Alaska Native Health Status Report

Prepared by:

Alaska Native Epidemiology Center

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Alaska Native Tribal Health Consortium

August, 2009

Alaska Native Tribal Health Consortium

Alaska Native Epidemiology Center

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National Data Warehouse

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http://www.anthc.org/chs/epicenter/pubs.cfm

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Photo by Joaqlin Estus

Introduction

The Alaska Native Tribal Health Consortium's vision is that "Alaska Natives are the healthiest people in the world." Monitoring health status helps us know where the Alaska Native population is on this path and how far there is to go to reach this vision.

This report provides an overview of the health status of Alaska Native people. By using data to monitor health status, significant improvements in health over time can be demonstrated. In addition, health areas which are a concern, or for which a disparity exists can be readily identified.

This report covers population demographics, leading causes of mortality and morbidity, as well as adolescent and adult lifestyle risk factors. Additional health status topics include maternal and child health, cancer and cancer screening, immunizations, diabetes, infectious diseases, environmental health, and dental health. At the end of this report, the reader will find region-specific health status overviews and how each region compares to the Alaska Native population statewide on selected measures.

The health status topics found in this report were selected from the national Healthy People 2010 document and the State of Alaska's Healthy Alaskans 2010 document. Various data sources were accessed to compile this document. Each data source is subject to certain limitations. For more information on each data source, please refer to Appendix B.

We hope this document is useful as a reference tool for all those interested in Alaska Native health issues and for all those interested in assisting to achieve the vision of the Alaska Native population becoming the healthiest in the world.

EXECUTIVE SUMMARY

Alaska Native Demographics

In FY2007 (October 1, 2006 to September 30, 2007), there were 134,361 Alaska Natives in the Alaska Tribal Health System (ATHS). A larger proportion of the population is under the age of 20 as compared to the U.S. The number of Alaska Natives age 65 and older is estimated to triple between 2000 and 2030 (6,156 to 19,004).

The proportion of Alaska Native children under age 18 living below the poverty level exceeded 22%, double the U.S. White proportion.

Mortality

The Alaska Native all-causes death rate for 2004-2007 was 1.4 times that of U.S. Whites and 1.5 times that of Alaska Whites.

Cancer is the leading cause of death for Alaska Native people, accounting for 1 out of every 5 deaths. The Alaska Native cancer death rate was 30% greater than for U.S. Whites.

Heart disease is the second leading cause of death for Alaska Native people.

Unintentional injury is the third leading cause of death for Alaska Native people. The unintentional injury death rate is double that of Alaska Whites.

Suicide is the fourth leading cause of death for Alaska Native people. The Alaska Native suicide death rate was 3.6 times greater than for U.S. Whites.

Morbidity

The following causes of hospitalizations accounted for nearly 50% of all Alaska Tribal Health System hospitalizations: childbirth, diseases of the respiratory system, injuries and poisoning, and diseases of the digestive system (FY2007).

The leading causes of outpatient visits for the Alaska Tribal Health System were for diseases of the respiratory system and for mental health disorders.

Lifestyle Risk Factors – Adults

The proportion of Alaska Native people estimated to be current smokers is twice that of Alaska non-Natives. (41% vs. 20%).

The prevalence of obesity increased 63% among Alaska Native people between 1991-1992 and 2005-2007.

Lifestyle Risk Factors – Adolescents

In 2007, 32% of Alaska Native high school students smoked cigarettes on one or more of the past 30 days. This was a significantly higher rate than for U.S. students (20%) and Alaska non-Native students (13%).

The proportion of Alaska Native high school students who were at-risk of overweight increased from 2003 to 2007 (13.0% to 21.4%).

Maternal and Child Health

Although there have been significant decreases, the infant mortality rate remains twice that of Alaska Whites. This disparity is largely due to post-neonatal mortality.

There has been a steady decline in the percent of Alaska Native women who report alcohol consumption during pregnancy.

Cancer and Cancer Screening

The most frequently diagnosed cancers for Alaska Native people were colon/rectum, lung/bronchus and breast cancers. Together, these three types of cancer comprise over half of all new cancer diagnoses.

The Alaska Native colorectal cancer incidence is more than twice that for U.S. Whites. In GPRA year 2008, 50.1% of Alaska Native patients, age 51-80 years, had received colorectal cancer screening.

Immunizations

In GPRA Year 2008, 48.4% of Alaska Native patients age 65 years and older had received an influenza vaccination. 82.9% of Alaska Native patients age 19-35 months had received the 4:3:1:3:3 combination, meeting the Healthy People 2010 Goal.

Diabetes

Although the prevalence of diabetes among Alaska Native people is lower than among U.S. Whites, the prevalence of diabetes since 1990 has increased in every region and tripled in some.

Infectious Diseases

Sexually Transmitted Infections (STI) comprised 89.4% of all Alaska Native reportable infectious disease cases. Chlamydia was by far the most commonly reported STI.

Environmental Health

The percent of housing units with water and sewer service varies by major rural regional health corporation, from 58% to 98%.

Dental Health

In GPRA year 2008, 20% of Alaska Native patients had a documented dental visit within the past year.

HIGHLIGHTS

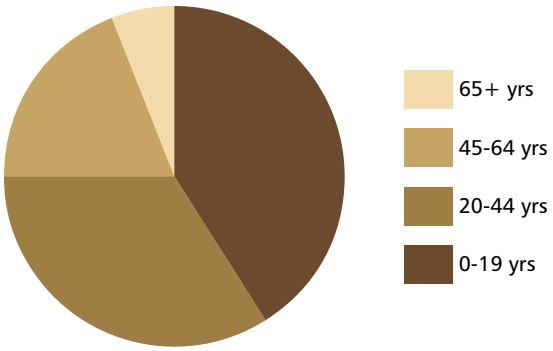
• ALASKA NATIVE DEMOGRAPHICS •

- In FY2007, there were 134,361 Alaska Native users of the Alaska Tribal Health System (ATHS).
- A much larger proportion of the Alaska Native population is under the age of 20 as compared to the U.S. as a whole.
- The number of Alaska Native elders age 65 and older is estimated to triple between 2000 and 2030 (6,156 to 19,004).
- Almost one out of ten (9.4%) Alaska Natives received an associate's degree or higher as compared to over one out of three (37.1%) U.S. Whites.
- The dropout rate among Alaska Native students is nearly twice that of Alaska White students.
- Household incomes in the $10,000-$19,999 range were most commonly reported for Alaska Natives, followed closely by the $50,000-$75,000 range. Household incomes in the $50,000-$75,000 range were most commonly reported for Alaska Whites and U.S. Whites.
- The proportion of Alaska Native children under age 18 living below the poverty level exceeded 22%, double the U.S. White proportion and more than double the Alaska White proportion.

2007 Population Estimates

The State of Alaska Department of Labor uses the census, vital records and other data to provide estimates of the population between census years. An explanation of the "bridged" estimates used in these figures can be found at http://146.63.75.50/research/pop/estimates/Alaska1990Race.htm.

Population Estimates by Age Group, Alaska Natives, 2007



Population Estimates by Age Group, Alaska Natives, 2007

Data Source: Alaska Department of Labor and Workforce Development

	Males		Females		Total	
Age (Years)	Number	%	Number	%	Number	%
0-4	7,051	5.8%	6,677	5.5%	13,728	11.2%
5-9	6,158	5.0%	5,534	4.5%	11,692	9.6%
10-14	5,967	4.9%	5,407	4.4%	11,374	9.3%
15-19	6,555	5.4%	6,174	5.1%	12,729	10.4%
20-24	5,841	4.8%	5,174	4.2%	11,015	9.0%
25-29	4,142	3.4%	3,993	3.3%	8,135	6.7%
30-34	3,404	2.8%	3,492	2.9%	6,896	5.6%
35-39	3,680	3.0%	3,532	2.9%	7,212	5.9%
40-44	4,290	3.5%	4,166	3.4%	8,456	6.9%
45-49	3,827	3.1%	4,074	3.3%	7,901	6.5%
50-54	3,370	2.8%	3,342	2.7%	6,712	5.5%
55-59	2,585	2.1%	2,681	2.2%	5,266	4.3%
60-64	1,719	1.4%	1,912	1.6%	3,631	3.0%
65-69	1,254	1.0%	1303	1.1%	2,557	2.1%
70-74	903	0.7%	1,079	0.9%	1,982	1.6%
75-79	621	0.5%	799	0.7%	1,420	1.2%
80-84	350	0.3%	443	0.4%	793	0.6%
85-89	155	0.1%	237	0.2%	392	0.3%
90-94	47	0.04%	121	0.1%	168	0.1%
95+	34	0.03%	65	0.1%	99	0.1%
Total	**61,953**	**50.7%**	**60,205**	**49.3%**	**122,158**	**100.0%**

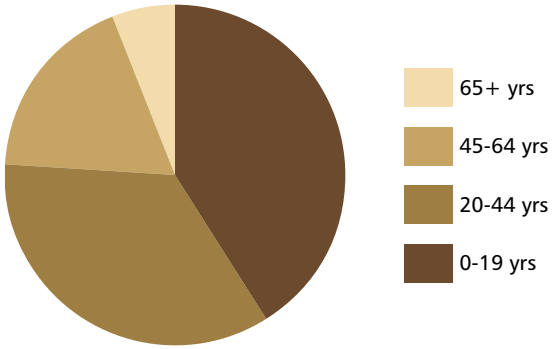
Summary:

- About 6 out of 100 (6%) Alaska Native people are 65 years of age or older.
- About 4 out of 10 (41%) Alaska Native people are under the age of 20 years.
- It is estimated that there were 122,158 Alaska Native people in 2007 (61,953 men and 60,205 women).

