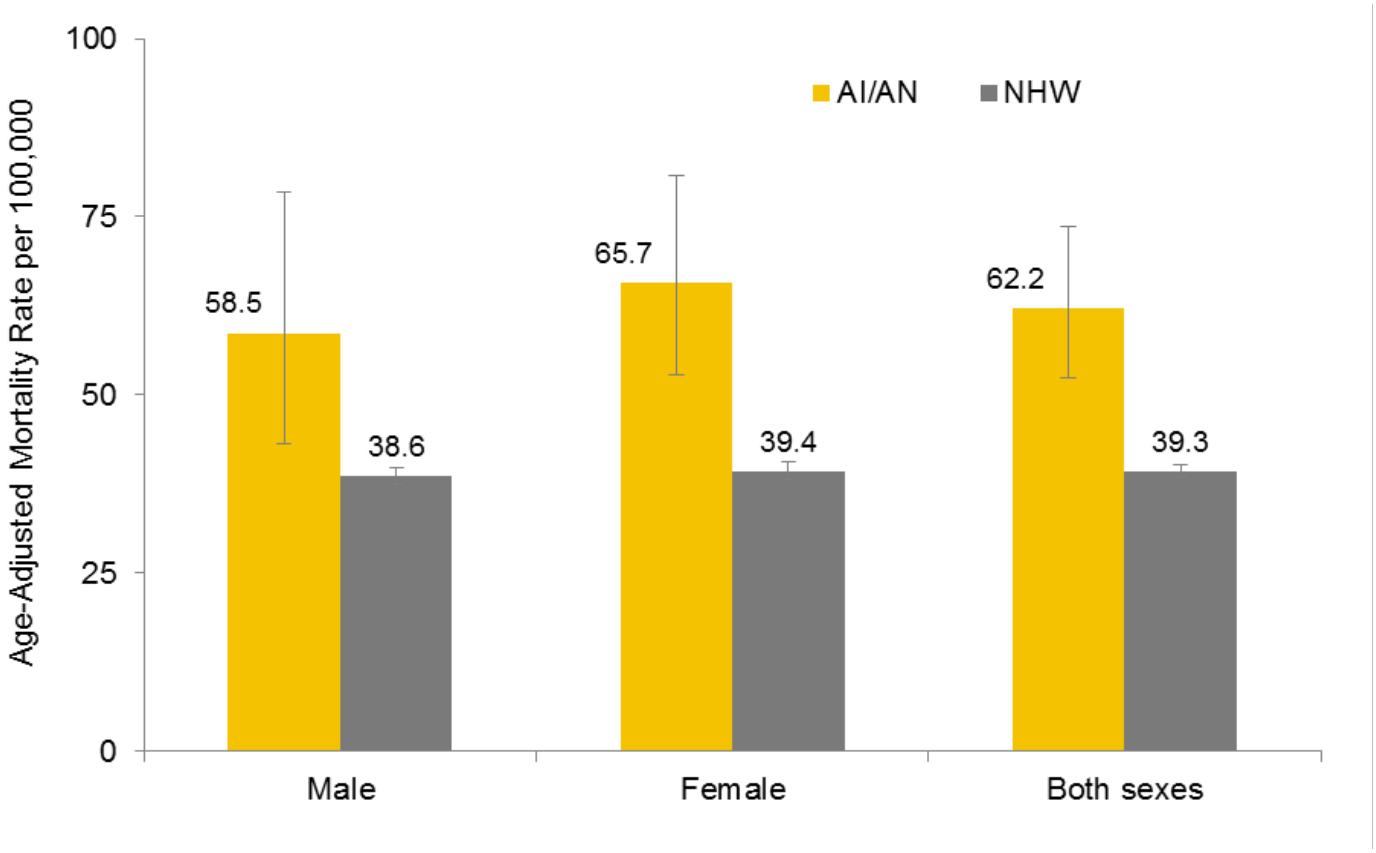
Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Table 5.5: Age-adjusted stroke mortality rates by race and sex, Washington, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	58.5 (43.1, 78.5)	38.6 (37.6, 39.7)	1.51 (1.19, 1.93)‡
Female	65.7 (52.9, 80.8)	39.4 (38.0, 40.7)	1.67 (1.38, 2.02)‡
Both Sexes	62.2 (52.3, 73.6)	39.3 (38.5, 40.2)	1.58 (1.36, 1.84)‡

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

Figure 5.8: Age-adjusted stroke mortality rates by race and sex, Washington, 2006-2010.



Stroke Mortality Trends

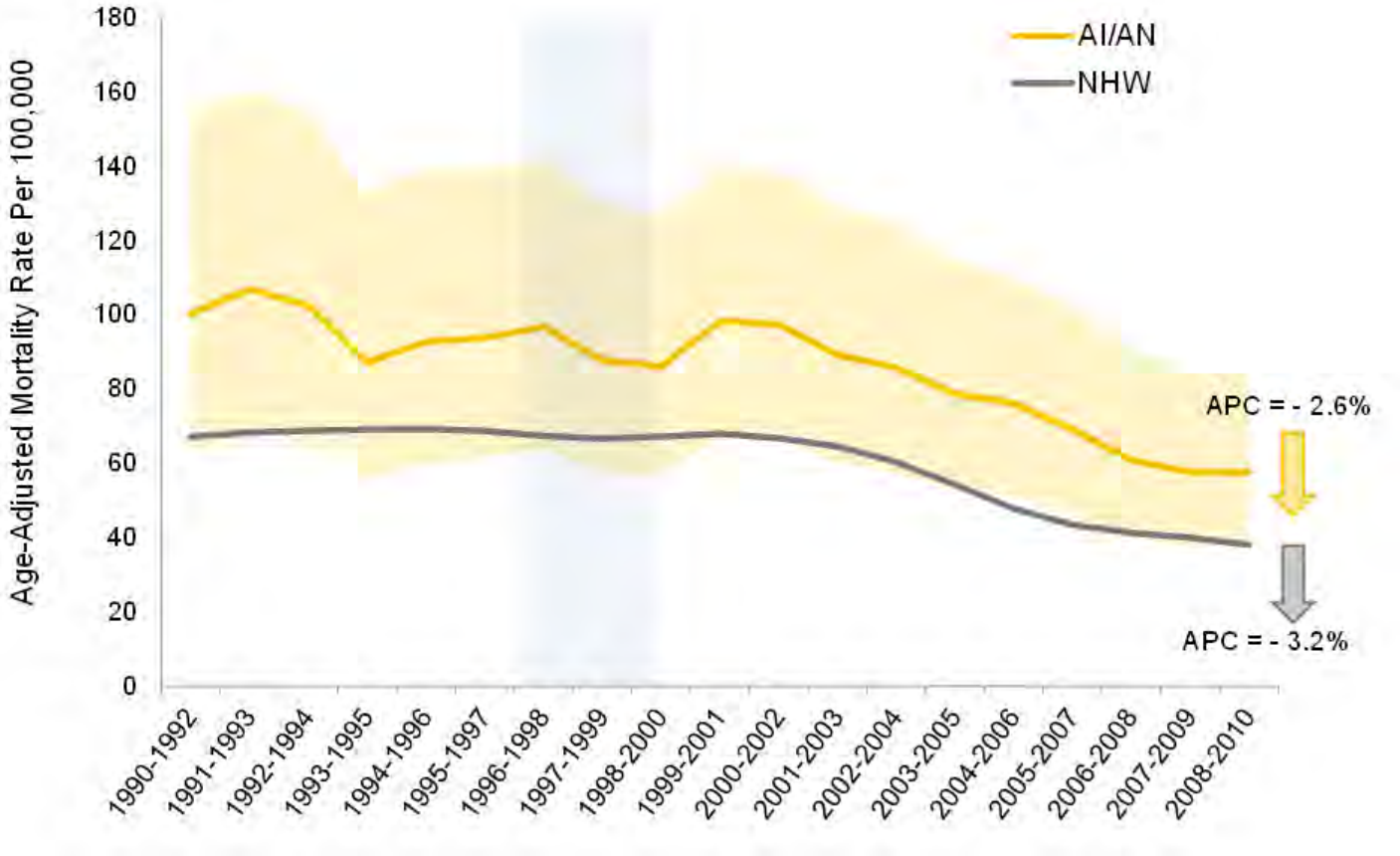
Figure 5.9 shows stroke mortality trends for the AI/AN and NHW population in Washington between 1990 and 2010. The yellow shaded section around the AI/AN line represents a 95% confidence interval band.

The AI/AN population in Washington has seen encouraging improvements in deaths from stroke with a consistent downward trend throughout the time period. AI/AN rates decreased on average 2.6% per year. While AI/AN stroke mortality rates were higher than NHW rates throughout the time period, the disparity between the two races did not increase. Female AI/AN stroke deaths have been declining even more rapidly in the past decade; between 1999 and 2010, female AI/AN rates decreased on average 7.1% per year.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: APC = Annual Percentage Change. Cause of death coding on death certificates underwent a change from ICD-9 to ICD-10 between 1998 and 1999. Data shown in the trend charts in this report have not been adjusted to reflect this change. Comparability ratios for the broad categories reported here show that the change did not have a large impact for these statistics, however any abrupt changes between 1998 and 1999 should be interpreted with caution.

Figure 5.9: Age-adjusted stroke mortality rates, three year rolling averages, by race, Washington, 1990-2010.



Note: The shaded rectangle indicates the year cause of death coding changed from ICD-9 to ICD-10. Any abrupt changes between 1998 and 1999 should be interpreted with caution.

6. Cancer

Cancer is the second leading cause of death for AI/AN in the Pacific Northwest and nationwide. Cancer occurs when cells in the body begin to grow abnormally and spread throughout the body. The severity, progression, and the ability to screen for and treat cancer often depend on the place in the body where the abnormal growth first occurs. Some cancer sites (such as lung, breast, and prostate cancers) are relatively common, while others are rare. Just as there are many risk factors for cancer, there are also many strategies to reduce the risk for developing cancer, and to improve survival and quality of life for cancer patients.

Perhaps the most important strategy to reduce cancer mortality is early detection. The primary clinical tool to detect cancer early is by routine cancer screening tests. Cancer screening tests can detect cancer in its early stages, which can improve treatment outcomes and survival for cancer patients. IHS tracks cervical, breast, and colorectal cancer screenings as part of its reporting for the Government Performance and Reporting Act (GPRA).

In Washington, screening rates for breast and cervical cancers have remained relatively unchanged for the past five years. The IHS began tracking colorectal cancer (CRC) screening in 2006 and initiated a CRC Screening Task Force in 2007 to support improvement in CRC screening rates. The impact of this national and regional effort is seen in improvements in CRC screening from 2009 to 2012.

The most common cancer sites for AI/AN in Washington are lung, breast, prostate, blood, and colorectal cancers. Cancer incidence rates for AI/AN are similar to rates for NHW in the state and have remained relatively stable since 1992. Despite lower cancer incidence, AI/AN have higher cancer mortality rates than NHW. This is because AI/AN cancer diagnoses are more often made at later stages of illness, when the cancer has already spread and is less responsive to treatment.

This section presents data on cancer screening, incidence, stage at diagnosis, and mortality for AI/AN in Washington.

Cancer Screenings: Cervical Cancer

Pap screenings are used to detect early signs of cervical cancer. Women ages 21-65 should receive a cervical cancer screening at least once every three years. The U.S. has a Healthy People 2020 goal for 93% of women (ages 21-65) to receive a cervical cancer screening at least once every three years by 2020.

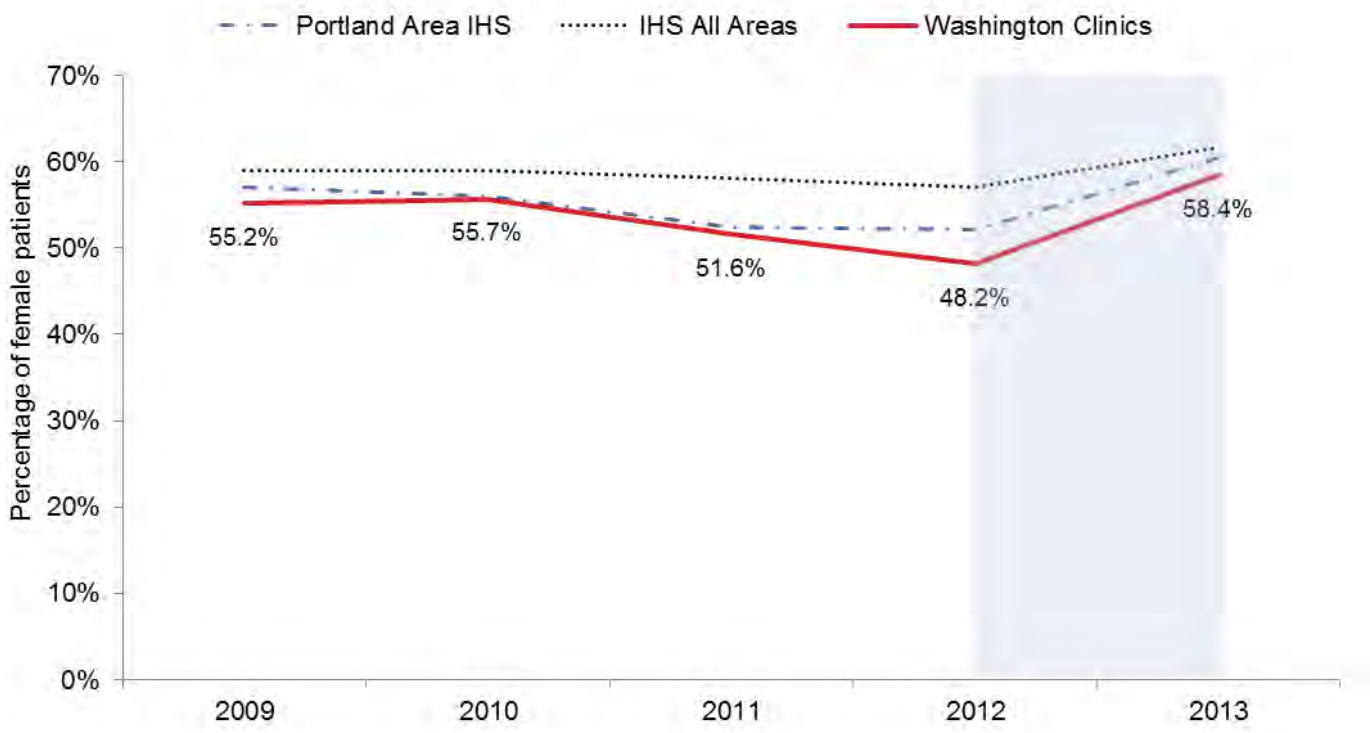
Until 2012, IHS measured the percentage of female AI/AN patients ages 21-64 who received a Pap screen within the past three years. The 2012 IHS goal for this measure was 59.5%. In 2013, IHS changed the definition for this measure to the percentage of women ages 25-64 who received a Pap screening within the previous four years.

From 2010-2012, Pap screening rates decreased within the Washington, Portland, and national IHS patient population (Figure 6.1). The 2012 screening rates for Washington clinics (48.2%), Portland Area IHS (52.1%), and national IHS (57.1%) were below the national goal of 59.5%. In 2013, Washington clinics had a lower average screening rate compared to the Portland Area IHS and national IHS. The increase in rates across all areas between 2012 and 2013 is likely due to the change in this measure's definition.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 6.1: Pap screening rates for IHS female patients, 2009-2013.



Note: The shaded area shows the year when the definition for Pap screening rates changed.

Cancer Screenings:
Breast Cancer

Mammograms are recommended for detecting breast cancer early and reducing deaths from breast cancer. Women ages 50 - 64 should receive a mammogram at least once every two years, and some organizations recommend that biennial screenings should begin at age 40. The U.S. has a Healthy People 2020 goal for 81.1% of women (ages 50-74) to receive a mammogram at least once every two years by 2020.

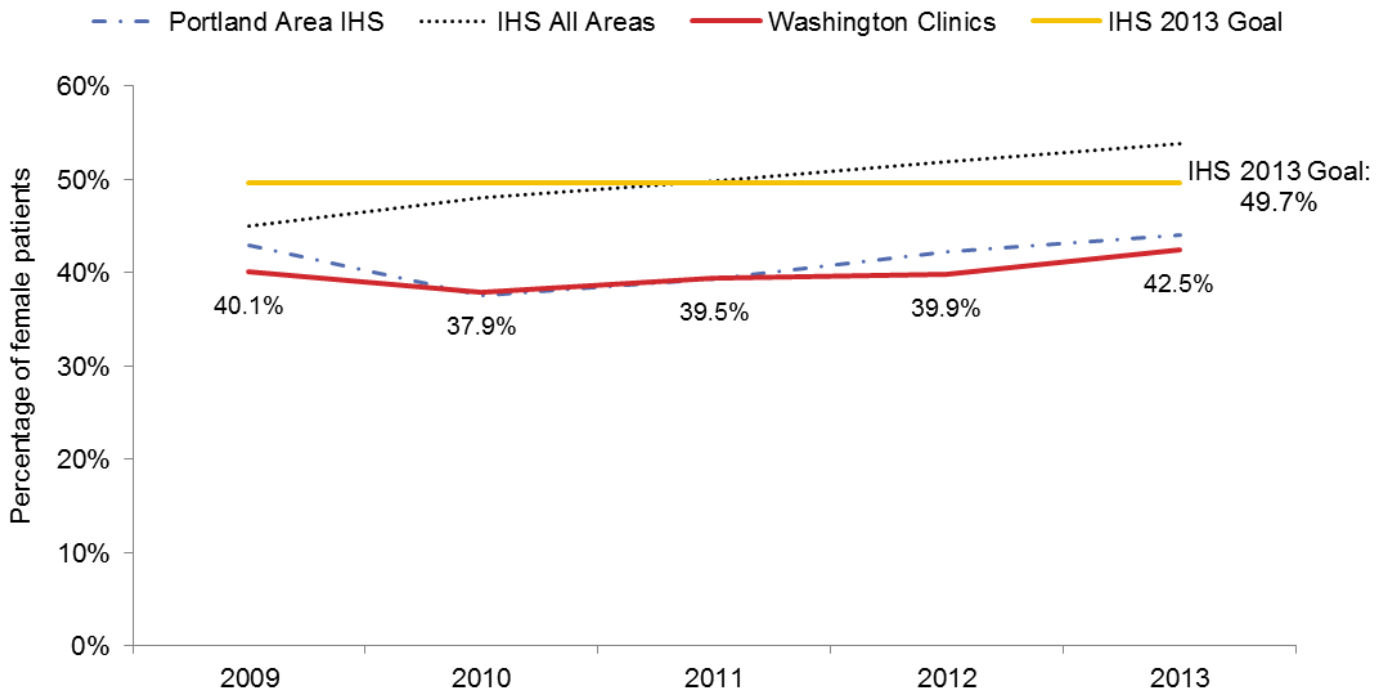
IHS tracks the percentage of AI/AN female patients ages 52-64 who have received at least one mammogram in the past two years. The 2013 goal for the measure was 49.7%.

The national IHS average for mammogram screening rates has steadily increased since 2009 and exceeded the national goal in 2013 (Figure 6.2). Mammogram screening rates in Washington clinics and the Portland Area IHS have not appreciably changed since 2009, and have remained below the national average. The 2013 mammogram screening rates in Washington and the Portland Area IHS were below the goal of 49.7%.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 6.2: Mammogram screening rates for IHS female patients, 2009-2013.



Cancer Screenings: Colorectal Cancer

Colorectal cancer screening can identify colorectal cancer during its early stages and improve treatment outcomes. The U.S. has a Healthy People 2020 goal for 70.5% of adults (ages 50-75) to be screened for colorectal cancer by 2020.

Until 2012, IHS tracked the percentage of patients ages 51-80 who received any of the following screenings:

- a fecal occult blood test or fecal immunochemical test during the past year
- a flexible sigmoidoscopy in the past five years
- a colonoscopy in the past ten years

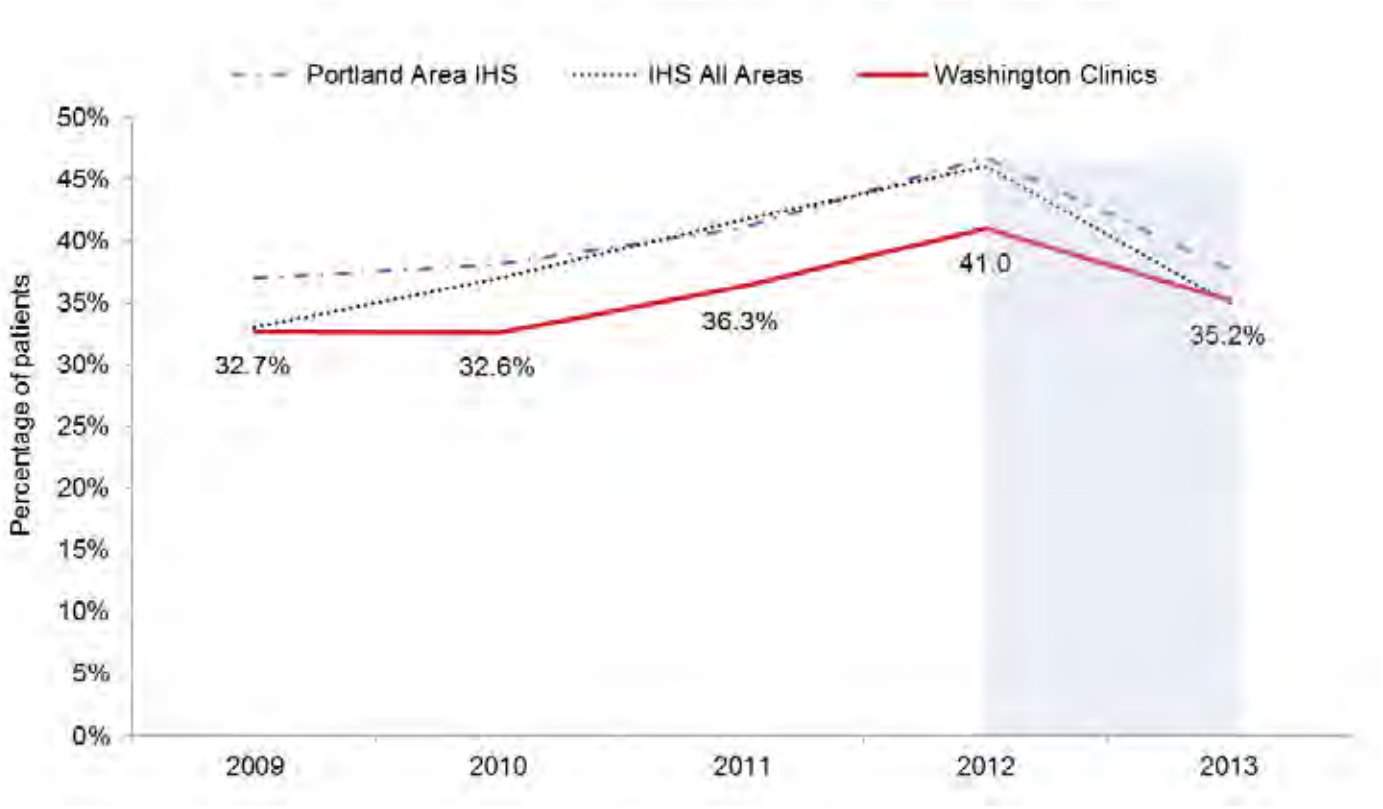
In 2013, IHS changed this measure's definition to the percentage of patients ages 50-75 who received a colorectal cancer screening.

Colorectal cancer screening rates increased across all areas from 2009-2012 (Figure 6.3). The screening rates in the Portland Area IHS (46.8%) and national IHS (46.1%) exceeded the 2012 goal of 43.2%, while the rate for Washington clinics (41.0%) fell below the goal. The drop in screening rates between 2012 to 2013 is likely due to the change in this measure's definition in 2013.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 6.3: Colorectal cancer screening rates for IHS patients, 2009-2013.



Note: The shaded area shows the year when the definition for colorectal cancer screening rates changed.

Leading Cancer Incidence Sites

Table 6.1 shows the leading cancer incidence sites for AI/AN males and females in Washington. From 2006-2010, the most common cancer sites for AI/AN were cancers of the breast (in females), prostate (in males), lung, colon/rectum, and blood (leukemia, Hodgkin's lymphoma, non-Hodgkin's lymphoma, and multiple myeloma).

Data Source: Washington State Cancer Registry (WSCR) data, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: Incidence rates include invasive cancers and in situ urinary bladder cancer.

Table 6.1: Leading cancer incidence sites for AI/AN by sex, Washington, 2006-2010.

Rank	Males	N (%)	Females	N (%)
1	Prostate	202 (19.4%)	Breast	335 (30.2%)
2	Lung & Bronchus	136 (13.1%)	Lung & Bronchus	145 (13.1%)
3	Colorectal	111 (10.7%)	Colorectal	97 (8.7%)
4	Blood Cancers†	106 (10.2%)	Blood Cancers†	83 (7.5%)
5	Kidney & Renal Pelvis	73 (7.0%)	Uterine	80 (7.2%)
6	Liver & Intrahepatic Bile Duct	70 (6.7%)	Thyroid	48 (4.3%)
7	Bladder	61 (5.9%)	Kidney & Renal Pelvis	40 (3.6%)
8	Oral Cavity & Pharynx	43 (4.1%)	Pancreas	33 (3.0%)
9	Esophagus	28 (2.7%)	Cervix	29 (2.6%)
10	Stomach	25 (2.4%)	Melanoma	25 (2.3%)
Total	All Invasive Cancers	1,042 (100.0%)	All Invasive Cancers	1,110 (100.0%)

† Blood cancers include leukemia, Hodgkin lymphoma, non-Hodgkin lymphoma, and multiple myeloma

Cancer Incidence Rates

From 2006-2010, the incidence rate for all cancers combined was about the same for AI/AN and NHW in Washington (Table 6.2). For both races, the cancer incidence rate for males was about 22% higher than the rate for females. Compared to NHW, AI/AN had lower rates of female breast cancer and male prostate cancer, and higher rates of lung and colorectal cancers (Figure 6.4).

Data Source: *Washington State Cancer Registry (WSCR) data, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.*

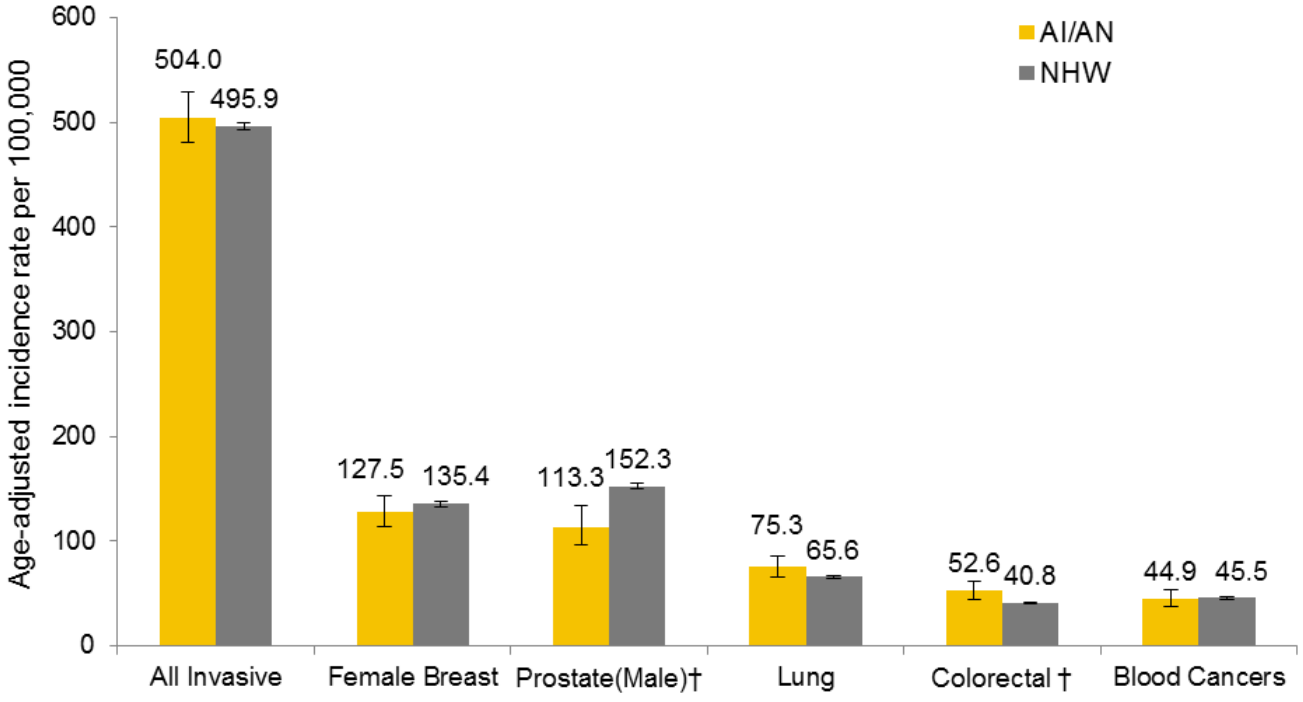
Data Notes: *Incidence rates include invasive cancers and in situ urinary bladder cancer.*

Table 6.2: Cancer incidence rates by race and sex, Washington, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	567.5 (526.7, 611.8)	555.7 (551.4, 560.1)	1.02 (0.96, 1.09)
Female	464.8 (435.3, 496.3)	451.5 (447.3, 455.6)	1.03 (0.97, 1.09)
Both Sexes	504.0 (480.1, 529.1)	495.9 (492.9, 498.9)	1.02 (0.97, 1.06)

CI = confidence interval

Figure 6.4: Age-adjusted incidence rates for leading cancer sites by race, Washington, 2006-2010.



† Indicates a statistically significant difference (p<.05)

Cancer Incidence Trends

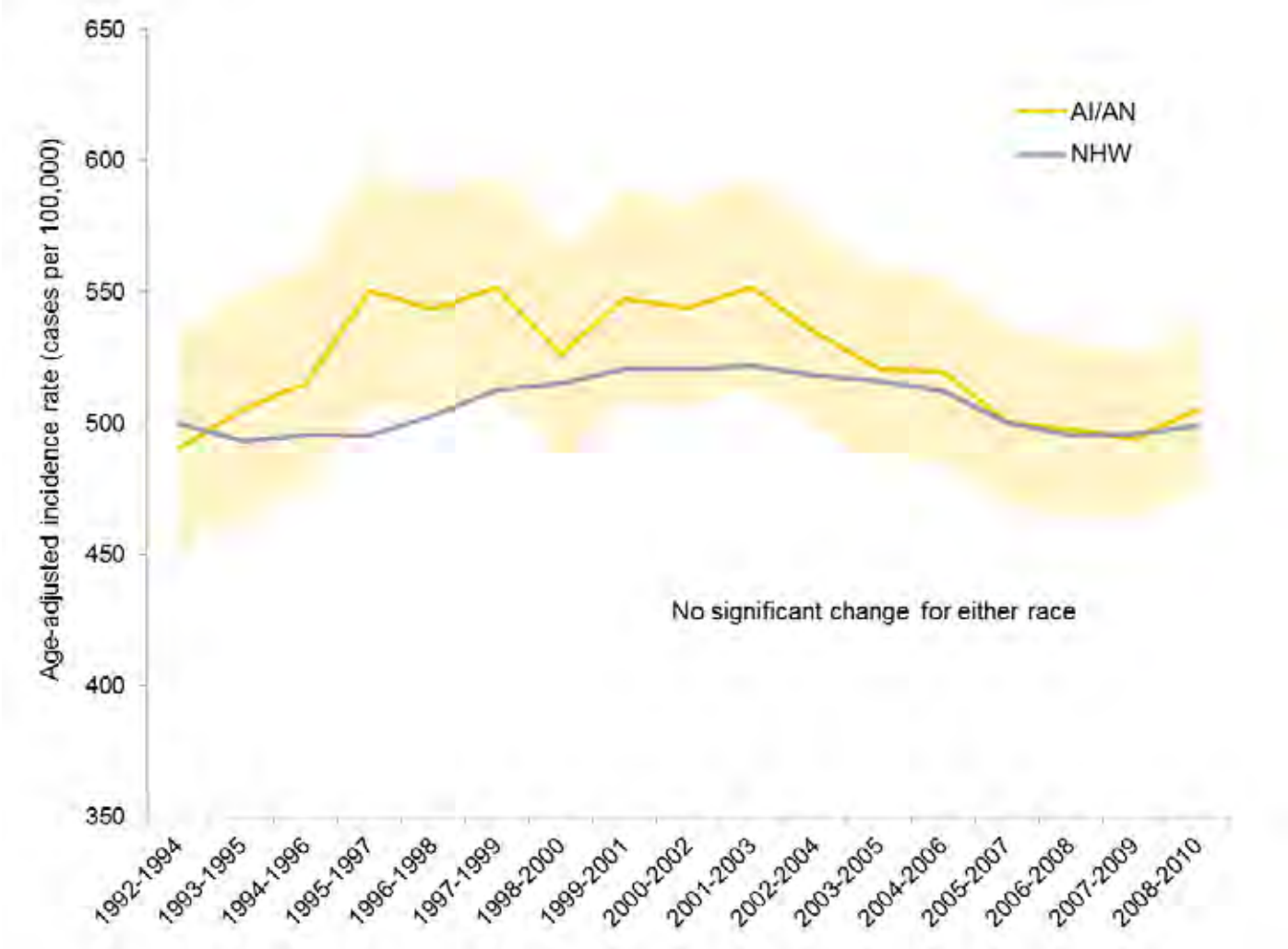
Figure 6.5 shows the trend in age-adjusted cancer incidence rates for AI/AN and NHW in Washington. The yellow shaded section around the AI/AN line represents a 95% confidence interval band.

From 1992-2010, there was no observable upward or downward trend in rates for either race. AI/AN cancer incidence rates were higher than NHW rates from the mid-1990s to mid-2000s. In recent years, AI/AN and NHW have had comparable cancer rates.

Data Source: *Washington State Cancer Registry (WSCR) data, 1992-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.*

Data Notes: *Incidence rates include invasive cancers and in situ urinary bladder cancer.*

Figure 6.5: Age-adjusted cancer incidence rates, three year rolling averages, by race, Washington, 1992-2010.



Stage at Diagnosis

Stage at diagnosis describes the extent to which a cancer has spread in the body. Cancers that are diagnosed at an earlier stage are less severe and easier to treat. Cancer registries use five main categories to describe stage at diagnosis:

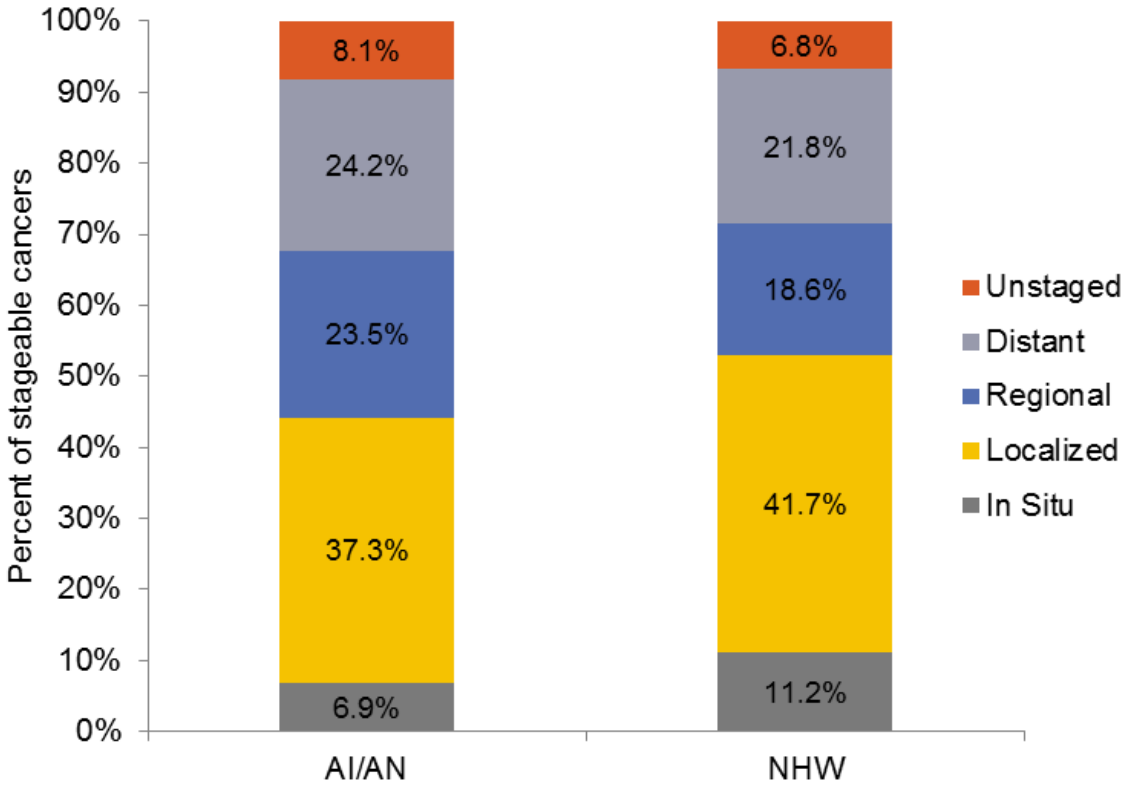
- In-situ: Cancer cells are only present in the layer of cells in which they developed
- Localized: Cancer cells are only present in the organ where the cancer began
- Regional: Cancer cells have spread beyond the primary organ to nearby tissues, organs, or lymph nodes
- Distant: Cancer cells have spread to distant tissues, organs, or lymph nodes
- Unstaged: Not enough information to determine the stage

Compared to NHW in the state, a smaller proportion of Washington AI/AN are diagnosed during the earlier stages of their cancers (Figure 6.6). Between 2006-2010, approximately 44% of new cancers among Washington AI/AN were diagnosed during the earlier (in situ or localized) stages of cancer, 24% were diagnosed during the regional stage, and 24% were diagnosed during the distant stage. In contrast, 53% of new cancers among NHW were diagnosed during the in situ or localized stages, 18% during the regional stage, and 22% during the distant stage.

Data Source: Washington State Cancer Registry (WSCR) data 2006-2010, corrected for misclassified AI/AN race.

Data Notes: Excludes cases with cancers that cannot be staged or are missing stage data.

Figure 6.6: Stage at diagnosis for incident cancer cases by race, Washington, 2006-2010.



Leading Cancer Mortality Sites

Table 6.3 shows the leading cancer mortality sites for AI/AN males and females in Washington. From 2006-2010, lung cancer was the most common cause of cancer deaths for AI/AN in the state. Lung cancer accounted for 24.5% of cancer deaths among males and 30.0% of cancer deaths among females. Breast cancer accounted for 12.6% of cancer deaths among AI/AN females. Colorectal cancer was the second leading cause of cancer deaths for AI/AN males (10.8%) and the fourth leading cause for AI/AN females (7.3%).

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: *Mortality rates include deaths from all invasive cancers.*

Table 6.3: Leading cancer mortality sites for AI/AN by sex, Washington, 2006-2010.

Rank	Males	N (%)	Females	N (%)
1	Lung & Bronchus	107 (24.5%)	Lung & Bronchus	128 (30.0%)
2	Colorectal	47 (10.8%)	Breast	54 (12.6%)
3	Liver & Intrahepatic Bile Duct	46 (10.6%)	Blood Cancers†	32 (7.5%)
4	Prostate Blood Cancers†	34 (7.8%) 34 (7.8%)	Colorectal	31 (7.3%)
5	Esophagus Pancreas	21 (4.8%) 21 (4.8%)	Pancreas	27 (6.3%)
6	Kidney & Renal Pelvis	19 (4.4%)	Ovary	21 (4.9%)
7	Brain & Central Nervous System	16 (3.7%)	Uterine	19 (4.4%)
8	Bladder	13 (3.0%)	Liver & Intrahepatic Bile Duct	16 (3.7%)
9	Oral Cavity & Pharynx Stomach	11 (2.5%) 11 (2.5%)	Kidney & Renal Pelvis	11 (2.6%)
10	Melanoma	5 (1.1%)	Cervix	9 (2.1%)
Total	All Invasive Cancers	436 (100.0%)	All Invasive Cancers	427 (100.0%)

† Blood cancers include leukemia, Hodgkin lymphoma, non-Hodgkin lymphoma, and multiple myeloma.

Cancer Mortality Rates

From 2006-2010, AI/AN had cancer mortality rates that were approximately 38% higher than NHW in the state (Table 6.4). For both races, the cancer mortality rate for males was about 34% higher than the rate for females. Compared to NHW, AI/AN had significantly higher rates of lung, colorectal, and liver cancers (Figure 6.7).