2007 User Population

Definition: The user population is defined by the Indian Health Service (I.H.S.) as the number of eligible American Indian/Alaska Native people (AI/AN) who used a tribal health facility at least once in the previous three year period. The facility must be one that reports to the national I.H.S. data system. I.H.S. user population data are provided by federal fiscal year (FY). FY2007 is from October 1, 2006 through September 30, 2007.

User Population by Age Group, Alaska Natives, FY2007



User Population by Age Group, Alaska Natives FY2007

Data Source: Indian Health Service, National Patient Information and Reporting System (NPIRS)
NOTE: Age is determined from the end date of FY 2007.

	Males		Females		Total	
Age (years)	Number	%	Number	%	Number	%
Less than 1	1,473	1.1%	1,352	1.0%	2,825	2.1%
1 to 4	6,023	4.5%	5,644	4.2%	11,667	8.7%
5 to 9	6,850	5.1%	6,489	4.8%	13,339	9.9%
10 to 14	6,448	4.8%	6,186	4.6%	12,634	9.4%
15 to 19	7,114	5.3%	7,295	5.4%	14,409	10.7%
20 to 24	6,249	4.7%	6,453	4.8%	12,702	9.5%
25 to 34	8,719	6.5%	9,073	6.8%	17,792	13.2%
35 to 44	7,729	5.8%	8,246	6.1%	15,975	11.9%
45 to 54	7,391	5.5%	8,070	6.0%	15,461	11.5%
55 to 64	4,265	3.2%	4,848	3.6%	9,113	6.8%
65 +	3,812	2.8%	4,632	3.4%	8,444	6.3%
Total	**66,073**	**49%**	**68,288**	**51%**	**134,361**	**100%**

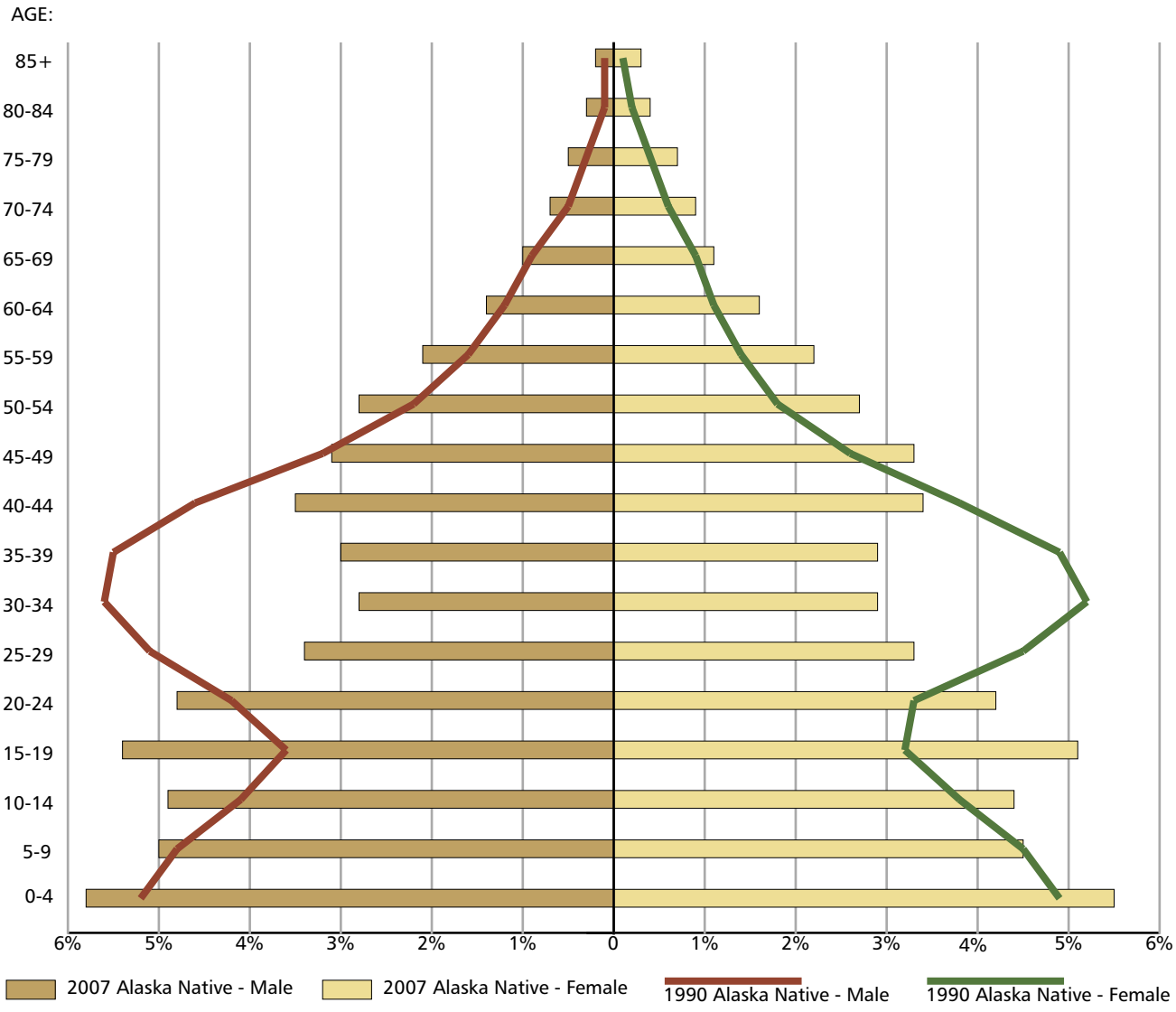
Summary:

- There were 134,361 Alaska Native users of the Alaska Tribal Health System (ATHS).
- Differences between user population and census population estimates result from differing definitions of race, and differences in period of estimation. The age distributions of the two population estimates are very similar.
- About 4 out of every 10 users are under the age of 20 years.
- About 6 out of every 100 users are 65 years of age or older.

Population Pyramids

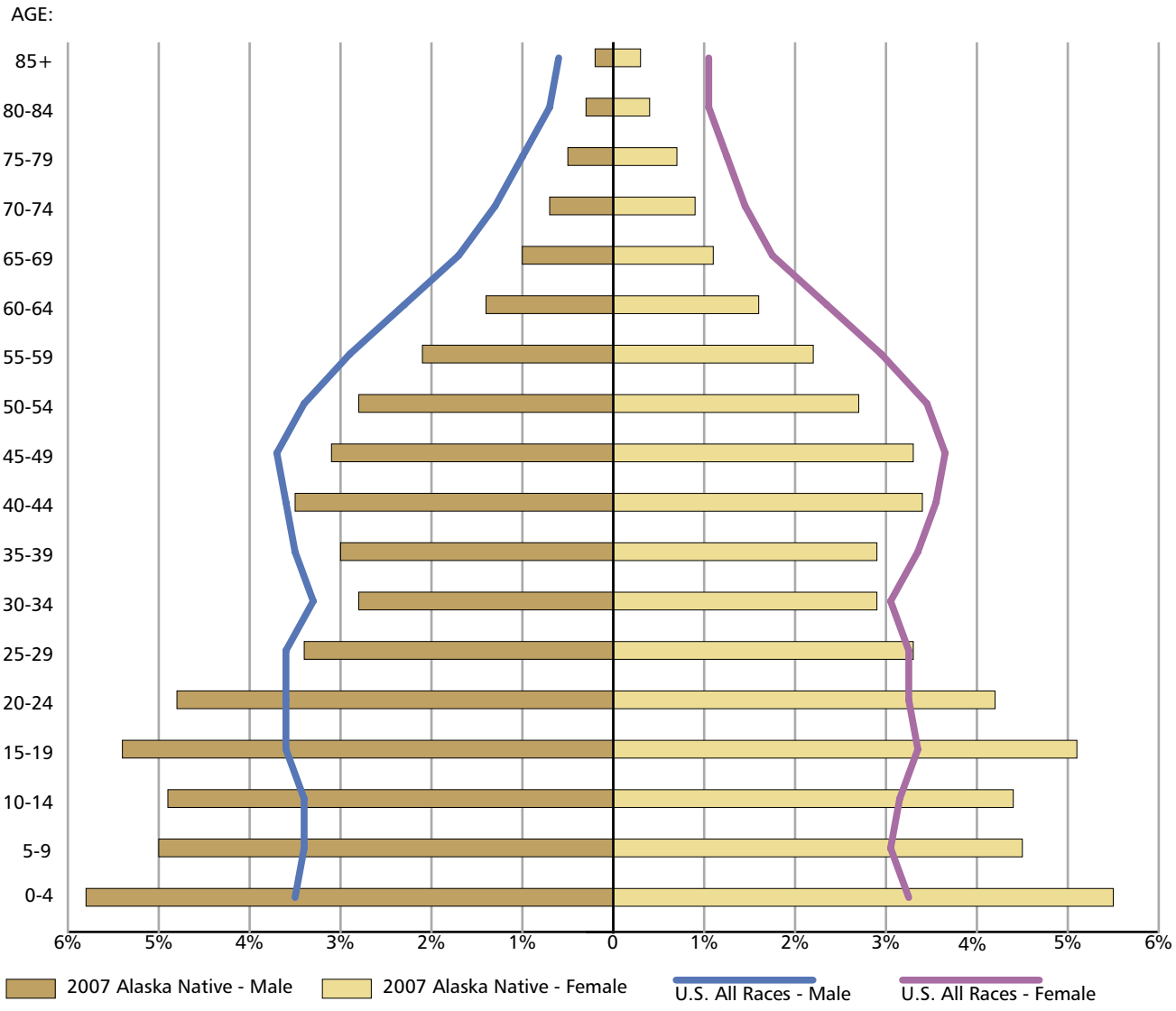
Alaska Natives, 2007 compared to 1990

Data source: Alaska Department of Labor and Workforce Development



Alaska Natives compared to U.S. all races, 2007

Data source: Alaska Department of Labor and Workforce Development



Summary:

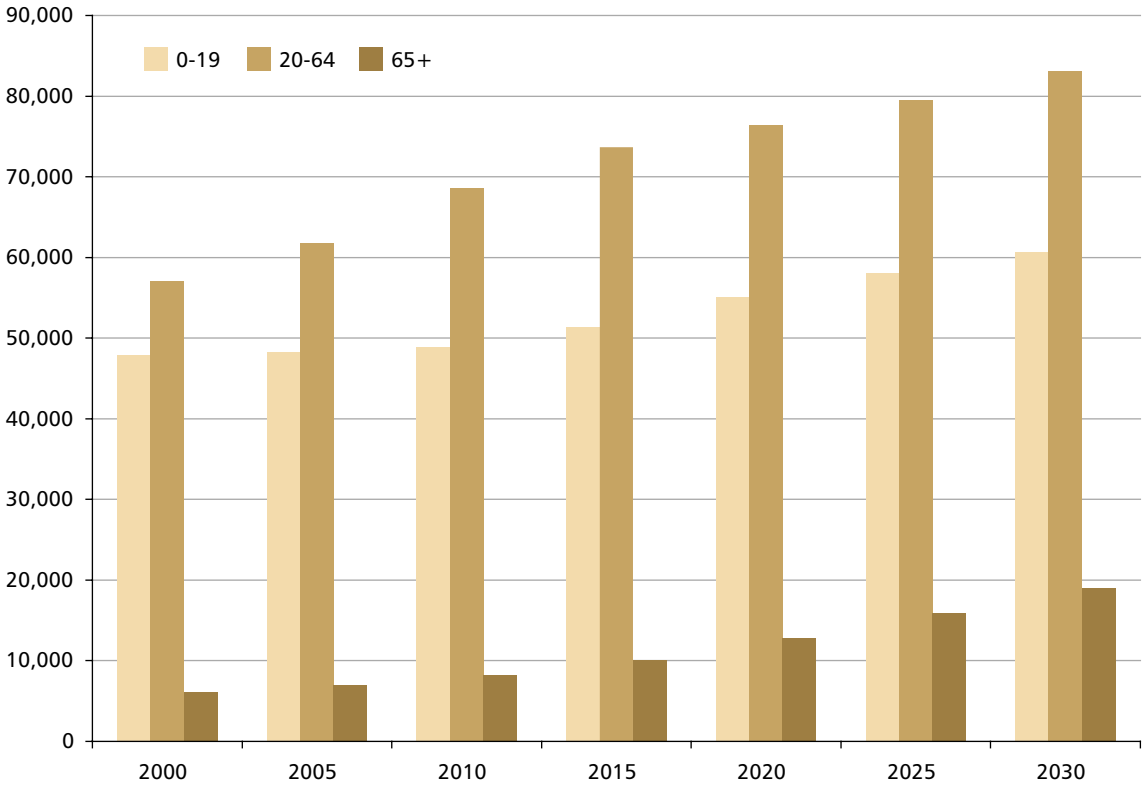
- A slightly larger portion of the Alaska Native female population is 65 years of age or older as compared to the Alaska Native male population (6.7% vs. 5.4%). As compared to 1990, the 2007 Alaska Native population is made up of more people in their late teens and early twenties, as well as more people who are in their late forties and fifties.
- As seen in the population pyramid above, a much larger proportion of the Alaska Native population is younger as compared to the U.S. as a whole.

Data Availability: Population estimates are available by state, race, borough or census area, place, and with modified age race (MARS) estimates.

Population Projections

2000-2005 Estimated Alaska Native Population, 2010-2030 Projected

Data Source: Alaska Dept of Labor & Workforce Development, Research and Analaysis Section



2000-2005 Estimated Alaska Native Population, 2010-2030 Projected

Data Source: Alaska Dept of Labor & Workforce Development, Research and Analaysis Section

	ESTIMATED TOTALS		PROJECTED TOTALS				
Age (Years)	2000	2005	2010	2015	2020	2025	2030
0-19	47,909	48,240	48,960	51,343	55,101	58,011	60,703
20-64	57,026	61,755	68,564	73,680	76,433	79,490	83,113
65+	6,156	6,940	8,204	10,047	12,790	15,939	19,004
Total	**111,091**	**116,935**	**125,728**	**135,070**	**144,324**	**153,440**	**162,820**

Summary:

- The number of youth under the age of 20 are projected to increase by almost 13,000 between 2000 and 2030 (47,909 to 60,703).
- The number of Alaska Native elders age 65 and older are projected to more than triple between 2000 and 2030 (6,156 to 19,004).

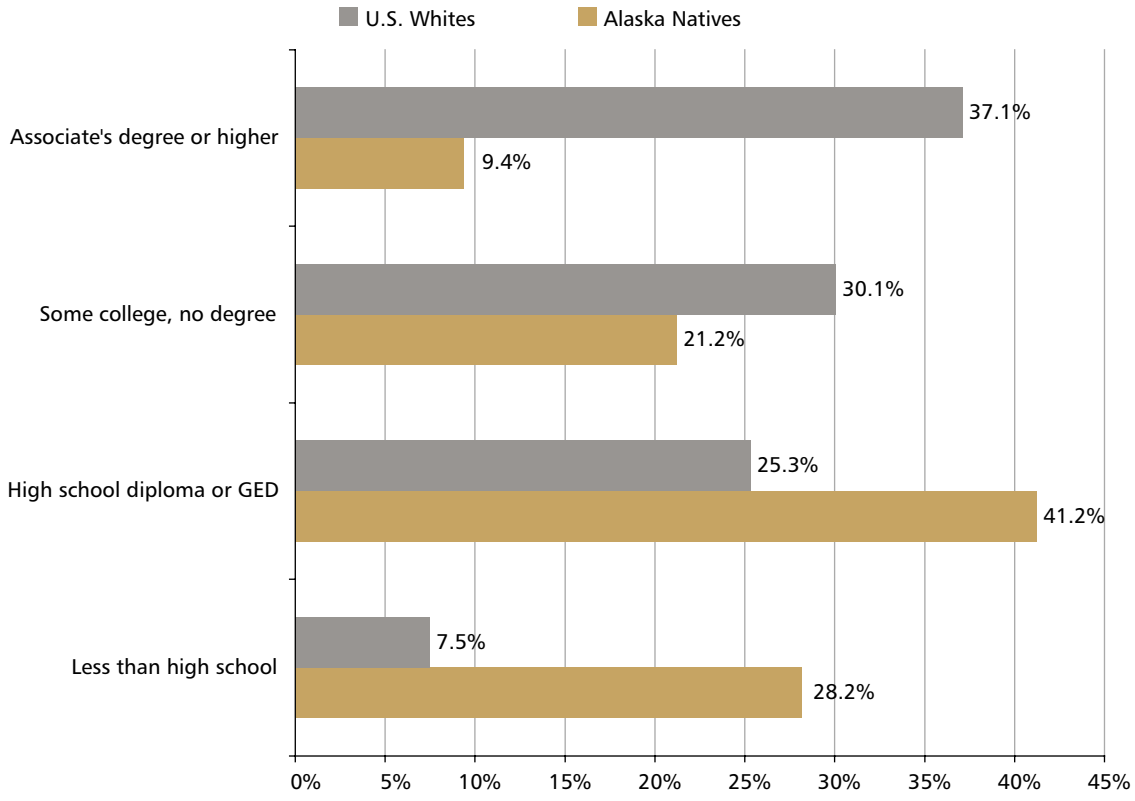
Data Availability: Population projections are available by state, race, borough or census area.

For more information: State of Alaska Department of Labor at http://almis.labor.state.ak.us/

Educational Attainment

Highest Educational Attainment, 25 Years and Older, 2000

Data Source: 2000 US Census



Summary:

- Almost one out of ten (9.4%) Alaska Natives received an associate's degree or higher as compared to over one out of three (37.1%) U.S. Whites.
- Just over one out of four (28.2%) Alaska Natives reported not completing high school as compared to less than one out of twelve (7.5%) U.S. Whites.