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

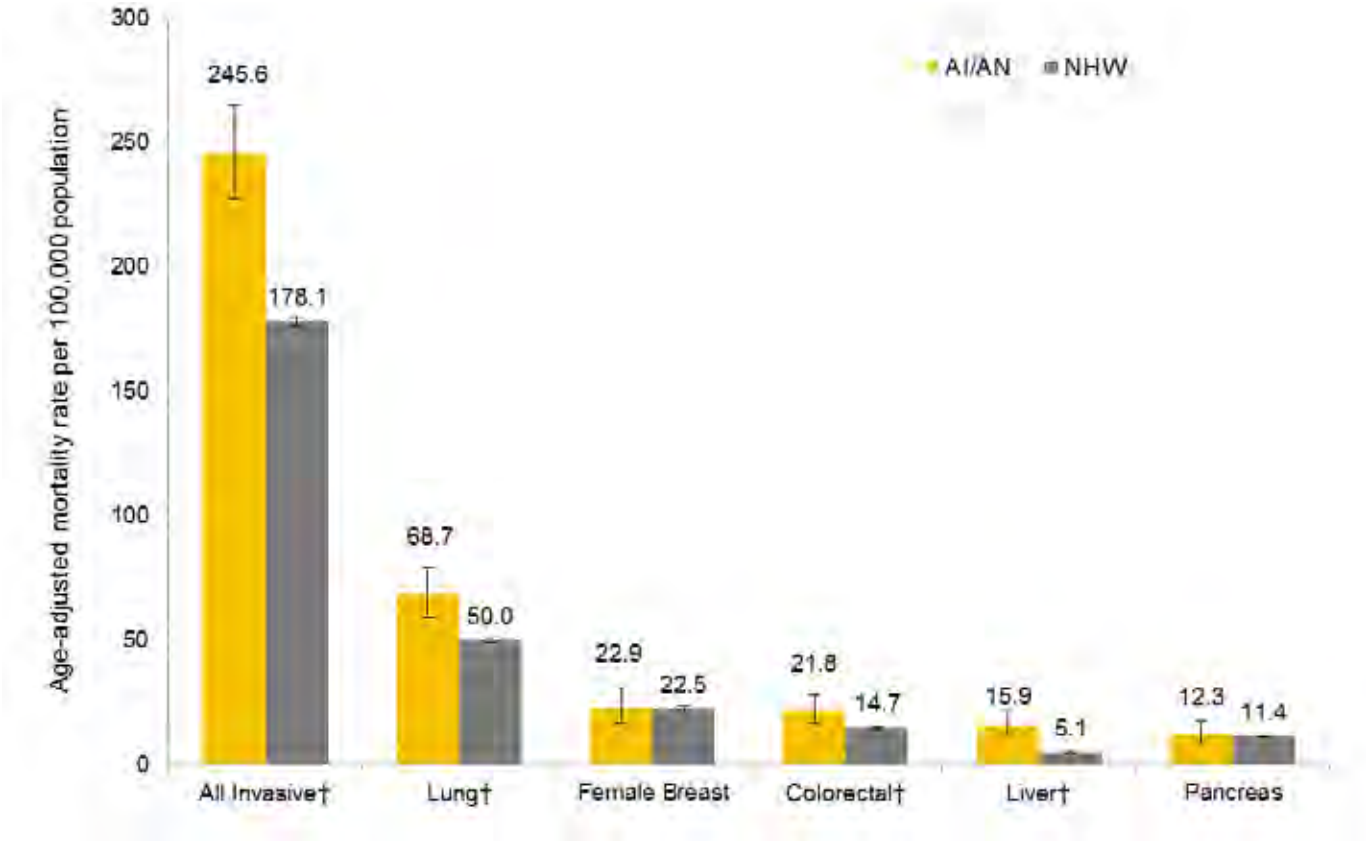
Data Notes: Mortality rates include deaths from all invasive cancers.

Table 6.4: Cancer mortality rates by race and sex, Washington, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	290.2 (258.3, 326.0)	209.8 (207.2, 212.5)	1.38 (1.26, 1.52) ‡
Female	216.8 (194.9, 240.8)	155.5 (153.0, 158.0)	1.39 (1.27, 1.53) ‡
Both Sexes	245.6 (227.4, 265.1)	178.1 (176.3, 179.9)	1.38 (1.29, 1.48) ‡

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

Figure 6.7: Age-adjusted mortality rates for leading cancer sites by race, Washington, 2006-2010.



† Indicates a statistically significant difference (p<.05)

Cancer Mortality Trends

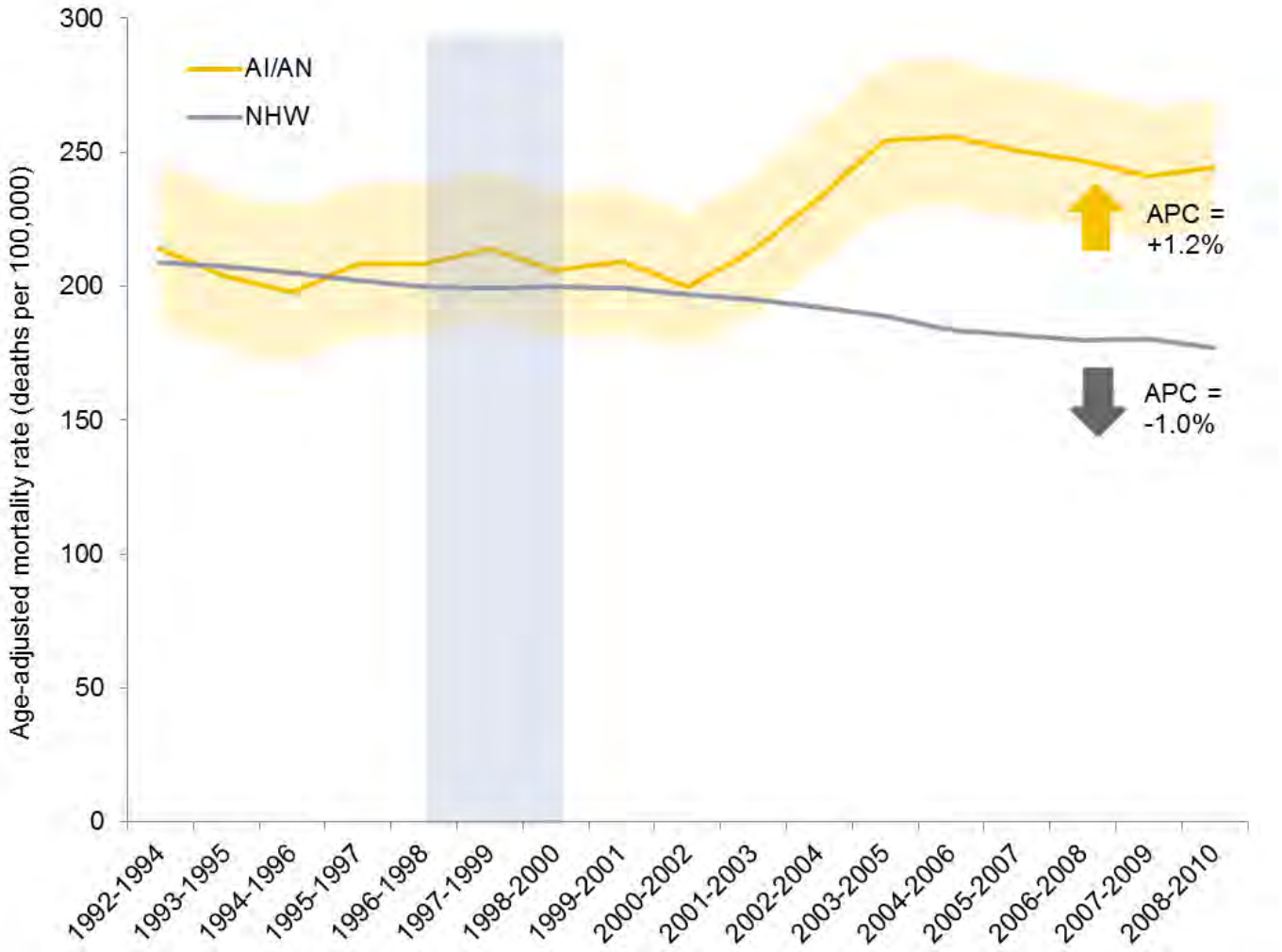
Figure 6.8 shows the trend in cancer mortality rates for AI/AN and NHW in Washington since 1992. The yellow shaded section around the AI/AN line represents a 95% confidence interval band.

AI/AN cancer mortality rates did not change between 1992 to 2002, increased from 2002 to 2004, and have since remained stable. The cancer mortality rate for NHW has steadily decreased by 1% per year since 1992. The disparity in cancer mortality rates between AI/AN and NHW has widened over time. While rates for the two races were similar in the early 1990s, the AI/AN cancer mortality rate has been approximately 38% higher than the NHW rate in recent years.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: APC = Annual Percentage Change. Cause of death coding on death certificates underwent a change from ICD-9 to ICD-10 between 1998 and 1999. Data shown in the trend charts in this report have not been adjusted to reflect this change. Comparability ratios for the broad categories reported here show that the change did not have a large impact for these statistics, however any abrupt changes between 1998 and 1999 should be interpreted with caution.

Figure 6.8: Age-adjusted cancer mortality rates, three year rolling averages, by race, Washington, 1992-2010.



Note: The shaded rectangle indicates the year cause of death coding changed from ICD-9 to ICD-10. Any abrupt changes between 1998 and 1999 should be interpreted with caution.

Program Spotlight: Northwest Tribal Comprehensive Cancer Project (NTCCP)

In collaboration with 43 Northwest Tribes, the NTCCP works toward cancer-free tribal communities by taking an integrated and coordinated approach to cancer control. The NTCCP was the first tribal recipient of a Comprehensive Cancer Grant from the CDC. NTCCP has been at the forefront in developing and implementing strategies to address cancer in tribal communities. These strategies include developing a tribal comprehensive cancer plan, forming a multi-state tribal cancer coalition, and designing a tribal behavioral risk factor survey.

NTCCP's goals are to:

- Facilitate a process for Northwest Tribes to promote cancer risk reduction strategies
- Provide information on the most current early detection, screening and treatment practices through education and resource materials.
- Provide education regarding quality of life for cancer patients, their families and caretakers
- Coordinate and collaborate with local and national cancer organizations and individuals
- Improve Indian-specific cancer control data

NTCCP coordinates three tribal cancer coalition meetings per year. These meetings provide a forum for tribal programs, cancer centers, local and state health departments, non-profits, and private organizations to network and share resources. NTCCP also provides technical assistance to tribes to implement local cancer control plans, provides toolkits and educational materials to promote cancer screening, and assists tribes with data and funding resources. The Northwest Tribal Comprehensive Cancer Program is funded by a cooperative agreement from the Centers for Disease Control and Prevention.

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http://www.npaihb.org/programs/nw_tribal_cancer_control_project

7. Injury & Violence

Injuries and violence have been major public health concerns in Indian Country for many years.[1] Generally, injuries are separated into two categories: unintentional injuries, which result from events such as motor vehicle crashes, falls, accidental poisoning, or drowning; and intentional injuries, which are caused deliberately by one person to another or to himself, such as physical abuse, homicide, or suicide.

According to the most recently available national data for 1999-2011, intentional injuries are the leading cause of death for American Indian and Alaska Natives (AI/AN) ages 1-44 and the third leading cause of death for AI/AN of all ages combined.[2] Homicide is among the top five leading causes of death for AI/AN ages 1-44.[2] A 2010 study found that AI/AN women have the highest reported lifetime rates of domestic violence among all racial and ethnic groups, at 46%[3], and Washington State survey data from 2011 show the highest overall rates of domestic violence injuries for AI/AN and blacks.[4]

Unintentional injuries are the third leading cause of death for AI/AN of all ages in Washington. The major causes of unintentional injury deaths are accidental poisonings (due to alcohol and drug overdoses) and motor vehicle accidents. The unintentional injury mortality rate for AI/AN in Washington is more than twice the rate for NHW in the state, and is also higher than rates for AI/AN in Idaho and Oregon. AI/AN mortality rates from homicide have significantly decreased since the 1990s. However, AI/AN death rates for homicide are still almost four times higher compared to NHW in the state.

This section presents hospitalization and mortality data for unintentional injury and homicide, as well as screening for domestic or intimate partner violence. Suicide-related data can be found in the chapter on Mental Health and Suicide.

1. Smith, R.J., and Robertson L.S. (2000). Unintentional Injuries and trauma. In Roades ER (ed.), American Indian Health, Baltimore, MD: Johns Hopkins University Press.

2. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2013) [cited 2014 Sep 25]. Available from URL: www.cdc.gov/ncipc/wisqars

3.Black, M.C., Basile, K.C., Breiding, M.J., Smith, S.G., Walters, M.L., Merrick, M.T., Chen, J., & Stevens, M.R. (2011). The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Summary Report. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

4. Washington State Department of Health (2013). Domestic Violence. In The Health of Washington State. Retrieved from http://www.doh.wa.gov/Portals/1/Documents/5500/IV-DV2013.pdf.

Unintentional Injury Hospitalizations

In 2011, 7.1% of AI/AN hospitalizations in Washington were for unintentional injuries (Table 7.1). Overall, AI/AN had about the same percentage of unintentional injury hospitalizations as NHW, though the percentage for AI/AN males was higher than the percentage for NHW males. Men of both races had a higher proportion of unintentional injury hospitalizations than females. The age-adjusted hospitalization rate was lower for AI/AN females than AI/AN males (Figure 7.1). For both sexes, the AI/AN unintentional injury hospitalization rate was about 80% higher than the rate for their NHW counterparts in the state.

Data Source: Washington state hospital discharge data (CHARS), 2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

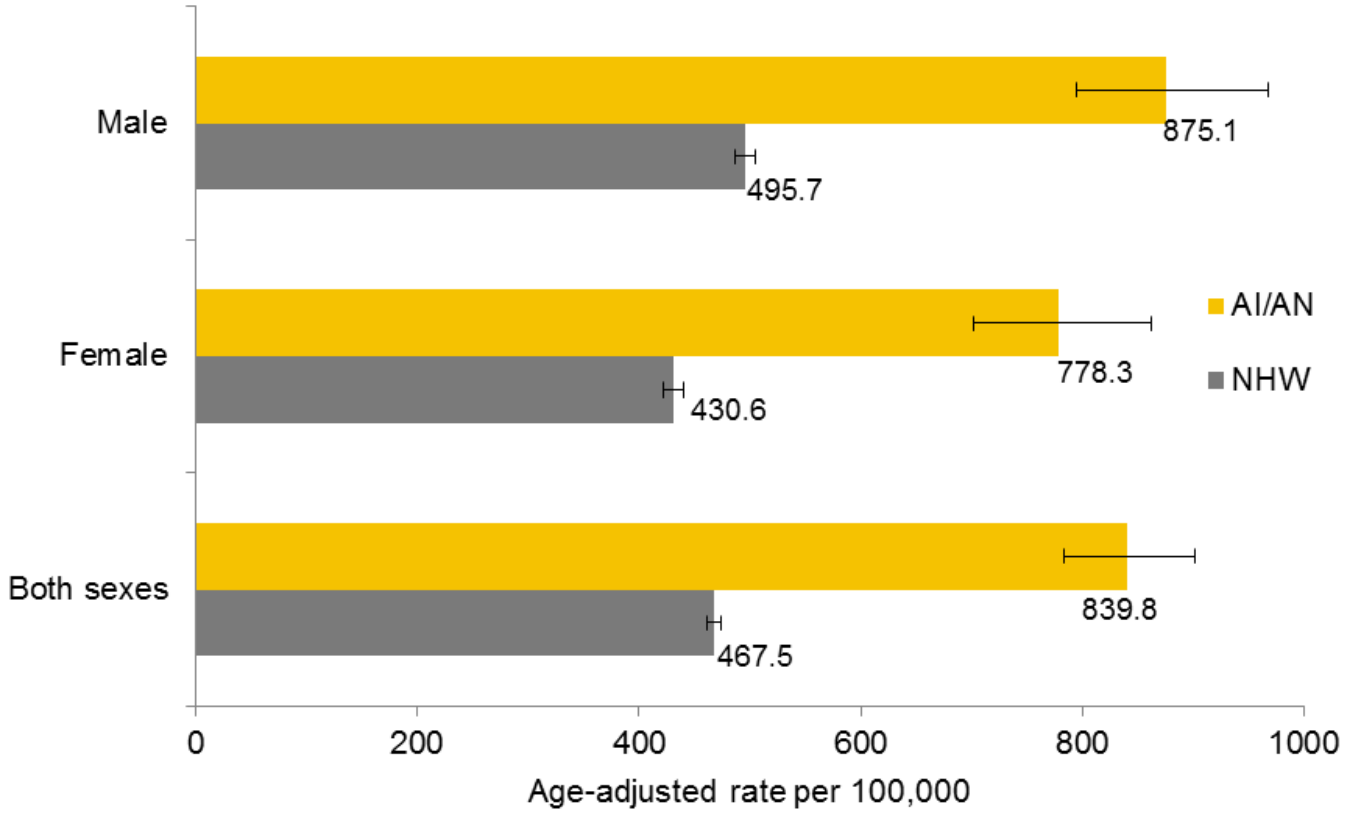
Data Notes: Injury manner and intent were determined using the External Cause of Injury Matrix developed for ICD-9 external cause codes, from the Centers for Disease Control and Prevention (CDC). ("ICD Injury Matrices," 2009)

Table 7.1: Inpatient hospital discharges for unintentional injury by race and sex, Washington, 2011.

Sex	AI/AN N (%)†	NHW N (%)†
Male	563 (9.8%)	13,087 (8.2%)
Female	461 (5.3%)	13,987 (6.6%)
Both Sexes	1,024 (7.1%)	27,074 (7.3%)

†N = number of inpatient hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (5,731), AI/AN female (8,741), AI/AN total (14,472), NHW male (159,142), NHW female (212,276), NHW Total (371,418)

Figure 7.1: Age-adjusted hospital discharge rates for unintentional injury by race and sex, Washington, 2011.



Mortality from Unintentional Injuries

From 2006-2010, unintentional injury was the third leading cause of death for AI/AN in Washington. Table 7.2 and Figure 7.2 show the age-adjusted mortality rates for unintentional injury among AI/AN and NHW in Washington. The mortality rate for unintentional injuries was over two times higher for AI/AN compared to NHW. AI/AN males were about 60% more likely to die from unintentional injuries than females. Among AI/AN in the Northwest region, those living in Washington have the highest rates of unintentional injury deaths.

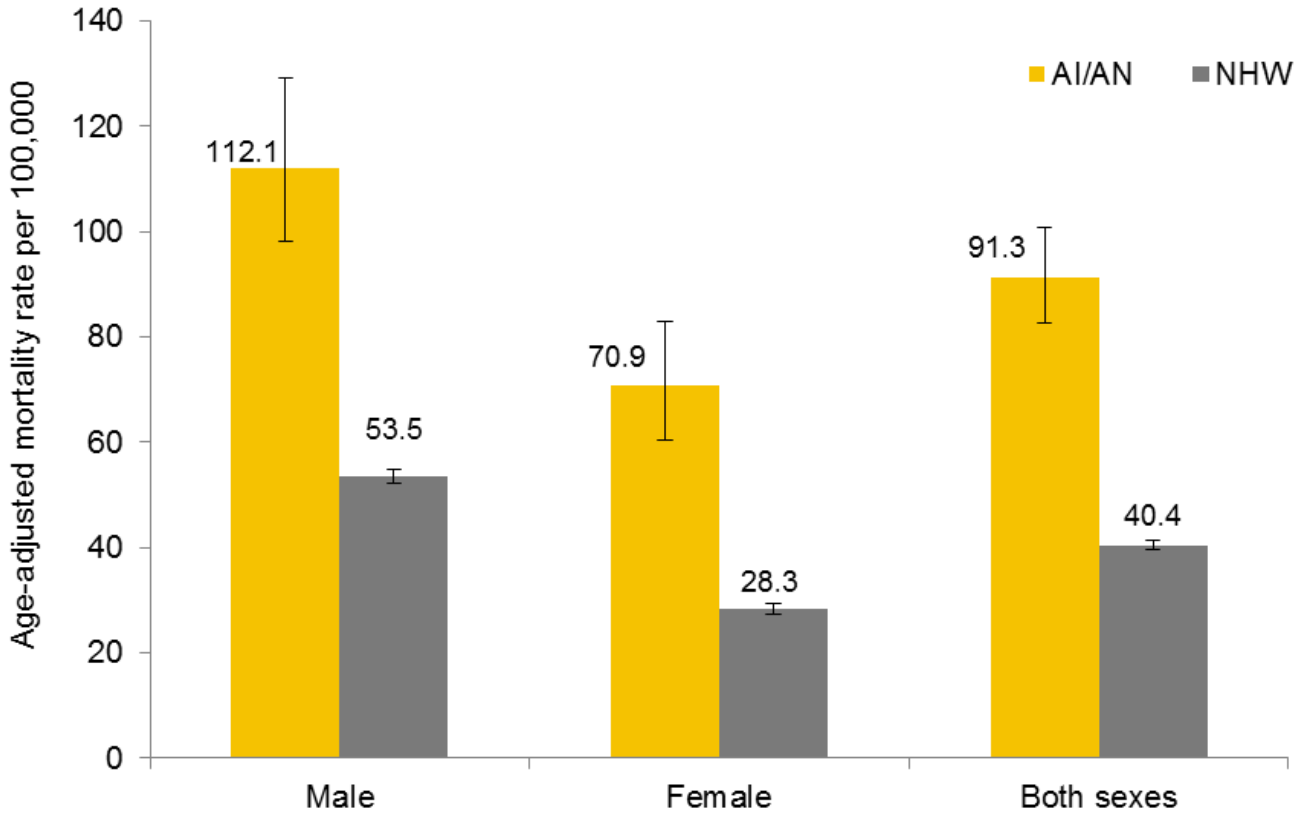
Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Table 7.2: Age-adjusted unintentional injury mortality rates by race and sex, Washington, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	112.1 (98.2, 129.1)	53.5 (52.2, 54.8)	2.1 (1.9, 2.3) ‡
Female	70.9 (60.5, 83.0)	28.3 (27.3, 29.4)	2.5 (2.2, 2.9) ‡
Both Sexes	91.3 (82.7, 100.9)	40.4 (39.6, 41.3)	2.3 (2.1, 2.5) ‡

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

Figure 7.2: Age-adjusted unintentional mortality rates by race and sex, Washington, 2006-2010.

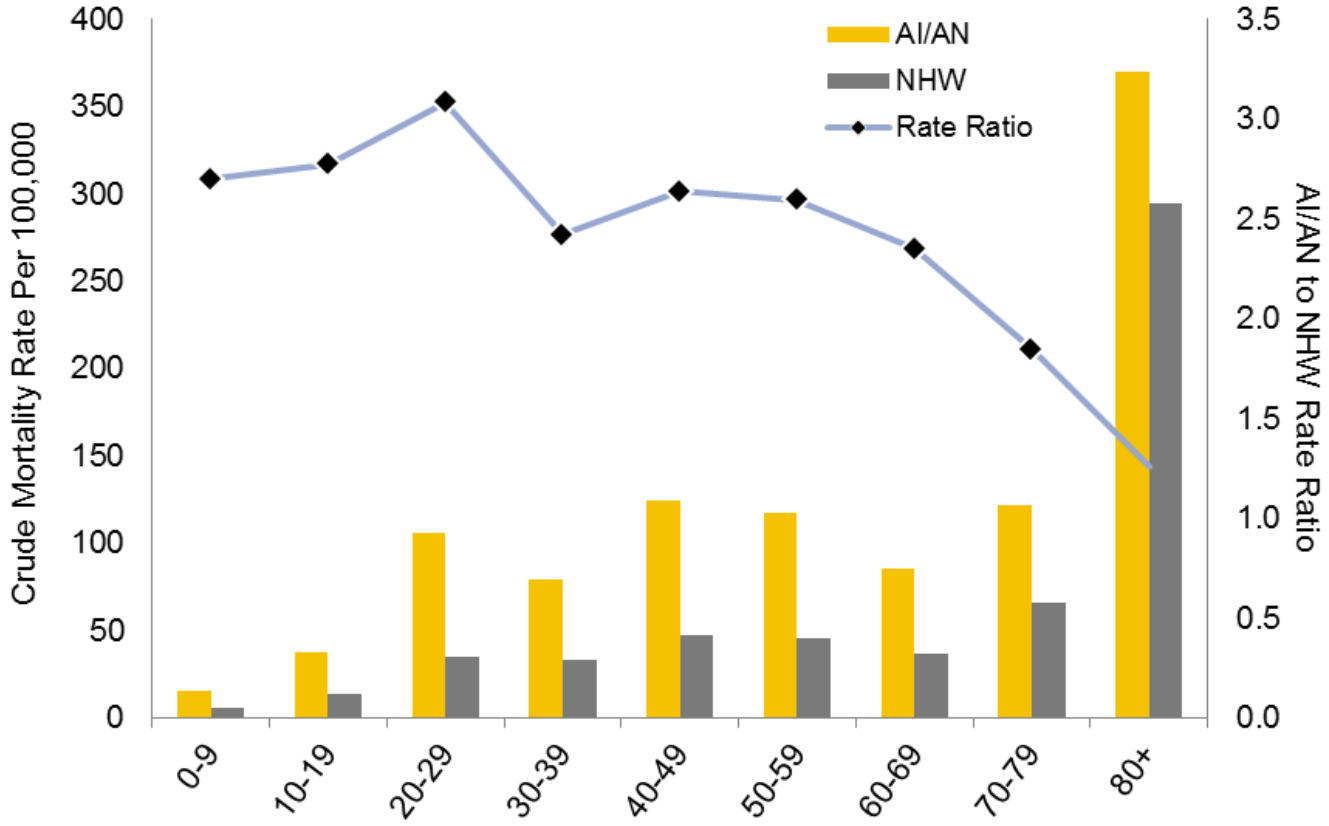


Unintentional Injury Mortality Across the Life Span

Figure 7.3 shows the death rates by age group for AI/AN and NHW (columns), and the rate ratio comparing the two populations (line). The AI/AN at highest risk for unintentional injury deaths were elders 70 and older. The largest disparities occurred in children and young adults, with all age groups under 20 experiencing more than 2.5 times the rate of unintentional injury deaths than their NHW counterparts. AI/AN aged 20-29 had both the highest unintentional injury death rates of any age group and the largest disparity compared to NHW at 3.1 times higher.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Figure 7.3: Age-specific unintentional injury mortality rates by race, Washington, 2006-2010.



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.

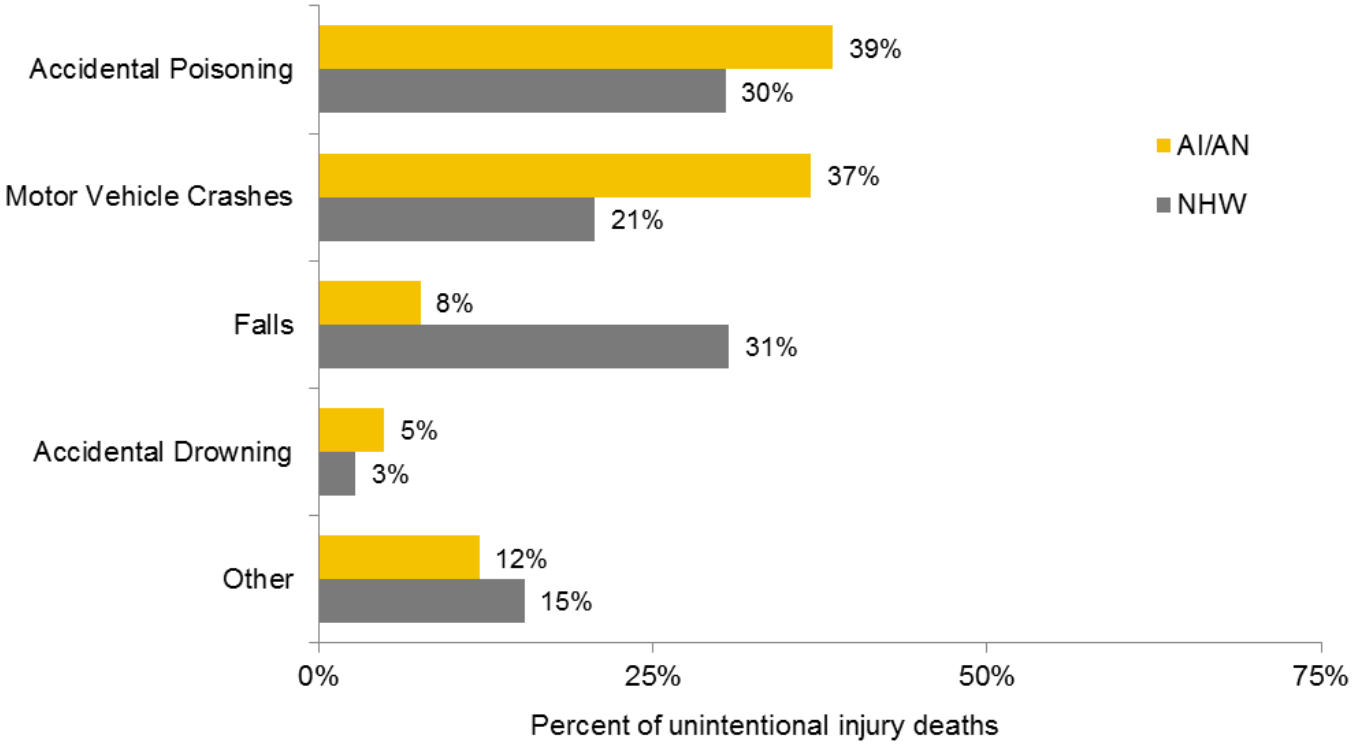
Causes of Unintentional Injury Deaths

For both AI/AN and NHW, the majority of unintentional injury deaths were from accidental poisonings and motor vehicle crashes (MVC). However, these two top causes accounted for about three quarters of all unintentional injury deaths among AI/AN, but only half for NHW (Figure 7.4). The majority of accidental poisoning deaths were due to accidental drug and alcohol overdoses. Poisonings from substances such as gas and vapors, pesticides, household chemicals, and other noxious substances made up less than 2% of poisoning deaths in both AI/AN and NHW.

NHW had a much higher proportion of unintentional injury deaths due to falls than AI/AN. This is possibly related to differences in age at death; AI/AN who died of injuries other than falls tended to be younger, while most deaths from falls among NHW occurred in those eighty years and older.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Figure 7.4: Leading causes of unintentional injury mortality by race, Washington, 2006-2010.



Unintentional Injury Mortality Trends

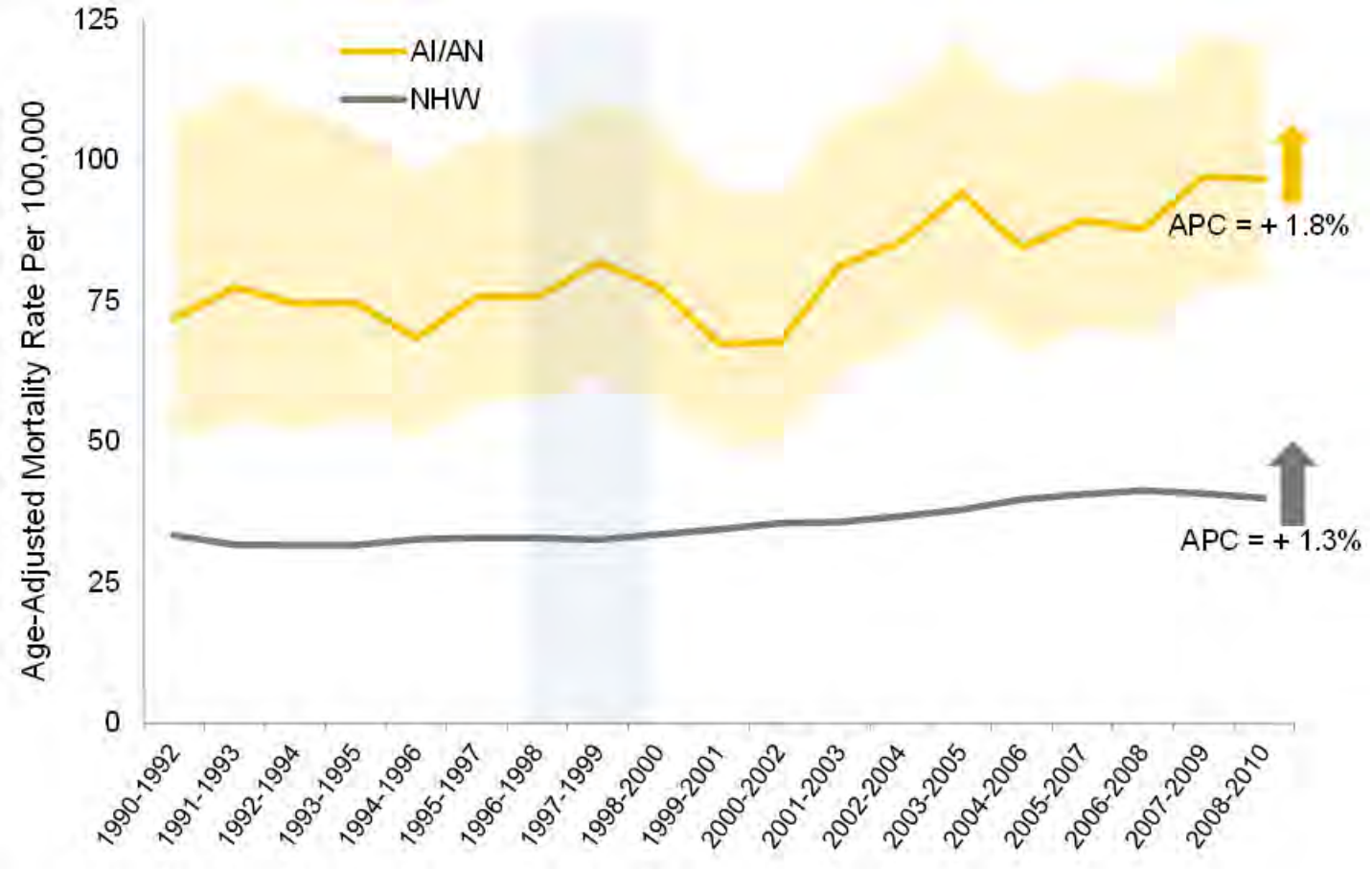
Figure 7.5 shows unintentional injury mortality trends for the AI/AN and NHW population in Washington between 1990 and 2010. The yellow shaded section around the AI/AN line represents a 95% confidence interval band.

AI/AN unintentional injury rates have consistently been higher than NHW rates throughout this time period. Both races saw increases, in particular from 1999 onward. AI/AN rates increased on average by 1.8% per year, and the rate for females increased more rapidly than the rate for male AI/AN. The gap between AI/AN and NHW unintentional injury rates did not change throughout this time period.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: APC = Annual Percentage Change. Cause of death coding on death certificates underwent a change from ICD-9 to ICD-10 between 1998 and 1999. Data shown in the trend charts in this report have not been adjusted to reflect this change. Comparability ratios for the broad categories reported here show that the change did not have a large impact for these statistics, however any abrupt changes between 1998 and 1999 should be interpreted with caution.

Figure 7.5: Age-adjusted unintentional injury mortality rates, three year rolling averages, by race, Washington, 1990-2010.



Note: The shaded rectangle indicates the year cause of death coding changed from ICD-9 to ICD-10. Any abrupt changes between 1998 and 1999 should be interpreted with caution.

Hospitalizations for Homicide

In 2011, 0.7% of AI/AN hospitalizations in Washington were related to homicide (Table 7.3). AI/AN of both sexes had a higher proportion of homicide-related hospitalizations compared to NHW, but the difference was larger for males (1.4% for AI/AN males vs. 0.3% for NHW males). Compared to their NHW counterparts, the age-adjusted hospitalization rates for homicide were 4.8 times higher for AI/AN females and 6.1 times higher for AI/AN males (Figure 7.6). There is considerable uncertainty in these estimates, as demonstrated by the wide confidence intervals around the AI/AN rates.

Data Source: Washington state hospital discharge data (CHARS), 2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

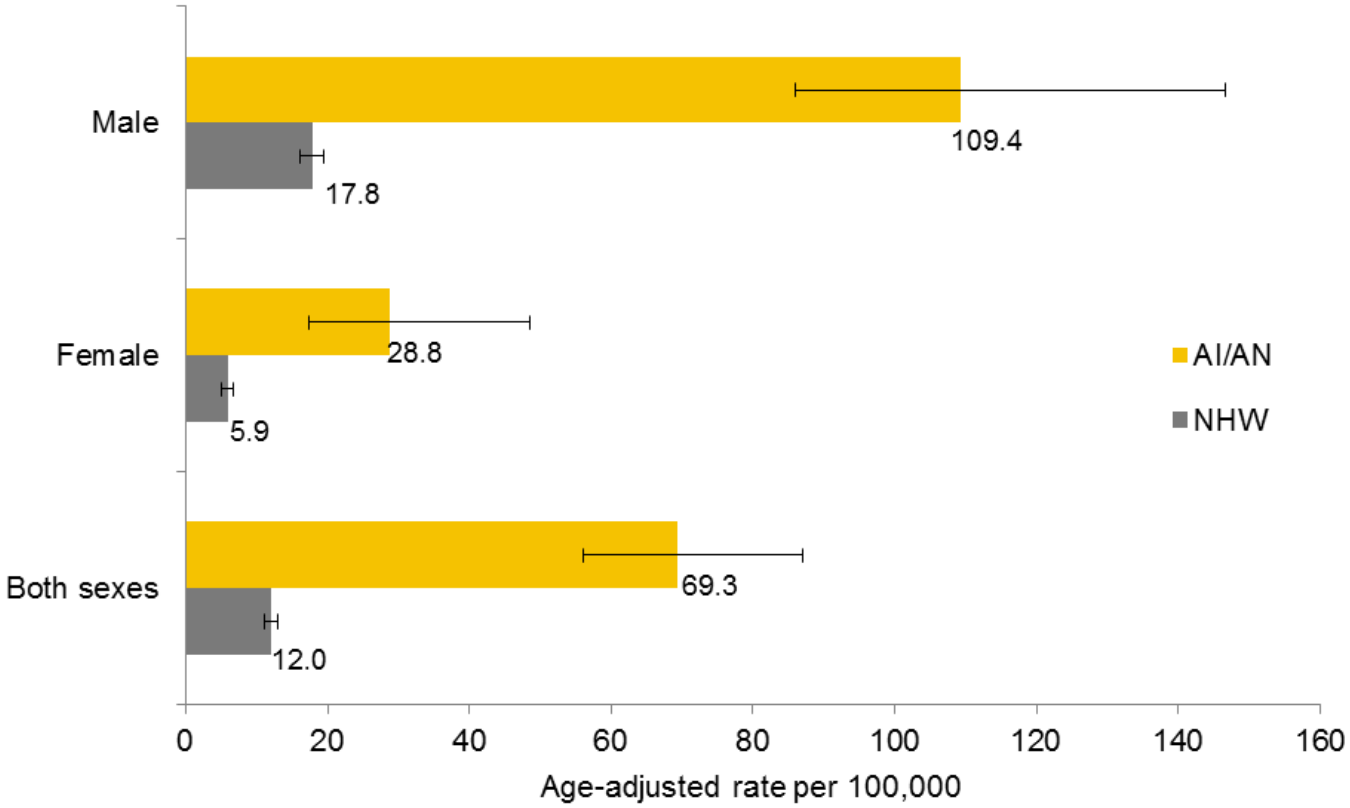
Data Notes: Injury manner and intent were determined using the External Cause of Injury Matrix developed for ICD-9 external cause codes, from the Centers for Disease Control and Prevention (CDC). ("ICD Injury Matrices," 2009)

Table 7.3: Inpatient hospital discharges for homicide by race and sex, Washington, 2011.

Sex	AI/AN N (%)†	NHW N (%)†
Male	82 (1.4%)	445 (0.3%)
Female	20 (0.2%)	148 (0.1%)
Both Sexes	102 (0.7%)	593 (0.2%)

†N = number of inpatient hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (5,731), AI/AN female (8,741), AI/AN total (14,472), NHW male (159,142), NHW female (212,276), NHW Total (371,418)

Figure 7.6: Age-adjusted hospital discharge rates for homicide by race and sex, Washington, 2011.



Mortality from Homicide

Table 7.4 and Figure 7.7 shows the age-adjusted homicide rates among AI/AN and NHW in Washington from 2006-2010. AI/AN males were about twice as likely to die from homicide than AI/AN females, and almost four times as likely to die from homicide than NHW males. The homicide rate for AI/AN was almost four times higher than for NHW. AI/AN in Washington had higher homicide mortality rates than AI/AN in Oregon and Idaho.

It should be noted that, due to small numbers, the rates presented here may be unstable (as seen in the wide confidence intervals). Statistical tests take into account this level of uncertainty, and thus the rate ratio comparisons with NHW shown in Table 7.4 can be interpreted as reflecting a true disparity, while differences in the actual rate estimates alone may not.

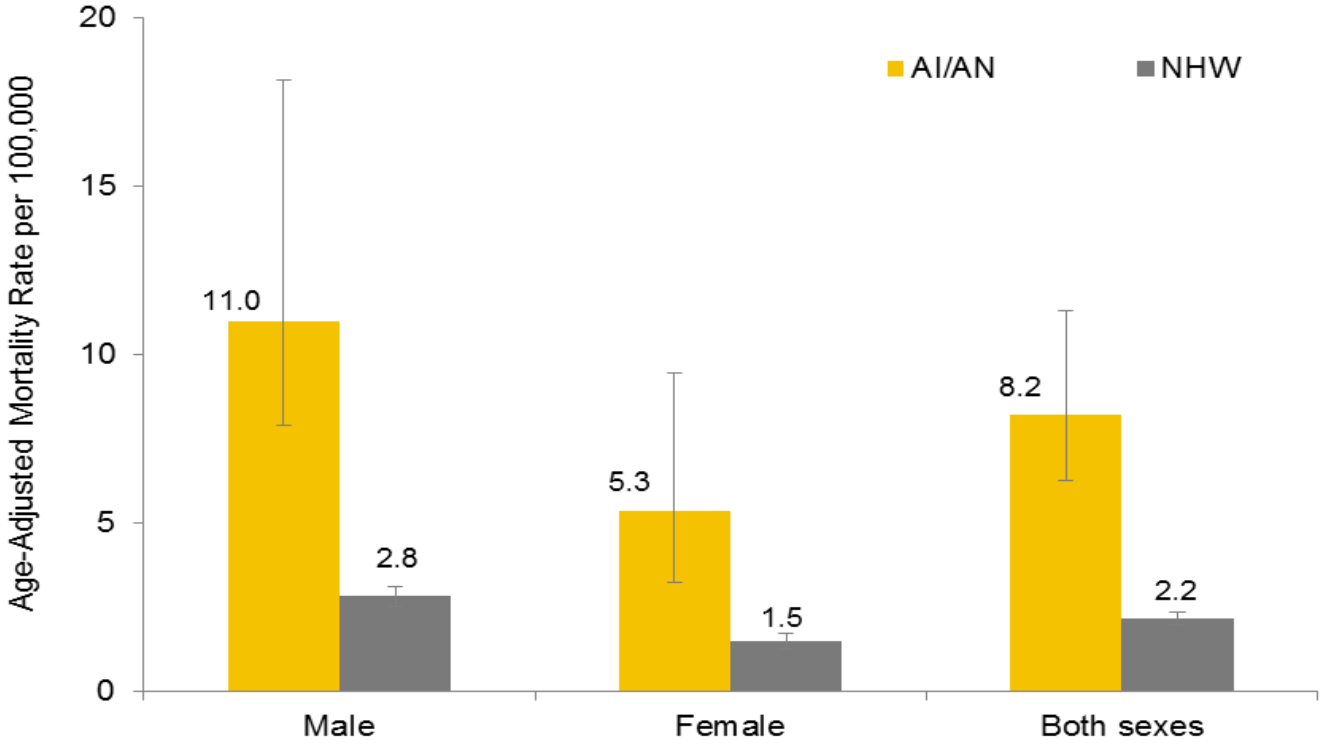
Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Table 7.4: Age-adjusted homicide mortality rates by race and sex, Washington, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	11.0 (7.9, 18.2)	2.8 (2.5, 3.1)	3.89 (2.83, 5.33)‡
Female	5.3 (3.2, 9.4)	1.5 (1.3, 1.7)	3.58 (2.26, 5.68)‡
Both Sexes	8.2 (6.3, 11.3)	2.2 (2.0, 2.4)	3.78 (2.91, 4.91)‡

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

Figure 7.7: Age-adjusted homicide mortality rates by race and sex, Washington, 2006-2010.



Homicide Mortality Trends

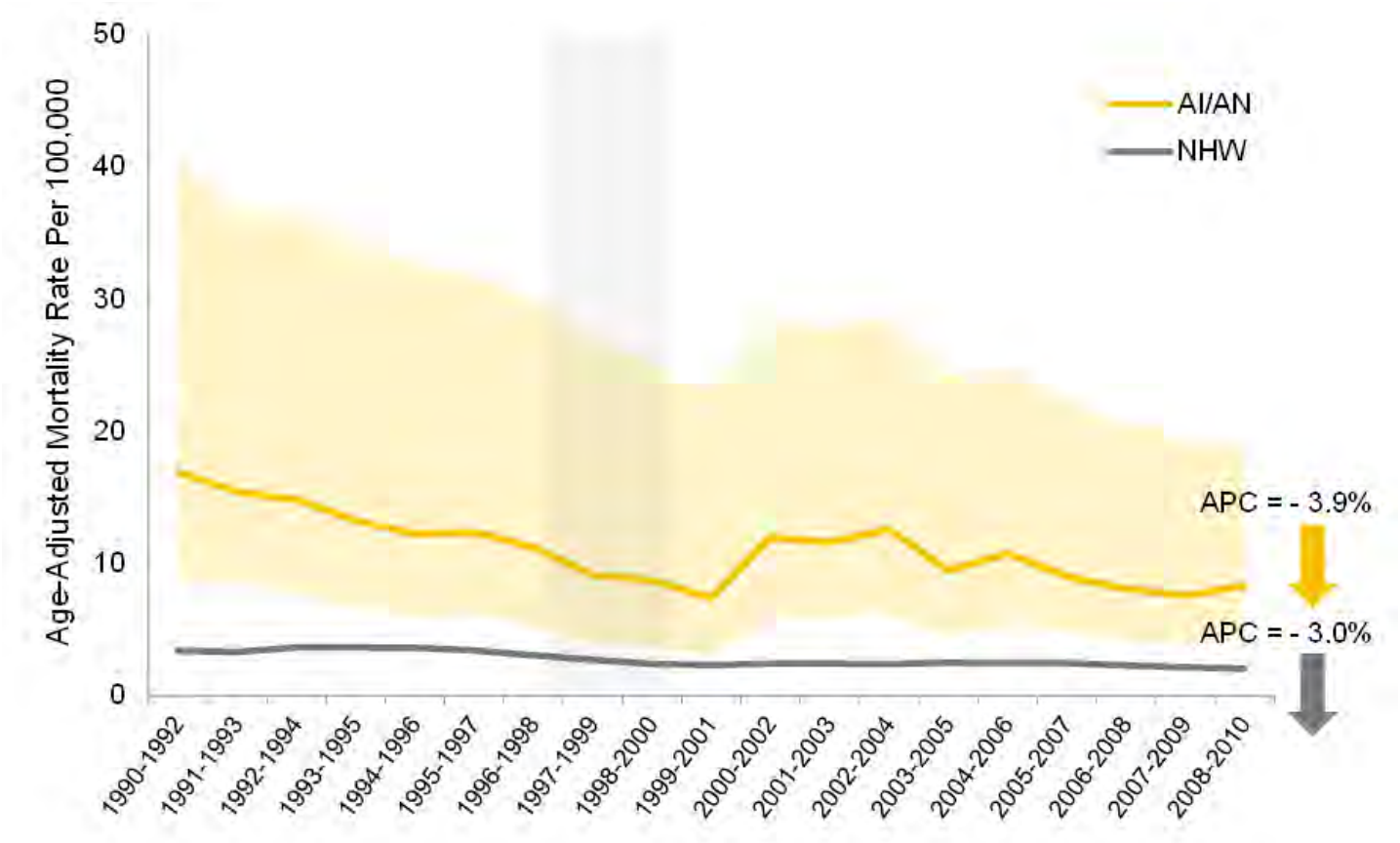
Figure 7.8 shows homicide mortality trends for the AI/AN and NHW population in Washington between 1990 and 2010. The yellow shaded section around the AI/AN line represents a 95% confidence interval band.

AI/AN homicide rates have consistently been higher than NHW rates throughout this time period. AI/AN rates have decreased on average 3.9% per year. NHW homicide rates have also decreased, but not as quickly. As a result, the disparity between the two populations has decreased over the time period. The majority of the AI/AN downward trend occurred between 1990 and 1999, while homicide rates for both races have been steady since 2000.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: APC = Annual Percentage Change. Cause of death coding on death certificates underwent a change from ICD-9 to ICD-10 between 1998 and 1999. Data shown in the trend charts in this report have not been adjusted to reflect this change. Comparability ratios for the broad categories reported here show that the change did not have a large impact for these statistics, however any abrupt changes between 1998 and 1999 should be interpreted with caution.

Figure 7.8: Age-adjusted homicide mortality rates, three year rolling averages, by race, Washington, 1990-2010.



Note: The shaded rectangle indicates the year cause of death coding changed from ICD-9 to ICD-10. Any abrupt changes between 1998 and 1999 should be interpreted with caution.

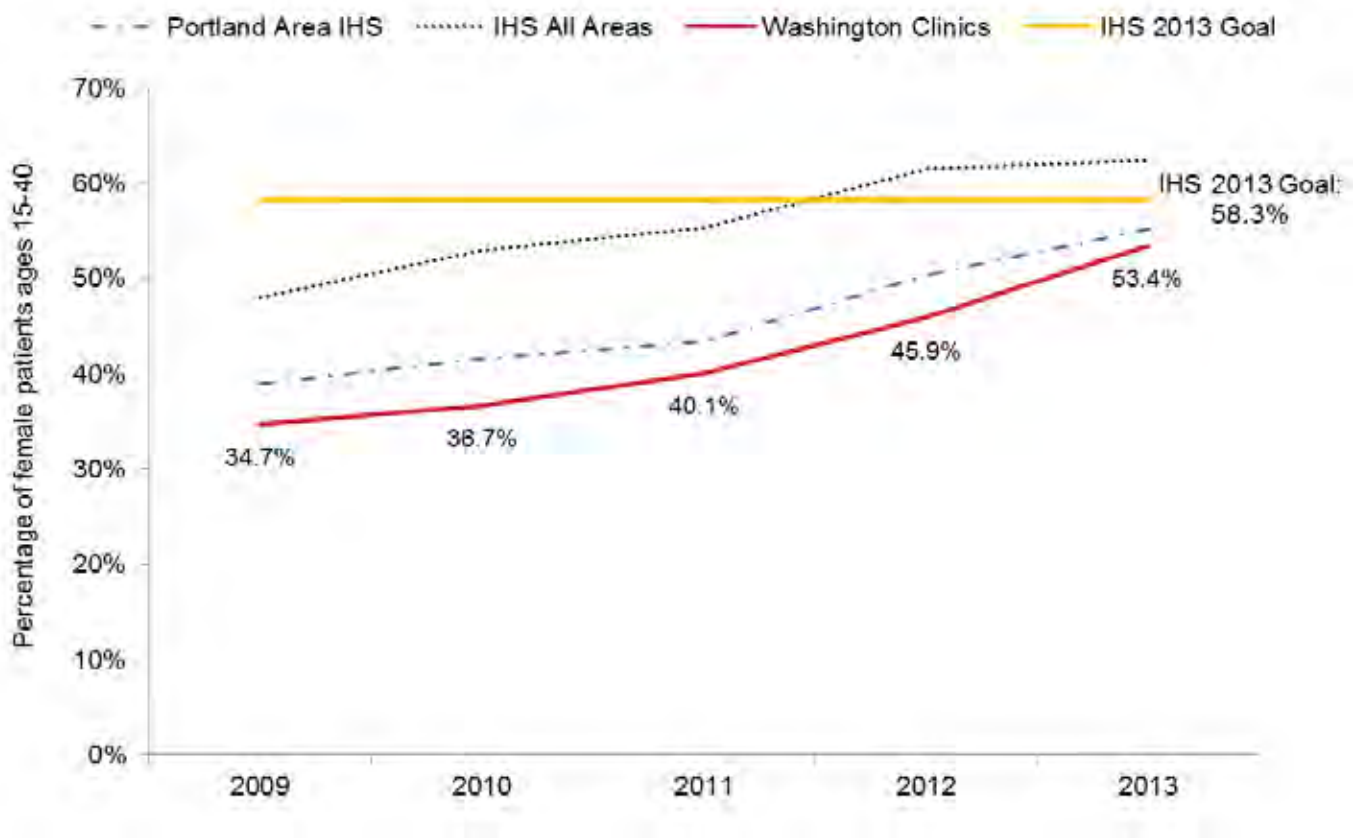
Domestic and Intimate Partner Violence Screening

IHS tracks the percentage of AI/AN female patients ages 15-40 who were screened for domestic or intimate partner violence in the past year. The domestic violence screening rate has steadily increased for Washington clinics, the Portland Area IHS, and the national IHS since 2009 (Figure 7.9). The screening rate for Washington clinics has consistently been lower than the rates for the Portland Area and national IHS. In 2013, the screening rates for Washington clinics and the Portland Area IHS did not meet the 2013 goal of 58.3%.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 7.9: Domestic violence screening rates for IHS female patients, 2009-2013.



Program Spotlight: Injury Prevention Program

The Injury Prevention Program (IPP) works to develop and implement effective injury prevention strategies across the 43 Northwest Tribes. The IPP coordinates a Northwest Tribal Injury Prevention Coalition, whose members represent Northwest tribes, transportation safety organizations, and other key stakeholders. The IPP and Coalition members completed a 5-year Tribal Injury Prevention Plan in 2012, and are now working on implementing injury prevention and education strategies, with an emphasis on motor vehicle safety and elder falls prevention. The IPP also contributes to the collection, analysis and interpretation of injury data. The IPP is funded through a cooperative agreement with the Indian Health Service.

The IPP's goals are to:

- Provide a central location for coordination and dissemination of injury prevention resources and expertise for Northwest tribes.
- Collaborate with Northwest tribes to provide information, technical assistance and training for injury prevention, and to increase IP-related activities at the tribal level.
- Collect and evaluate community-specific data on injuries among American Indians in the Northwest, and support development of reducing injuries in targeted communities.

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8. Mental Health & Suicide

Mental health is closely tied to and affected by our physical, social, and spiritual health. Historical trauma, community violence, family history, and drug or alcohol use can all contribute to poor mental health outcomes. Common mental health conditions include depression, anxiety, panic disorder, attention deficit disorder, and obsessive-compulsive disorder. Patients can manage these conditions with proper treatment from qualified medical providers.

Self-harm and suicide are among the most tragic consequences of mental health illness. Suicide rates for AI/AN are typically highest in early adulthood and decrease with age, while suicide rates in the general population tend to increase with age. In recent data from the CDC, suicide was the second leading cause of death for AI/AN teens and young adults. At the state level, annual suicide rates for AI/AN tend to fluctuate widely because the actual number of deaths each year is relatively small. Data from several years are often compiled to address this challenge.

This section of the report presents data on mental health and suicide in Washington. On the whole, AI/AN in Washington reported higher rates of poor mental health and depression than NHW in the state. Despite reporting relatively high levels of poor mental health, AI/AN men were less likely than NHW men to receive treatment for these conditions. AI/AN had higher hospitalization rates for mental health conditions and suicide than NHW in the state. Suicide is the eighth leading cause of death for AI/AN in Washington.

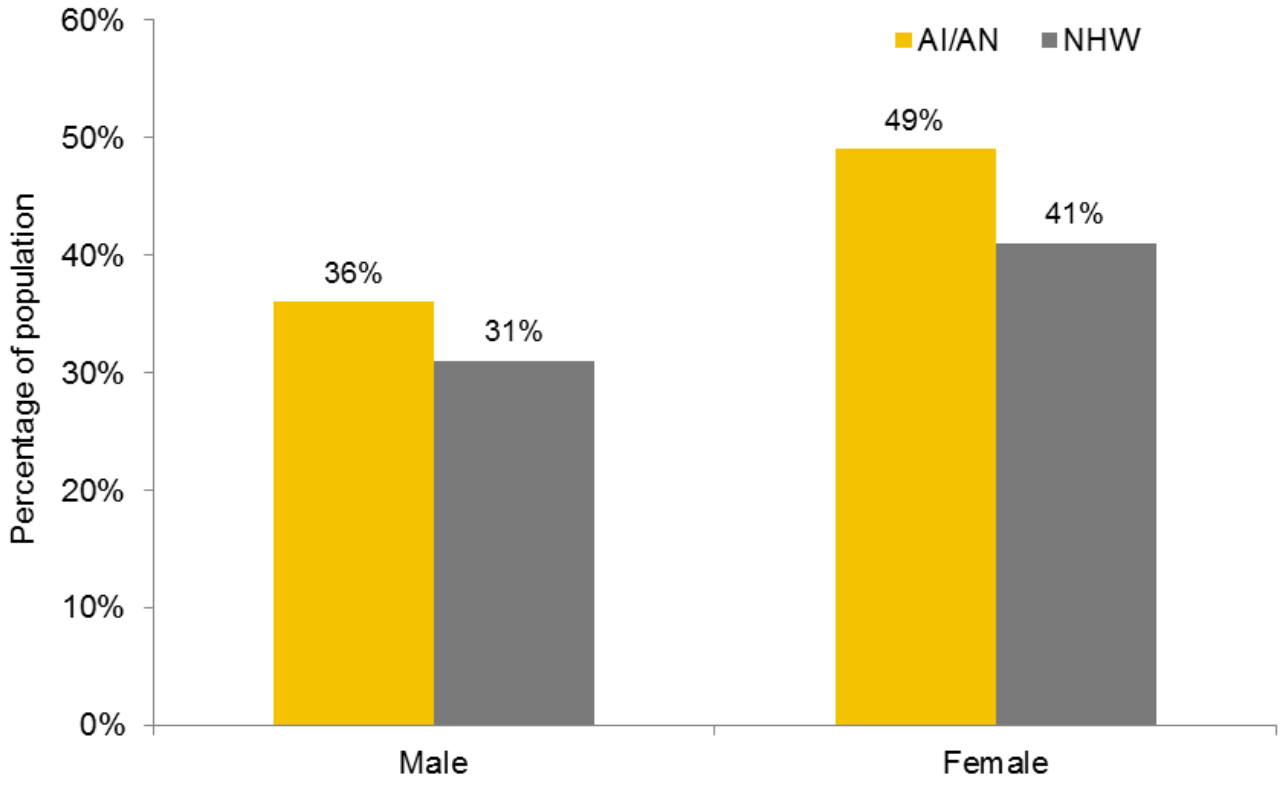
Self-Reported Poor Mental Health or Depression

From 2006-2012, approximately 36% of AI/AN males and 49% of AI/AN females in Washington reported feeling depressed or in poor mental health for one or more days in the past month (Figure 8.1). This percentage was higher than for NHW in the state (31% of NHW males and 41% of NHW females).

Data Source: *CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.*

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

Figure 8.1: Prevalence of self-reported depression or poor mental health in the past month by race and sex, Washington, 2006-2012.



† Sample sizes (n): AI/AN males=783; AI/AN females=1,148; NHW males=49,342; NHW females=77,177.

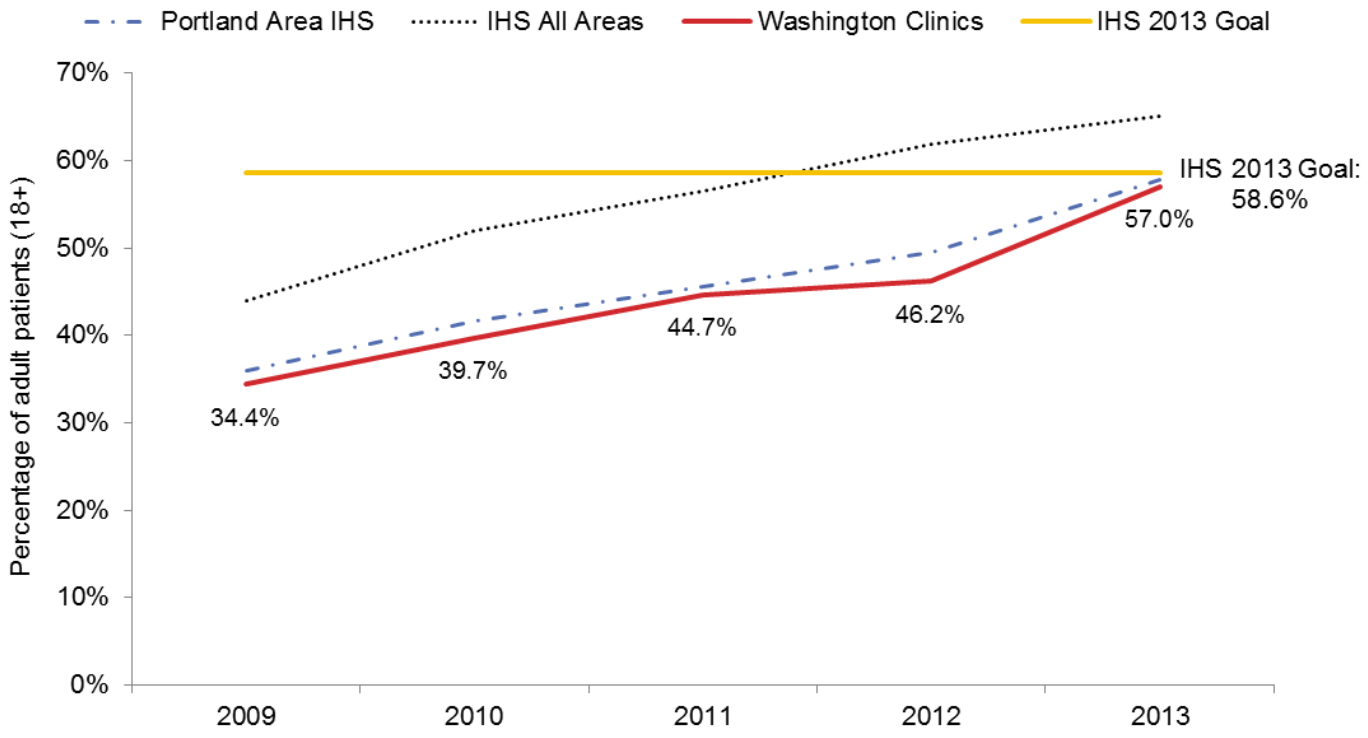
Depression Screening

IHS tracks the percent of AI/AN patients ages 18 years and older who received a depression screening in the past year. Since 2009, the screening rate for depression has increased for Washington clinics, the Portland Area IHS, and the national IHS (Figure 8.2). The national IHS average exceeded the 2013 goal of 58.6%. The screening rate for Washington clinics and the Portland Area IHS were slightly below the 2013 goal for this measure.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 8.2: Percentage of IHS AI/AN patients (ages 18 and older) who were screened for depression during the past year, 2009-2013.



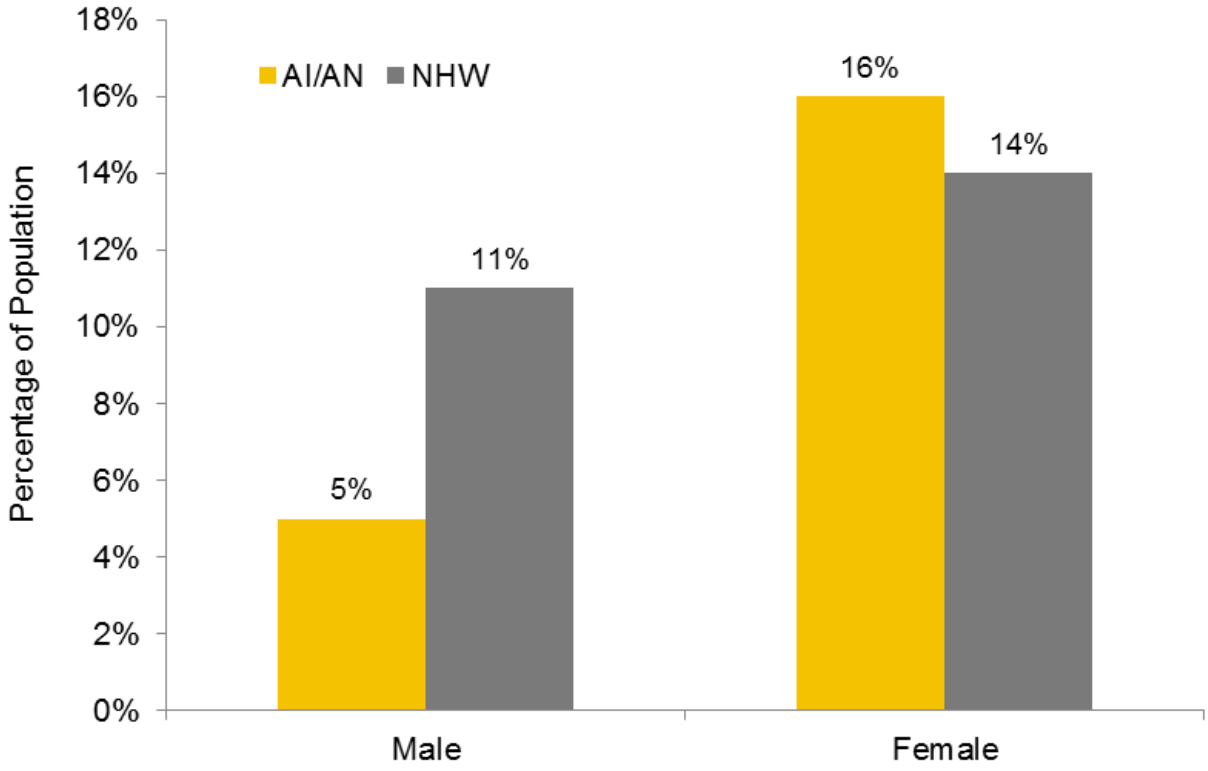
Self-Reported Mental Health Treatment

Despite reporting higher levels of depression and poor mental health than NHW males, only 5% of AI/AN males in Washington reported receiving treatment for a mental health condition or emotional problem in 2012 (Figure 8.3). A higher percentage of AI/AN females (16%) reported receiving mental health treatment when compared to NHW females (14%).

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2012.

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

Figure 8.3: Prevalence of self-reported mental health treatment by race and sex, Washington, 2012.



† Sample sizes (n): AI/AN males=65; AI/AN females=87; NHW males=5,369; NHW females=7,391.

Mental Health Hospitalizations

In 2011, 1.0% of AI/AN hospitalizations in Washington had a mental health disorder as the principal diagnosis (Table 8.1). Males of both races had a higher proportion of mental health hospitalizations than females. The age-adjusted hospital discharge rate for mental health disorders was 2.8 times higher for AI/AN males than NHW males, and 2.4 times higher for AI/AN females than NHW females (Figure 8.4).

Data Source: Washington state hospital discharge data (CHARS), 2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

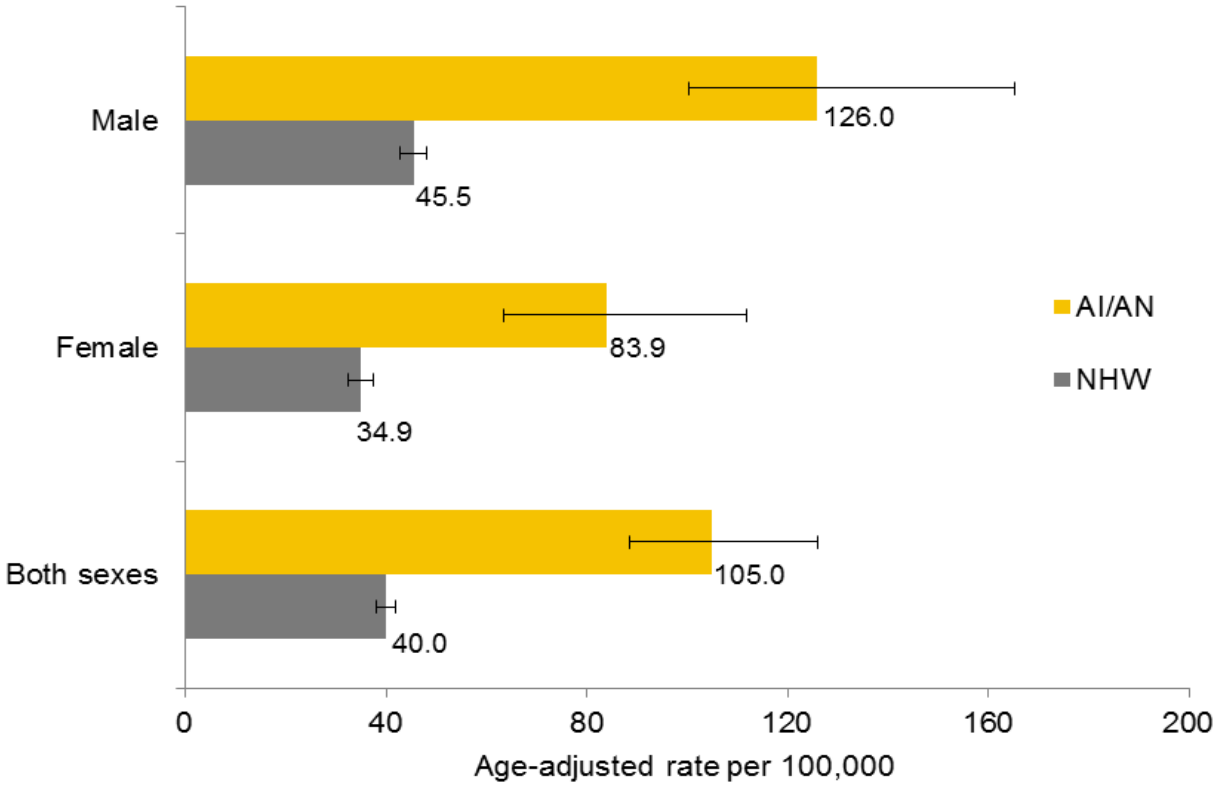
Data Notes: Principal diagnosis codes categorized using the Agency for Healthcare Research and Quality's Clinical Classification Software. The following level-2 principal diagnosis codes were included: 5.1 (adjustment disorders), 5.2 (anxiety disorders), 5.3 (attention deficit, conduct, and disruptive behavior disorders), 5.4 (delirium, dementia, and amnestic and other cognitive disorders), 5.5 (developmental disorders), 5.6 (disorders usually diagnosed in infancy, childhood, or adolescence), 5.7 (impulse control disorders not elsewhere classified), 5.8 (mood disorders), 5.9 (personality disorders), 5.10 (schizophrenia and other psychotic disorders), 5.13 (suicide and intentional self-inflicted injury), and 5.15 (miscellaneous mental disorders).

Table 8.1: Inpatient hospital discharges for mental health disorders by race and sex, Washington, 2011.

Sex	AI/AN N (%)†	NHW N (%)†
Male	90 (1.6%)	1,262 (0.8%)
Female	58 (0.7%)	1,044 (0.5%)
Both Sexes	148 (1.0%)	2,306 (0.6%)

†N = number of inpatient hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (5,731), AI/AN female (8,741), AI/AN total (14,472), NHW male (159,142), NHW female (212,276), NHW Total (371,418)

Figure 8.4: Age-adjusted hospital discharge rates for mental health disorders by race and sex, Washington, 2011.



Suicide Hospitalizations

In 2011, 0.7% of AI/AN hospitalizations in Washington were suicide-related (Table 8.2). This was higher than the percentage of suicide-related hospitalizations for NHW (0.6%). Compared to males, females of both races had a higher proportion of suicide-related hospitalizations and higher age-adjusted hospitalization rates (Figure 8.5). Compared to their NHW counterparts, the suicide hospitalization rate was 66% higher for AI/AN females and 22% higher for AI/AN males.

Data Source: Washington state hospital discharge data (CHARS), 2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

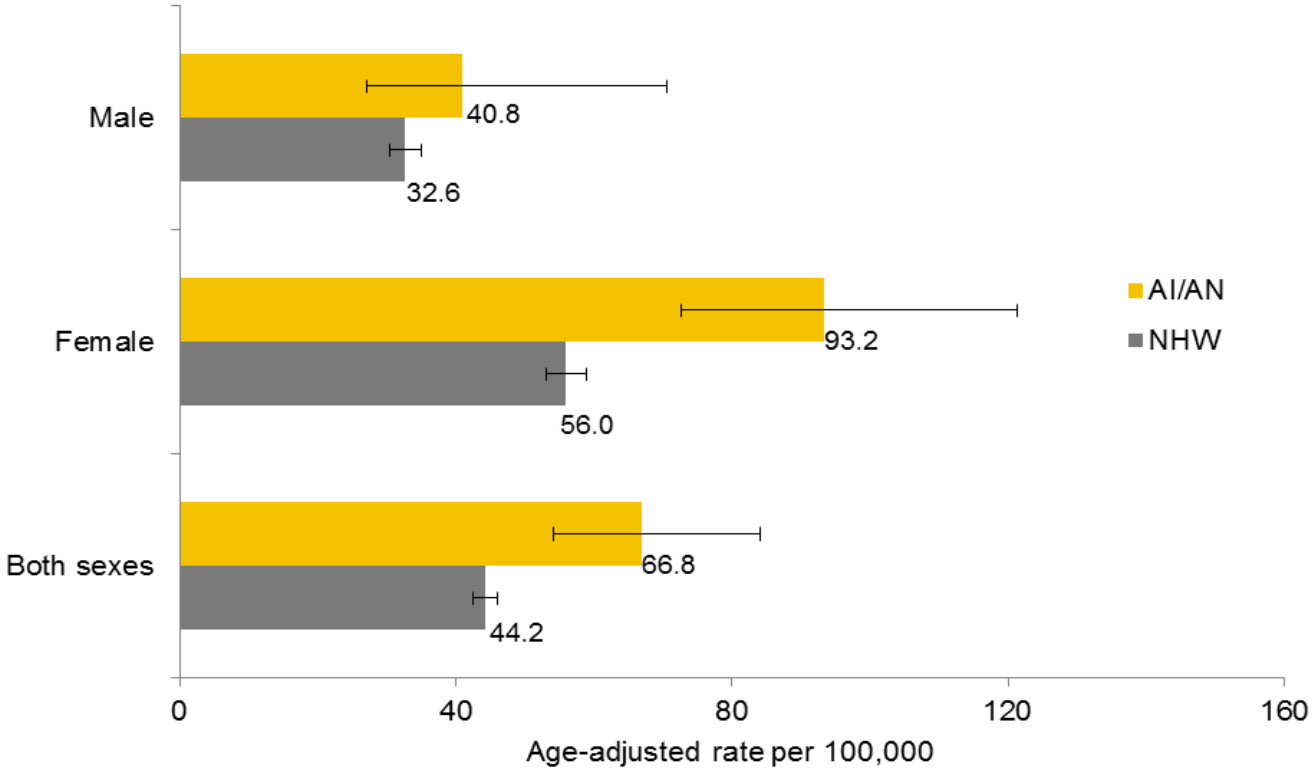
Data Notes: Injury manner and intent were determined using the External Cause of Injury Matrix developed for ICD-9 external cause codes, from the Centers for Disease Control and Prevention (CDC). ("ICD Injury Matrices," 2009)

Table 8.2: Inpatient hospital discharges for suicide by race and sex, Washington, 2011.

Sex	AI/AN N (%)†	NHW N (%)†
Male	29 (0.5%)	816 (0.5%)
Female	71 (0.8%)	1,380 (0.7%)
Both Sexes	100 (0.7%)	2,196 (0.6%)

†N = number of inpatient hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (5,731), AI/AN female (8,741), AI/AN total (14,472), NHW male (159,142), NHW female (212,276), NHW Total (371,418)

Figure 8.5: Age-adjusted hospital discharge rates for suicide by race and sex, Washington, 2011.



Suicide Mortality

Suicide was the eighth leading cause of death among AI/AN in Washington from 2006-2010. AI/AN males and females had higher mortality rates from suicide than their NHW counterparts in the state, and AI/AN males were over two and a half times more likely to die from suicide than females (Table 8.3 and Figure 8.6). While the rates of completed suicides are much higher for males, it should be noted that several studies have found that females are more likely to attempt suicide than males. However, females are less likely to choose a violent mechanism and so are more likely to survive the attempt.[1,2]

AI/AN in Washington have higher mortality rates from suicide compared to AI/AN in Oregon, but have lower rates compared to AI/AN in Idaho.

1. Dorgan BL. The Tragedy of Native American Youth Suicide. Psychological Services 2010;7(3):213-218.

2. Alcantara C, Gone JP. Reviewing Suicide in Native American Communities: Situating Risk and Protective Factors within a Transactional-Ecological Framework. Death Studies 2007;31:457-477.

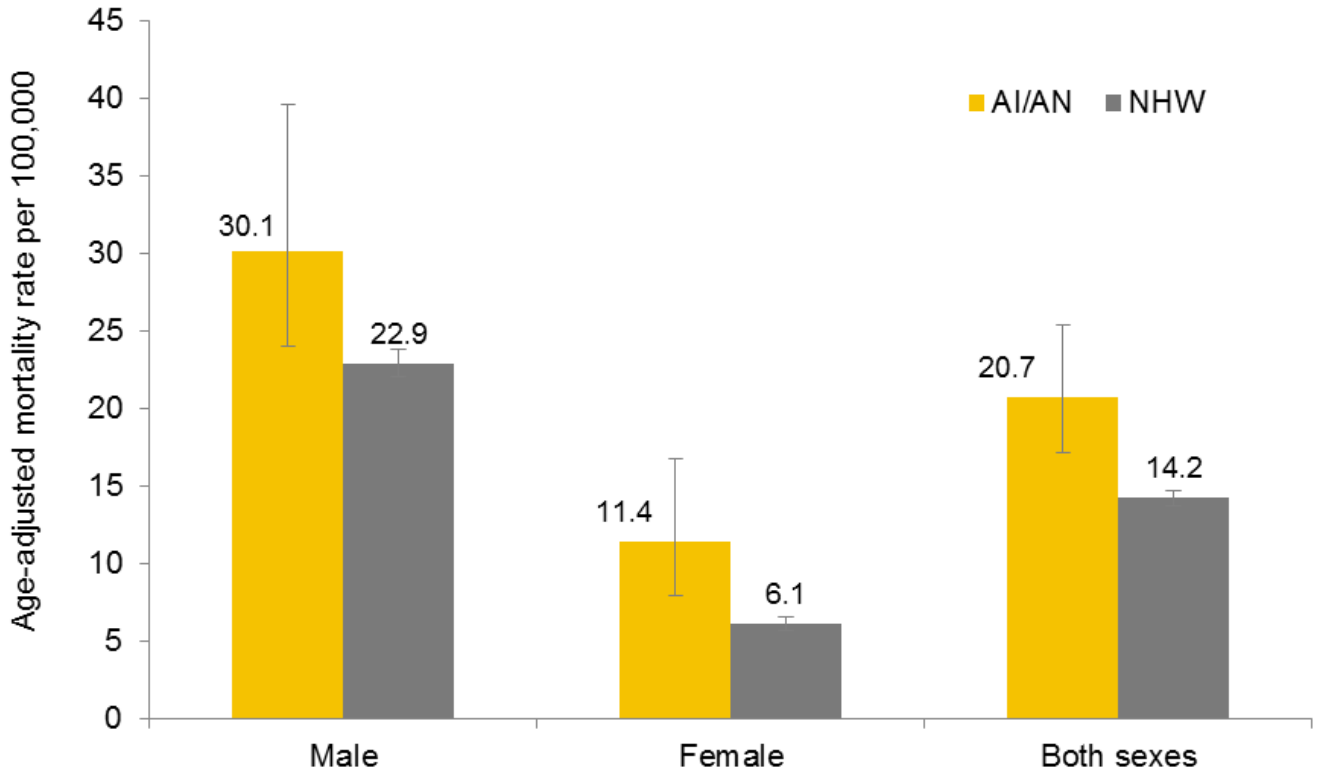
Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Table 8.3: Age-adjusted suicide mortality rates by race and sex, Washington, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	30.1 (24.0, 39.6)	22.9 (22.0, 23.8)	1.31 (1.08, 1.60)‡
Female	11.4 (7.9, 16.7)	6.1 (5.7, 6.6)	1.87 (1.35, 2.57)‡
Both Sexes	20.7 (17.2, 25.3)	14.2 (13.7, 14.7)	1.46 (1.23, 1.72)‡

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

Figure 8.6: Age-adjusted suicide mortality rates by race and sex, Washington, 2011.

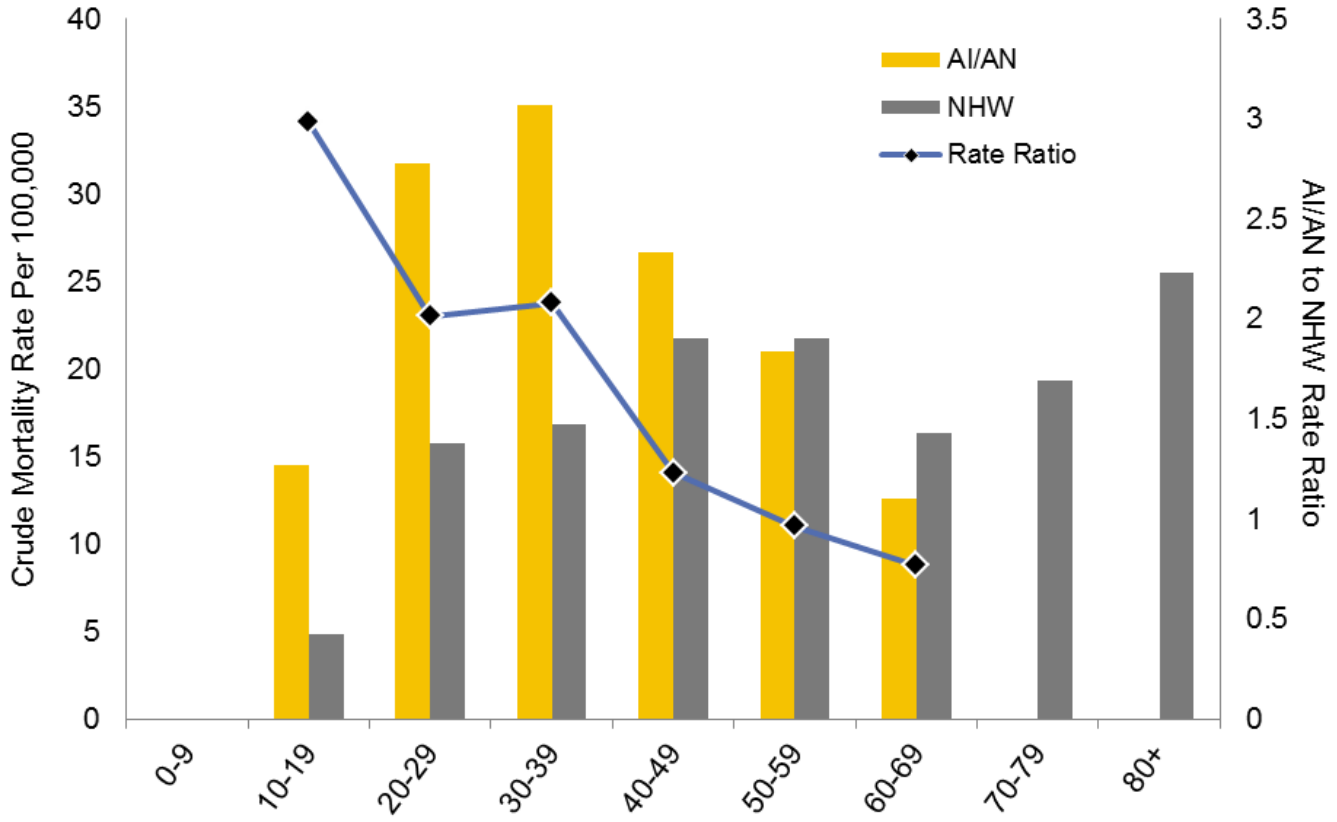


Suicide Mortality Across the Life Span

Figure 8.7 shows age-specific suicide mortality rates (columns) for AI/AN and NHW in Washington from 2006-2010. The line shows the rate ratio comparing the two populations. While the majority of Washington AI/AN suicides occurred between 20 and 39 years of age, the largest disparity between AI/AN and NHW was seen among youth. Rates of suicide among AI/AN 10-19 years old were three times higher than those seen among NHW youth in the same age range.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Figure 8.7: Age-specific suicide mortality rates by race, Washington, 2006-2010.