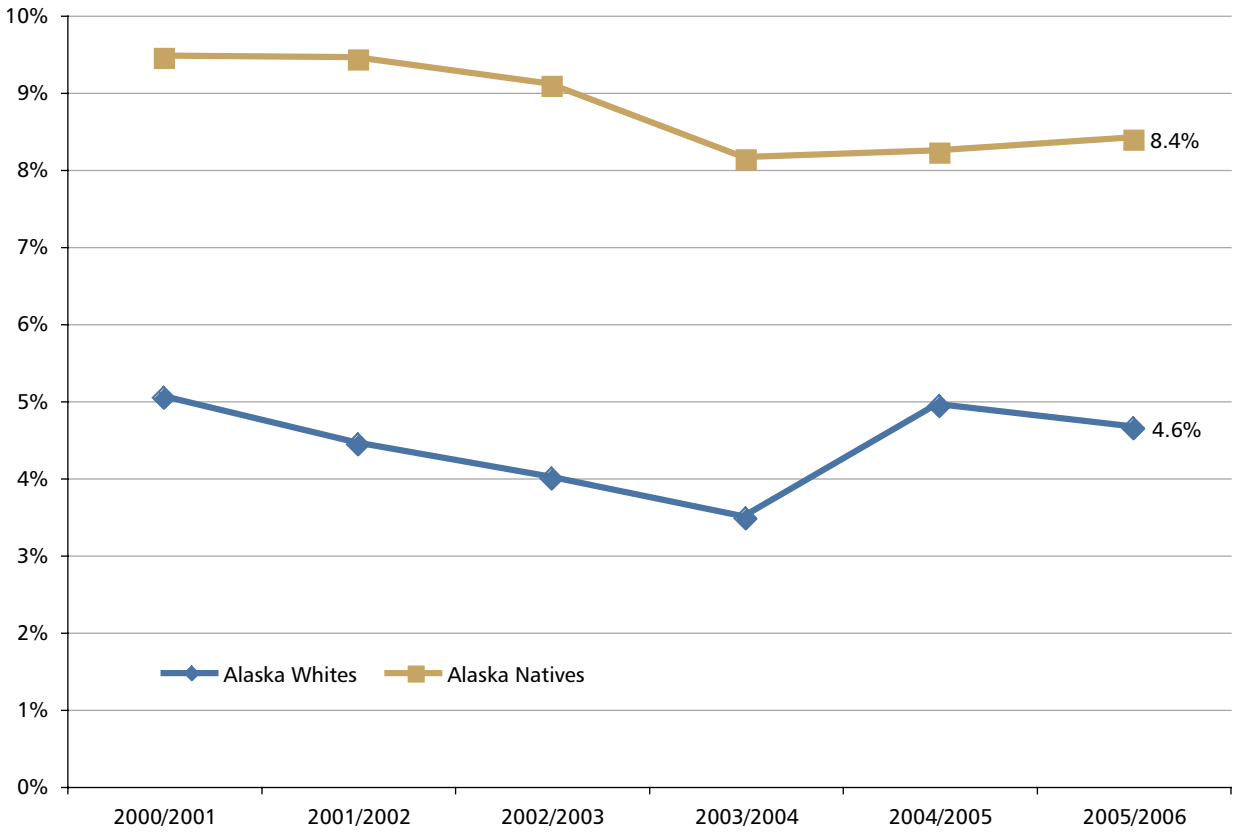
Data Availability: Data on the state level and census area/ borough is available for census years (once every ten years).

For more information: American Factfinder at http://factfinder.census.gov/ ak.us/

Public School Dropout Rates

Public School Dropout Rates, Grades 7-12, 2000-2006 (based on October 1 enrollment)

Data Source: Alaska Department of Education and Early Childhood Development



Summary:

- The percent of Alaska Native students who dropped out of school (grades 7-12) decreased slightly between school years 2000/2001 and 2005/2006.
- The dropout rate among Alaska Native students is nearly twice that of Alaska White students.

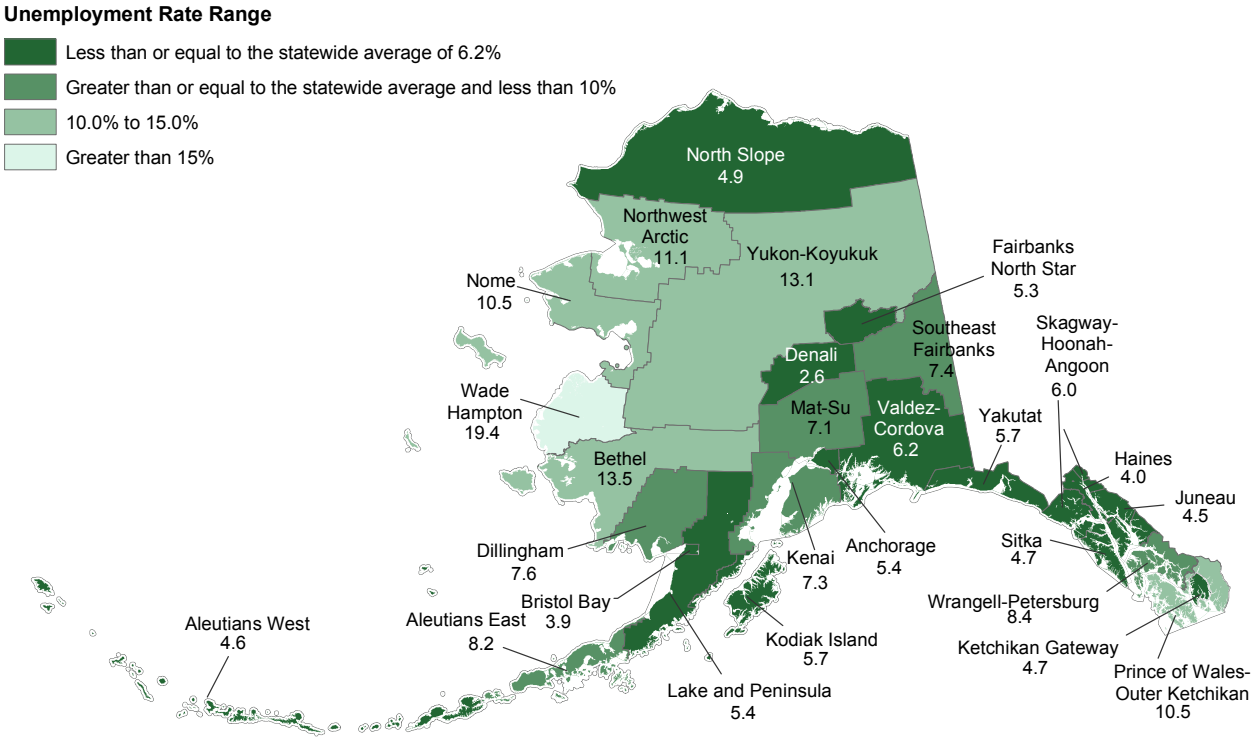
For more information:
Alaska Department of Education at http://www.eed.state.ak.us/stats/

Unemployment

Definition: Unemployment includes anyone who has made an active attempt to find work in the four-week period up to and including the week that includes the 12th of the referenced month. Due to the scarcity of employment opportunities in rural Alaska, many individuals do not meet the official definition of unemployed because they are not conducting active job searches.

September 2008 Unemployment Rate (Not Seasonally Adjusted)

Map provided by Alaska Department of Labor and Workforce Development



Summary:

- In September 2008, the statewide unemployment rate for all races was 6.2%.
- The unemplyment rate varied widely across the state. Bristol Bay census area reported just 3.9% unemployment, while Wade Hampton (YK region) reported 19.4% unemployment.

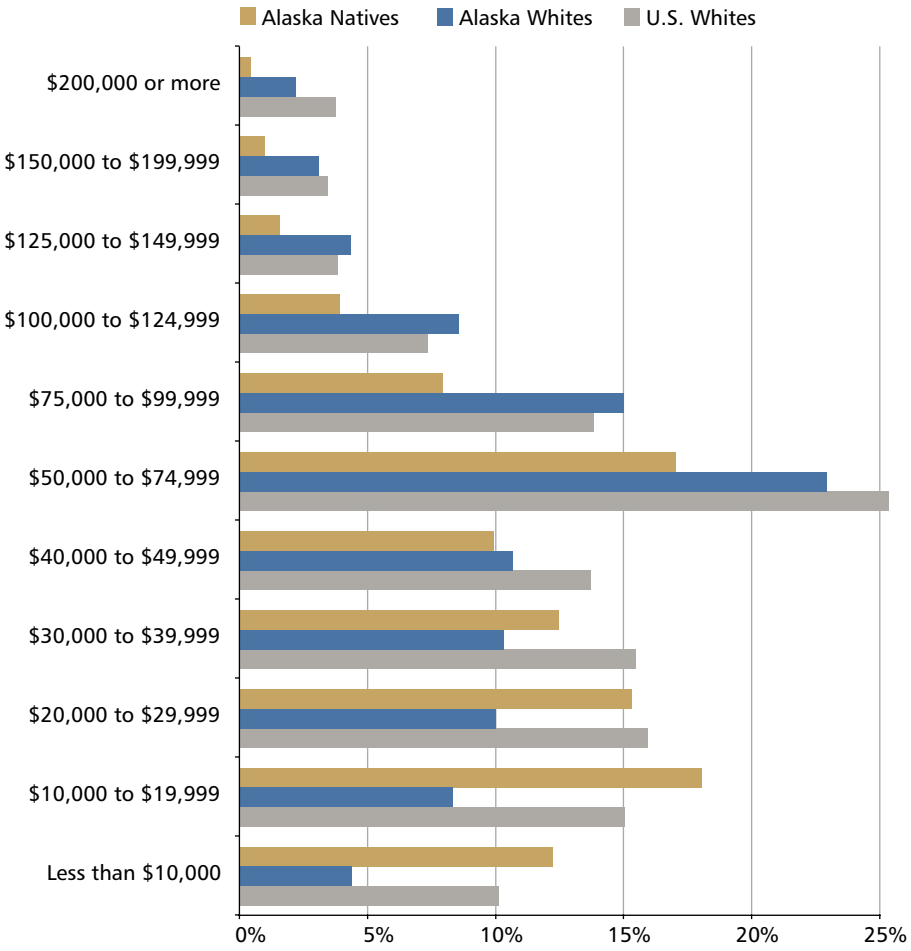
Data Availability: Monthly data for each borough/census area is available within 2 to 3 months.