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.

Suicide Mortality Trends

Figure 8.8 shows suicide mortality trends for the AI/AN and NHW population in Washington between 1990 and 2010. The yellow shaded section around the AI/AN line represents a 95% confidence interval band.

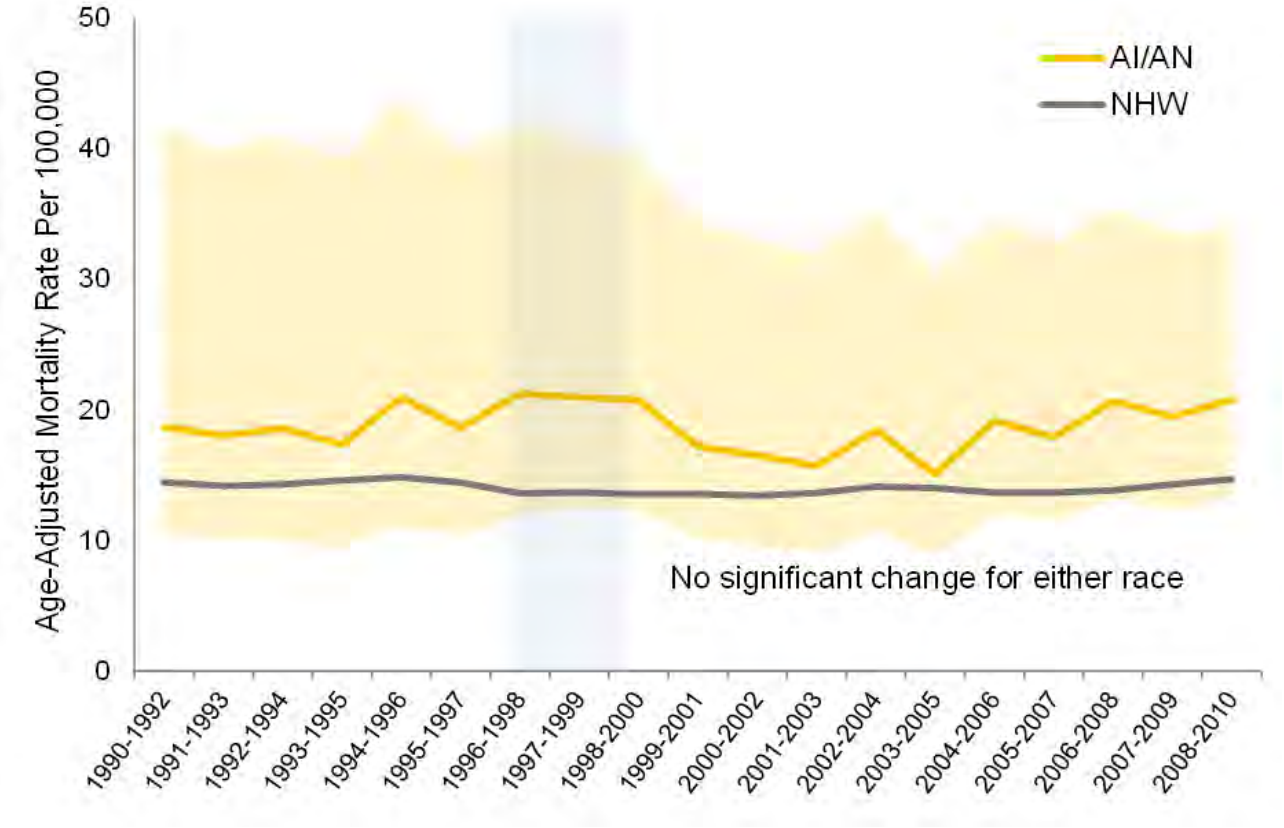
Due to the small number of deaths each year, it is difficult to show a significant difference between the two populations on an annual basis; however, combining multiple years as in Figure 8.6 allows us to confirm that AI/AN suicide rates are in fact higher than NHW.

Suicide rates have remained steady for both races since 1990, and no changes in the disparity occurred. However, recently AI/AN females have shown an increase in suicide rates, with an average increase of 7.5% per year between 1999 and 2010.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: APC = Annual Percentage Change. Cause of death coding on death certificates underwent a change from ICD-9 to ICD-10 between 1998 and 1999. Data shown in the trend charts in this report have not been adjusted to reflect this change. Comparability ratios for the broad categories reported here show that the change did not have a large impact for these statistics, however any abrupt changes between 1998 and 1999 should be interpreted with caution.

Figure 8.8: Age-adjusted suicide mortality rates, three year rolling averages, by race, Washington, 1990-2010.



Note: The shaded rectangle indicates the year cause of death coding changed from ICD-9 to ICD-10. Any abrupt changes between 1998 and 1999 should be interpreted with caution.

Program Spotlight: THRIVE

Tribal Health: Reaching Out InVolves Everyone

Suicide is a sensitive issue, but one that is of great concern to many AI/AN communities. While the data on suicide among Northwest AI/AN is sobering, there are many factors that can protect against suicide, including:

- Connecting to family and friends
- Connecting to culture and spirituality
- Good emotional and physical health
- Positive communication with family or friends
- Restricted access to lethal means
- Access to mental health care
- Problem solving skills

Since 2009, NPAIHB's THRIVE program has assisted Northwest tribes in implementing culturally appropriate suicide prevention programs and media campaigns.

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http://www.npaihb.org/epicenter/project/thrive

THRIVE's activities are directed by three priority goals:

1. Increase knowledge and awareness about suicide among Tribal community members.
2. Improve intertribal and interagency communication about suicide prevention and treatment.
3. Increase the capacity of Tribal health programs to track, prevent, and treat suicide.

THRIVE works with other NPAIHB projects to convene the *NW Native Adolescent Health Alliance,* which is an inclusive, multi-functional group that meets in OR, WA, and ID to discuss cross-cutting planning and prevention strategies targeting AI/AN teens and young adults.

9. Substance Abuse

The abuse of alcohol, use of illicit drugs, and commercial tobacco use are all linked to serious health conditions such as heart disease, cancer, and liver disease. The use of intoxicants also contributes significantly to the incidence of fatal motor vehicle crashes, homicides, suicides, and sexually transmitted diseases, and is associated with many of the country's most serious social problems, including child and spousal abuse, violence, injury, unwanted pregnancy, and homelessness.

According to national data on drug and alcohol use, AI/AN have the highest rates of substance dependence or abuse of all ethnic groups. Almost 15% of AI/AN report substance dependence or abuse, compared to 8.4% of whites.[1] AI/AN communities report high rates of alcohol, tobacco and marijuana use, and methamphetamine abuse has become a significant problem for Northwest tribes. The abuse of prescription medications has also been on the rise and is causing devastating consequences within AI/AN communities.

While over one-quarter of AI/AN in Washington reported no alcohol consumption in the past month, 46% of AI/AN men reported binge drinking. Compared to NHW, a larger percentage of AI/AN in Washington are current smokers. 22% of AI/AN men and 19% of AI/AN women reporting having a childhood experience of living with someone who used illicit drugs or abused prescription drugs. The consequences of substance abuse for AI/AN communities can be seen in hospitalization and mortality data from Washington. AI/AN have higher rates of alcohol and drug-related hospitalizations and deaths than NHW in the state. Drug and alcohol-associated deaths accounted for 31.3% of all deaths among Washington AI/AN from 2006-2010.

This section gives an overview of substance-related data for AI/AN in Washington State, including self-reported use, childhood experiences of substance use, and hospitalization and mortality rates due to alcohol and drug overdose.

1. Substance Abuse and Mental Health Services Administration, Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings, NSDUH Series H-48, HHS Publication No. (SMA) 14-4863. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2014.

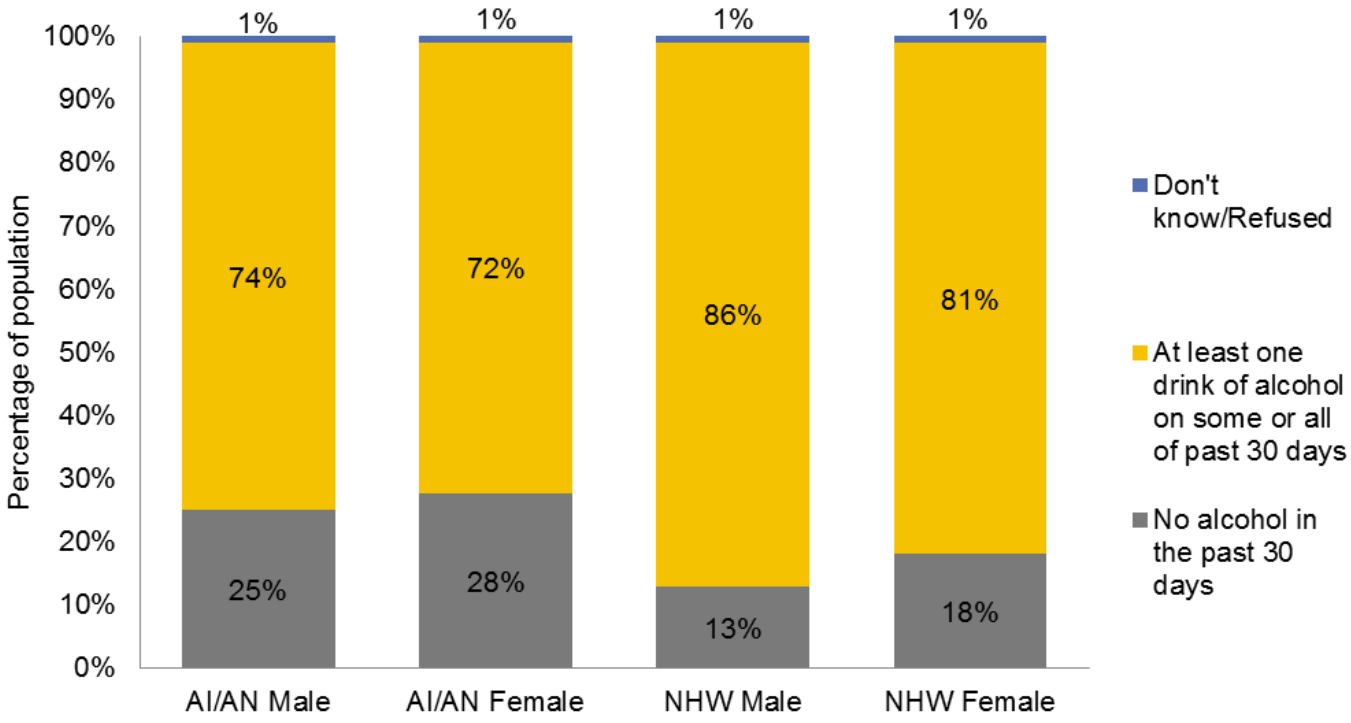
Self-Reported Alcohol Consumption

From 2006-2012, 74% of AI/AN males and 72% of AI/AN females in Washington reported having at least one alcoholic drink in the past 30 days (Figure 9.1). Over 25% of AI/AN adults in the state reported no alcohol consumption in the past 30 days, compared to 13% of NHW males and 18% of NHW females.

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

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

Figure 9.1: Prevalence of self-reported alcohol consumption by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=458; AI/AN females=577; NHW males=35,445; NHW females=48,198.

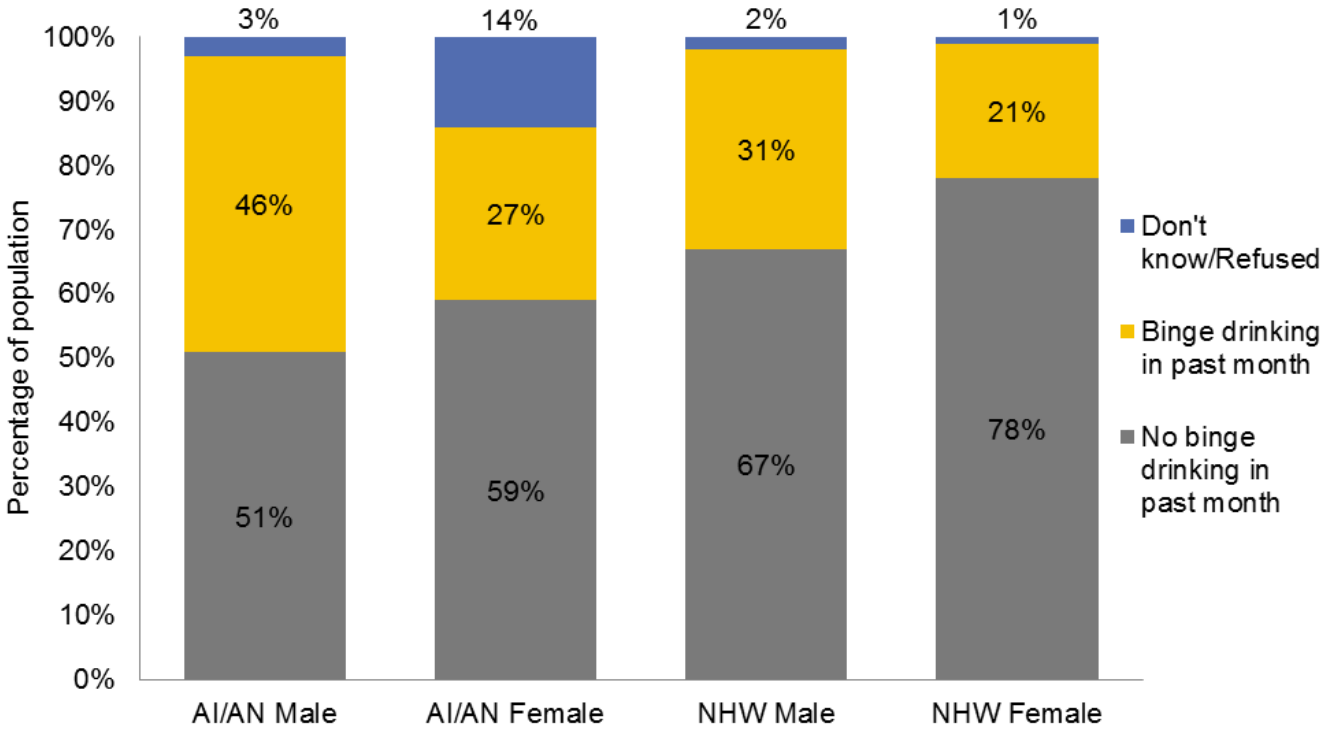
Self-Reported Binge Drinking

Figure 9.2 shows the percentage of Washington AI/AN and NHW who reported binge drinking in the past month. From 2006-2012, 46% of AI/AN males reported binge drinking in the past month. This percentage was higher than NHW males in Washington (31%). AI/AN females were also more likely to binge drink than their NHW counterparts (27% vs. 21%). About 14% of AI/AN females either did not know or refused to answer this question.

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

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

Figure 9.2: Prevalence of self-reported binge drinking by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=388; AI/AN females=473; NHW males=31,588; NHW females=41,083.

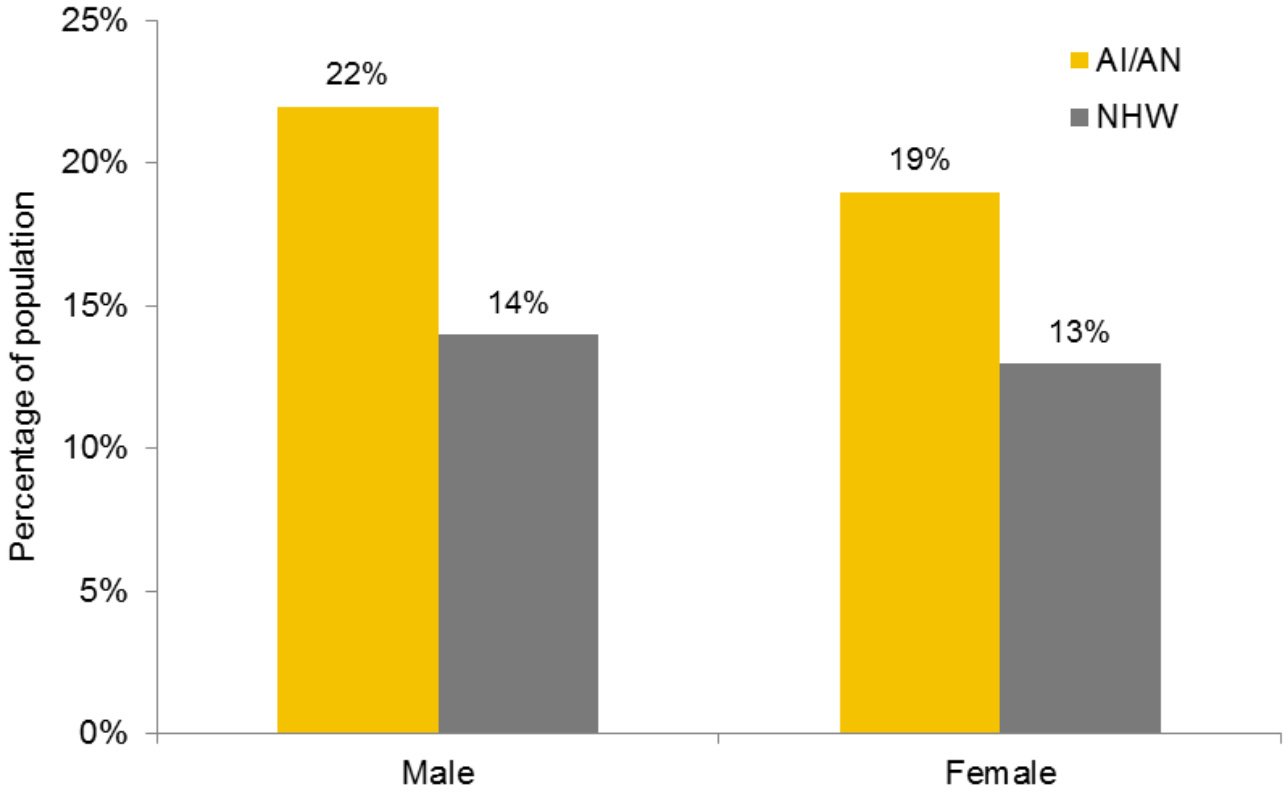
Childhood Experience of Living with Someone who Used or Abused Drugs

Figure 9.3 shows the percentage of Washington AI/AN and NHW with a childhood experience of living with someone who used illegal street drugs or abused prescription drugs. In 2011, 22% of AI/AN males reported being exposed to drug use/abuse as a child. This was higher than the percentage of AI/AN females who reported having this experience as a child (19%). Among NHW, 14% of males and 13% of females had childhood exposure to drug use/abuse.

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2011.

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

Figure 9.3: Childhood exposure to an environment where drugs were used/abused, by race and sex, Washington, 2011.



Sample sizes (n): AI/AN males=61; AI/AN females=99; NHW males=4,885; NHW females=7,418.

Hospitalizations Related to Alcohol and Substance Abuse

In 2011, 0.5% of AI/AN hospitalizations had a principal diagnosis related to an alcohol or substance abuse disorder (Table 9.1). Compared to NHW, alcohol or substance abuse accounted for a larger proportion of hospitalizations among AI/AN, with the largest difference for males (0.8% vs. 0.3%). Compared to their NHW counterparts, the age-adjusted hospitalization rate for alcohol and substance abuse disorders was 3.8 times higher for AI/AN males and 2.6 times higher for AI/AN females (Figure 9.4). There is considerable uncertainty in these estimates, as demonstrated by the wide confidence intervals around the AI/AN rates.

Data Source: Washington state hospital discharge data (CHARS), 2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

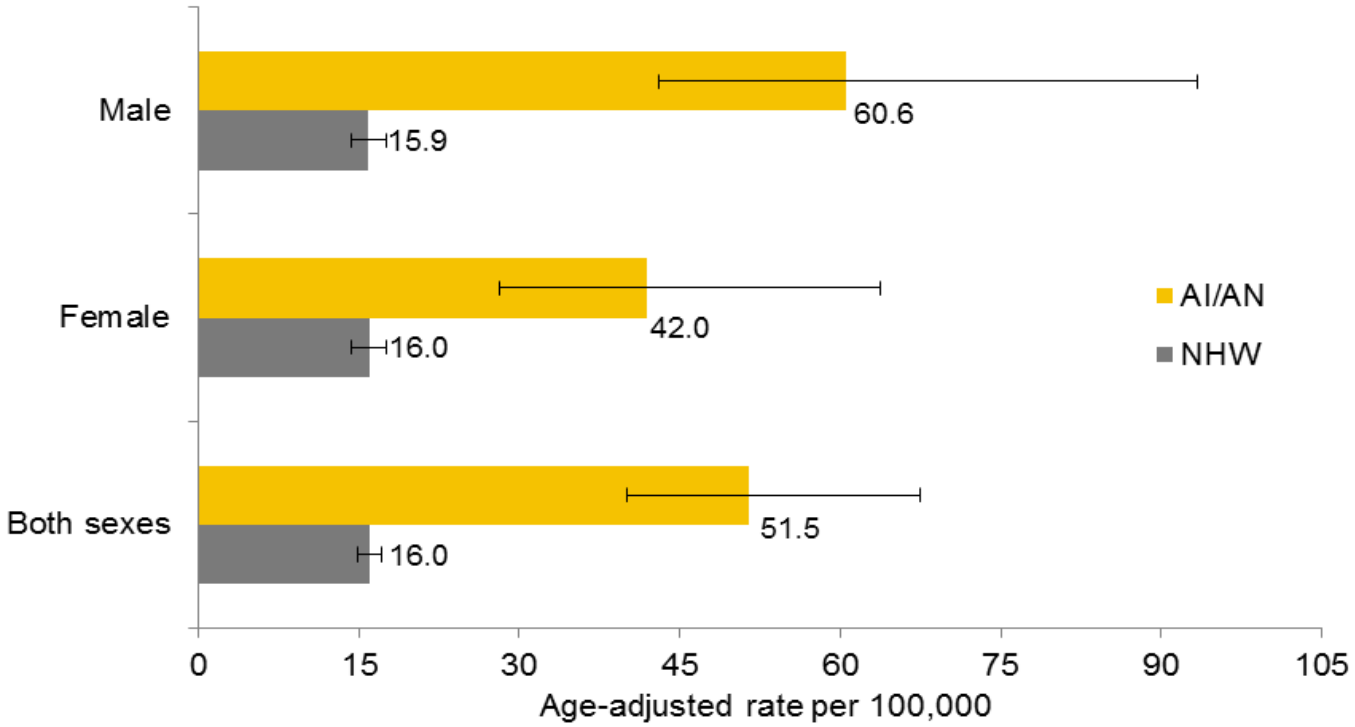
Data Notes: Principal diagnosis codes categorized using the Agency for Healthcare Research and Quality's Clinical Classification Software. The following level-2 principal diagnosis codes were included: 5.11 (alcohol-related disorders), and 5.12 (substance-related disorders).

Table 9.1: Inpatient hospital discharges for alcohol and substance abuse disorders by race and sex, Washington, 2011.

Sex	AI/AN N (%)†	NHW N (%)†
Male	44 (0.8%)	422 (0.3%)
Female	30 (0.3%)	448 (0.2%)
Both Sexes	74 (0.5%)	870 (0.2%)

†N = number of inpatient hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (5,731), AI/AN female (8,741), AI/AN total (14,472), NHW male (159,142), NHW female (212,276), NHW Total (371,418)

Figure 9.4: Age-adjusted hospital discharge rates for alcohol and substance abuse disorders by race and sex, Washington, 2011.



Accidental Poisonings & Overdose Mortality

Accidental poisoning was the leading cause of AI/AN unintentional injury deaths in Washington from 2006-2010. The majority of accidental poisoning deaths were due to accidental drug and alcohol overdoses. Poisonings from substances such as gas and vapors, pesticides, household chemicals, and other noxious substances made up less than 2% of poisoning deaths in both AI/AN and NHW.

Table 9.2 and Figure 9.5 show the age-adjusted mortality rates for accidental poisoning among AI/AN and NHW in Washington. AI/AN males were about 30% more likely than females to suffer an accidental poisoning death. Compared to NHW, accidental poisoning mortality rates were 2.5 times higher for AI/AN in Washington. Washington AI/AN had higher rates of accidental poisoning deaths than AI/AN in Idaho and Oregon.

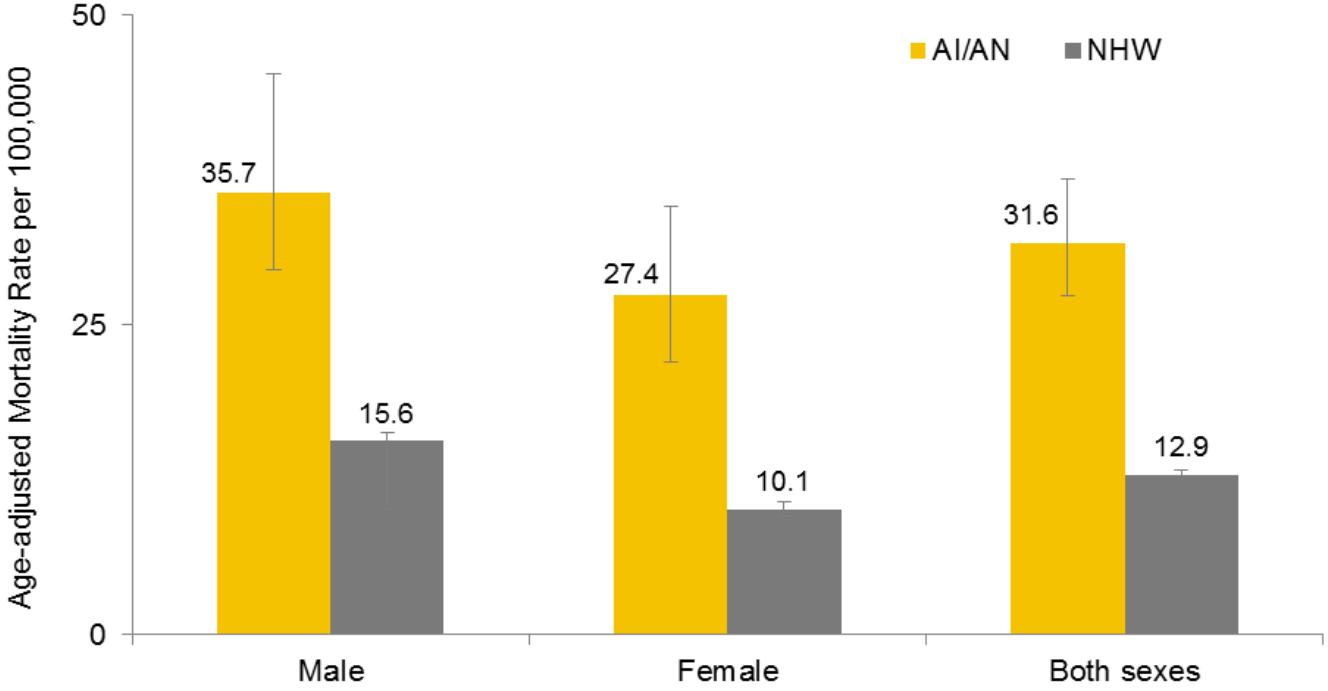
Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Table 9.2: Age-adjusted accidental poisoning mortality rates by race and sex, Washington, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	35.7 (29.5, 45.2)	15.6 (14.9, 16.3)	2.3 (1.9, 2.7) ‡
Female	27.4 (22.0, 34.6)	10.1 (9.5, 10.7)	2.7 (2.2, 3.4) ‡
Both Sexes	31.6 (27.4, 36.8)	12.9 (12.4, 13.3)	2.5 (2.1, 2.8) ‡

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

Figure 9.5: Age-adjusted accidental poisoning mortality rates by race and sex, Washington, 2006-2010.

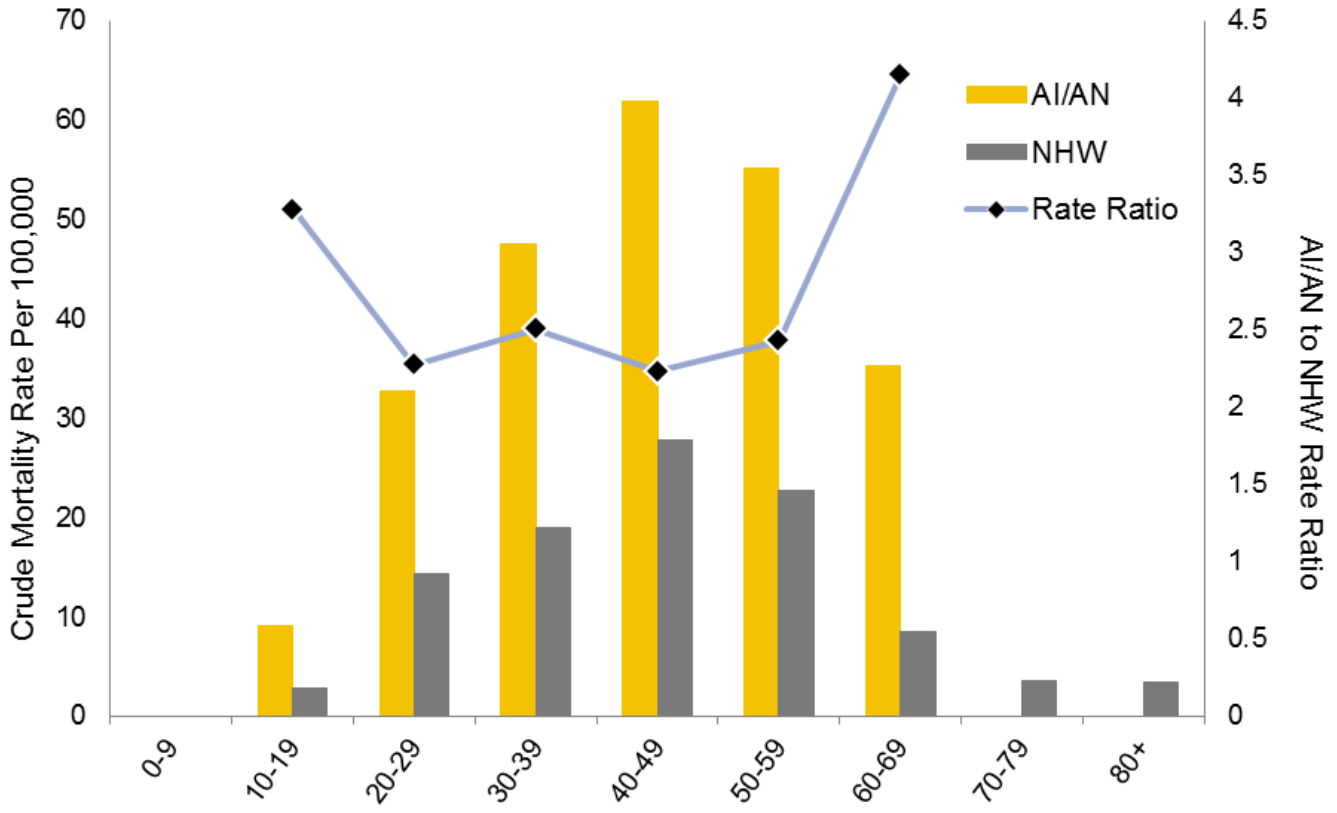


Accidental Poisoning Mortality Across the Life Span

Figure 9.6 shows age-specific mortality rates by race for accidental poisonings in Washington. The columns show the age-specific mortality rates for AI/AN and NHW, and the line shows the rate ratio comparing the two populations. Middle aged AI/AN (30-59) had the highest rates of accidental poisoning deaths. However, the age groups with the highest disparity compared to NHW were children ages 10-19 and elders ages 60-69. AI/AN children were 3.3 times more likely to die from accidental poisoning. The disparity was even larger for AI/AN elders, with AI/AN 4.2 times more likely to die from accidental poisoning than NHW ages 60-69. The most common type of poisoning for both the younger and older groups was overdose by narcotics and hallucinogens.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Figure 9.6: Age-specific accidental poisoning mortality rates by race, Washington, 2006-2010.



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.

Types of Drug & Alcohol Overdose Deaths

Table 9.3 summarizes the types of drug and alcohol overdose deaths seen among Washington AI/AN and NHW. These data include deaths where drugs or alcohol were a contributing cause or underlying cause of death. For example, a death with an underlying cause of motor vehicle crash may have had alcohol as a contributing factor - this would be included in the “alcohol associated deaths” category. Note that “drug associated” and “alcohol associated” include deaths from short term and long term substance use, but exclude drug deaths related to medical errors or allergic reactions.

Five percent of all AI/AN deaths in Washington had drug overdose as the underlying cause of death. Drug and alcohol associated deaths accounted for 31.3% of all deaths among Washington AI/AN from 2006-2010. These percentages were higher than the percentage of NHW deaths that had drugs or alcohol as an underlying or contributing cause of death.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Data Notes: Note that columns do not add up due to multiple drugs contributing to a single death and cross-over in the definitions.

Table 9.3: Types of drug and alcohol overdose deaths by race, Washington, 2006-2010.

	AI/AN		NHW	
	N	% of all deaths	N	% of all deaths
Drug OD deaths (underlying only)[1]	226	5.0%	4,040	1.9%
Drug associated deaths[2]	249	5.5%	4,468	2.1%
Prescription drugs contributing[3]	175	3.9%	3,330	1.6%
Prescription OPR contributing[4]	134	2.9%	2,435	1.1%
Illicit drugs contributing[5]	91	2.0%	1,126	0.5%
Alcohol associated deaths[6]	1,299	28.6%	46,016	21.6%
Total drug & alcohol associated	1,424	31.3%	48,467	22.8%
Total deaths	4,543	100.0%	212,611	100.0%

1	Underlying COD X40--X44, X60--X64, X85, or Y10--Y14
2	Underlying or Contributing COD X40--X44, X60--X64, X85, Y10--Y14. F11.0-F19.9, R78.1-R78.5, T36- T39, T40.1 -T40.9, T41.0-T43.9, T44.0-T50.9
3	Contributing COD T36--T39, T40.2--T40.4, T41--T43.5, and T43.7--T50.8, any underlying COD
4	Contributing COD T40.2--T40.4, any underlying COD
5	Contributing COD T40.1, T40.5, T40.7--T40.9, and T43.6, any underlying COD
6	Underlying or Contributing COD—F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K85.2, K86.0, R78.0, X45, X65, E24.4, Y15

n = number, OD = Overdose, OPR = Opioid Pain Reliever, COD = Cause of Death

Accidental Poisoning Mortality Trends

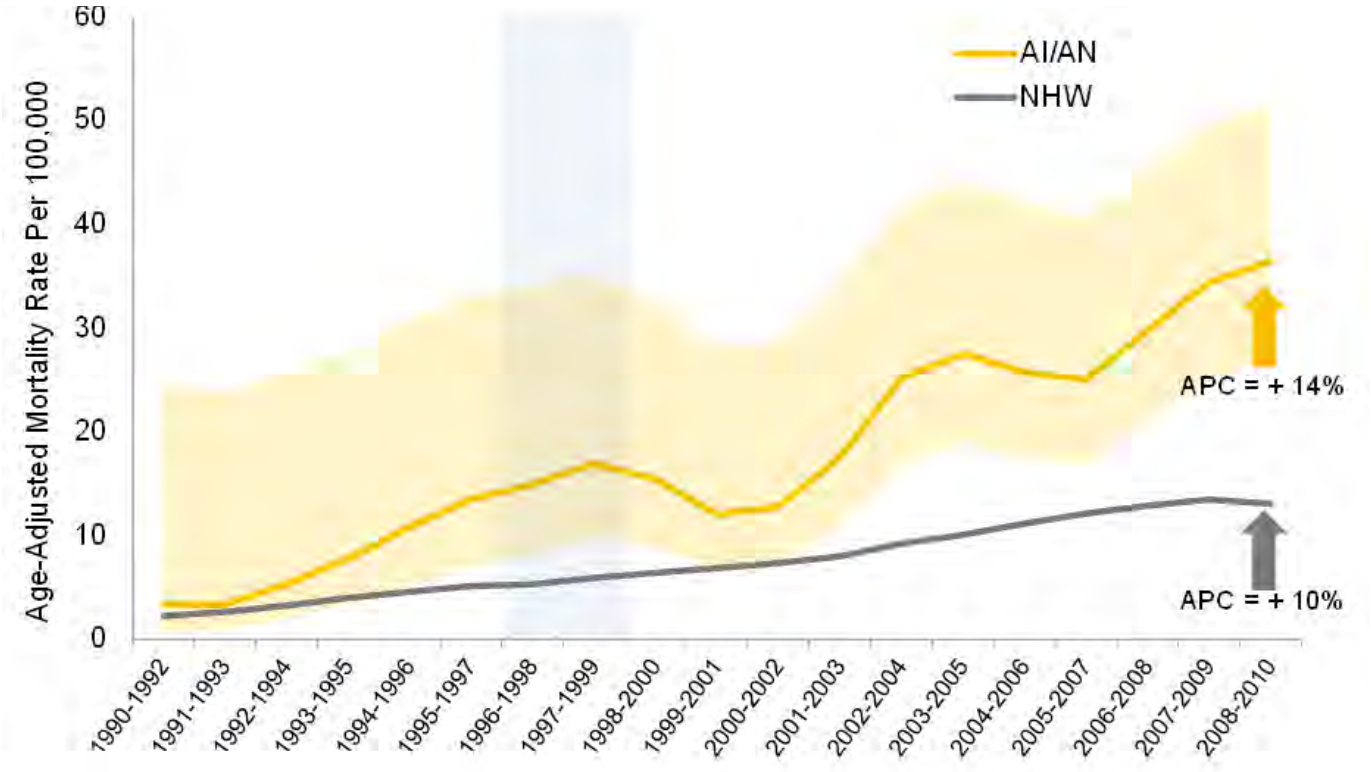
Figure 9.7 shows accidental poisoning mortality trends for the AI/AN and NHW population in Washington between 1990 and 2010. The yellow shaded section around the AI/AN line represents a 95% confidence interval band.

Although AI/AN and NHW accidental poisoning rates were similar at the beginning of the time period, AI/AN rates have remained consistently higher than NHW rates during the past decade. While both populations had significant increases in accidental poisoning rates, AI/AN rates increased more steeply at an average of 14% per year. As a result, the gap between the races has grown.

Data Source: Washington state death certificates, 2006-2010, corrected for misclassified AI/AN race by the IDEA-NW Project.

Data Notes: APC = Annual Percentage Change. Cause of death coding on death certificates underwent a change from ICD-9 to ICD-10 between 1998 and 1999. Data shown in the trend charts in this report have not been adjusted to reflect this change. Comparability ratios for the broad categories reported here show that the change did not have a large impact for these statistics, however any abrupt changes between 1998 and 1999 should be interpreted with caution.

Figure 9.7: Age-adjusted accidental poisoning mortality rates, three year rolling averages, by race, Washington, 1990-2010.



Note: The shaded rectangle indicates the year cause of death coding changed from ICD-9 to ICD-10. Any abrupt changes between 1998 and 1999 should be interpreted with caution.

Program Spotlight: THRIVE

NPAIHB's THRIVE project (Tribal Health: Reaching Out InVolves Everyone) works with Northwest Tribes to prevent drug and alcohol abuse. In 2010 the project hosted meetings with regional partners to develop a 5-year strategic plan: the Northwest Tribal Substance Abuse Action Plan. The plan is now being used to guide program planning, catalyze community outreach efforts, and foster a coordinated response to substance abuse in our Northwest Tribes.

Acting upon one of the goals of the plan - to increase knowledge and awareness about substance abuse - the THRIVE project developed a national media campaign focusing on alcohol and drug prevention for AI/AN teens and young adults. The campaign, **Strengthen My Nation**, was funded by the Indian Health Service's Meth & Suicide Prevention Initiative, and was developed with feedback from hundreds of teens, parents, and health educators throughout the U.S. The campaign includes posters, brochures, fact sheets, and public service announcements for television and radio.

All of the campaign materials are available on the NPAIHB website:
http://www.npaihb.org/epicenter/project/mspi_prevention_media_resources/

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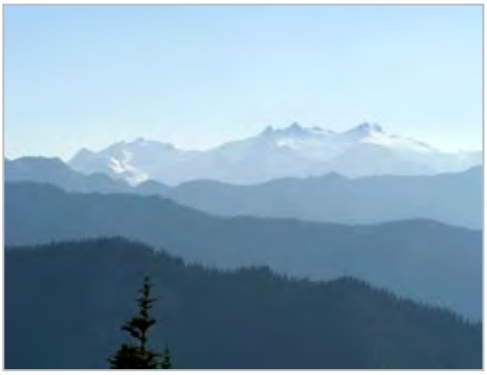
503-416-3284
http://www.npaihb.org/epicenter/project/thrive

10. Communicable Diseases



Among communicable diseases, sexually transmitted infections (STIs; also known as sexually transmitted diseases [STDs]) have perhaps received the most attention in recent years. The primary STIs include chlamydia, gonorrhea and human immunodeficiency virus (HIV). Because each of these conditions can be spread by people unaware that they have acquired the disease, efforts to increase screening of asymptomatic patients have been recommended by CDC and the US Preventive Services Task Force. Current screening guidelines recommend screening all women ages 15 to 25 annually for chlamydia. For HIV, the recommendations are to screen all pregnant women and to offer HIV testing a least once to every patient between the ages of 13 and 64, regardless of any risk factors that may or may not be present

The importance of these conditions cannot be overemphasized. Chlamydia and gonorrhea are the primary causes of pelvic inflammatory disease in women which can lead to tubo-ovarian abscess and scarring of the fallopian tubes, which in turn can result in infertility and ectopic pregnancy. If left untreated, these diseases can result in unnecessary morbidity and even death. Antibiotic resistance in recent years has been a significant development complicating the effective treatment of infections caused by gonorrhea.