For more information: Department of Labor and Workforce Development website at http://almis.labor.state.ak.us/

Household Income

Definition: The person who was designated as head of household completed the 2000 U.S. census form and reported their household's income. Income includes all monetary sources of income including wages, the Permanent Fund Dividend, corporation dividends and public assistance. Income does not include subsistence resources.

Household Income Distribution, 1999
Data Source: 2000 US Census



Summary:

- A larger percentage of Alaska Native households have incomes below $20,000 as compared to U.S. and Alaska Whites.
- Household incomes in the $10,000-$19,999 range were most commonly reported for Alaska Natives, followed closely by the $50,000-$75,000 range. Household incomes in the $50,000-$75,000 range were most commonly reported for Alaska Whites and U.S. Whites.
- Relative to Alaska Whites and U.S. Whites, a smaller percentage of Alaska Native households reported a household income greater than $100,000 per year.

Data Availability: Available by race during every decennial census. Available by borough/census area and statewide through 2005.

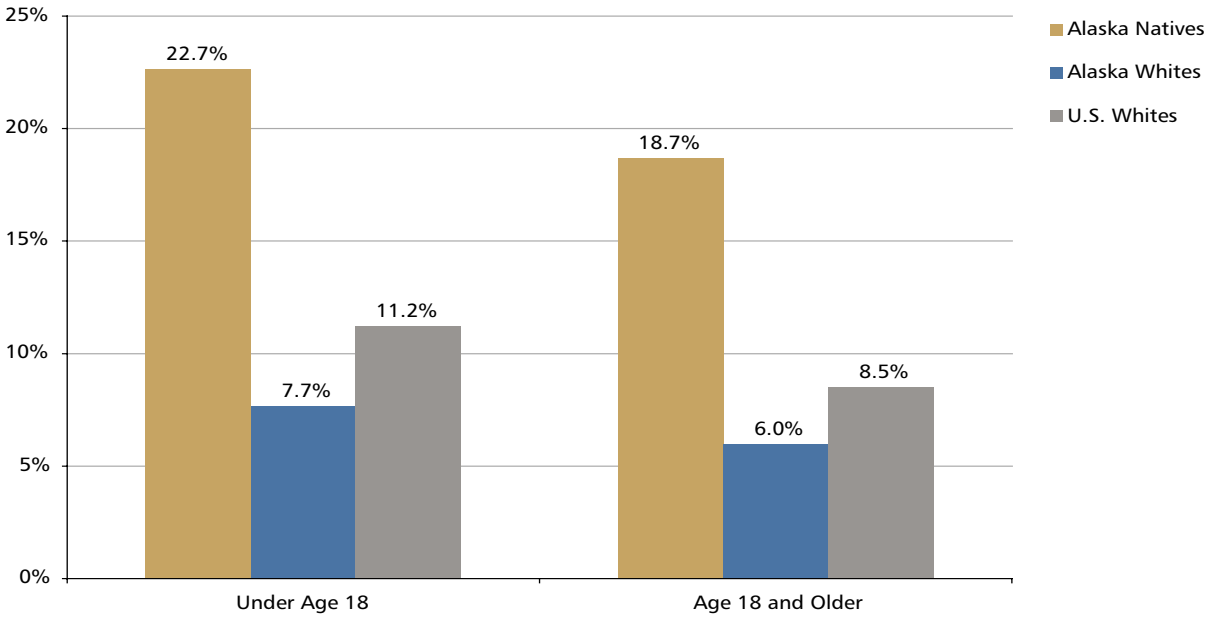
For more information: U.S. Census' Small Area Income and Poverty Estimates program at http://www.census.gov/hhes/www/saipe/

Note: This site does not provide estimates by race.

Poverty Level

Definition: For a single person, the 1999 Department of Health and Human Services poverty level for Alaska for one person was $13,000 and for a four-person household it was $26,500.

Percent of Residents below Poverty Level, 1999
Data source: U.S. Census



Summary:

- The proportion of Alaska Native children under age 18 living below the poverty level exceeded 22%, double the U.S. White proportion and more than double the Alaska White proportion.
- The proportion of Alaska Native adults over age 18 living below the poverty level exceeded 18%, double the U.S. White proportion and triple the Alaska White proportion.

Data Availability: Available by race during every decennial census. Available by borough/census area and statewide through 2005.

For more information: U.S. Census' Small Area Income and Poverty Estimates program at http://www.census.gov/hhes/www/saipe/

Note: This site does not provide estimates by race.

HIGHLIGHTS

• MORTALITY •

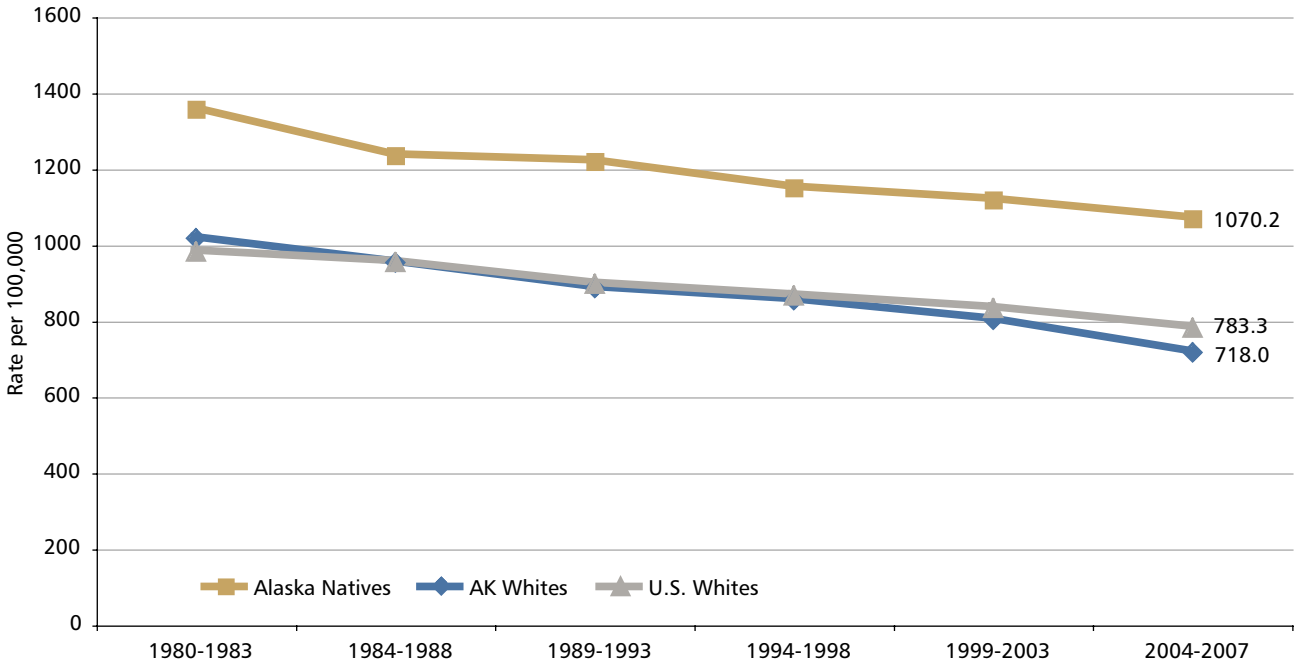
- The Alaska Native all-causes death rate decreased between 1980 and 2007 ($p<.05$). However, the 2004-2007 death rate was still 1.4 times that of U.S. Whites ($p<.05$) and 1.5 times that of Alaska Whites ($p<.05$).
- Cancer is the leading cause of death for Alaska Native people. Cancer accounts for 1 out of every 5 deaths. Lung cancer is the leading cause of cancer death. During 2004-2007, the Alaska Native cancer death rate was 30% greater than for U.S. Whites ($p<.05$) and 40% greater than for Alaska Whites ($p<.05$).
- Heart disease is the second leading cause of death for Alaska Native people. The Alaska Native heart disease death rate decreased by 43% between 1980 and 2007 ($p<.05$).
- Unintentional injury is the third leading cause of death for Alaska Native people. The unintentional injury death rate decreased by 47% between 1980 and 2007 ($p<.05$). However, it is still double that of Alaska Whites ($p<.05$).
- Suicide is the fourth leading cause of death for Alaska Native people. During 2004-2007, the Alaska Native suicide death rate was 3.6 times greater than for U.S. Whites ($p<.05$) and 2.5 times greater than for Alaska Whites ($p<.05$).
- Cerebrovascular disease is the fifth leading cause of death for Alaska Native people. During 2004-2007, the Alaska Native cerebrovascular disease death rate was 30% higher than for U.S. Whites ($p<.05$) but not significantly different than for Alaska Whites.