HIV infection is a life-long infection which progresses to Acquired Immune Deficiency Syndrome (AIDS) if not treated. Fortunately, effective treatments for HIV have been developed and are available in the US. AI/AN are among those who qualify for reduced or free medications to treat HIV. Unfortunately, because of stigma and a lack of awareness, many AI/AN do not know their HIV status and do not receive appropriate care until they have advanced disease. Because an estimated 50% of new HIV infections are caused by approximately 20% of HIV positive individuals who are infected but unaware, there has been increased effort to screen everyone between the ages of 13 and 64 who might otherwise not be recognized by healthcare providers as potentially infected. Making HIV screening a part of routine preventive health care helps reduce the stigma and barriers to testing.

Chlamydia Diagnoses

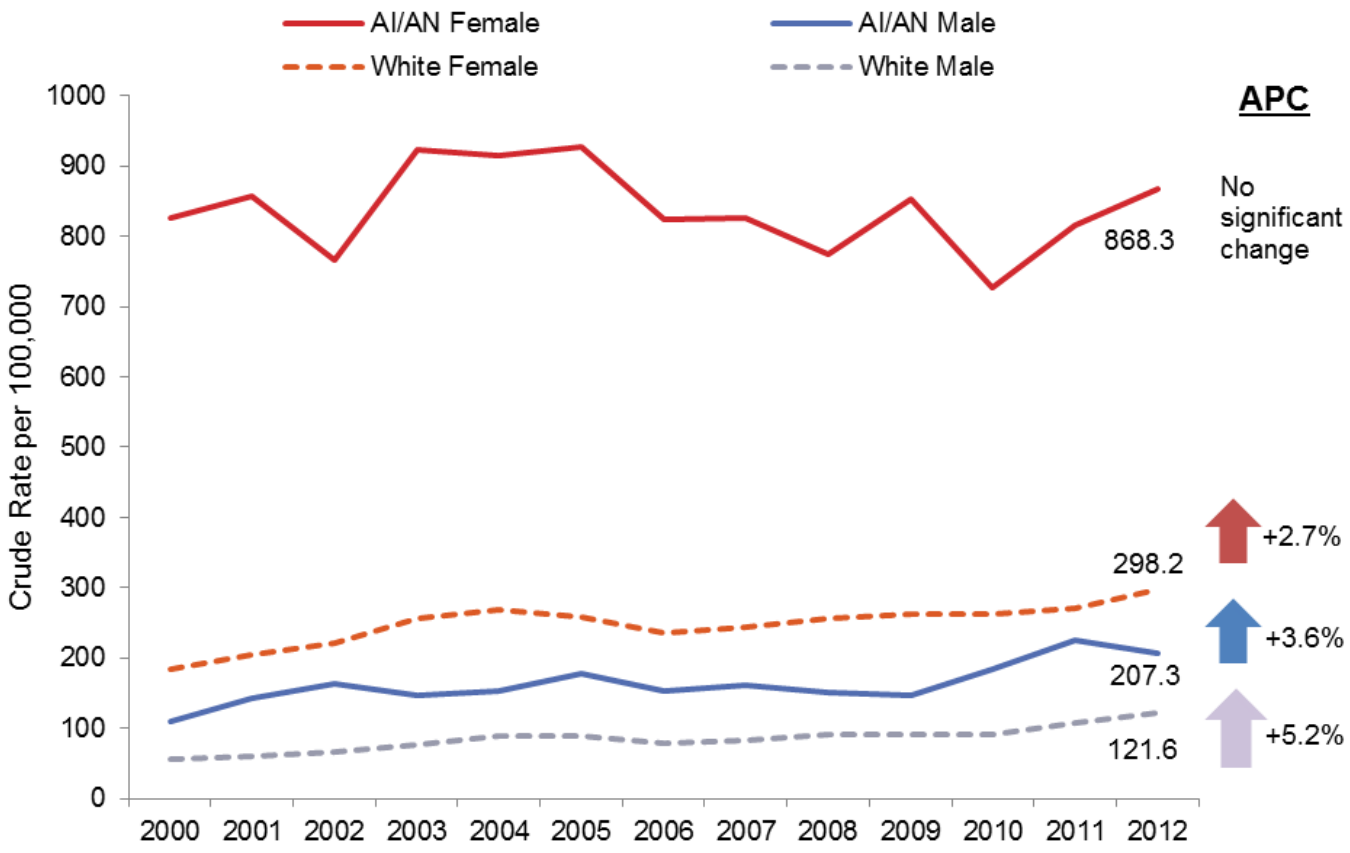
AI/AN females in Washington have consistently had higher rates of chlamydia than AI/AN males and whites of both genders (Figure 10.1). In 2000, the rate of chlamydia diagnoses for AI/AN women was 7.5 times higher than the rate for AI/AN males and 4.5 times higher than the rate for white females. This disparity has decreased over time due to increases in rates among AI/AN males and whites. In 2012, the rate for AI/AN women was 4.2 times higher than AI/AN males and 2.9 times higher than white females.

There has been no observable change in chlamydia diagnosis rates among AI/AN women since 2000. Chlamydia rates have increased annually for white females (2.7%), AI/AN males (3.6%), and White males (5.2%). Trends in STIs may reflect changes in diagnosis and reporting practices instead of actual changes in disease incidence rates over time, and should be interpreted with caution.

Data Source: Center for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) Atlas. http://gis.cdc.gov/GRASP/NCHHSTPAtlas/main.html.

Data Notes: APC = Annual Percentage Change. Rates based on confirmed diagnoses during the year. Crude rates do not take into account the age differences between the AI/AN and white populations. AI/AN race not corrected for misclassification.

Figure 10.1: Chlamydia diagnosis rates by race and sex, Washington, 2000-2012.



Gonorrhea Diagnoses

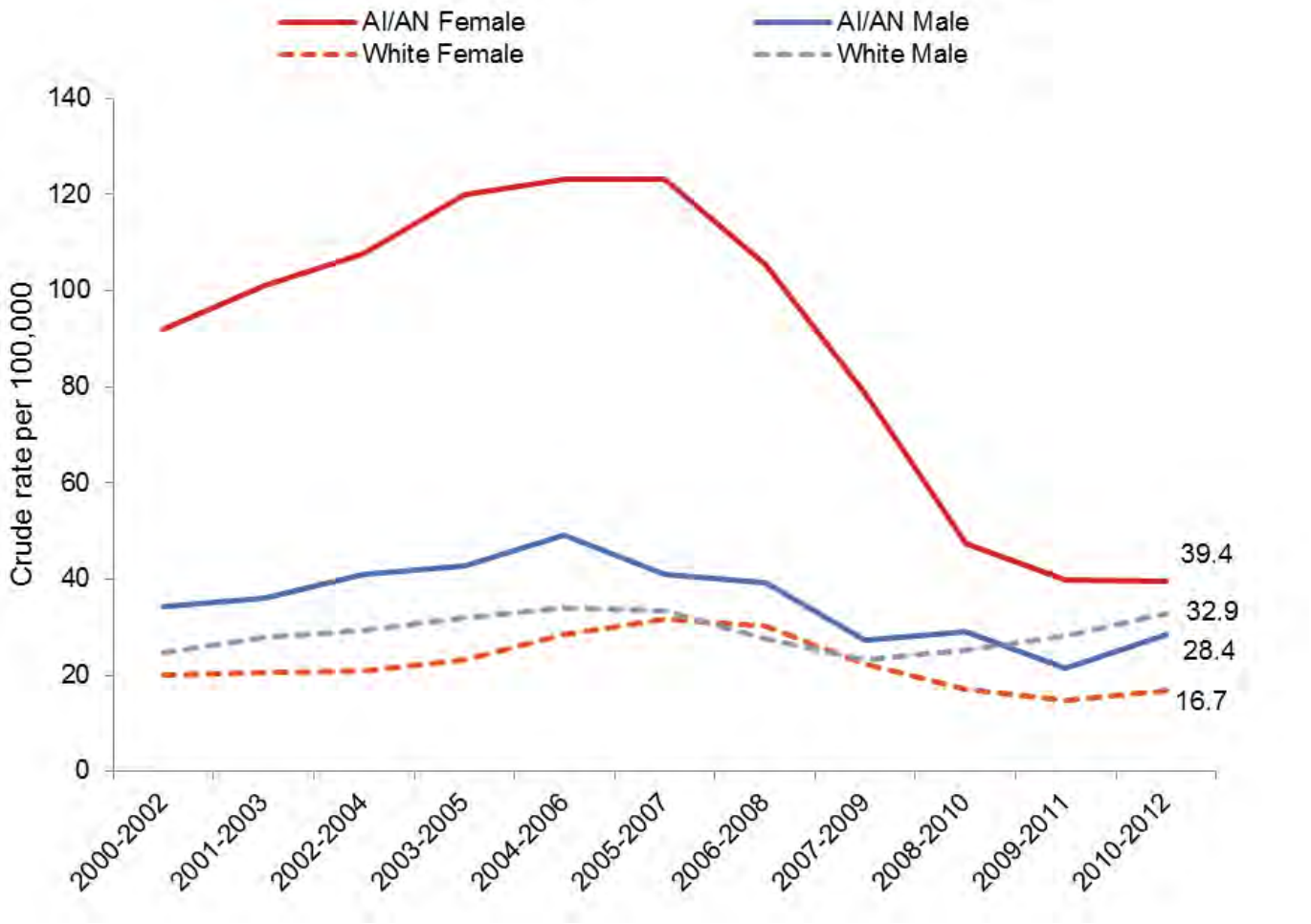
AI/AN females in Washington have consistently had higher rates of gonorrhea than AI/AN males and whites of both genders, though this gap has narrowed in recent years (Figure 10.2). From 2000-2007, the gonorrhea diagnosis rate for AI/AN women was nearly three times higher than the rate for AI/AN males and 4.6 times higher than the rate for white females. The rate of gonorrhea diagnoses among AI/AN females has markedly declined in recent years, with an annual average decrease of 19% from 2007-2012. In recent years, AI/AN men have had lower gonorrhea diagnosis rates compared to white males in Washington.

Trends in STIs may reflect changes in diagnosis and reporting practices instead of actual changes in disease incidence rates over time, and should be interpreted with caution.

Data Source: Center for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) Atlas. http://gis.cdc.gov/GRASP/NCHHSTPAtlas/main.html.

Data Notes: Rates based on confirmed diagnoses during the year. Crude rates do not take into account the age differences between the AI/AN and white populations. AI/AN race not corrected for misclassification.

Figure 10.2: Gonorrhea diagnosis rates, three year rolling averages, by race and sex, Washington, 2000-2012.



HIV Screening in Pregnancy

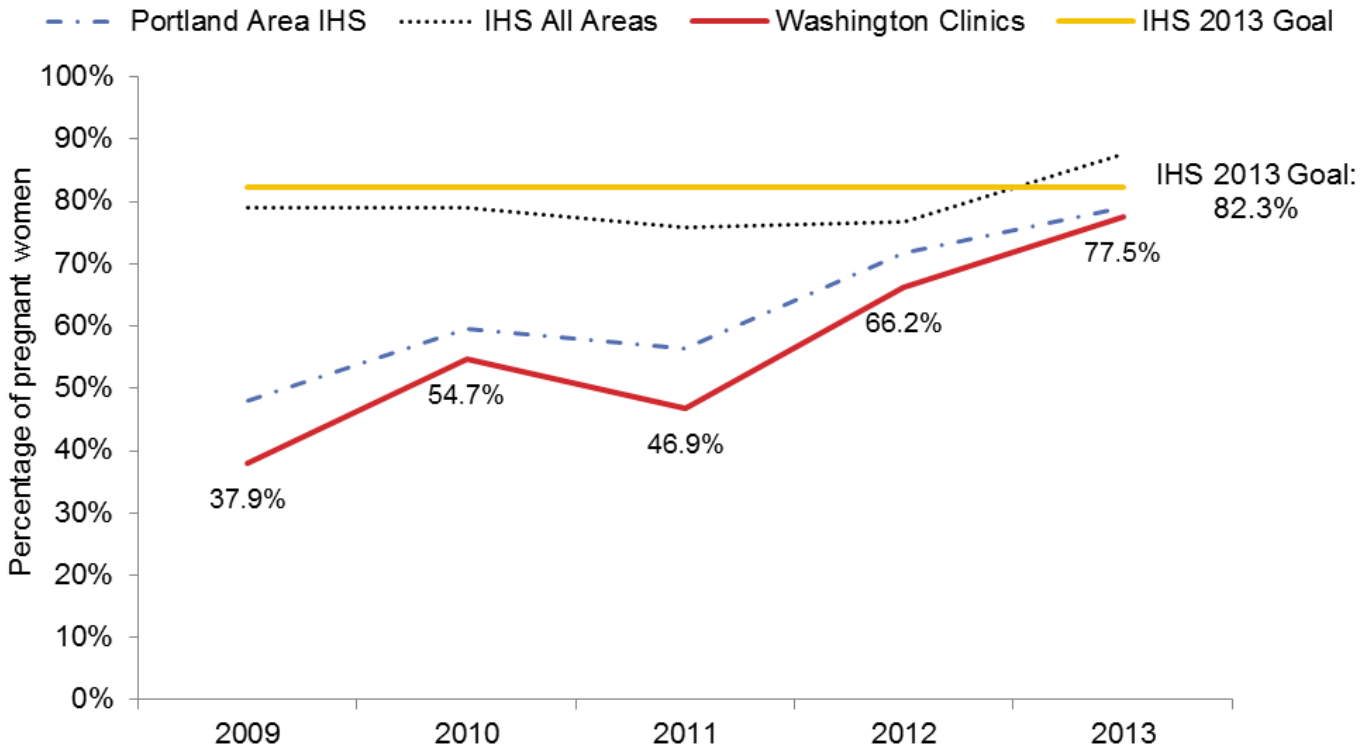
HIV screening during pregnancy can identify women who are at risk for infecting their newborns. HIV-positive mothers who receive treatment during their pregnancy can reduce the risk that their newborns will be infected with HIV. The U.S. has a Healthy People 2020 goal for 74.1% of women ages 15-44 who were pregnant in the past year to have received an HIV test as part of their prenatal care. IHS tracks the percentage of AI/AN pregnant women who were tested for HIV during their pregnancy.

The HIV screening rates for pregnant AI/AN women seen in Washington clinics and the Portland Area IHS have increased since 2009, but have consistently remained below the national IHS screening rate (Figure 10.3). The national IHS average decreased from 2009 to 2012 before increasing in 2013. The screening rate for the national IHS exceeded the 2013 goal for prenatal HIV screening, while Washington clinics and the Portland Area IHS did not meet the goal.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 10.3: HIV screening rates for pregnant AI/AN women seen at IHS facilities, by area, 2009-2013.



HIV Diagnoses and AIDS Deaths

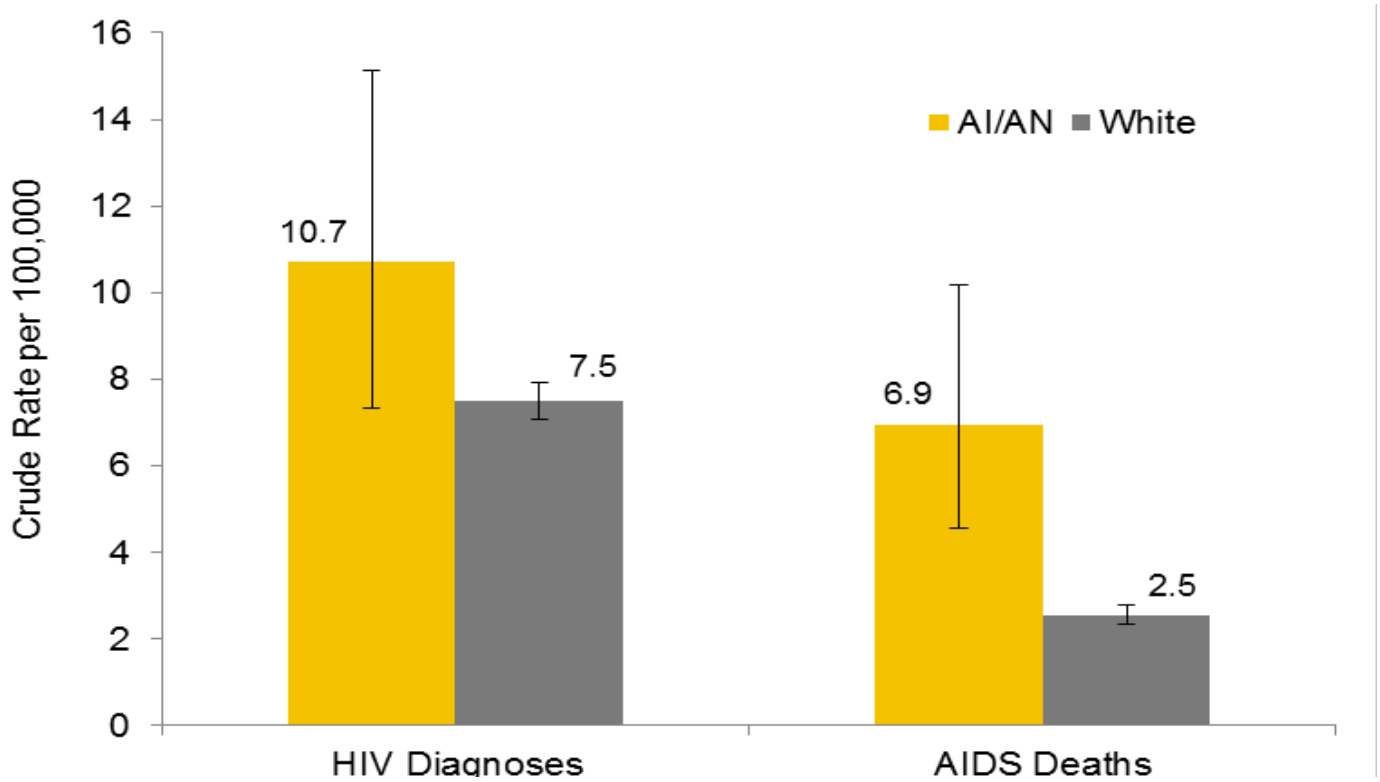
From 2008 to 2011, the rate of HIV diagnoses for AI/AN in Washington was 42% higher compared to NHW in the state (10.7 vs. 7.5 diagnoses per 100,000 population). This difference was not statistically significant. From 2006-2010, the death rate for AI/AN living with AIDS was 2.8 times higher than the rate for their NHW counterparts. This was a statistically significant difference.

There is considerable uncertainty in these estimates, as demonstrated by the wide confidence intervals around the AI/AN rates. Further, the comparisons are based on unadjusted rates and do not take into account the age differences in the AI/AN and NHW populations.

Data Source: Center for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) Atlas. http://gis.cdc.gov/GRASP/NCHHSTPAtlas/main.html.

Data Notes: Data on HIV infections likely underestimate the true number of HIV diagnoses due to underreporting to state surveillance systems and because not all infected individuals are tested. Death data include deaths of persons with diagnosed HIV/AIDS from any cause (not just AIDS-related deaths). AI/AN race not corrected for misclassification.

Figure 10.4: Rates of HIV diagnoses (2008-2011) and AIDS deaths (2006-2010) by race, Washington.



Program Spotlight: Project Red Talon

Project Red Talon (PRT) has provided training and technical assistance to tribes and tribal organizations throughout the U.S. on implementing and evaluating culturally appropriate sexual health and STD/HIV prevention programs since 1988. Project Red Talon works to delay sexual initiation, reduce sexual risk-taking, reduce STD/HIV infections and disparities, and achieve a more coordinated national and regional response to STDs and HIV. PRT's activities include:

We R Native: We R Native is a multimedia health resource for Native teens and young adults (http://www.wernative.org). Special features include monthly contests, community service grants, an "Ask Auntie" Q&A service, discussion boards, and medically accurate information reviewed by experts in public health, mental health, community engagement, and activism.

Native VOICES: The Native VOICES project is an initiative to develop an evidence-based sexual health video for AI/AN teens and young adults (15-24 years old) to reduce the incidence of HIV/STD and teen pregnancy. The video provides accurate risk information, corrects misconceptions, and demonstrates culturally-specific strategies for encouraging condom use and enhancing partner communication.

Native It's Your Game (IYG): Native IYG is a multimedia sexual health curriculum for middle school aged youth (12-14 years). IYG teaches about healthy relationships, life skills, communication, and refusal skills. It emphasizes abstinence, but also teaches students how to protect themselves from pregnancy and sexually transmitted infections using medically accurate information.

STD/HIV Quality Improvement: PRT staff collaborate with the IHS STD and HIV Programs to improve STD, HIV, and Hepatitis C screening measures at Indian Health Service/Tribal/Urban (I/T/U) clinics nationwide. The project works to address organizational, cultural, and individual factors that prevent AI/AN from being screened for STDs, HIV, and Hepatitis C. The project provides training and technical assistance to assist clinics in improving screening rates and clinical sexual health measures.

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11. Healthy Lifestyles, Healthy Environments

Maintaining a healthy lifestyle throughout the course of life is essential for overall wellbeing. A healthy lifestyle incorporates everything from eating a balanced diet, being physically active, avoiding unhealthy behaviors like smoking, getting preventive care and screening tests, and developing strong social support systems within families and communities. Adopting a healthy lifestyle early in life can set a person on a course toward good health for years to come. Our environment also plays an important role in our health and well-being. There are many environmental factors that affect health, including the quality of the water we drink, the air we breathe, and the food we eat.

This section provides data on several indicators related to healthy lifestyles and environment for AI/AN in Washington, including: weight status for both children and adults; levels of exercise; fruit and vegetable consumption; tobacco cessation; seatbelt use; asthma prevalence; state-wide air quality; and locations of fish consumption advisories.

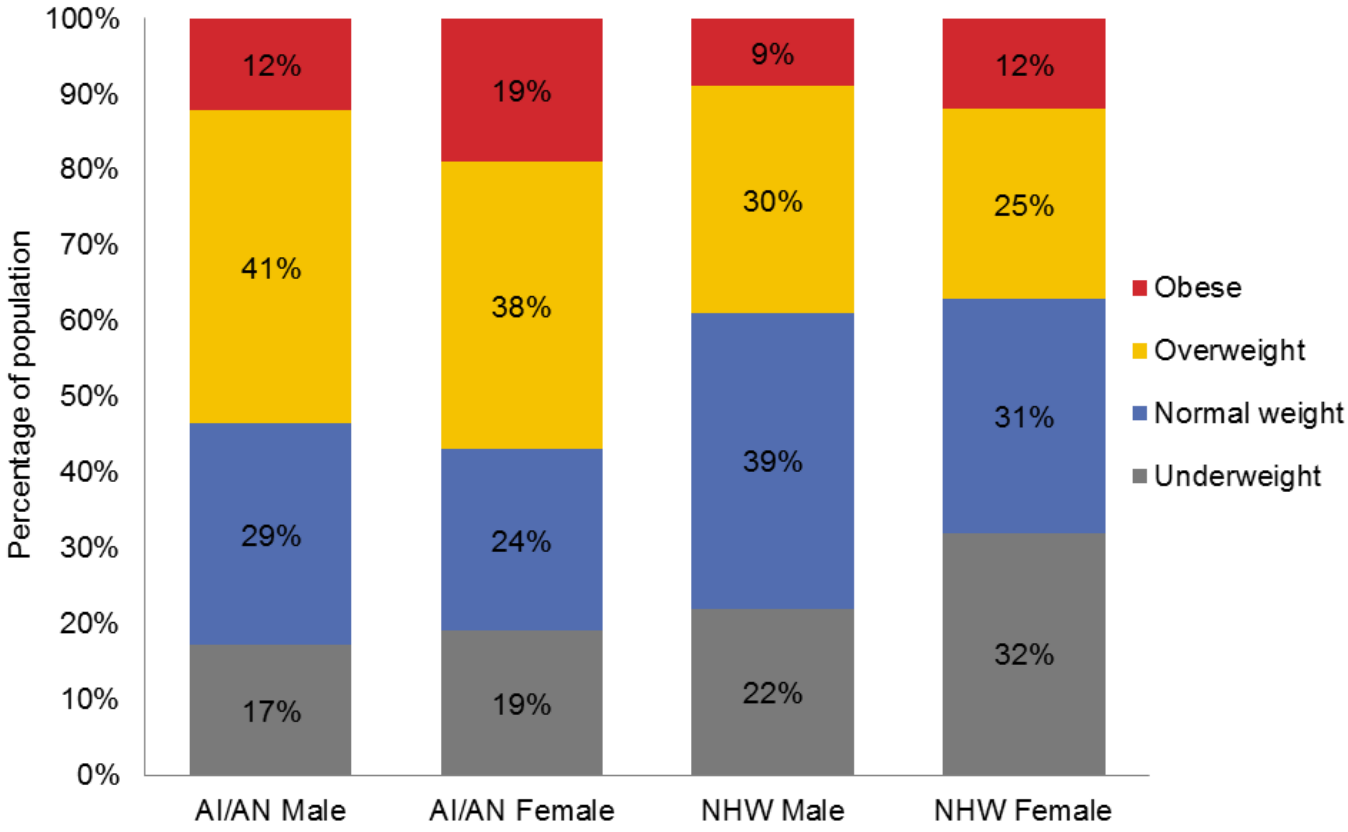
Body Mass Index (BMI)

From 2006-2012, AI/AN males and females in Washington were more likely to be overweight or obese than their white counterparts in the state. Over 50% of AI/AN males and females had a BMI in the overweight or obese range, while less than 40% of NHW males and females had BMIs in this range (Figure 11.1). Compared to AI/AN males, a lower percentage of AI/AN females were overweight (38% vs 41%); however, AI/AN females were more likely to be obese (19% vs. 12%). For both AI/AN and NHW, females were more likely to be underweight than males.

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

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

Figure 11.1: Body mass index (BMI) by race and sex, Washington, 2006-2012.



BMI categories (in kg/m^2): Underweight: <18.5; Normal weight: 18.5 – 24.9; Overweight: 25.0 – 29.9; Obese: >30.0

Sample sizes (n): AI/AN males=776; AI/AN females=1,125; NHW males=49,225; NHW females=76,068.

Childhood Weight Control (BMI Percentile)

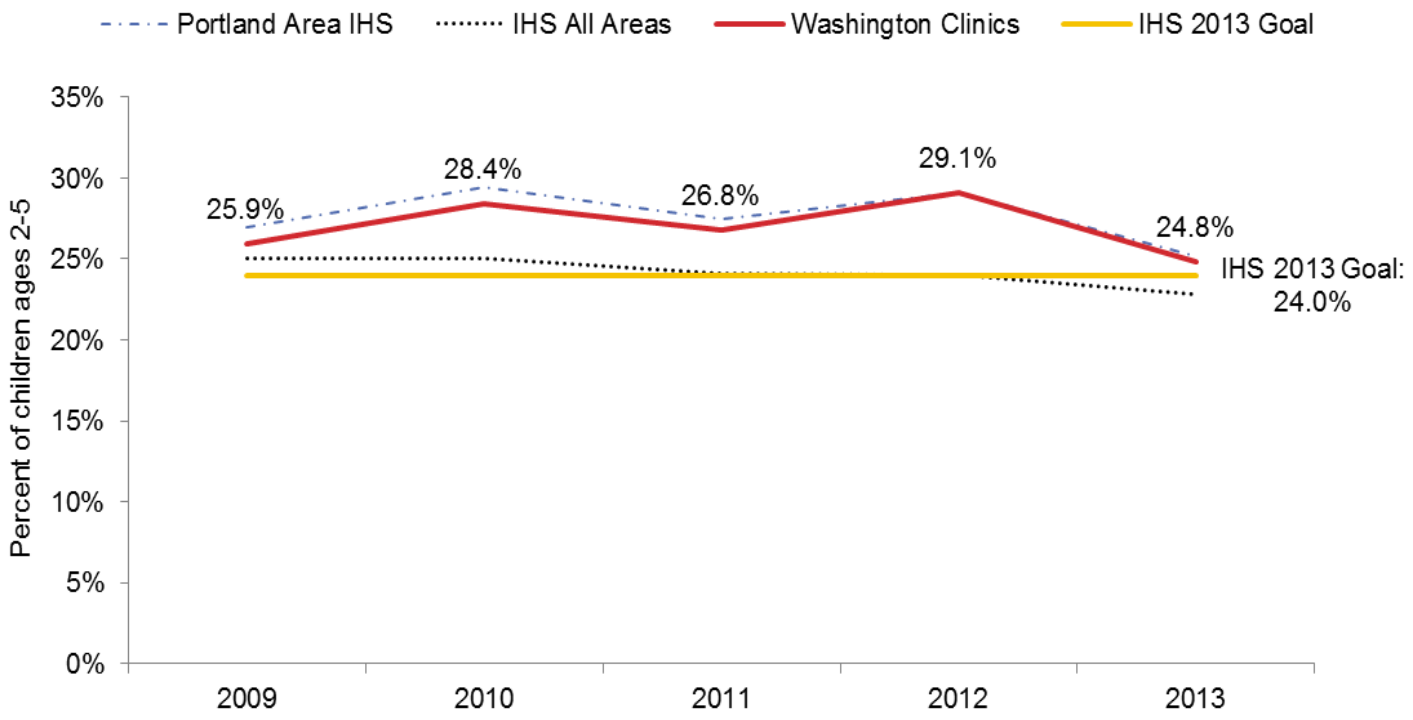
Children with a BMI that is at or above the 95th percentile for their age group are considered obese. The U.S. has a Healthy People 2020 goal for no more than 9.6% of children ages 2-5 to be considered obese. IHS tracks the percentage of AI/AN children (ages 2-5) with a BMI in the 95th percentile range. In 2013, the IHS goal for childhood overweight was 24%. Having a lower score means better performance (i.e., fewer overweight children) for this measure.

The percentage of IHS AI/AN children with an overweight BMI has decreased at the national IHS level since 2009 (Figure 11.2). In 2013, the national IHS average for this measure (22.8%) was lower than the 2013 goal of 24%. The prevalence of childhood overweight for Washington clinics and the Portland Area IHS has fluctuated since 2009, and has not shown a consistent upward or downward trend. In 2013, the prevalence of childhood overweight for Washington clinics (24.8%) did not meet the 2013 goal.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 11.2: Percentage of IHS patients ages 2-5 considered overweight, 2009-2013.



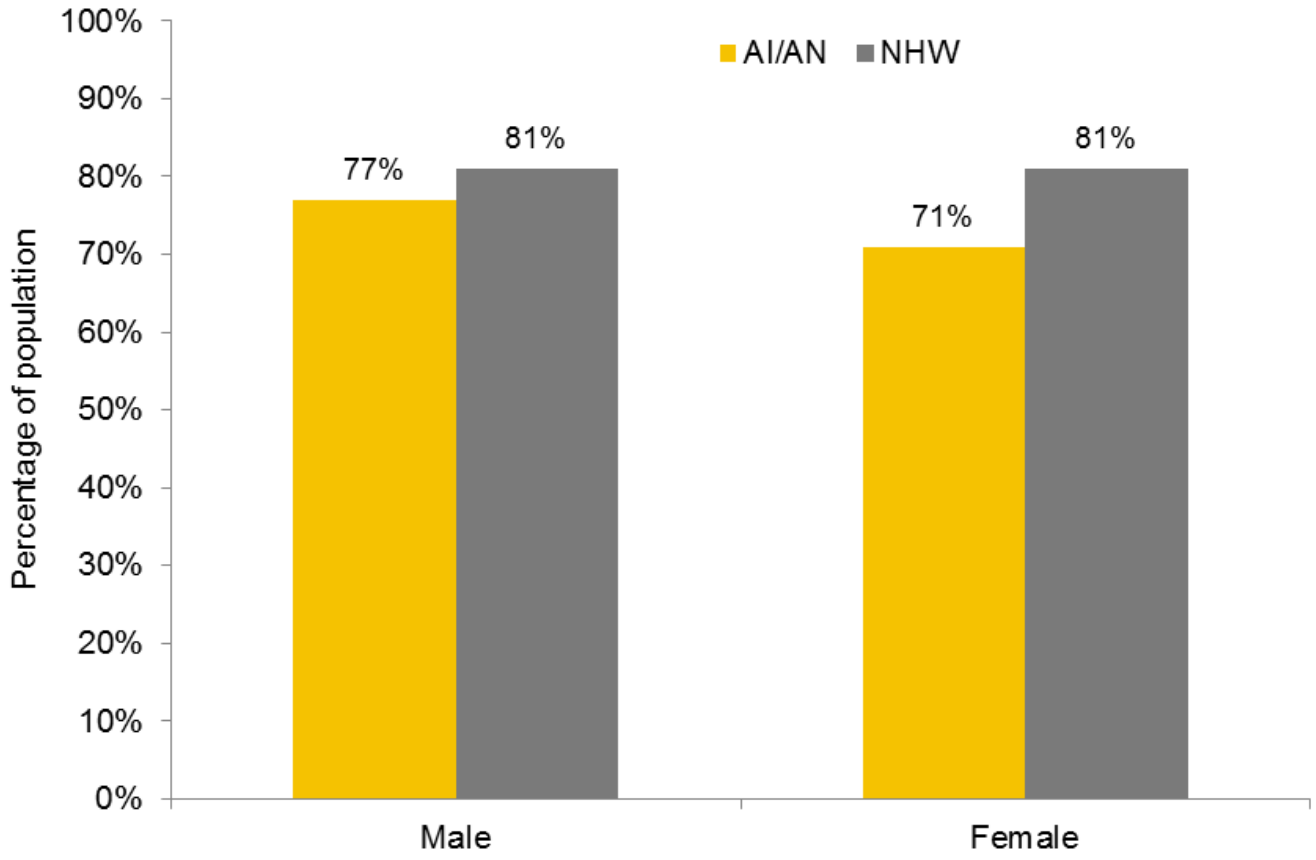
Exercise

From 2006-2012, over 70% of AI/AN in Washington reported having exercised in the past month (Figure 11.3). AI/AN males were more likely to exercise than AI/AN females (77% vs. 71%). Compared to AI/AN, a higher percentage of NHW (81%) reported getting some physical activity in the past month.

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

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

Figure 11.3: Percentage of population who exercised in the past month, by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=779; AI/AN females=1,146; NHW males=49,259; NHW females=77,059.

Fruit and Vegetable Consumption

Figure 11.4 shows the number of fruit and vegetable servings eaten per day for AI/AN and NHW in Washington. Approximately 10% of AI/AN and 11.0% of NHW reported eating less than one serving of fruit or vegetables per day. Approximately 47% of AI/AN and NHW ate 1-2 servings per day, while 28% ate 3-4 servings per day. Only 14.1% of AI/AN and 15.1% of NHW reported eating five or more fruits or vegetables per day.

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2007, 2009, 2011.

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

Figure 11.4: Daily fruit and vegetable consumption by race, Washington, 2007, 2009, 2011.

Sample sizes (n): AI/AN: 178, NHW: 12,944

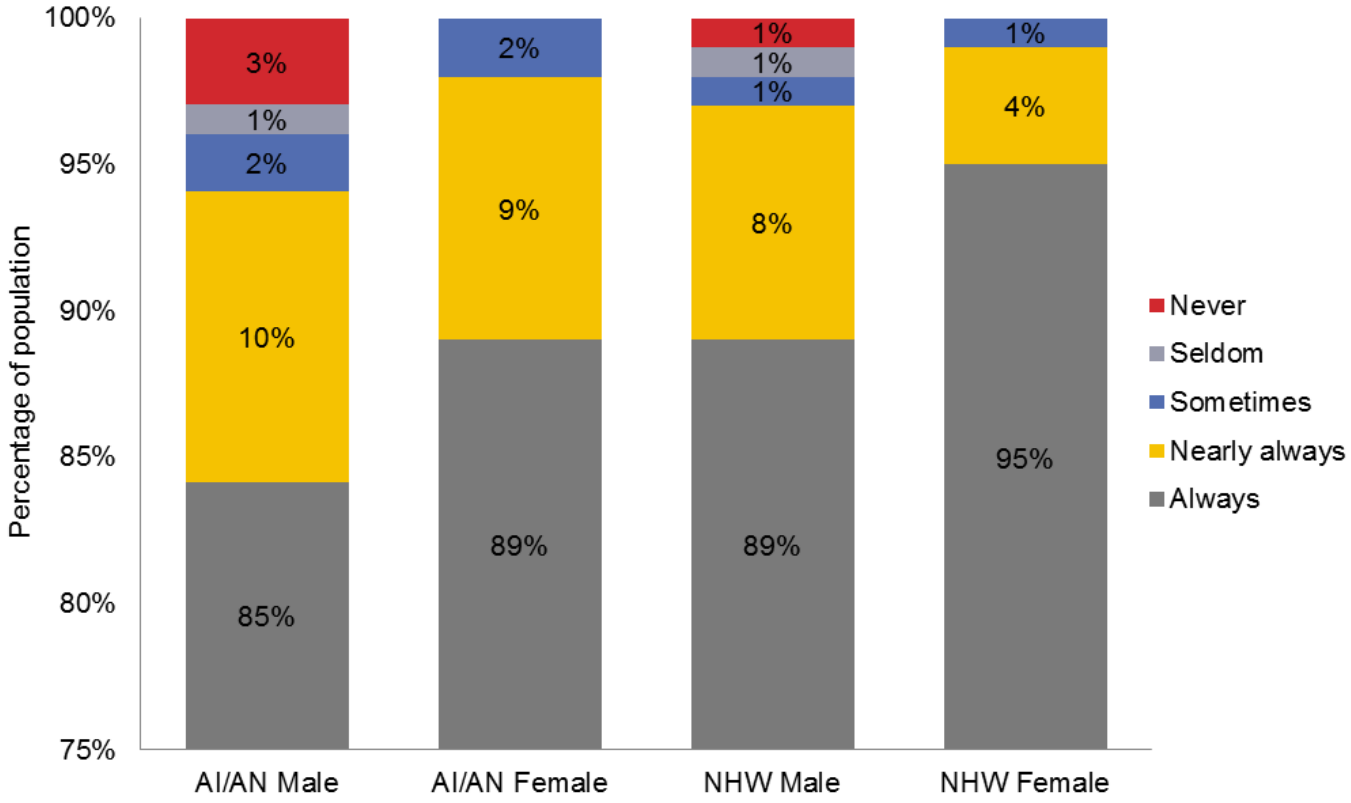
Seat belt Use

Among AI/AN and NHW in Washington, women were more likely than men to report always wearing a seat belt (Figure 11.5). The majority (95%) of NHW women always wore seat belts, while 89% of AI/AN women always wore seat belts. Four percent of AI/AN men and 2% of NHW men reported that they seldom or never wore seat belts.

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

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

Figure 11.5: Self-reported seat belt use by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=499; AI/AN females=748; NHW males=33,008; NHW females=51,295.

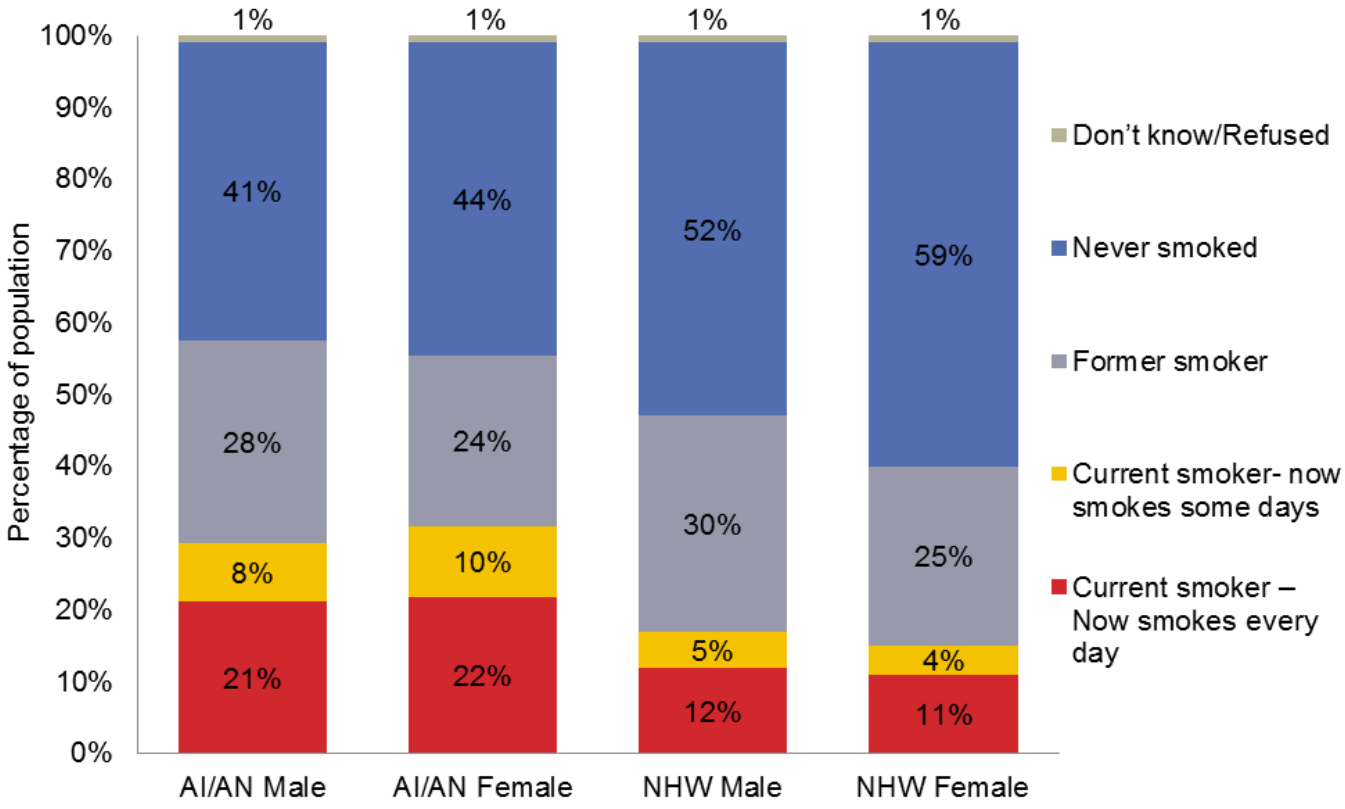
Smoking Status

AI/AN males and females in Washington were more likely to report being current smokers than NHW in the state. From 2006-2012, over 20% of AI/AN males and females reported smoking every day, and 8% of AI/AN males and 10% of AI/AN females reported smoking some days (Figure 11.6). AI/AN females were more likely to be current smokers than AI/AN males (32% vs. 29%), while NHW females were less likely to be current smokers than NHW males (15% vs. 17%). A lower percentage of AI/AN males (41%) had never smoked compared to AI/AN females (44%), NHW males (52%), and NHW females (59%).