Photo by Charles Edwards, MD

All Causes

Average Annual Age-Adjusted All Causes Death Rate per 100,000 Alaska Natives, AK Whites and U.S. Whites, 1980-2007

Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program
U.S. Whites and AK Whites 2004-2007 data point is for 2004-2005 only



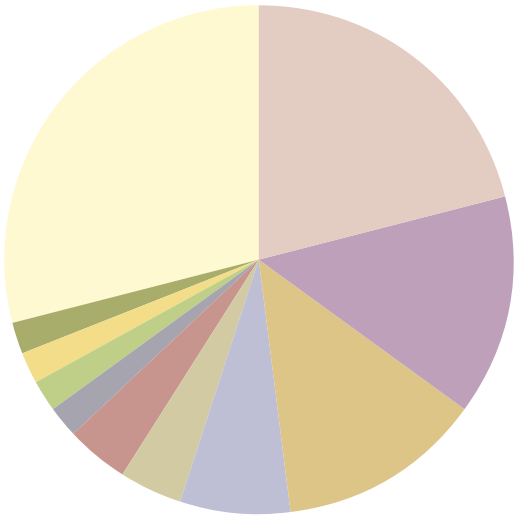
Summary:

- Cancer is the leading cause of death for Alaska Native people, resulting in 617 deaths between the years 2004-2007. Cancer accounted for 1 out of every 5 deaths in that time period.
- Heart disease is the second leading cause of death for Alaska Native people.
- Unintentional injury and suicide rank as the third and fourth leading causes of death for Alaska Native people compared to fifth and tenth among U.S. Whites.
- Chronic Liver Disease was the seventh leading cause of death for Alaska Native people. Homicide was the tenth leading cause of death. Neither of these causes are among the top ten leading causes of death for U.S. Whites.
- The Alaska Native all-causes death rate decreased between 1980 and 2007 but the rate was still 1.4 times that of U.S. Whites ($p<.05$) and 1.5 times that of AK Whites ($p<.05$).

Data Availability: Mortality data is available by borough or census area, as well as by race, and statewide. Periodic reports on Alaska Native Mortality are published by the AN EpiCenter http://www.anthc.org/chs/epicenter

For more information:
Alaska Bureau of Vital Statistics at http://www.hss.state.ak.us/dph/bvs/

Leading Causes of Death



Leading Causes of Death, Alaska Natives, 2004-2007

Data Source: Alaska Bureau of Vital Statistics

- Cancer: 21%
- Heart Disease: 14%
- Unintentional Injury: 13%
- Suicide: 7%
- Cerebrovascular Disease: 4%
- Chronic Obstructive Pulmonary Disease: 4%
- Chronic Liver Disease: 2%
- Pneumonia and Influenza: 2%
- Diabetes Mellitus: 2%
- Homicide: 2%
- All other causes: 29%

Leading Causes of Death by Rank, Alaska Natives, 2004-2007

Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program
U.S. Whites data is for 2004-2005 only

	Cause	Number	% Deaths	U.S. Whites Rank	% U.S. White Deaths
1	Cancer	617	20.7%	2	23.1%
2	Heart Disease	425	14.2%	1	27.2%
3	Unintentional Injury	391	13.1%	5	4.7%
4	Suicide	202	6.8%	10	1.4%
5	Cerebrovascular Disease	132	4.4%	3	6.0%
6	Chronic Obstructive Pulmonary Disease	128	4.3%	4	5.6%
7	Chronic Liver Disease	63	2.1%	13	1.1%
8	Pneumonia and Influenza	58	1.9%	8	2.6%
9	Diabetes Mellitus	46	1.5%	7	2.8%
10	Homicide	45	1.5%	18	0.4%
	All other causes	879	29.4%		
	Total	**2986**	**100%**		

Five Leading Causes of Death by Age Group, Alaska Natives, Both Genders, 2004-2007

Data Source: Alaska Bureau of Vital Statistics
• Causes resulting in fewer than 3 deaths are not listed.

	Age Group								
	0-9	**10-19**	**20-29**	**30-39**	**40-49**	**50-59**	**60-69**	**70+**	**TOTAL**
All Deaths	150	123	189	223	347	394	411	1149	2986
1	Unintent. Injury 42	Suicide 47	Unintent. Injury 74	Unintent. Injury 66	Unintent. Injury 78	Cancer 112	Cancer 145	Cancer 280	Cancer 617
2	Pneumonia & Influenza 3	Unintent. Injury 44	Suicide 71	Suicide 33	Cancer 55	Heart Disease 60	Heart Disease 69	Heart Disease 242	Heart Disease 425
3	*	Homicide & Legal Intervent. 12	Homicide & Legal Intervent. 7	Cancer 19	Suicide 33	Unintent. Injury 40	COPD 32	Cerebro-vascular disease 88	Unintent. Injury 391
4		*	Heart Disease 6	Heart Disease 14	Heart Disease 32	Chronic Liver Disease 19	Cerebro-vascular disease 17	COPD 83	Suicide 202
5			Cancer 5	Cancer 11	Chronic Liver Disease 22	Cerebro-vascular disease 15	Unintent. Injury 14	Pneumonia & Influenza 38	Cerebro-vascular disease 132

Five Leading Causes of Death by Age Group, Alaska Natives, Males, 2004-2007

Data Source: Alaska Bureau of Vital Statistics
• Causes resulting in fewer than 3 deaths are not listed.

	Age Group								
	0-9	**10-19**	**20-29**	**30-39**	**40-49**	**50-59**	**60-69**	**70+**	**TOTAL**
All Deaths	89	84	140	123	193	238	216	548	1631
1	Unintent. Injury 27	Suicide 33	Unintent. Injury 62	Unintent. Injury 42	Unintent. Injury 53	Cancer 62	Cancer 72	Cancer 145	Cancer 312
2	*	Unintent. Injury 32	Suicide 55	Suicide 21	Suicide 28	Heart Disease 44	Heart Disease 42	Heart Disease 125	Unintent. Injury 278
3		Homicide & Legal Intervent. 9	Homicide & Legal Intervent. 3	Cancer 10	Cancer 24	Unintent. Injury 32	COPD 17	Cerebro-vascular disease 38	Heart Disease 239
4		*	*	Homicide & Legal Intervent. 9	Heart Disease 18	Suicide 10	Cerebro-vascular disease 11	COPD 35	Suicide 152
5				Heart Disease 8	Chronic Liver Disease 7	Cerebro-vascular disease 9	Unintent. Injury 9	Pneumonia & Influenza 21	Cerebro-vascular disease 61

Five Leading Causes of Death by Age Group, Alaska Natives, Females, 2004-2007

Data Source: Alaska Bureau of Vital Statistics
• Causes resulting in fewer than 3 deaths are not listed.

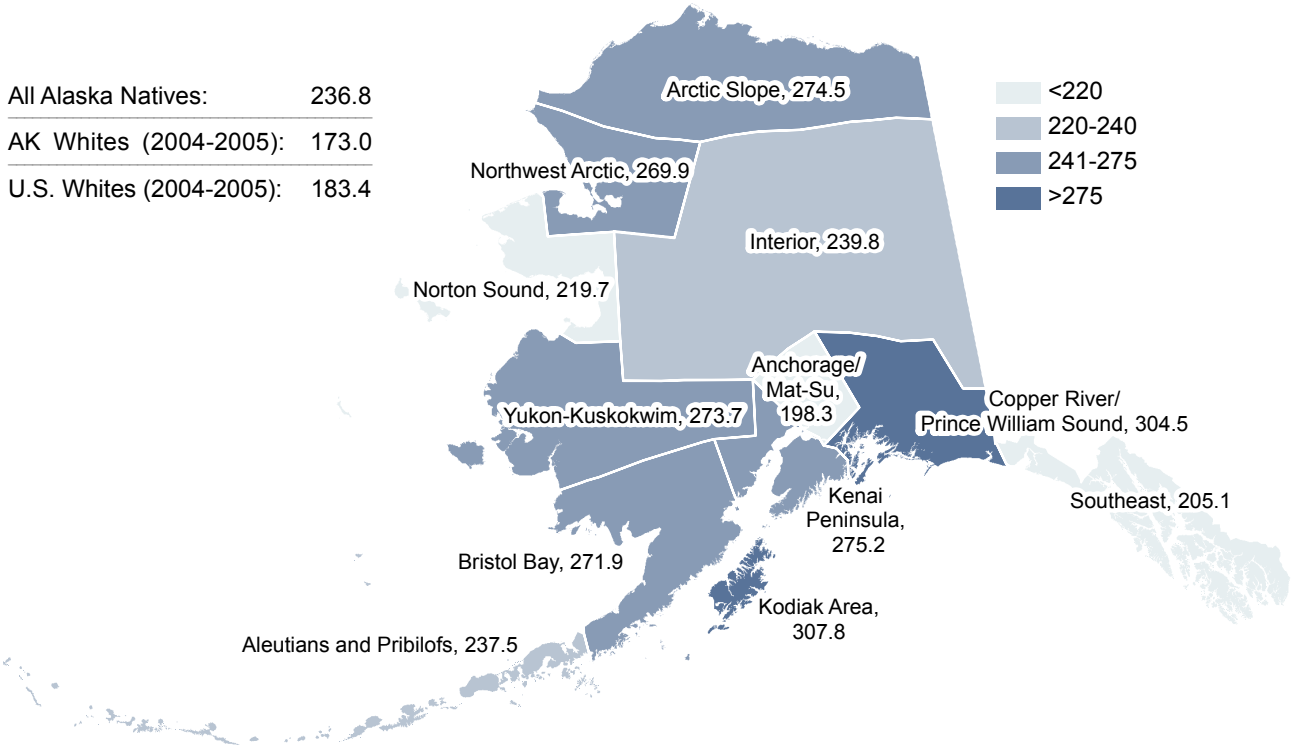
	Age Group								
	0-9	**10-19**	**20-29**	**30-39**	**40-49**	**50-59**	**60-69**	**70+**	**TOTAL**
All Deaths	61	39	49	100	154	156	195	601	1355
1	Unintent. Injury 15	Suicide 14	Suicide 16	Unintent. Injury 24	Cancer 31	Cancer 50	Cancer 73	Cancer 135	Cancer 301
2	Pneumonia & Influenza 3	Unintent. Injury 12	Unintent. Injury 12	Suicide 12	Unintent. Injury 25	Heart Disease 16	Heart Disease 27	Heart Disease 117	Heart Disease 186
3	*	Homicide & Legal Intervent. 3	Heart Disease 5	Cancer 9	Chronic Liver Disease 15	Chronic Liver Disease 11	COPD 15	Cerebro-vascular disease 50	Unintent. Injury 113
4		*	Homicide & Legal Intervent. 4	Chronic Liver Disease (tie) 6	Heart Disease 14	Unintent. Injury 8	Cerebro-vascular disease (tie) 6	COPD 48	Cerebro-vascular disease 71
5			Cancer 3	Heart Disease (tie) 6	Cerebro-vascular disease 8	Cerebro-vascular disease 6	Pneumonia& Influenza (tie) 6	Pneumonia & Influenza 17	COPD 69