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

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

Figure 11.6: Smoking status by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=783; AI/AN females=1,148; NHW males=49,342; NHW females=77,177.

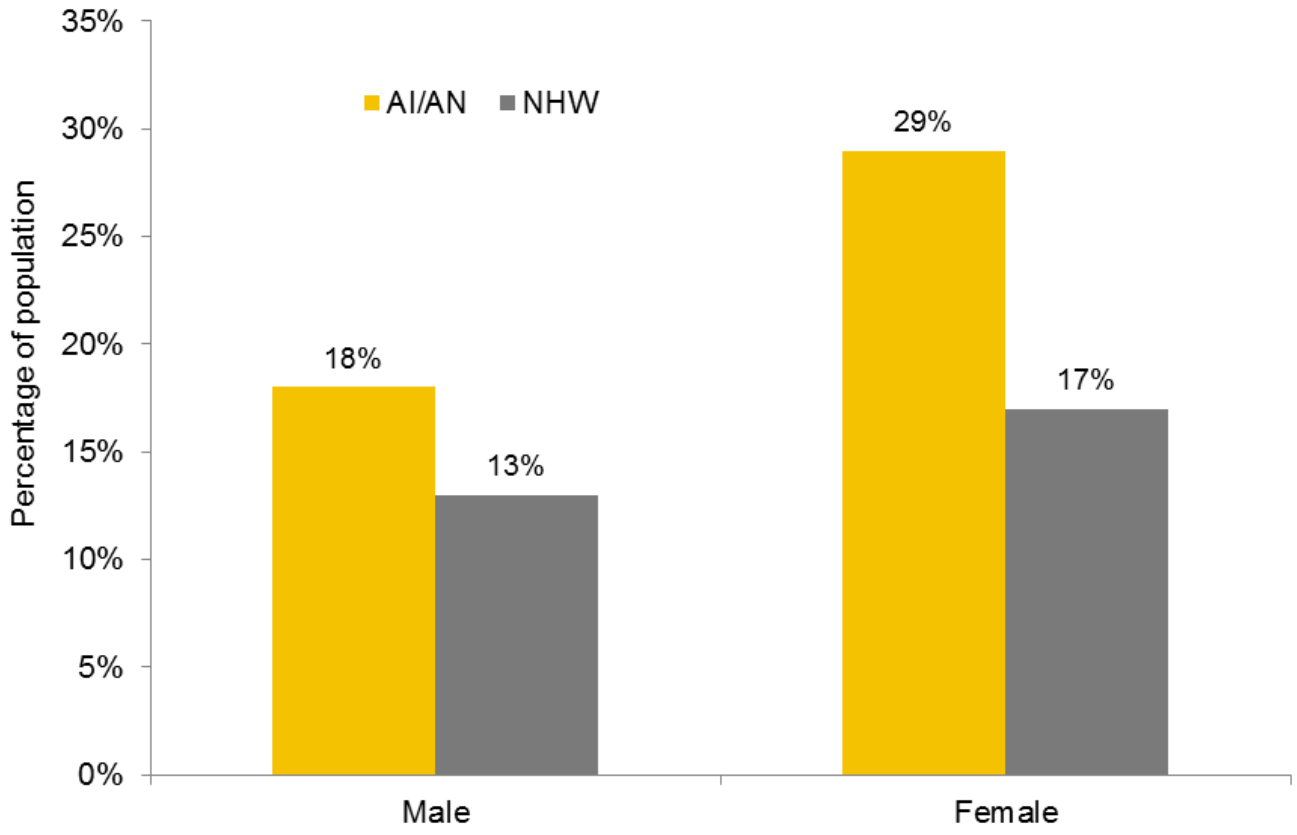
Asthma Prevalence

Smoking and exposure to second-hand smoke are triggers for asthma in children and adults. Compared to their NHW counterparts in the state, a higher percentage of AI/AN males and females in Washington reported having asthma during their lifetime (Figure 11.7). Almost 30% of AI/AN females reported having asthma during their lifetime. This was much higher when compared to AI/AN males (18%), NHW males (13%), and NHW females (17%).

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

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

Figure 11.7: Lifetime asthma prevalence by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=783; AI/AN females=1,148; NHW males=49,342; NHW females=77,177.

Tobacco Cessation

Tobacco use increases the risk for many diseases, including lung cancer, cardiovascular disease, and respiratory diseases. IHS tracks the percentage of tobacco-using patients who have received a tobacco cessation intervention (such as tobacco cessation counseling) in the past year. The 2012 goal for this measure was 30%.

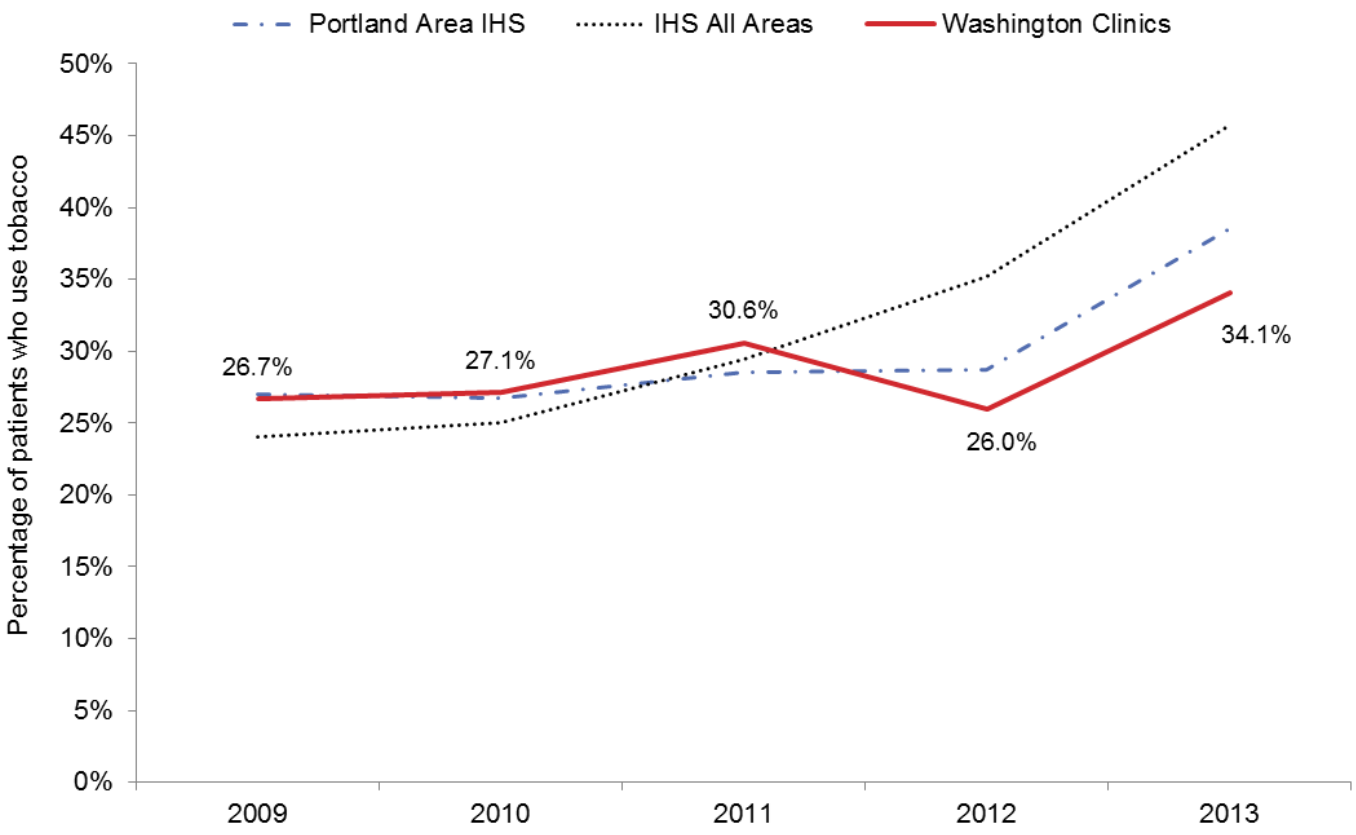
The tobacco cessation counseling rates for Washington clinics fluctuated from 26-30% before increasing to 34.1% in 2013 (Figure 11.8). The national IHS average has shown a more obvious upward trend since 2009. The national IHS average exceeded the 2012 goal for this measure, while Washington clinics and the Portland Area IHS fell below this goal.

The IHS is using 2013 rates to establish a new baseline for this measure, and did not set a 2013 goal.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 11.8: Tobacco cessation counseling rates for IHS patients, 2009-2013.



Environmental Health: Air Quality

The U.S. Environmental Protection Agency (EPA) has national air quality standards for six key air pollutants: ozone, sulfur dioxide, carbon monoxide, particulate matter (PM-2.5 and PM-10), lead, and nitrogen dioxide[2]. Non-attainment areas are geographic areas where air pollution levels are consistently higher than these national standards. The EPA requires local and state governments to take actions to reduce air pollution in non-attainment areas. If a non-attainment area meets and maintains air quality standards, it can be re-designated as a maintenance area.

Washington currently has one non-attainment area in Tacoma-Pierce County for fine particulate matter (PM-2.5) (Figure 11.9). This area was designated as a non-attainment area in 2009. PM 2.5 is generated from smoke (especially from wood-burning stoves), vehicle exhaust, and industrial processes. Exposure to PM 2.5 in the air can increase risks for respiratory illnesses, cardiovascular disease, and premature death. One Washington Tribe (Puyallup) is within the PM 2.5 non-attainment area.

Washington has several air quality maintenance areas for ozone, PM-10, and carbon monoxide. These areas currently meet air quality standards, but exceeded them in the past. Several tribes near the Puget Sound are within these maintenance areas.

[1] http://www.epa.gov/air/criteria.html

[2] http://www.ecy.wa.gov/programs/air/sips/designations/pm_tacoma.htm

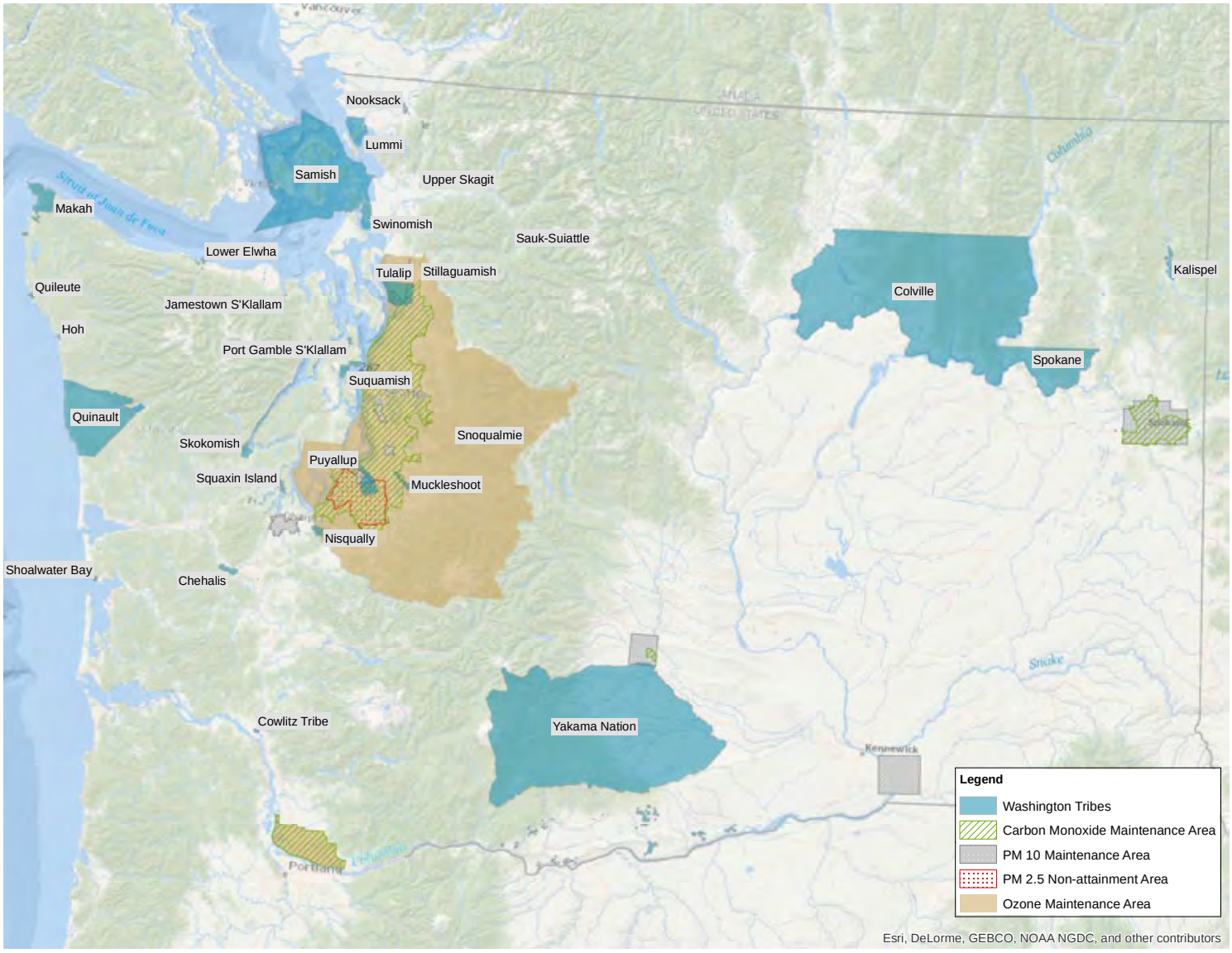
Data Source: Washington Department Ecology.

Air Quality Website: http://www.ecy.wa.gov/programs/air/sips/sips.htm.

GIS Layers: http://www.ecy.wa.gov/services/gis/data/data.htm.

Data Notes: The air quality information presented in this report is current as of July 2014. For up-to-date information on air quality in Washington, visit: http://www.ecy.wa.gov/programs/air/sips/sips.htm.

Figure 11.9: Air quality non-attainment and maintenance areas in Washington.



Environmental Health: Fish Consumption Advisories

Fish are important to many Northwest Tribes' culture, traditions, and history. Fish are also an important dietary source of healthy fats, protein, and essential nutrients. However, fish can become contaminated with chemicals in the environment. Exposure to these chemicals can potentially pose health risks to people who eat contaminated fish. Women of childbearing age, pregnant women, nursing mothers, and young children are particularly vulnerable to chemical exposures, but can also benefit from the healthful nutrients in fish.

The State of Washington has issued fish consumption advisories for several water bodies in Washington (Figure 11.10 and Table 11.1). These advisories help people make healthy choices when eating fish caught from contaminated water bodies in Washington. Washington also has guidance for choosing fish from grocery stores and restaurants (available at: http://www.doh.wa.gov/CommunityandEnvironment/Food/Fish.aspx).

Data Source: Washington State Department of Health.

Data Notes: The fish advisory information presented in this report is current as of July 2014. For up-to-date information on fish advisories in Washington, visit: http://www.doh.wa.gov/CommunityandEnvironment/Food/Fish/Advisories.aspx.

Figure 11.10: Map of fish consumption advisories in Washington.

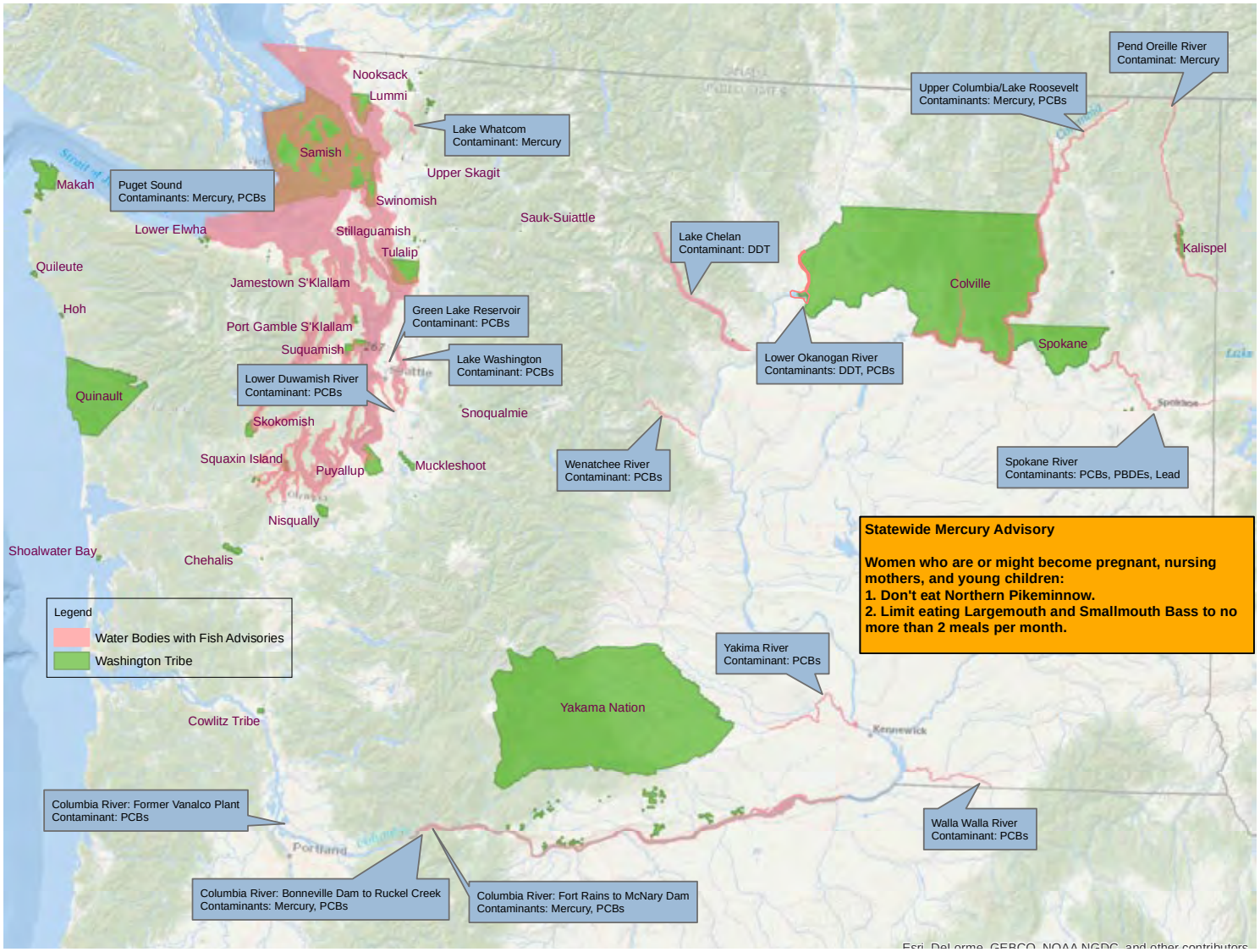


Table 11.1: Fish consumption advisories in Washington.

Water Body	Contaminants	Advisory
Statewide Advisory	Mercury	Women who are or might become pregnant, nursing mothers, and young children: Don't eat Northern Pikeminnow, Limit eating largemouth and smallmouth bass to no more than 2 meals per month
Columbia River: Bonneville Dam to Ruckel Creek (1 mile upstream)	Mercury, PCBs	Don't eat resident fish (Bass, Bluegill, Carp, Catfish, Crappie, Sucker, Sturgeon, Walleye, and Yellow Perch)
Columbia River: Ruckel Creek to McNary Dam (150 miles upstream from Bonneville)	Mercury, PCBs	No more than 1 meal per week of resident fish (Bass, Bluegill, Carp, Catfish, Crappie, Sucker, Sturgeon, Walleye, and Yellow Perch)
Lower Duwamish River	PCBs	Don't eat crab, shellfish, or resident fish from the Lower Duwamish River. Limit Chinook Salmon to 1 meal per week and Blackmouth (resident Puget Sound Chinook) to 2 meals per month. Chum, Coho, Pink, and Sockeye Salmon are okay to eat 2-3 meals per week.
Green Lake Reservoir	PCBs	Limit Carp to 1 meal per month
Lake Chelan	DDT	Limit Lake trout (Mackinaw) to 1 meal per week
Lake Washington	PCBs	Don't eat Northern Pikeminnow and Carp. Limit Cutthroat Trout to 1 meal per month and Yellow Perch to 1 meal per week. Sockeye Salmon, Rainbow Trout, and Pumpkin Seed are okay to eat 2-3 meals per week.
Lake Whatcom	Mercury	Women who are or might become pregnant, nursing mothers, and young children should not eat Smallmouth Bass. Limit Yellow Perch to 1 meal per week.
Lower Columbia River - Former Vanalco Plant	PCBs	Don't eat freshwater clams near and downstream of the former Vanalco plant (5710 NW Lower River Road, Vancouver), river mile 103
Okanogan River	DDT, PCBs	Limit Carp to 1 meal per month (Malott Bridge to Brewster Bridge and Chief Joseph State Park on the Columbia River (Lake Pateros)).
Pend Oreille River	Mercury	Women who are or might become pregnant, nursing mothers, and young children should not eat Northern Pike bigger than 24 inches. Northern Pike smaller than 24 inches should be limited to 2 meals per month.
Puget Sound	Mercury and PCBs	Multiple advisories depending on marine area location and fish/shellfish species.
Spokane River	PCBs, PBDEs, Lead	Idaho Border to Upriver Dam: Don't eat any fish. Upriver Dam to Nine Mile Dam: Don't eat Largescale Sucker, limit all other fish to 1 meal per month. Lake Spokane (Long Lake): Limit Largescale Sucker & Brown Trout to 1 meal per month. Limit Mountain Whitefish to 1 meal per week.
Upper Columbia River/Lake Roosevelt: Grand Coulee Dam to Canadian border	Mercury, PCBs	Do not eat Northern Pikeminnow. Largescale sucker & Largemouth Bass: Women of childbearing age & children limit to 2 meals per month, everyone else 1 meal per week. Eat only 4 meals per month of any combination of Burbot, Longnose Sucker, Mountain Whitefish, Smallmouth bass, and Walleye.
Walla Walla River	PCBs	Limit Carp from the lower Walla Walla River (Dry Creek to the Columbia River) and Northern Pikeminnow from the upper Walla Walla River to 1 meal per month.
Wenatchee River: Icicle Creek to Columbia River	PCBs	Don't eat Mountain Whitefish.
Yakima River: Prosser to Columbia River	PCBs	Limit Common Carp to 1 meal per week.

PCBs = Polychlorinated biphenyls; DDT = dichlorodiphenyltrichloroethane; PBDEs = Polybrominated diphenyl ethers

Program Spotlight: Comprehensive Cancer Tribal BRFSS Project

AI/AN are a diverse population representing hundreds of tribes with a variety of cultural beliefs and customs. Disease incidence rates and risk factors within the AI/AN population also vary by region. However, there is little tribe-specific information on the factors that could increase (or decrease) risks for cancer and chronic diseases. These factors include tobacco use, obesity, physical activity, diet, and getting preventative health screenings. While states collect information on health behaviors and risk factors through the Behavioral Risk Factor Surveillance System (BRFSS), AI/AN populations are not well-represented in state-level BRFSS data.

NPAIHB's Comprehensive Cancer Tribal BRFSS Project is one of seven tribal sites that receive funding for comprehensive cancer control activities through the National Comprehensive Cancer Control Program (NCCCP). The Project is working with other NCCCP tribal programs to improve cancer and other health risk factor surveillance by conducting BRFSS-type health surveys within tribal communities or working with states to obtain a more representative sample of AI/AN through the traditional BRFSS. These activities will provide local-level data on risk factors and build tribes' capacity to implement health surveys within their communities. The Comprehensive Cancer Tribal BRFSS Project is funded through the Centers of Disease Control and Prevention through a contract with the Indian Health Service.

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12. Access to Care

Having good access to healthcare means that patients can find affordable and quality care close to home. This care includes having access to primary, preventative, specialty, mental health, and dental care providers. Having private health insurance or coverage through public programs is an important factor in making healthcare affordable for most people. Prior to 2012, approximately 4.6 million people in the U.S. (15% of the population) did not have health insurance coverage. Of the 5 million AI/AN living in the U.S. in 2012, 23.3% did not have health coverage through private or public sources.[1] Members of federally-recognized tribes who utilize IHS, Tribal and Urban (I/T/U) clinics for primary care often have limited access to specialty, dental, and behavioral health care. This is due to chronic underfunding of the Indian health system which limits referral care, and long travel distances to reach providers of these services.

The data in this section were collected before the major provisions of the Affordable Care Act (ACA) were implemented. These data should be viewed as "baseline" information that provides a picture of disparities in healthcare coverage and access prior to ACA implementation. In 2012, 36% of AI/AN males and 48% of AI/AN females in Oregon did not have healthcare coverage. Compared to NHW in the state, fewer AI/AN reported having a primary care provider or receiving dental care in the past year.

The ACA will provide much needed insurance coverage to AI/AN who do not utilize the I/T/U system for primary care, and will provide additional resources to provide referral care for those who do not qualify for Purchased and Referred Care. In addition, IHS is working to increase the capacity of I/T/U clinics to provide efficient, high quality, primary care services through the Improving Patient Care collaborative. The Improving Patient Care collaborative focuses on organizing clinical care and linking patients to primary care teams. This sets the foundation for sites to become accredited as State and National Patient-Centered Medical Home programs.

1. U.S. Census Bureau. Selected population profile in the United States. American Community Survey 3-year estimates, 2010-2012.

Health Insurance Coverage

Prior to 2013, the majority of AI/AN and NHW in Washington reported having some kind of health coverage through private health insurance or public coverage (Table 12.1). However, a higher percentage (21%) of AI/AN did not have healthcare coverage compared to NHW in the state (11.2%). For both races, males were more likely to lack health insurance than females (Figure 12.1).

Data Source: Table 12.1 – American Community Survey 3-Year Estimates, 2010-2012. Figure 12.1 - CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

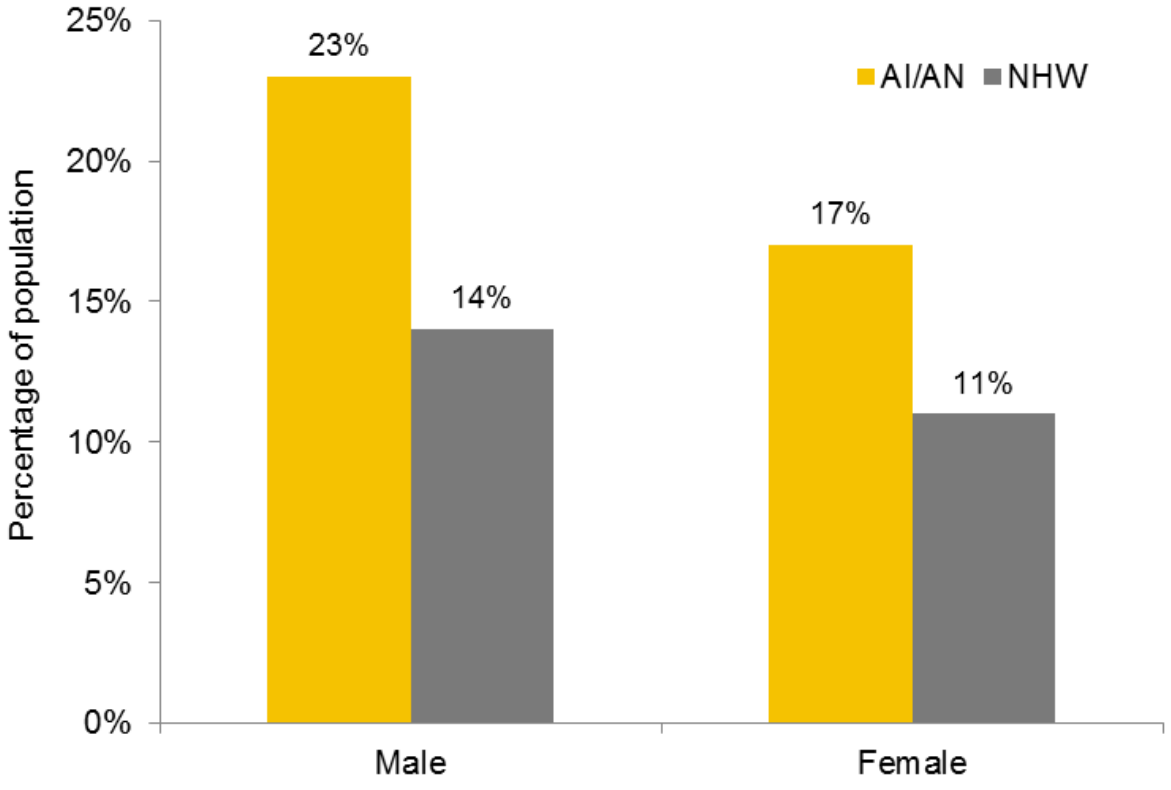
Data Notes: Figure 12.1 - The BRFSS prevalence estimates (shown as a percentage) are weighted to make the survey responses representative of the Washington population. The sample sizes presented below the figures are the unweighted number of people who answered this question for the indicated years.

Table 12.1: Health insurance coverage by race, Washington, 2012.

Coverage Status	AI/AN (N = 193,327) %	NHW (N = 4,836,435) %
Private Health Insurance	50.1%	74.8%
Public Coverage	37.6%	28.1%
No Health Insurance	21.0%	11.2%

N = Number (Civilian non-institutionalized population)
Note: Percentages do not add to 100% because people can have multiple sources of health insurance coverage.

Figure 12.1: Percentage of population without health insurance by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=783; AI/AN females=1,148; NHW males=49,342; NHW females=77,177.

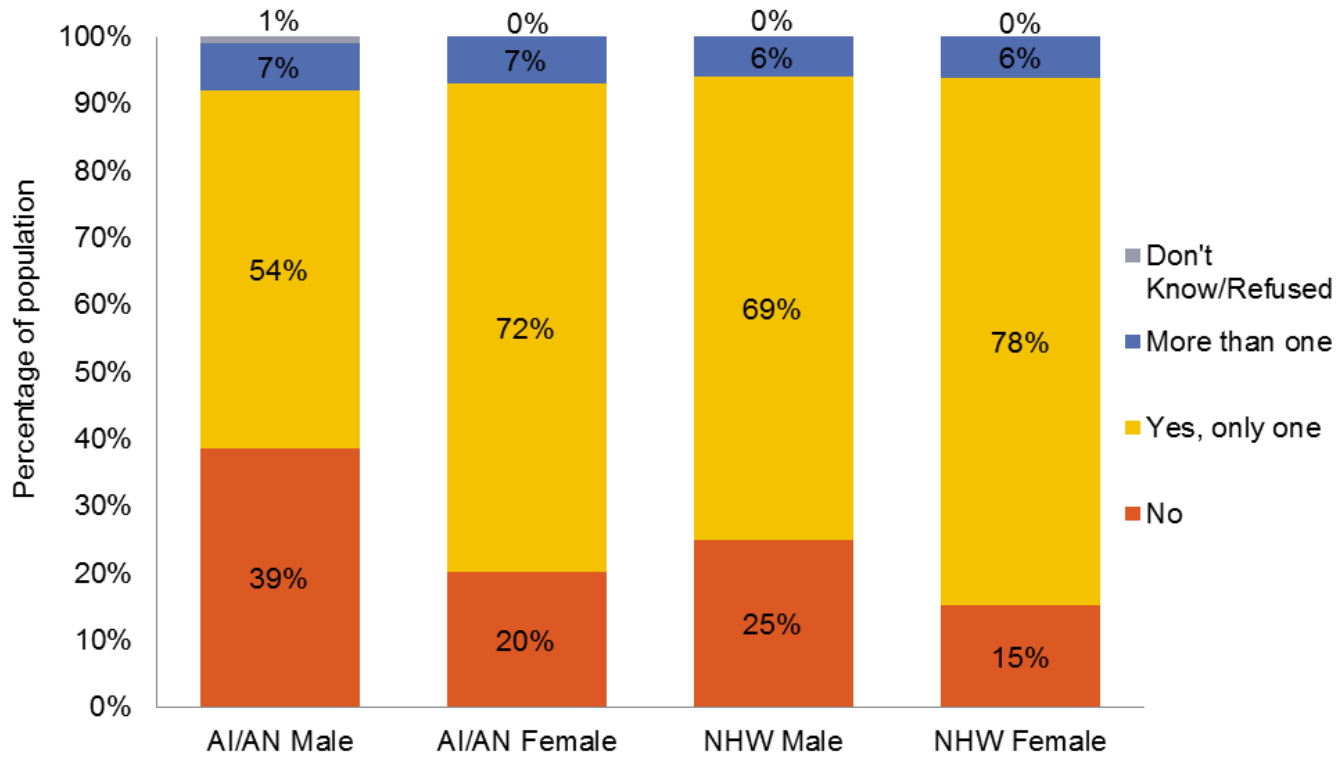
Primary Care Physician

Over 60% of AI/AN and NHW in Washington reported having a primary care provider (Figure 12.2). However, when compared to NHW of the same sex, fewer AI/AN had a primary care provider. About 40% of AI/AN males and 25% of NHW males did not have a primary care provider. For females, 20% of AI/AN and 15% of NHW did not have a personal doctor. A small percentage of respondents (7% of AI/AN and 6% of NHW) reported having more than one primary care provider.

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006-2012.

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

Figure 12.2: Percentage of population with a primary care provider by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=783; AI/AN females=1,148; NHW males=49,342; NHW females=77,177.

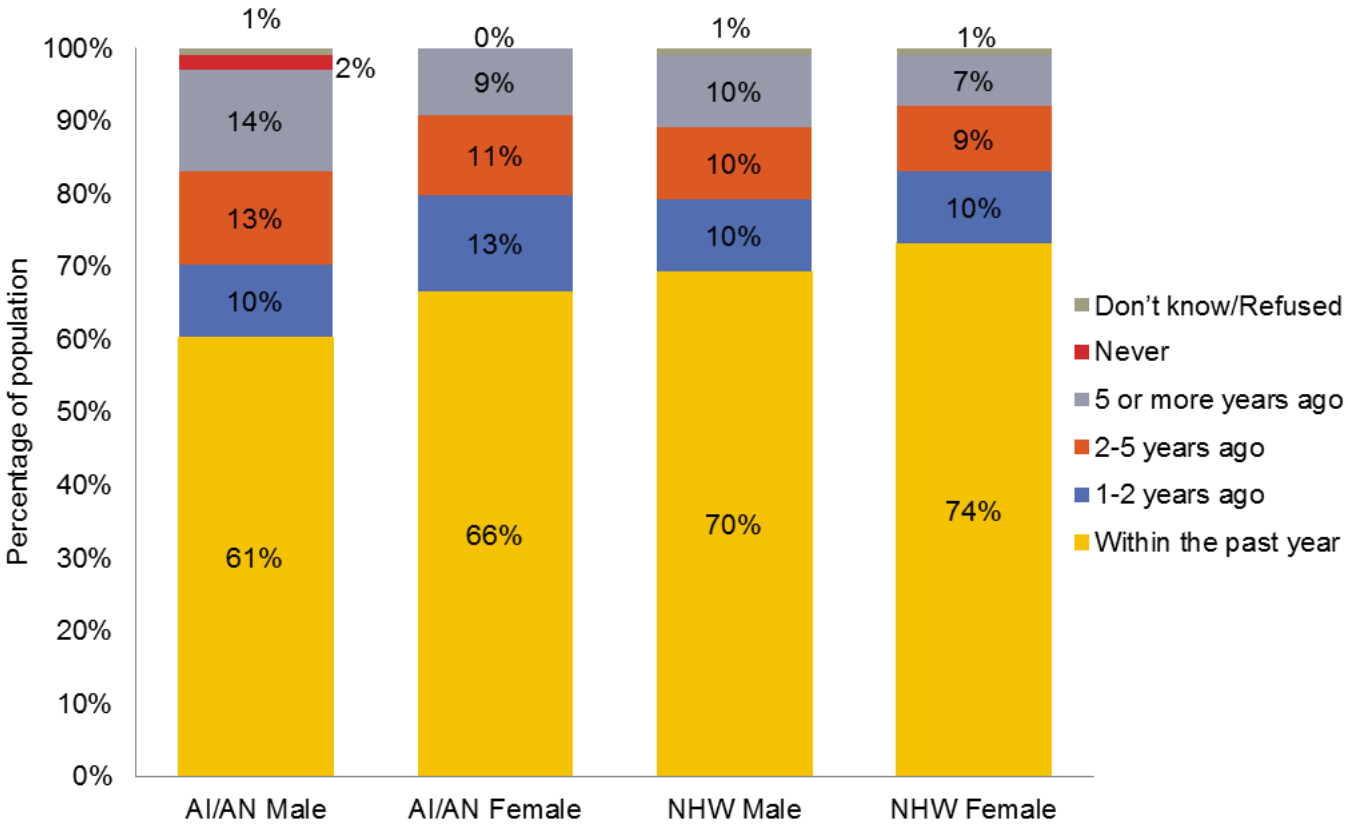
Access to Dental Care: Time Since Last Dental Visit

From 2006-2012, fewer AI/AN in Washington reported having a dental visit in the past year compared to NHW in the state (Figure 12.3). Among AI/AN males, 61% had a dental visit in the past year and 71% had a dental visit in the past two years; for NHW males, 70% had a visit in the past year and 80% had a visit in the past two years. Two percent of AI/AN men reported they had never had a dental visit. Among AI/AN females, 66% had a dental visit in the past year (vs. 74% of NHW females), and 79% had a dental visit in the past two years (vs. 84% of NHW females).

Data Source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2006, 2008, 2010, and 2012.

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

Figure 12.3: Time since last dental visit by race and sex, Washington, 2006-2012.



Sample sizes (n): AI/AN males=446; AI/AN females=654; NHW males=28,252; NHW females=44,032.

Access to Dental Care: Visit in Past Year

Regular dental check-ups can help prevent oral infections and tooth decay, and improve overall health and well-being. The U.S. has a Healthy People 2020 goal for 49% of people ages 2 and older to have had a dental visit in the past year.

The IHS tracks the percentage of AI/AN patients who had a dental visit in the past year. In 2013, the IHS goal for dental visits was 26.9% of all patients. About 36% of patients seen in Washington clinics and the Portland Area IHS had a dental visit in the past year, which exceeded the 2013 goal (Figure 12.4). Compared to the national IHS average, Washington Clinics and the Portland Area IHS had a higher percentage of patients with a dental visit in the past year.

Program Spotlight: Northwest Tribal Dental Support Center

NPAIHB's Northwest Tribal Dental Support Center (NTDSC) works with 34 IHS and tribal dental programs to improve the oral health of AI/AN in the Pacific Northwest. NTDSC has a four-pronged approach to address the needs of the dental programs in the Portland Area: 1) clinical program support, 2) prevention program support, 3) implementation of a surveillance system to track oral health status, and 4) provision of continuing dental education opportunities.

The objectives of the NTDSC are to increase overall dental access, increase access for patients with diabetes, increase use of sealants, increase use of topical fluoride treatments, and prevent and treat periodontal diseases among diabetic patients. The NTDSC communicates with local dental programs via site visits, email groups, webinars, telephone consultation, and an annual Prevention Coordinators meeting.

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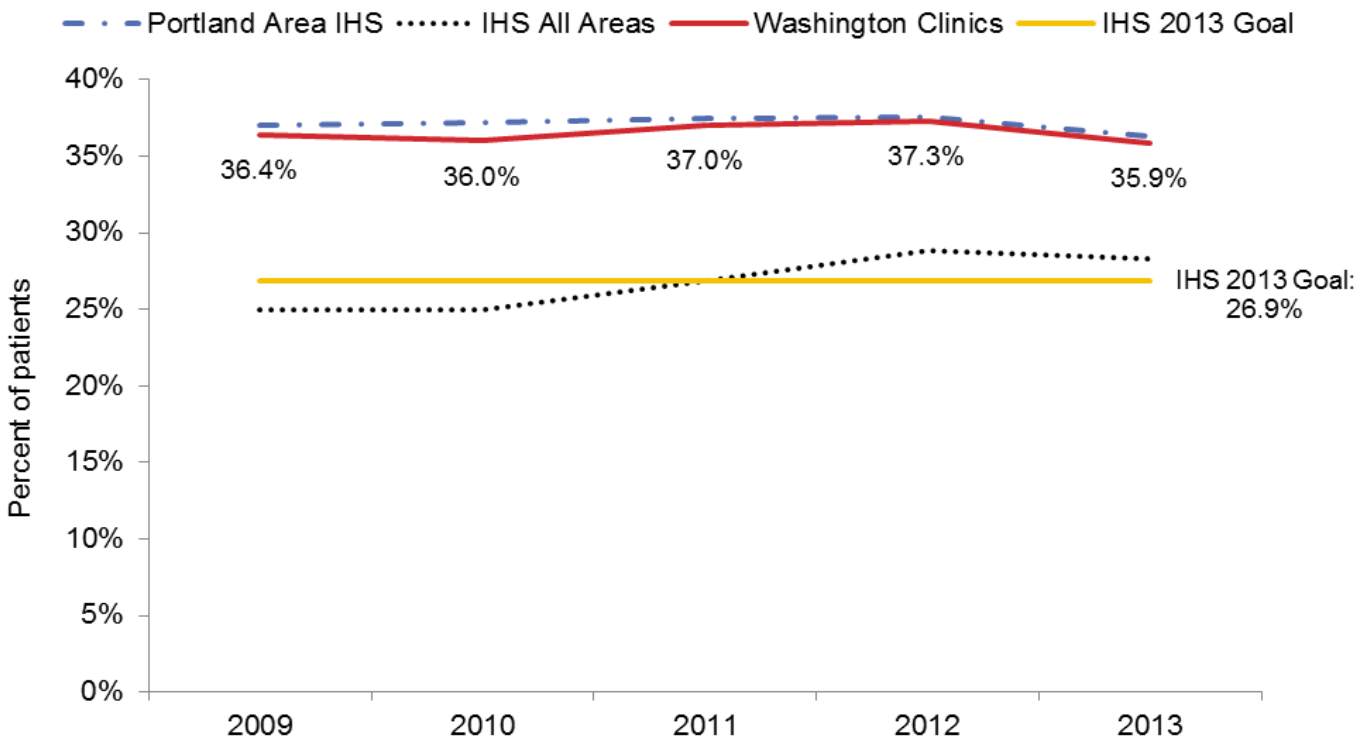
Figure 12.4: Percentage of IHS AI/AN patients who had a dental visit in the past year, 2009-2013.



Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Childhood Immunizations

Vaccines help protect people from infectious viral diseases such as polio, measles, pertussis, and influenza. In order to be up-to-date on childhood immunizations, a child (age 19-35 months) must have the 4:3:1:3:3:1:4 combination of vaccines: four doses of diphtheria, tetanus and pertussis (DTaP), three doses of polio, one dose of measles, mumps and rubella (MMR), three doses of Haemophilus influenzae B (HiB), three doses of hepatitis B, one dose of varicella, and one dose of pneumococcal. The U.S. has a Healthy People 2020 goal for at least 80% of children ages 19-35 months to be up-to-date on childhood immunizations.

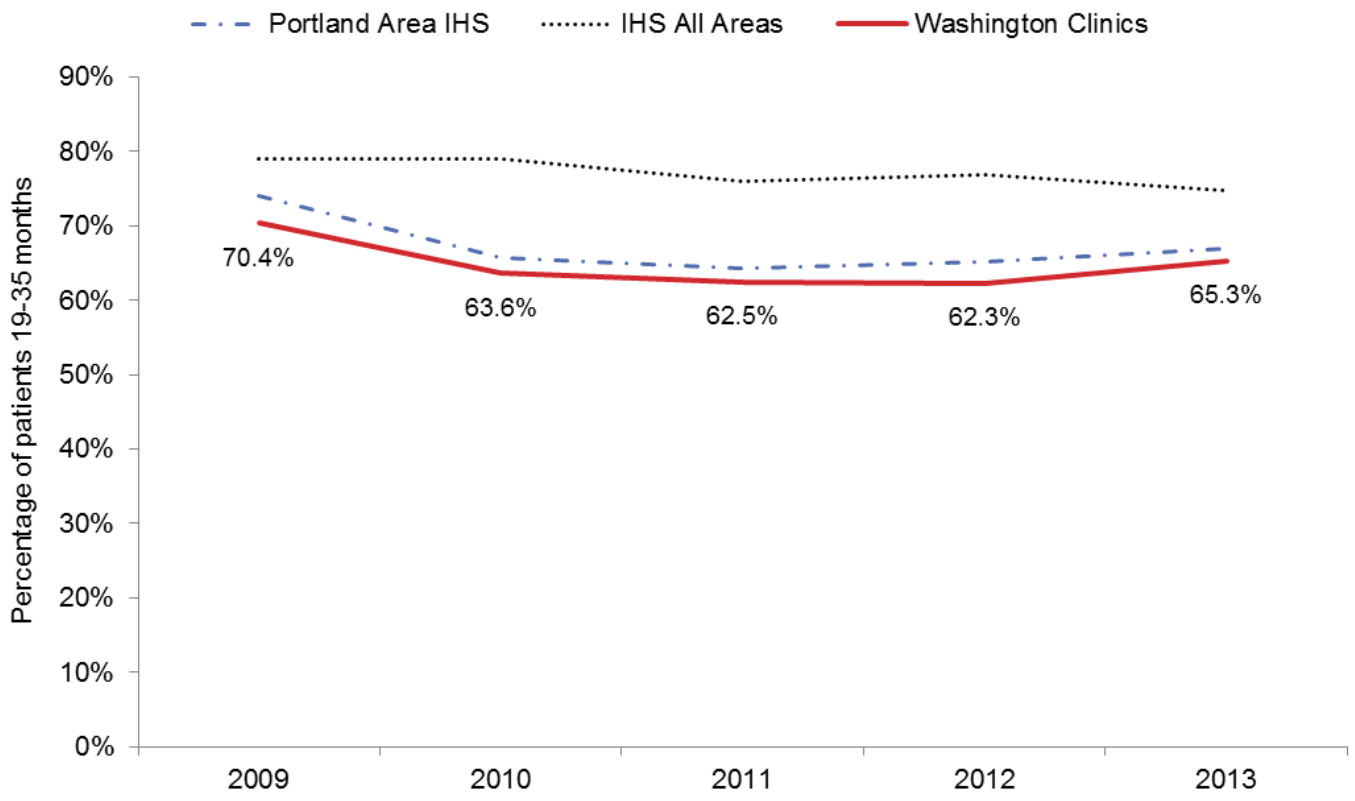
IHS is using 2013 rates to establish a new baseline for this measure, and did not set a 2013 goal. The 2012 goal for this measure was 77.8%.

Childhood immunization rates for Washington clinics and the Portland Area IHS have decreased since 2009 (Figure 12.5). In 2012, the childhood immunization rate for Washington clinics (62.3%), the Portland Area IHS (65.1%), and the national IHS (76.8%) did not meet the 2012 goal of 77.8%. Washington clinics and the Portland Area IHS have consistently had lower childhood immunization rates than the national IHS average.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 12.5: Percentage of IHS AI/AN children (ages 19-35 months) who received the 4:3:1:3:3:1:4 immunization schedule, 2009-2013.



Adult Flu Vaccine

The influenza (or flu) vaccine is an effective way to prevent illnesses and deaths from the influenza virus. Flu vaccines are especially important for people who may have weaker immune systems; these groups include people over 50 years of age, children ages 6 months to 18 years, and people with diabetes or other serious illnesses. The U.S. has a Healthy People 2020 goal for 90% of non-institutionalized high-risk adults ages 65 and older to receive a seasonal flu vaccine each year.

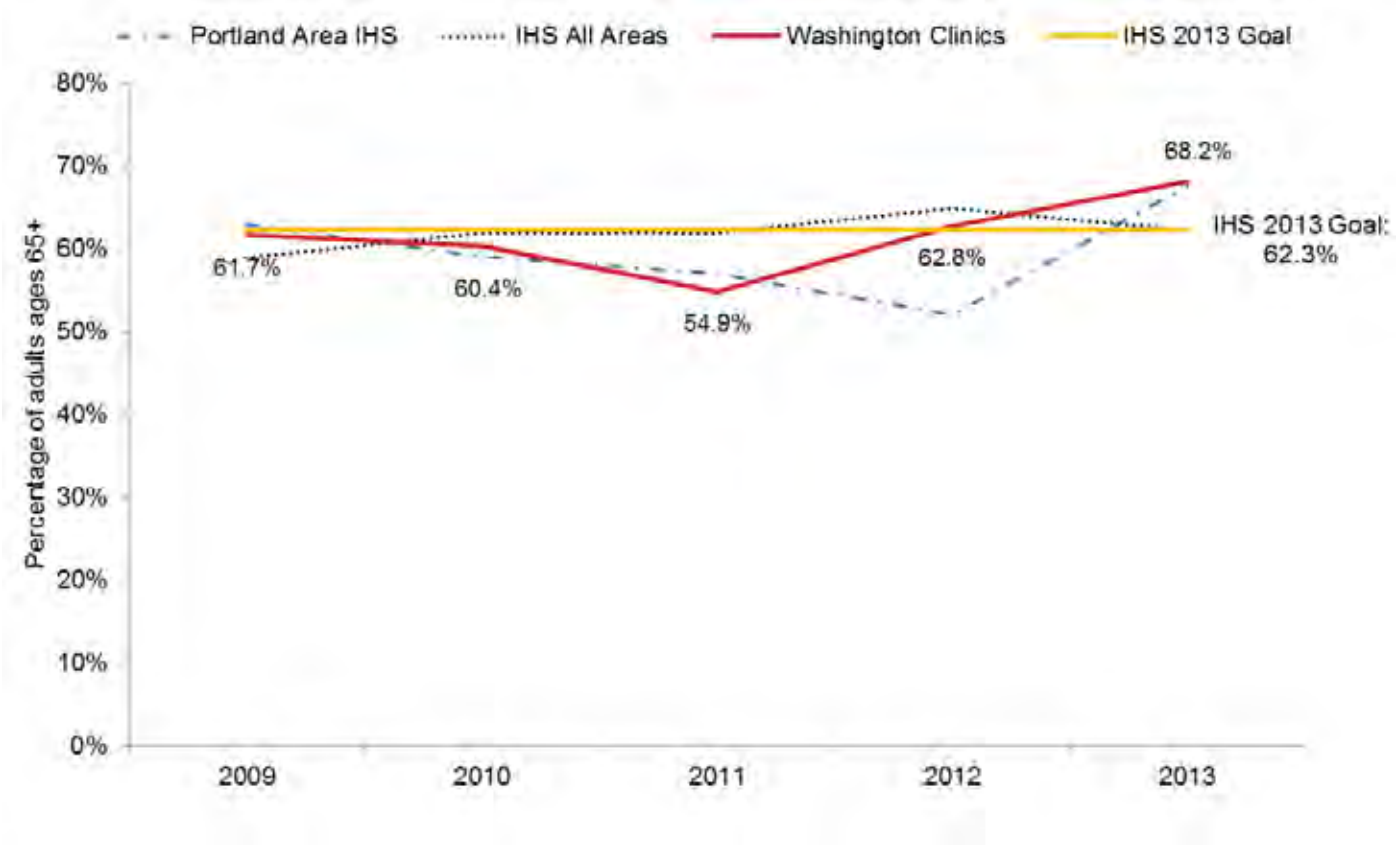
IHS tracks the percentage of AI/AN patients ages 65 years and older who received the influenza vaccine in the past year. In 2013, the IHS goal for this measure was 62.3%.

The flu vaccination rate for Washington clinics decreased from 2009 to 2011 before increasing to 68.2% in 2013 (Figure 12.6). The Portland Area IHS rate decreased from 2009 to 2012, but increased from 52.1% in 2012 to 67.7% in 2013. The national IHS average steadily increased from 2009 to 2012, and dropped slightly in 2013. All three areas met the 2013 goal for this measure.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 12.6: Percentage of IHS AI/AN patients ages 65 years and older who received a flu vaccine in the past year, 2009-2013.



Adult Pneumococcal Vaccine

The pneumococcal vaccine can prevent illnesses that result from Infection with the pneumococcus bacteria, such as pneumonia, meningitis, and bacteremia. This vaccine is especially important for people who may have weak immune systems, including people over the age of 65 and those with diabetes or other serious illnesses. The U.S. has a Healthy People 2020 goal for 90% of adults ages 65 and older to report ever receiving a pneumococcal vaccination.

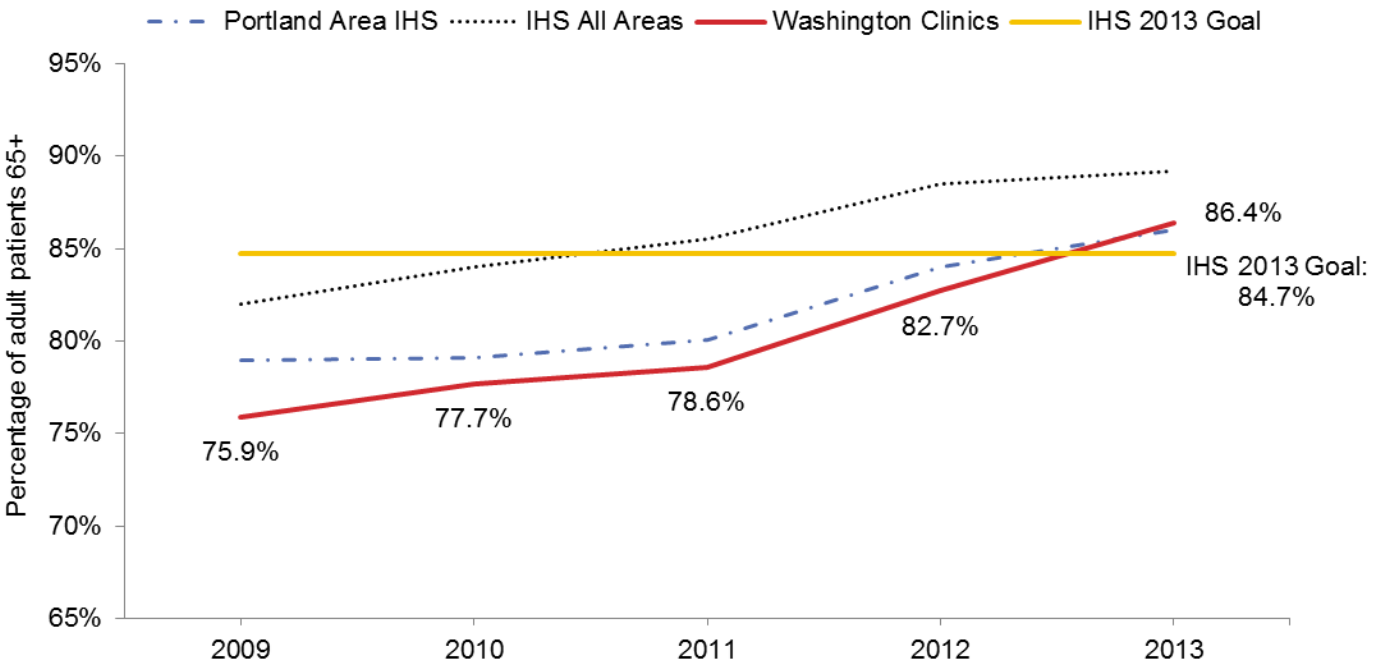
IHS tracks the percentage of AI/AN patients ages 65 years and older who received a pneumococcal vaccination at least once in their lifetime. The IHS 2013 goal for this measure was 84.7%.

Washington clinics, Portland Area IHS, and national IHS all exceeded the 2013 goal for pneumococcal vaccinations (Figure 12.7). The vaccination rate for Washington clinics and the Portland Area IHS was around 86% in 2013, and the national average was 89.2%. Pneumococcal vaccination rates across all three areas have steadily increased since 2009.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Washington clinics. Washington clinics include non-urban federal and tribal Indian health facilities in Washington. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 12.7: Percentage of IHS AI/AN patients ages 65 years and older who ever received a pneumococcal vaccine, 2009-2013.



Program Spotlight: Northwest Tribal Immunization Project

Immunizations are a safe and effective means for preventing disease in children, adolescents, and adults. Although many vaccine-preventable childhood diseases are near record low levels, recent outbreaks of diseases such as pertussis and measles serve as a reminder that these diseases have not disappeared. Since 2008, NPAIHB's Immunization Program has focused on understanding and addressing the causes of low immunization coverage among AI/AN in the Pacific Northwest, especially among infants and young children. The program supports IHS and tribal clinics in reporting immunization coverage data for children, adolescents and adults on a quarterly basis. Additional reports are collected annually to monitor influenza vaccination rates for both patients and healthcare providers. These data have been useful in addressing recent epidemics of vaccine preventable diseases such as the influenza A H1N1 pandemic and the 2012 pertussis epidemic in Washington and parts of Idaho and Oregon.

The Immunization Program supports immunization coordinators from 33 clinical sites by sponsoring annual RPMS trainings and holding monthly calls. Program staff also serve as liaisons between clinical sites and State health departments, the IHS National Immunization Program and CDC, and assist sites with locating vaccine supplies, responding to vaccine recalls, and undertaking special projects to improve immunization coverage and immunization data exchange with State Immunization Information Systems. The program is funded by the Portland Area Indian Health Service.

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Summary

The data in this report can be viewed as a midpoint in Washington Tribes' journey towards health and well-being for their communities. Tribes and tribal members have faced many historical injustices, and continue to experience inequities across many social and economic determinants of health. Despite these challenges, AI/AN in Washington have made considerable progress on key health measures. Teenage birth rates have declined since the 1990s. AI/AN mortality rates for heart disease, stroke, and homicide have also significantly decreased over time. Indian health clinics in Washington continue to work toward improving patient care, and have shown improvements across many clinical screening and disease management indicators.

However, AI/AN in Washington continue to face many health disparities. AI/AN infant mortality rates have increased since 1994, and the gap relative to NHW is growing over time. All-cause mortality rates for AI/AN are approximately 70% higher than the rates for NHW in the state. Heart disease, diabetes, and cancer pose heavy burdens for tribal communities. Unintentional injuries are also concerning, particularly among children and young adults. Motor vehicle crashes and accidental overdose are the leading contributors to unintentional injury deaths among AI/AN in Washington. Rates of suicide, binge drinking, and drug and alcohol associated deaths are higher among AI/AN than NHW.

Many of these health conditions are preventable. Programs aimed at encouraging healthy lifestyles are the best approach for addressing many of the health disparities experienced by AI/AN in Washington. Avoiding tobacco, getting regular physical exercise, eating a healthful diet, and maintaining a healthy body weight are key to preventing and managing heart disease and diabetes. These factors also protect against many types of cancer. Injury prevention efforts focused on motor vehicle safety and overdose prevention are particularly needed among youth. Mental health programs, including suicide prevention and campaigns targeting substance abuse, will have broad reaching effects across the spectrum of both community and personal health and well-being. Finally, being able to access affordable and quality healthcare close to home is key to maintaining good physical and mental health throughout life.

This report shows a baseline of where we stand today. It can also help Tribes plant the seeds for healthier AI/AN communities by showing the strong roots from which to grow, and uncovering the challenges that must be addressed.

Appendix I: Maps

The maps presented in this section show how mortality and hospitalization rates for AI/AN vary across the State of Washington. Lighter color indicates a lower rates, and darker color higher rates. Rates are shown by "health districts", which mirror the healthcare/emergency preparedness regions defined by the Washington Emergency Management Division. Districts shown with diagonal lines across are those for which the AI/AN mortality rate was statistically significantly higher than the NHW rate in the district. Districts show as plain white are those for which there were fewer than five AI/AN deaths and thus the rates were not calculated.

Counties included in each district are:

District 1 (North): Whatcom, San Juan, Skagit, Island, Snohomish

District 2 (Northwest): Clallam, Jefferson

District 3 (West): Grays Harbor, Pacific, Ilwaco, Mason, Thurston, Lewis

District 4 (Southwest): Wahkiakum, Cowlitz, Clark, Skamania

District 5 (Peirce): Pierce

District 6 (Central): King

District 7 (North Central): Okanogan, Chelan, Douglas, Kittitas, Grant

District 8 (South Central): Yakima, Klickitat, Benton, Franklin, Walla Walla

District 9 (East): Ferry, Pend Oreille, Stevens, Lincoln, Spokane, Adams, Whitman, Columbia, Garfield, Asotin

Tribal lands are found in the following districts:

District 1: Lummi, Nooksack, Samish, Swinomish, Upper Skagit, Sauk-Suiattle, Stillaguamish, Tulalip

District 2: Makah, Lower Elwha, Jamestown S'Klallam, Port Gamble, Suquamish, Quileuete, Hoh

District 3: Quinault, Skokomish, Squaxin Island, Chehalis, Shoalwater Bay

District 4: Cowlitz

District 5: Nisqually, Muckleshoot, Puyallup

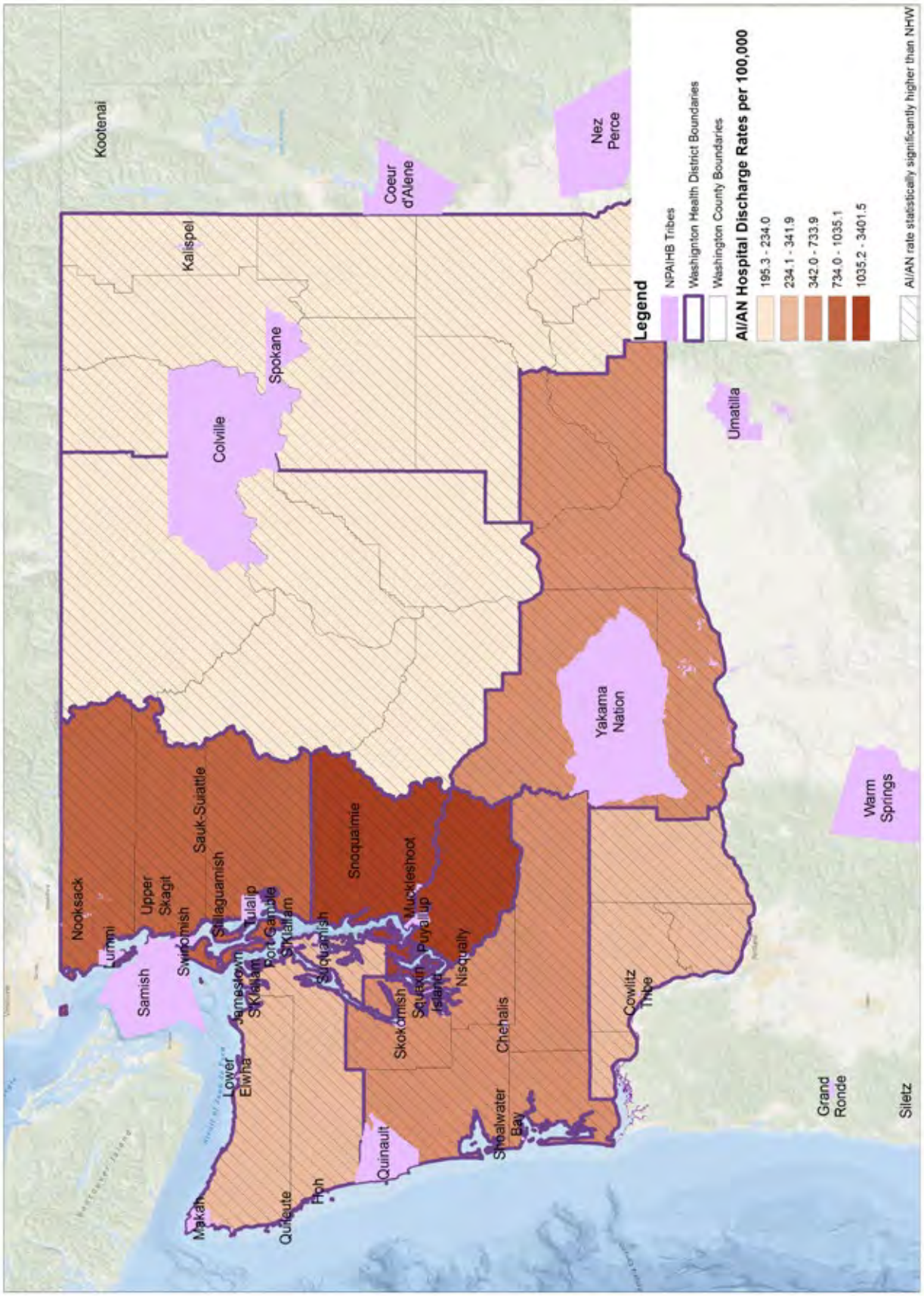
District 6: Snoqualmie

District 7: Colville

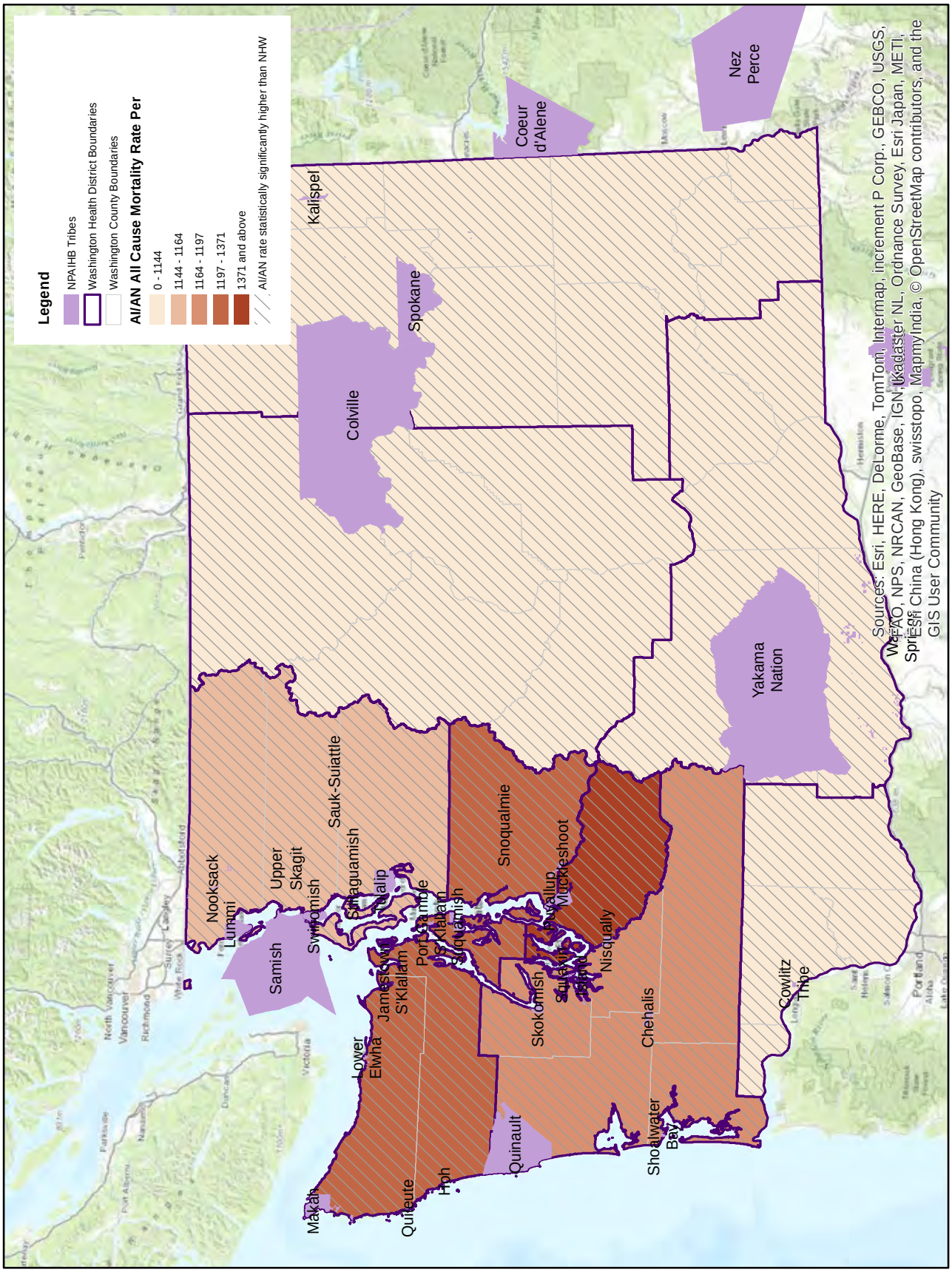
District 8: Yakama

District 9: Colville, Spokane, Kalispel

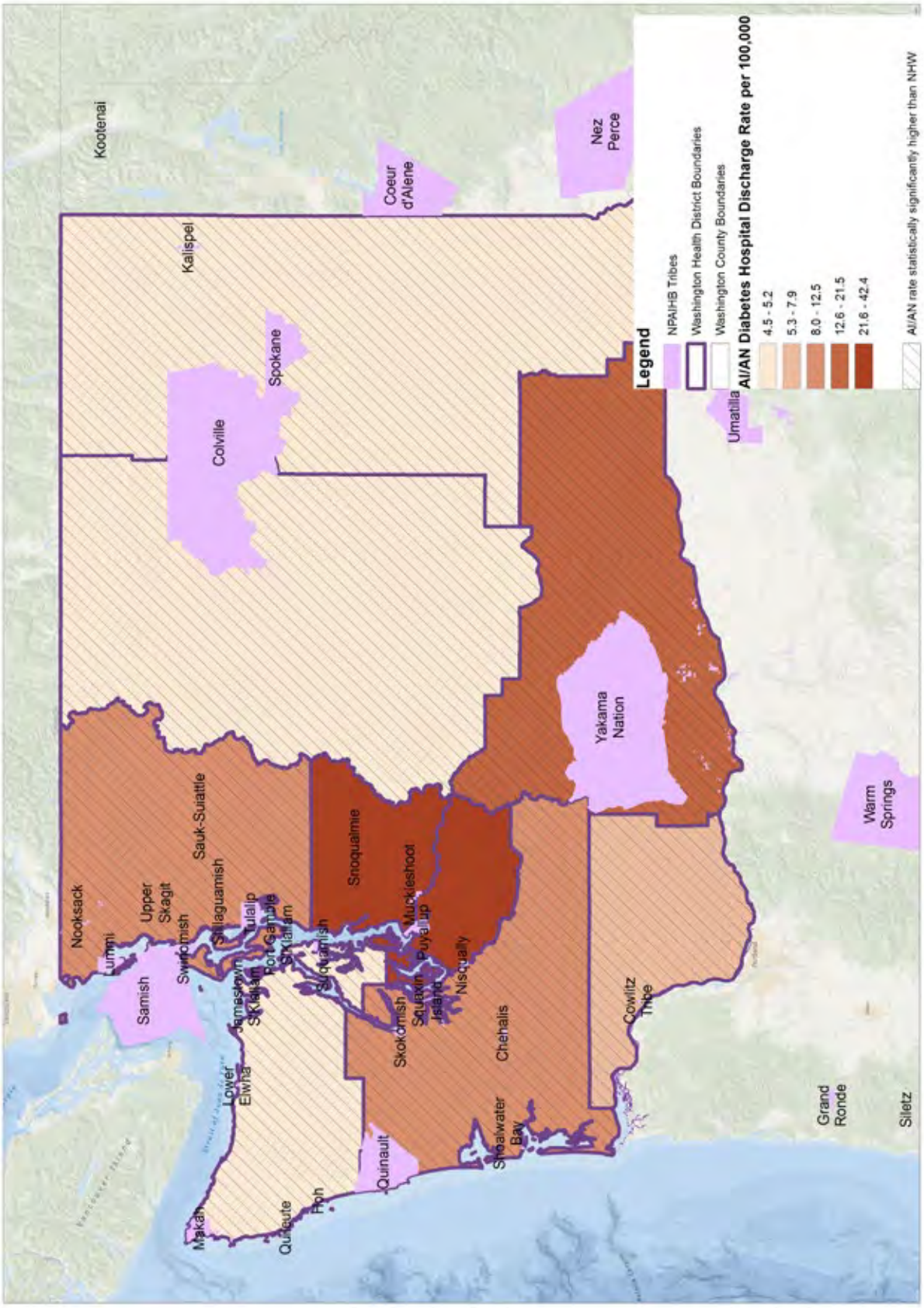
Map 1: AI/AN age-adjusted hospital discharge rates by health district, Washington, 2011.



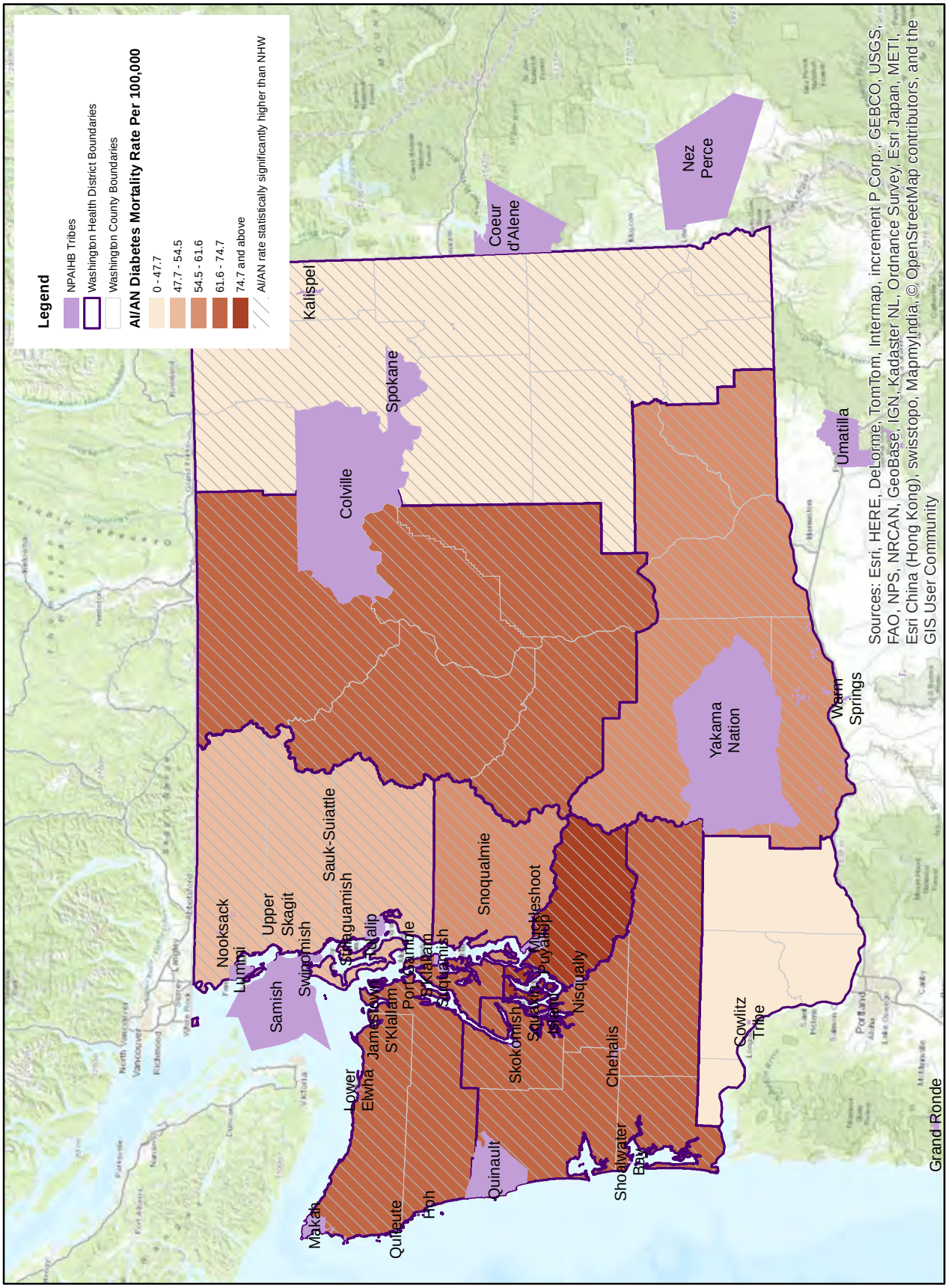
Map 2: AI/AN age-adjusted all cause mortality rates by health district, Washington, 2006-2010.



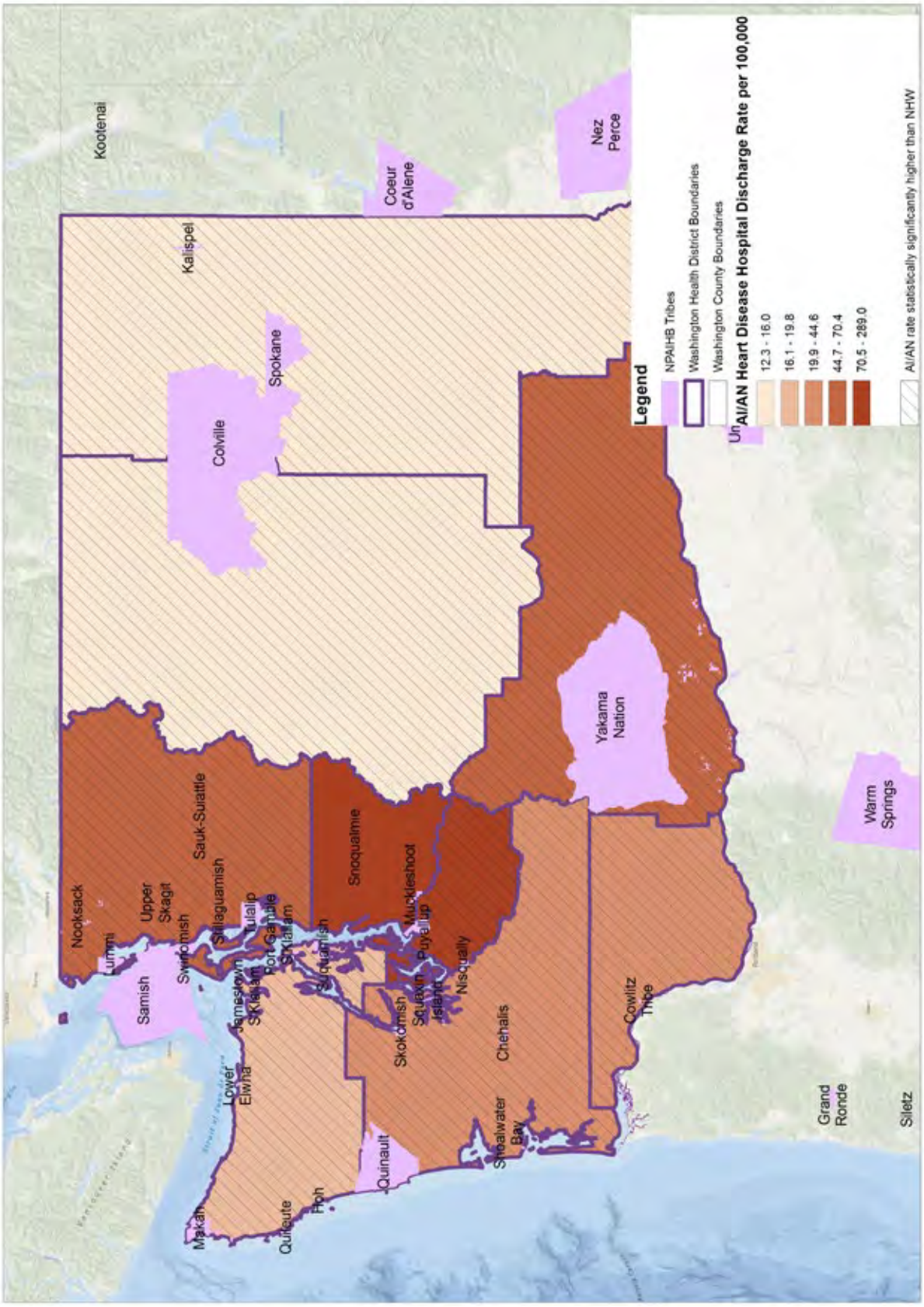
Map 3: AI/AN age-adjusted diabetes hospital discharge rates by health district, Washington, 2011.



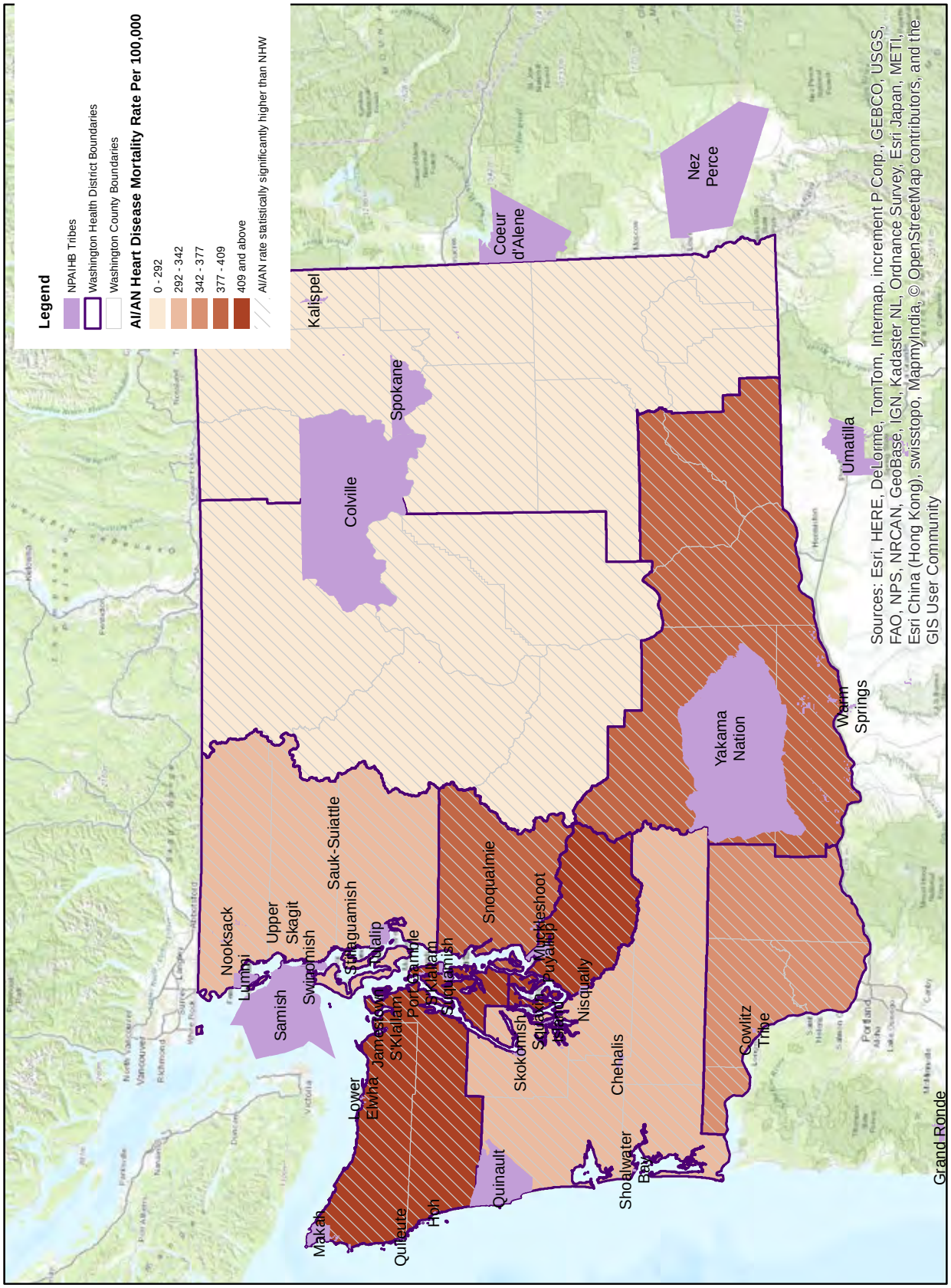
Map 4: AI/AN age-adjusted diabetes mortality rates by health district, Washington, 2006-2010.



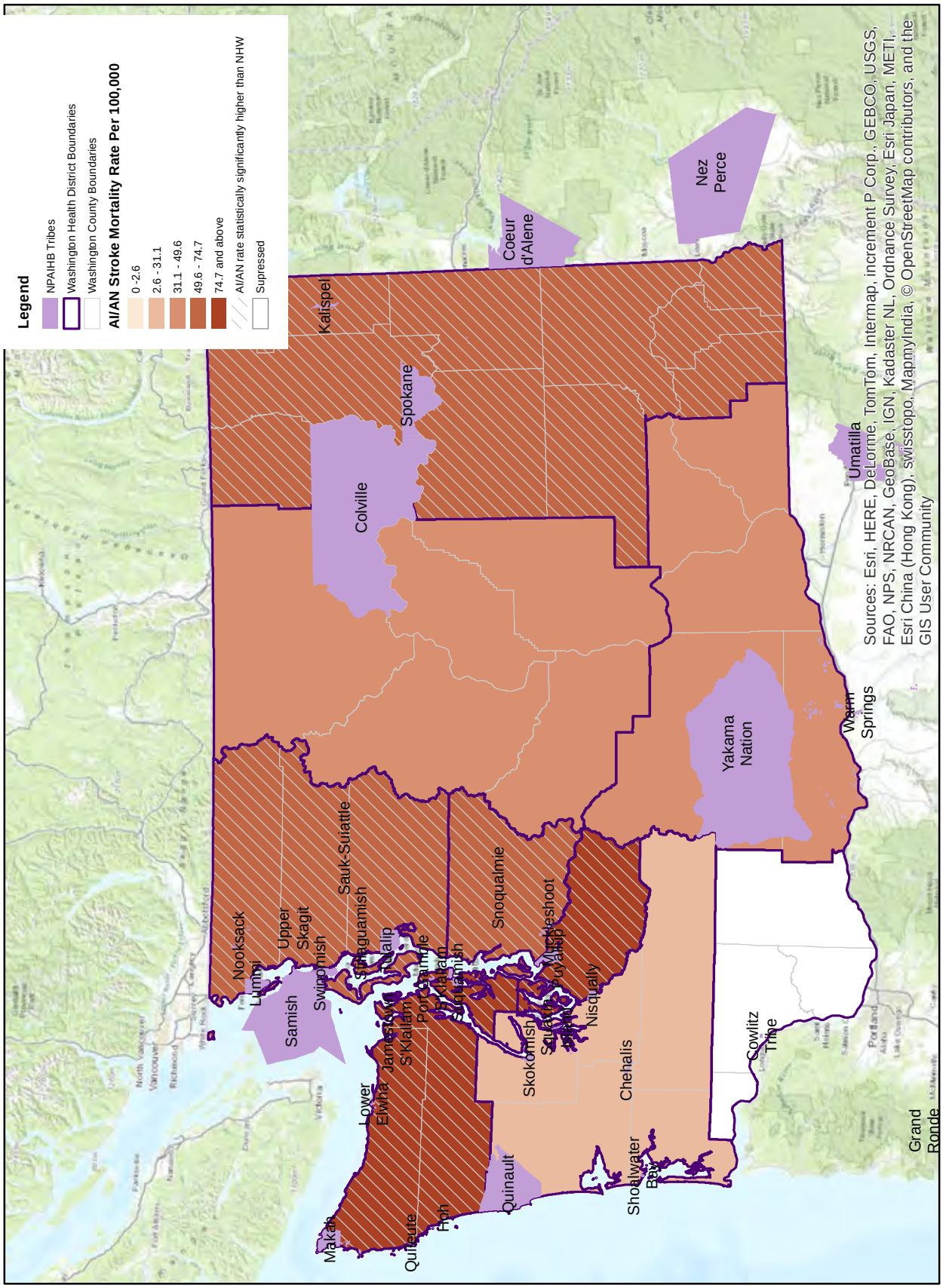
Map 5: AI/AN age-adjusted heart disease hospital discharge rates by health district, Washington, 2011.



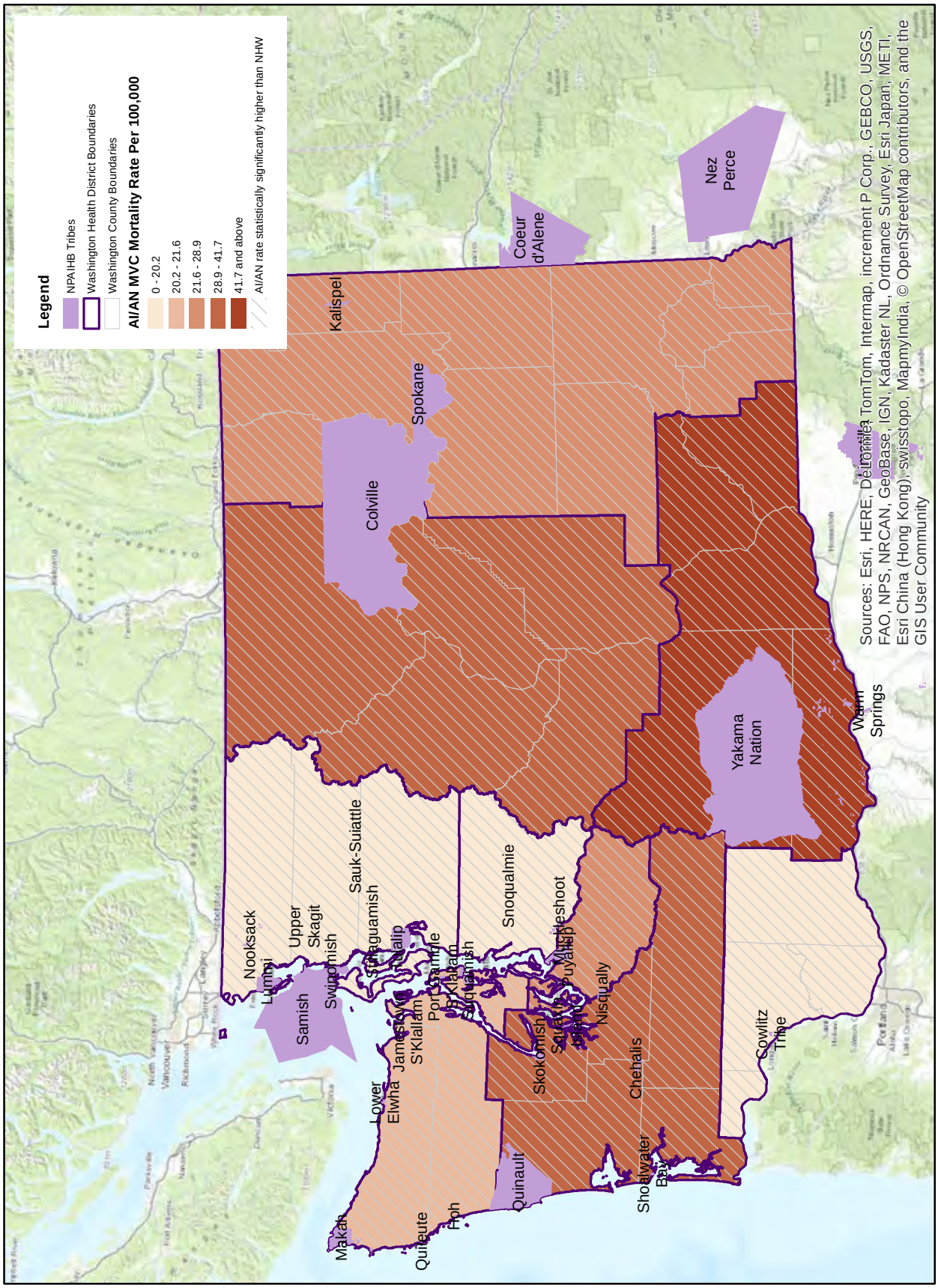
Map 6: AI/AN age-adjusted heart disease mortality rates by health district, Washington, 2006-2010.



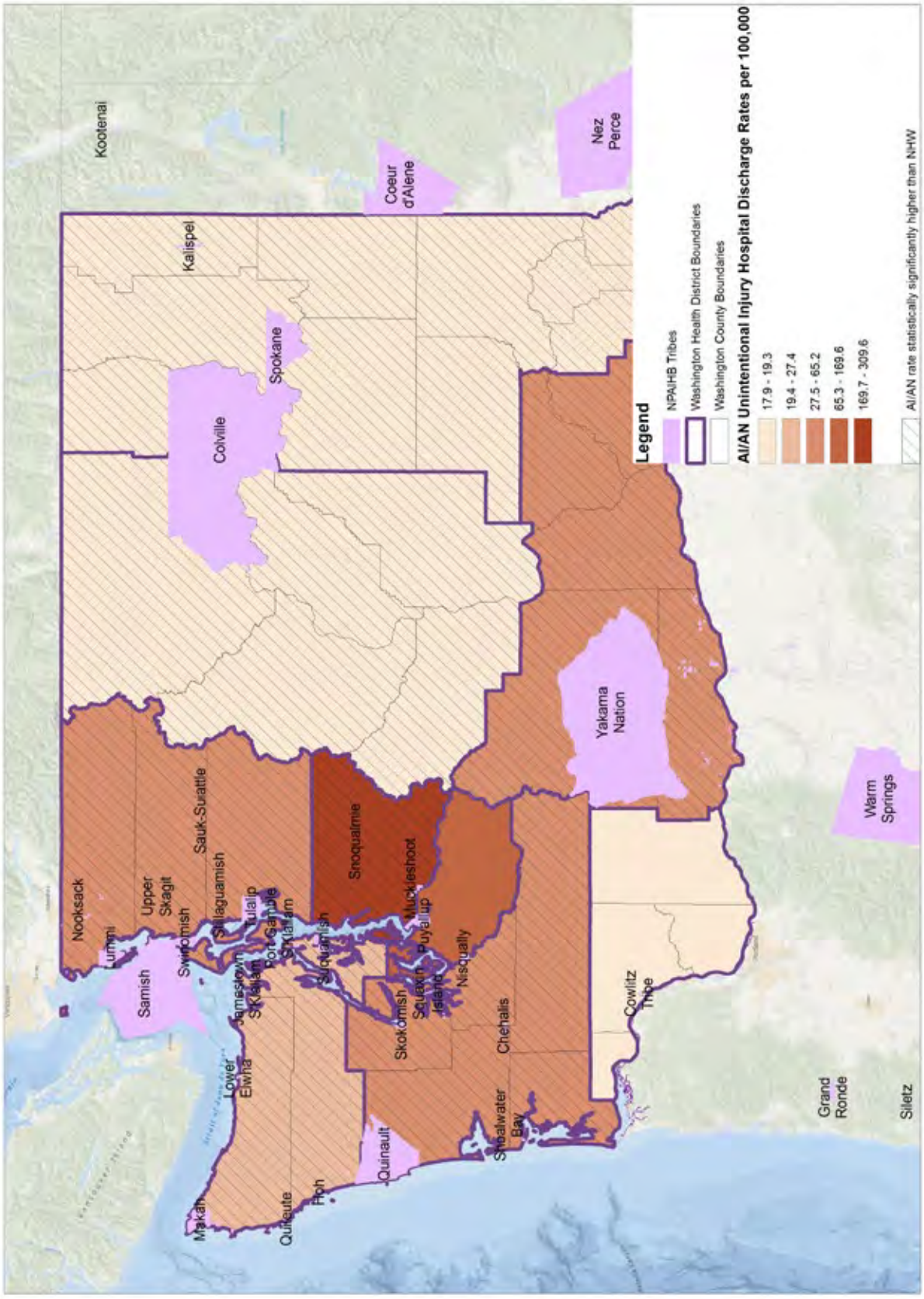
Map 7: AI/AN age-adjusted stroke mortality rates by health district, Washington, 2006-2010.



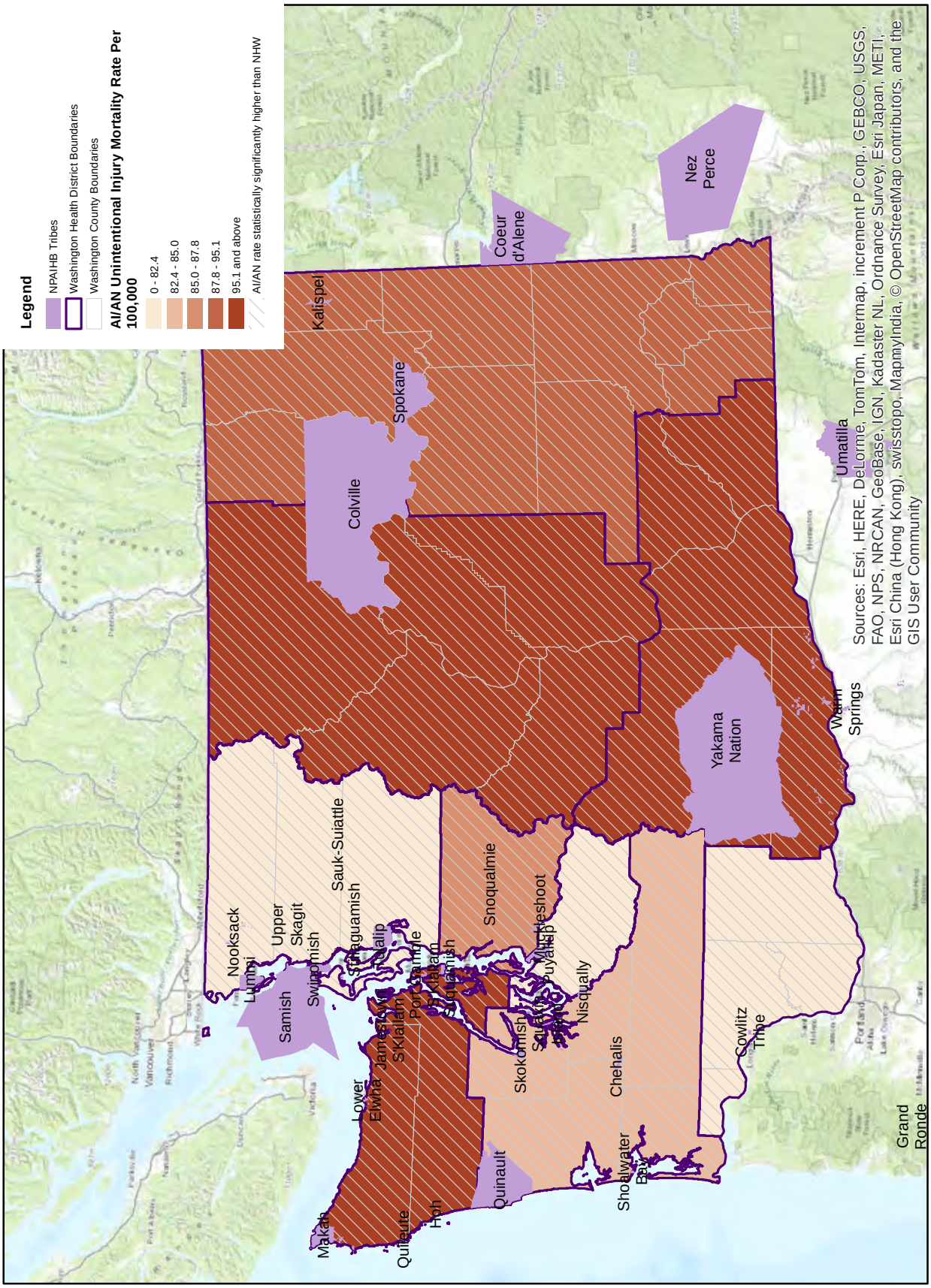
Map 8: AI/AN age-adjusted motor vehicle crash (MVC) mortality rates by health district, Washington, 2006-2010.



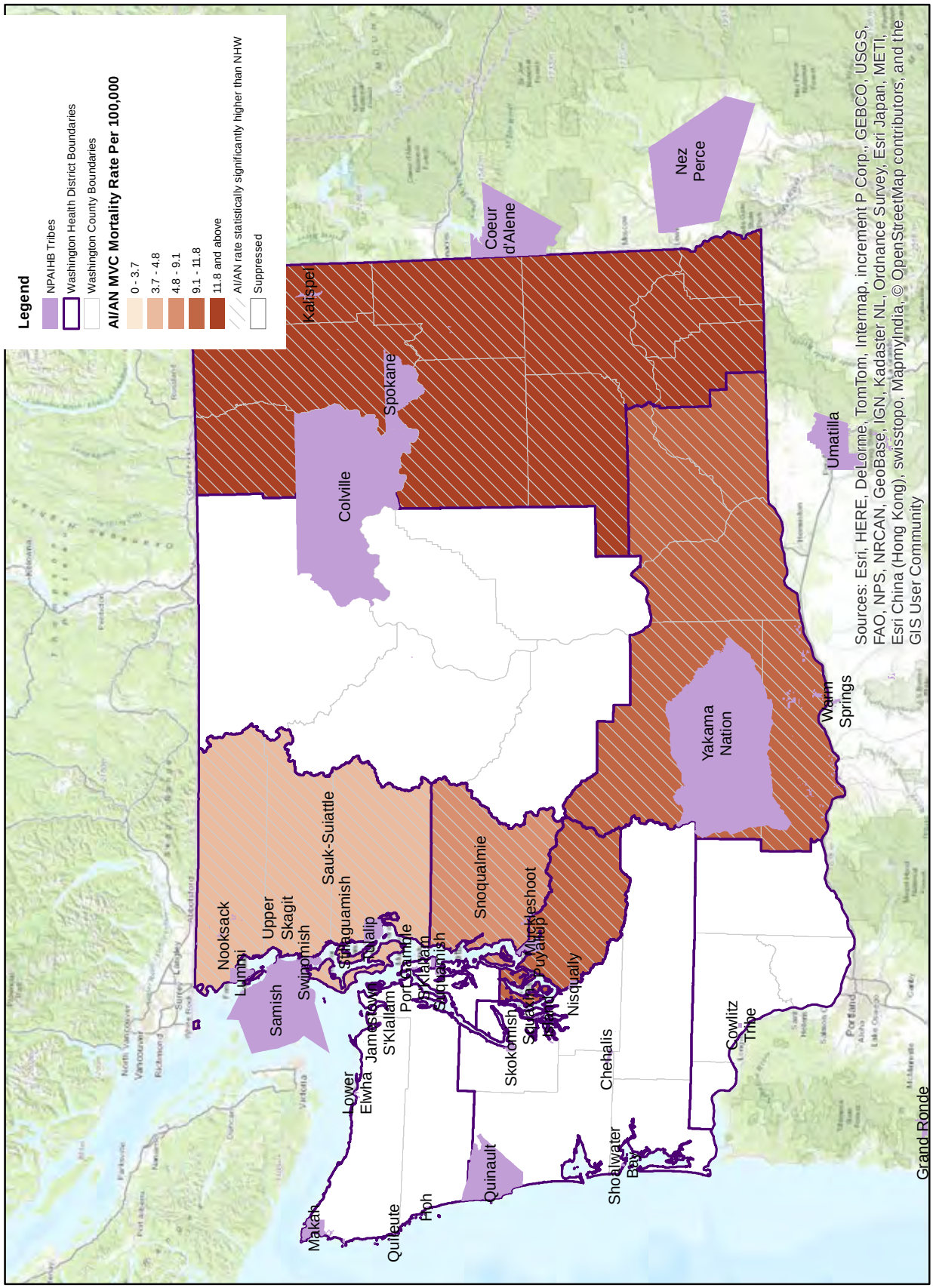
Map 9: AI/AN age-adjusted unintentional injury hospital discharge rates by health district, Washington, 2011.



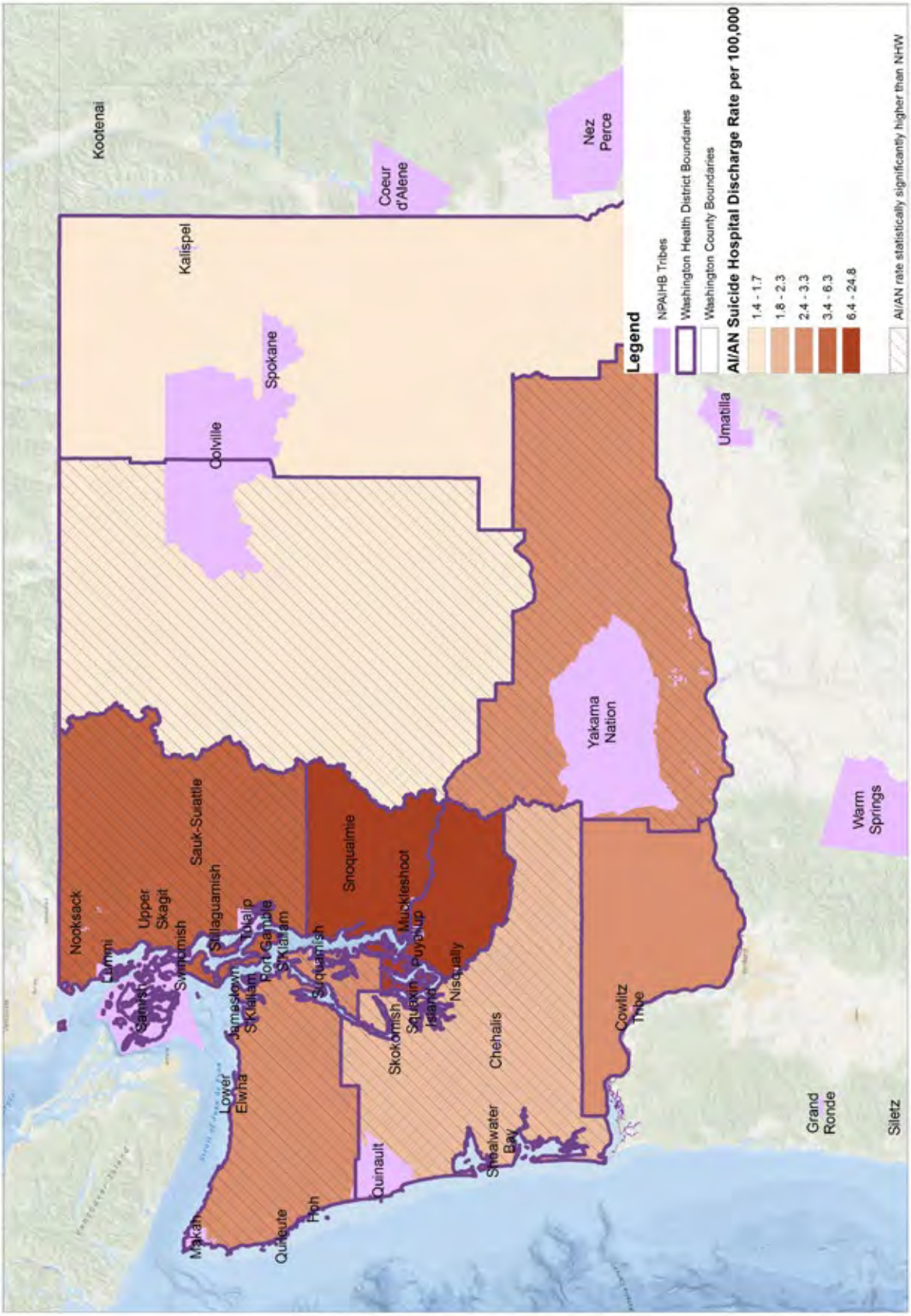
Map 10: AI/AN age-adjusted unintentional injury mortality rates by health district, Washington, 2006-2010.



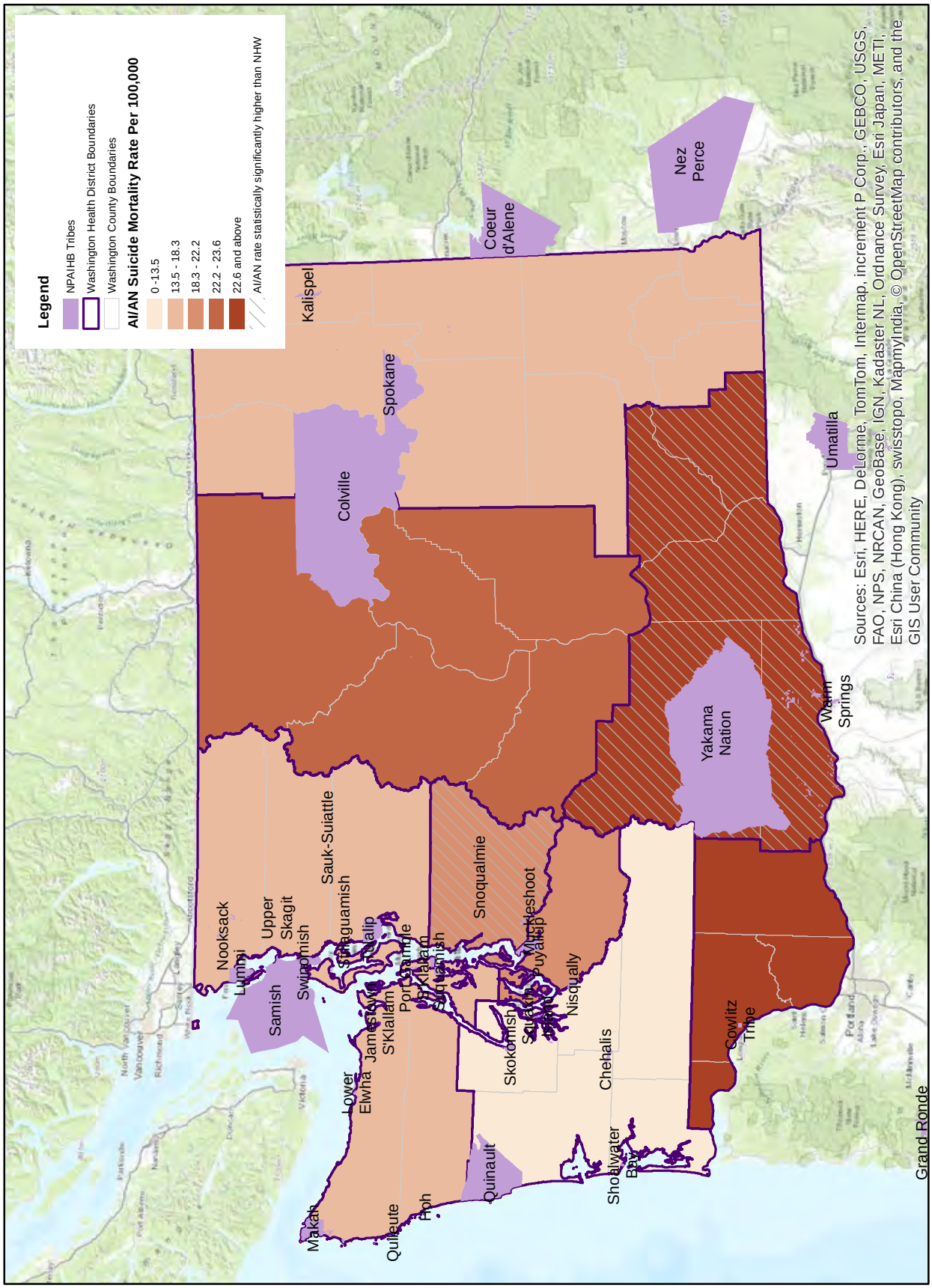
Map 11: AI/AN age-adjusted homicide mortality rates by health district, Washington, 2006-2010.



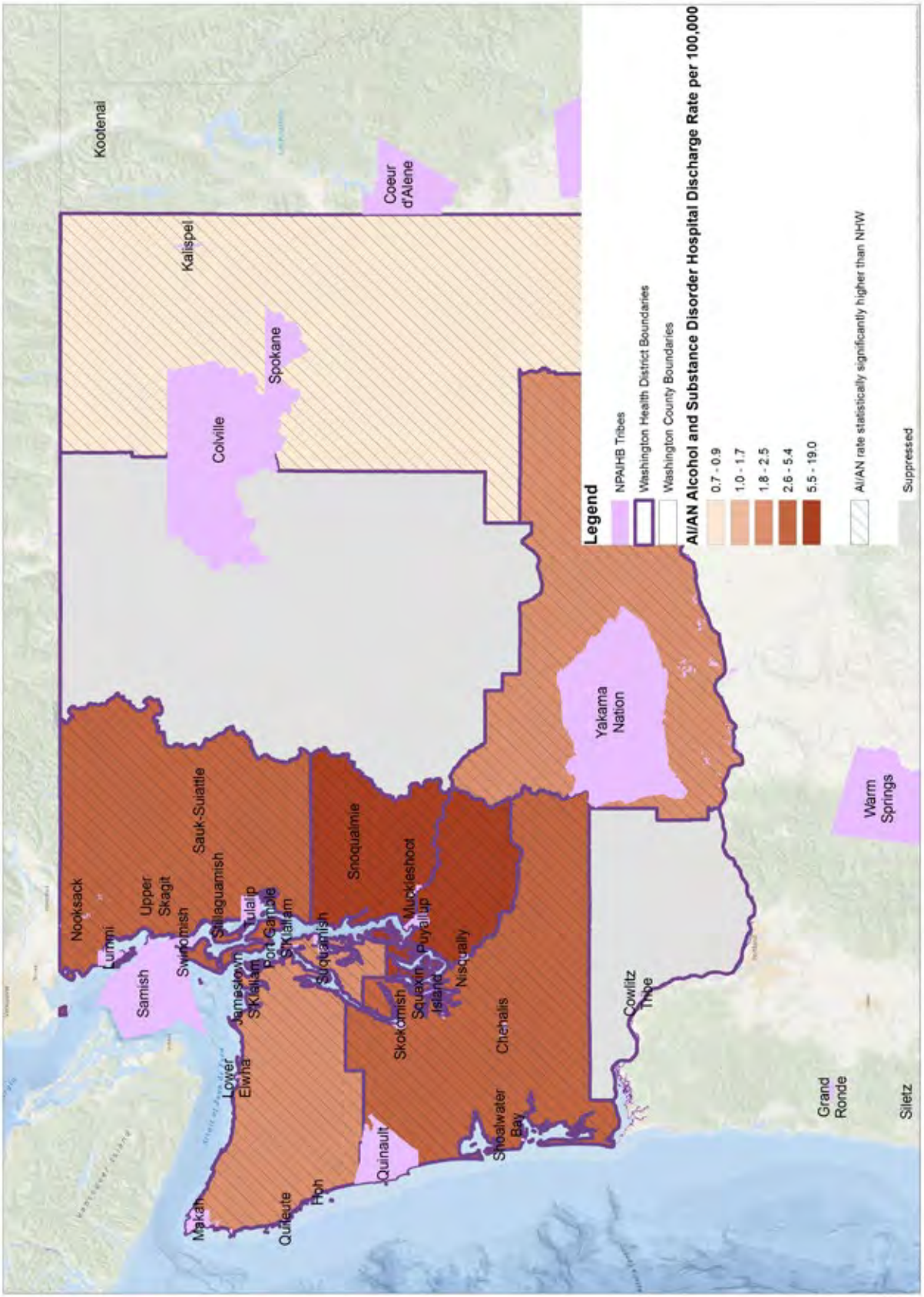
Map 12: AI/AN age-adjusted suicide hospital discharge rates by health district, Washington, 2011.



Map 13: AI/AN age-adjusted suicide mortality rates by health district, Washington, 2006-2010.



Map 14: AI/AN age-adjusted hospital discharge rates for alcohol and substance use disorders, by health district, Washington, 2011.



Abridged Life Tables for American Indians and Alaska Natives of the Northwest, 2008-2010

Age Interval	Mortality rate per 1,000 for x to x+n	Probablity of dying between ages x to x+n	Number surviving to age x	Number dying between ages x to x+n	Person-years lived between ages x to x+n	Total number of person-years lived above age x	Expectation of life at age x	Lower CI	Upper CI
x to x+n	**m\\x**	**q\\x**	**l\\x**	**d\\x**	**L\\x**	**T\\x**	**e\\x**		
Both Sexes, Washington									
Birth to 1 year	7.99	0.012	100,000	1,161	99,036	7,140,007	71.40	70.90	71.90
1-4	0.48	0.002	98,839	188	394,909	7,040,971	71.24	70.75	71.72
5-9	0.31	0.002	98,651	150	492,869	6,646,062	67.37	66.89	67.85
10-14	0.33	0.002	98,502	167	492,167	6,153,194	62.47	61.99	62.95
15-19	0.95	0.005	98,335	465	490,622	5,661,027	57.57	57.09	58.05
20-24	2.01	0.010	97,870	982	486,928	5,170,404	52.83	52.36	53.30
25-29	2.05	0.010	96,887	987	481,932	4,683,477	48.34	47.88	48.80
30-34	2.21	0.011	95,900	1,062	476,971	4,201,545	43.81	43.37	44.25
35-39	2.53	0.013	94,838	1,191	471,310	3,724,574	39.27	38.84	39.70
40-44	5.21	0.026	93,647	2,415	462,309	3,253,264	34.74	34.32	35.16
45-49	6.62	0.033	91,233	2,979	449,411	2,790,955	30.59	30.19	30.99
50-54	9.60	0.047	88,254	4,157	431,352	2,341,544	26.53	26.15	26.91
55-59	12.89	0.063	84,098	5,264	407,533	1,910,192	22.71	22.36	23.07
60-64	17.01	0.082	78,834	6,432	377,939	1,502,659	19.06	18.73	19.39
65-59	23.50	0.114	72,402	8,284	343,436	1,124,720	15.53	15.23	15.84
70-74	42.24	0.193	64,118	12,380	290,967	781,284	12.19	11.91	12.46
75-79	60.11	0.268	51,738	13,856	225,922	490,317	9.48	9.25	9.70
80-84	110.66	0.431	37,882	16,335	147,201	264,394	6.98	6.80	7.15
85+	183.86	1.000	21,547	21,547	117,193	117,193	5.44	5.31	5.57

CI = 95% confidence interval

Note that age-specific mortality rates are based on small numerators in some cases, and are not recommended for use in analyses without standard errors.

Abridged Life Tables for American Indians and Alaska Natives of the Northwest, 2008-2010

Age Interval	Mortality rate per 1,000 for x to x+n	Probablity of dying between ages x to x+n	Number surviving to age x	Number dying between ages x to x+n	Person-years lived between ages x to x+n	Total number of person-years lived above age x	Expectation of life at age x	Lower CI	Upper CI
x to x+n	**m\\x**	**q\\x**	**l\\x**	**d\\x**	**L\\x**	**T\\x**	**e\\x**		
Male AI/AN, Washington									
Birth to 1 year	9.49	0.012	100,000	1,161	99,036	6,957,914	69.58	68.87	70.28
1-4	0.57	0.002	98,839	225	394,851	6,858,879	69.39	68.71	70.08
5-9	0.17	0.001	98,613	81	492,842	6,464,027	65.55	64.87	66.22
10-14	0.40	0.002	98,533	202	492,231	5,971,185	60.60	59.93	61.27
15-19	1.24	0.006	98,331	595	490,542	5,478,954	55.72	55.05	56.39
20-24	2.91	0.014	97,735	1,415	485,407	4,988,412	51.04	50.38	51.70
25-29	2.74	0.014	96,321	1,305	478,188	4,503,005	46.75	46.12	47.38
30-34	2.74	0.014	95,016	1,308	472,059	4,024,817	42.36	41.75	42.97
35-39	2.95	0.015	93,708	1,371	465,539	3,552,758	37.91	37.33	38.50
40-44	5.33	0.026	92,337	2,431	455,766	3,087,220	33.43	32.87	34.00
45-49	6.94	0.034	89,906	3,074	442,384	2,631,454	29.27	28.73	29.81
50-54	11.03	0.054	86,832	4,687	423,208	2,189,069	25.21	24.69	25.73
55-59	15.56	0.075	82,145	6,190	395,817	1,765,861	21.50	21.01	21.98
60-64	20.37	0.098	75,955	7,420	361,275	1,370,044	18.04	17.59	18.48
65-59	28.10	0.136	68,535	9,312	321,812	1,008,769	14.72	14.32	15.12
70-74	43.94	0.201	59,223	11,917	268,384	686,957	11.60	11.25	11.95
75-79	70.56	0.311	47,306	14,726	202,953	418,574	8.85	8.56	9.14
80-84	113.71	0.439	32,580	14,291	125,939	215,621	6.62	6.40	6.84
85+	203.94	1.000	18,289	18,289	89,683	89,683	4.90	4.74	5.07

CI = 95% confidence interval

Note that age-specific mortality rates are based on small numerators in some cases, and are not recommended for use in analyses without standard errors.

Abridged Life Tables for American Indians and Alaska Natives of the Northwest, 2008-2010

Age Interval	Mortality rate per 1,000 for x to x+n	Probablity of dying between ages x to x+n	Number surviving to age x	Number dying between ages x to x+n	Person-years lived between ages x to x+n	Total number of person-years lived above age x	Expectation of life at age x	Lower CI	Upper CI
x to x+n	**m\\x**	**q\\x**	**l\\x**	**d\\x**	**L\\x**	**T\\x**	**e\\x**		
Female AI/AN, Washington									
Birth to 1 year	6.334	0.012	100,000	1,161	99,036	7,323,572	73.24	72.53	73.94
1-4	0.374	0.001	98,839	146	394,971	7,224,536	73.09	72.41	73.78
5-9	0.452	0.002	98,692	225	492,909	6,829,566	69.20	68.52	69.88
10-14	0.262	0.001	98,468	131	492,089	6,336,657	64.35	63.68	65.02
15-19	0.653	0.003	98,336	318	490,715	5,844,568	59.43	58.77	60.10
20-24	1.057	0.005	98,018	514	488,620	5,353,853	54.62	53.96	55.28
25-29	1.337	0.007	97,504	650	485,996	4,865,234	49.90	49.25	50.55
30-34	1.669	0.008	96,854	810	482,260	4,379,237	45.21	44.58	45.85
35-39	2.119	0.011	96,044	1,021	477,430	3,896,978	40.57	39.95	41.20
40-44	5.095	0.025	95,023	2,391	469,205	3,419,548	35.99	35.38	36.59
45-49	6.314	0.031	92,632	2,885	456,790	2,950,343	31.85	31.27	32.43
50-54	8.279	0.041	89,747	3,640	439,831	2,493,553	27.78	27.24	28.33
55-59	10.385	0.051	86,106	4,354	419,443	2,053,722	23.85	23.33	24.37
60-64	13.841	0.067	81,752	5,481	394,763	1,634,279	19.99	19.50	20.48
65-59	19.091	0.094	76,272	7,144	365,366	1,239,516	16.25	15.80	16.71
70-74	40.703	0.186	69,128	12,850	314,112	874,150	12.65	12.24	13.06
75-79	52.419	0.235	56,278	13,222	249,004	560,038	9.95	9.62	10.29
80-84	108.405	0.423	43,056	18,204	168,469	311,034	7.22	6.95	7.49
85+	174.320	1.000	24,852	24,852	142,565	142,565	5.74	5.54	5.93

CI = 95% confidence interval

Note that age-specific mortality rates are based on small numerators in some cases, and are not recommended for use in analyses without standard errors.

Appendix III: Figures and Tables

1. Demographics

2. Maternal & Child Health

3. Mortality

4. Diabetes

5. Cardiovascular Disease & Stroke

6. Cancer

7. Injury & Violence

8. Mental Health & Suicide

9. Substance Abuse

11. Healthy Lifestyles, Healthy Environments

12. Access to Care

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11. Healthy Lifestyles, Healthy Environments

12. Access to Care

Appendix I: Maps

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Community Health Profile Feedback Questionnaire

We hope you found this report useful, but we know it isn't perfect! Your feedback is important to make sure future versions better meet your community's needs. Please take a moment to complete the following questionnaire. If you prefer, you can also complete the same survey online at www.surveymonkey.com/s/D38NS9G
To return the form you can mail it to NPAIHB at 2121 SW Broadway, Suite 300 Portland OR 97201. You can also fax it to 503-416-3265 or scan and email to ideanw@npaihb.org

Q1. How did you receive this report?
☐ Hard copy mailed or given to me from NPAIHB
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☐ Downloaded from NPAIHB website
☐ Other (please specify):_____

Q2. Which best describes your position or role?
☐ Tribal council member or other tribal leader
☐ Tribal health director
☐ Clinic staff
☐ Grant writer
☐ Researcher
☐ Other (please specify):_____

Q3. Overall, how useful did you find this report?
☐ Not at all useful
☐ Somewhat useful
☐ Very useful
☐ Extremely useful

Q4. Which section did you find **the most** useful?
☐ Demographics
☐ Maternal & Child Health
☐ Mortality
☐ Diabetes
☐ Cardiovascular Disease & Stroke
☐ Cancer
☐ Injury & Violence
☐ Mental Health & Suicide
☐ Substance Abuse
☐ Communicable Diseases
☐ Healthy Lifestyles, Healthy Environments
☐ Access to Care

Q5. How easy or difficult was it for you to understand this report?
☐ Extremely difficult to understand
☐ Somewhat difficult to understand
☐ Somewhat easy to understand
☐ Extremely easy to understand

Q6. What would have made it easier to understand?
_____
_____
_____

Q7. How will you use the information in this report?
☐ Grants
☐ Program planning
☐ Financial allocation planning
☐ Presentations
☐ Manuscripts
☐ Advocacy
☐ Not sure
☐ Other (please specify):_____

Q8. Do you have any other comments or questions?
_____
_____
_____

If you would like a staff person to respond to your questions or comments, please share your contact information below:

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Thank you for your feedback!

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Northwest Portland Area Indian Health Board

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