Mortality – Cancer

Average Annual Age-Adjusted Cancer Death Rates per 100,000 by Region Alaska Natives, 2004-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	236.8
AK Whites (2004-2005):	173.0
U.S. Whites (2004-2005):	183.4



Healthy People 2010, Objective 3.1: Reduce the cancer death rate to 159.9 per 100,000.

Healthy Alaskans 2010, Objective 22.1: Same as above.

Summary:

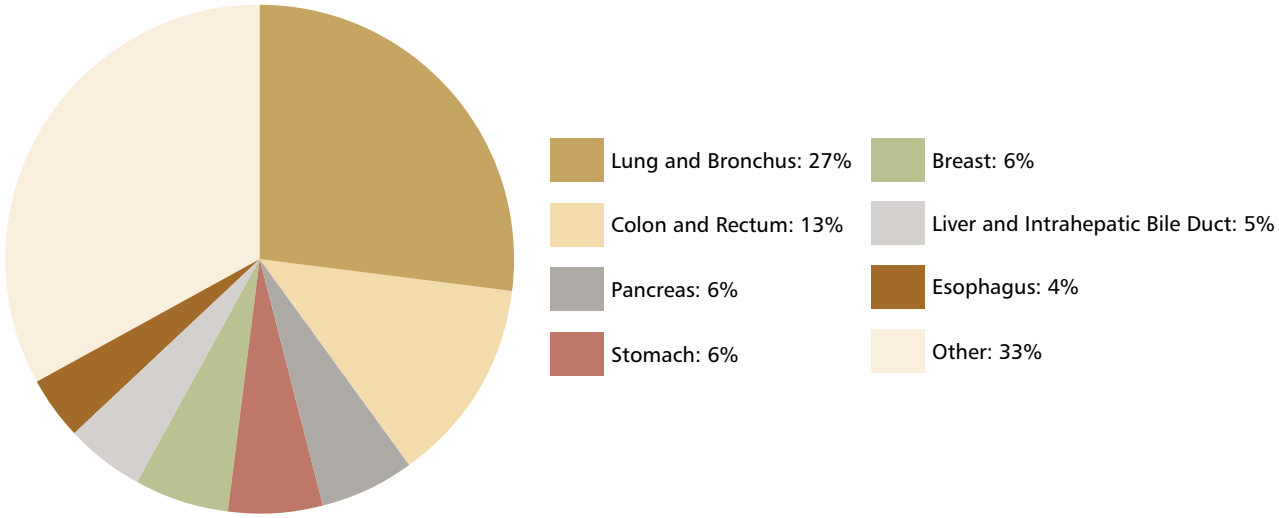
- Although there appears to be variations between regions for cancer death rates, only Anchorage/Mat-Su's cancer death rate is significantly lower ($p<.05$) than the rate for all other regions.
- Lung/bronchus cancer accounted for one out of every four cancer deaths. Colorectal cancer was the second leading cause of cancer death.
- The cancer death rate for Alaska Native people has not changed significantly since 1980, while the Alaska White and U.S. White cancer death rate decreased significantly ($p<.05$). None of these populations have reached the Healthy People 2010 goal.
- During 2004-2007, the Alaska Native cancer death rate was 30% greater than for U.S. Whites ($p<.05$) and 40% greater than for Alaska Whites ($p<.05$).

Data Availability: Mortality data is available by borough or census area, as well as by race, and statewide. Periodic reports on Alaska Native Mortality are published by the AN EpiCenter http://www.anthc.org/chs/epicenter

For more information: Alaska Bureau of Vital Statistics at http://www.hss.state.ak.us/dph/bvs/

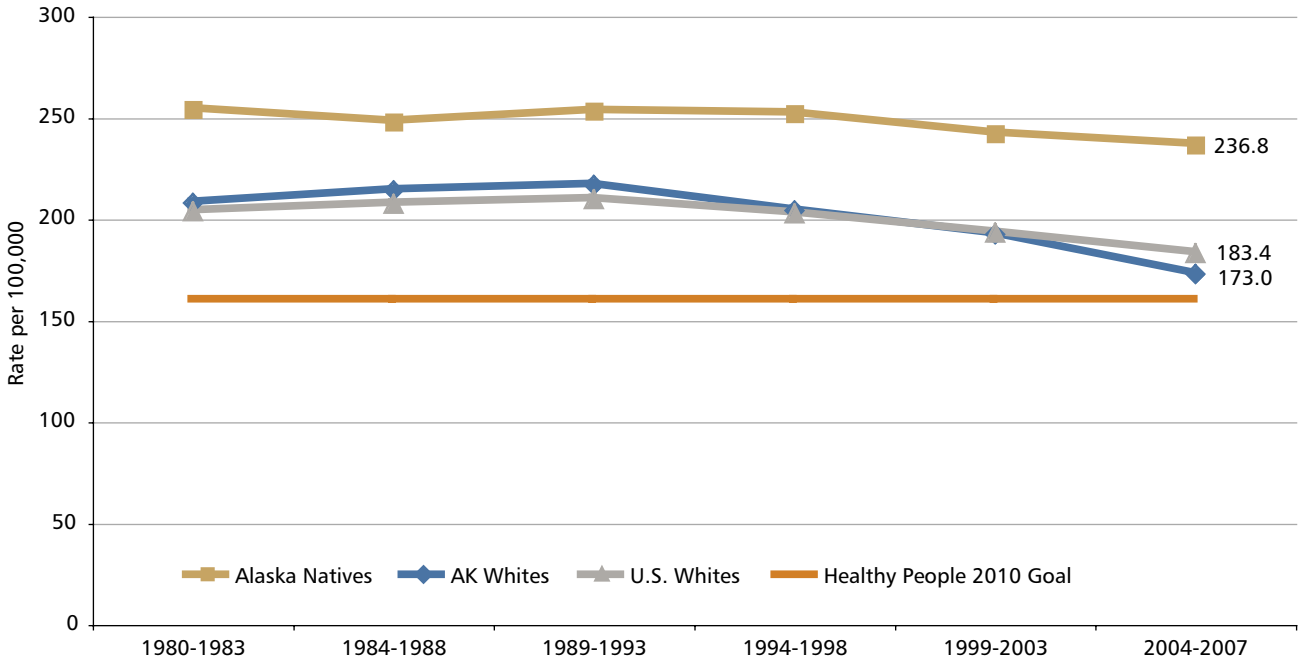
Leading Causes of Cancer Death, Alaska Natives, 2001-2005

Data Source: Surveillance, Epidemiology, and End Results (SEER) Program



Average Annual Age-Adjusted Cancer Death Rates per 100,000, 1980-2007

Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program
U.S. Whites and AK Whites 2004-2007 data point is for 2004-2005 only

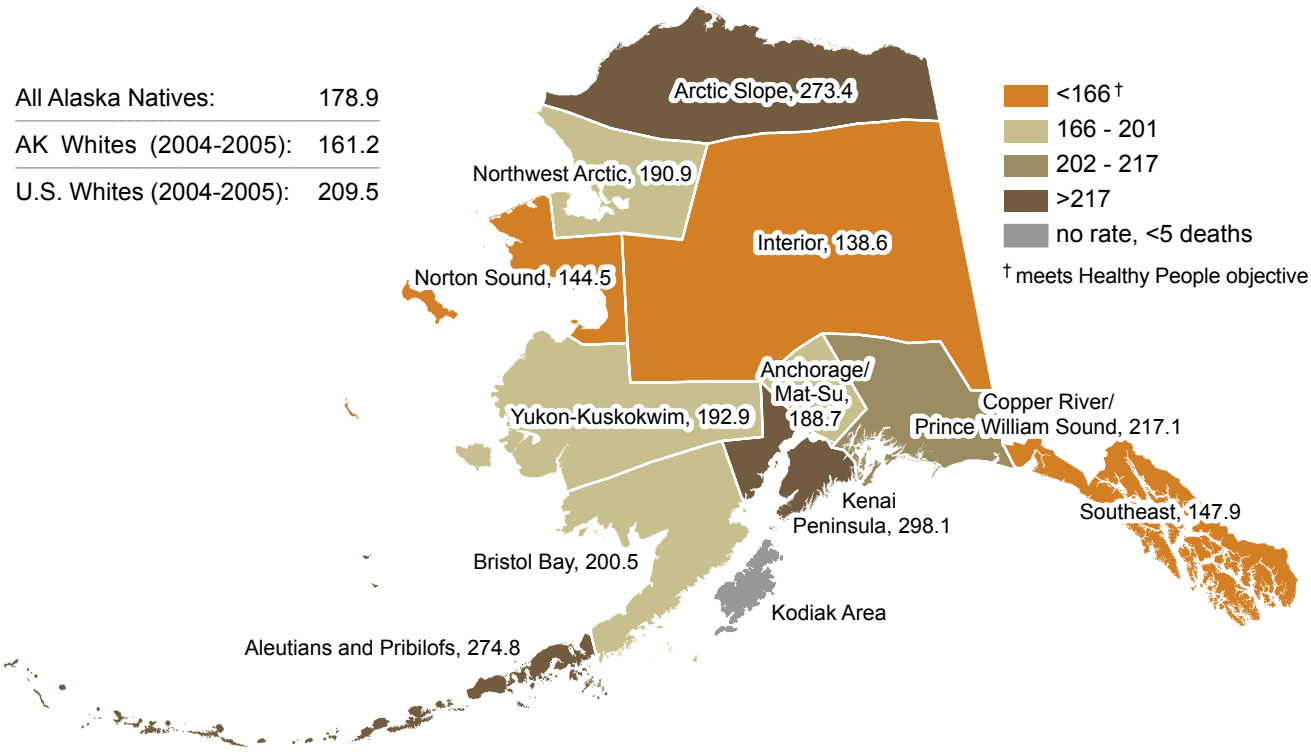


Mortality – Heart Disease

Average Annual Age-Adjusted Heart Disease Death Rates per 100,000 by Region
Alaska Natives, 2004-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	178.9
AK Whites (2004-2005):	161.2
U.S. Whites (2004-2005):	209.5



Healthy People 2010, Objective 12.1:
Reduce the coronary heart disease death rate to 166 per 100,000.

Healthy Alaskans 2010, Objective 21.1:
Reduce the coronary heart disease death rate to 120 per 100,000.

Summary:

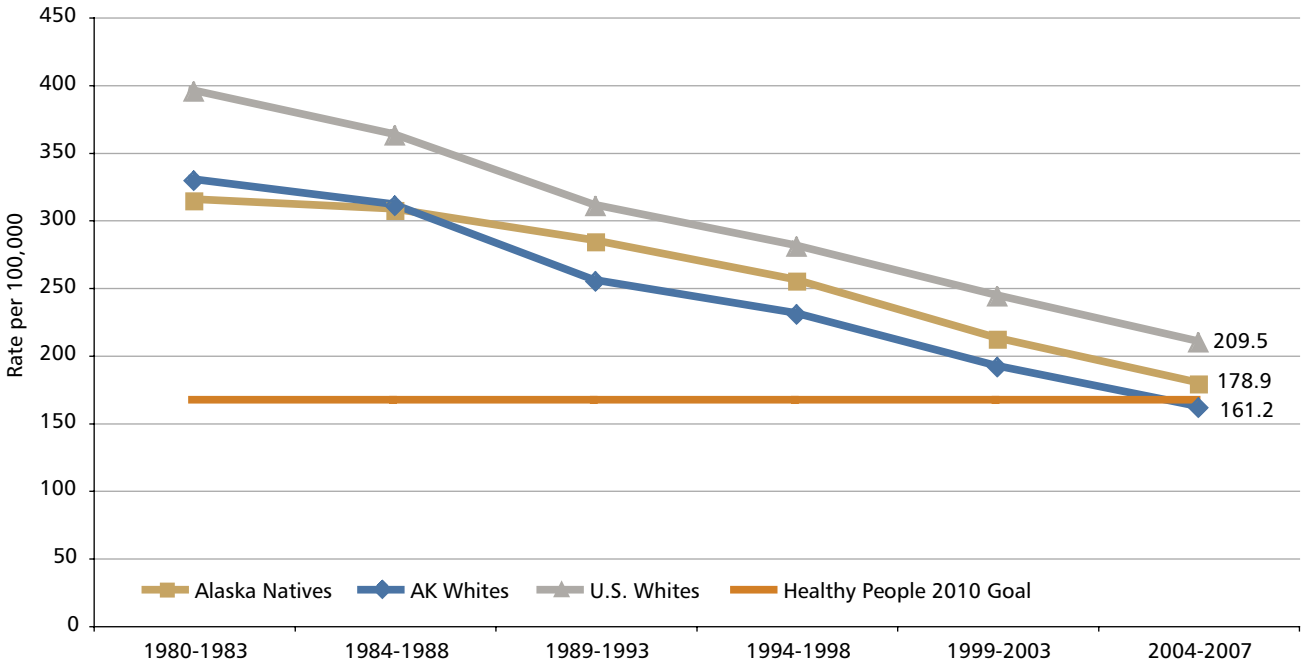
- Although there appears to be variations between regions for heart disease death rates, only Kodiak Area's rate is significantly lower ($p<.05$) than the rate for all other regions. Kenai Peninsula's rate is significantly higher ($p<.05$) than the rate for all other regions.
- The Alaska Native heart disease death rate decreased by 43% between 1980 and 2007 ($p<.05$). Alaska Whites and U.S. Whites also experienced a similar decrease during this time period. Alaska Native people have not as yet achieved the Healthy People 2010 goal, but there is a downward trend.
- During 2004-2007 there appears to be variations between the Alaska Native heart disease death rate and the U.S. and Alaska Whites rate, however, there is no significant difference between these populations.

Data Availability: Mortality data is available by borough or census area, as well as by race, and statewide. Periodic reports on Alaska Native Mortality are published by the AN EpiCenter http://www.anthc.org/chs/epicenter

For more information:
Alaska Bureau of Vital Statistics at http://www.hss.state.ak.us/dph/bvs/

Average Annual Age-Adjusted Heart Disease Death Rates per 100,000, 1980-2007

Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program
U.S. Whites and AK Whites 2004-2007 data point is for 2004-2005 only

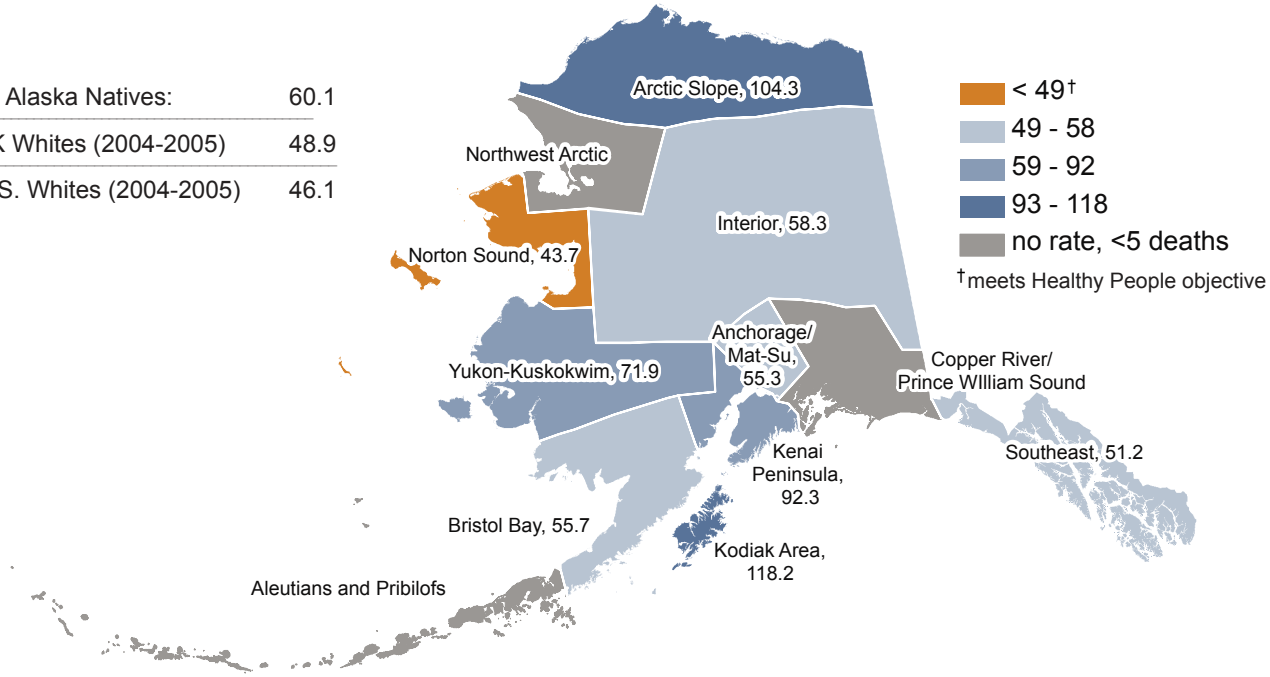


Mortality – Cerebrovascular Disease

Average Annual Age-Adjusted Cerebrovascular Disease Death Rates per 100,000 by Region Alaska Natives, 2004-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	60.1
AK Whites (2004-2005)	48.9
U.S. Whites (2004-2005)	46.1



Healthy People 2010, Objective 27.2b: Reduce the cerebrovascular disease death to 48 per 100,000.

Healthy Alaskans 2010, Objective 3.1: Reduce the cerebrovascular disease death to 60 per 100,000.

Summary:

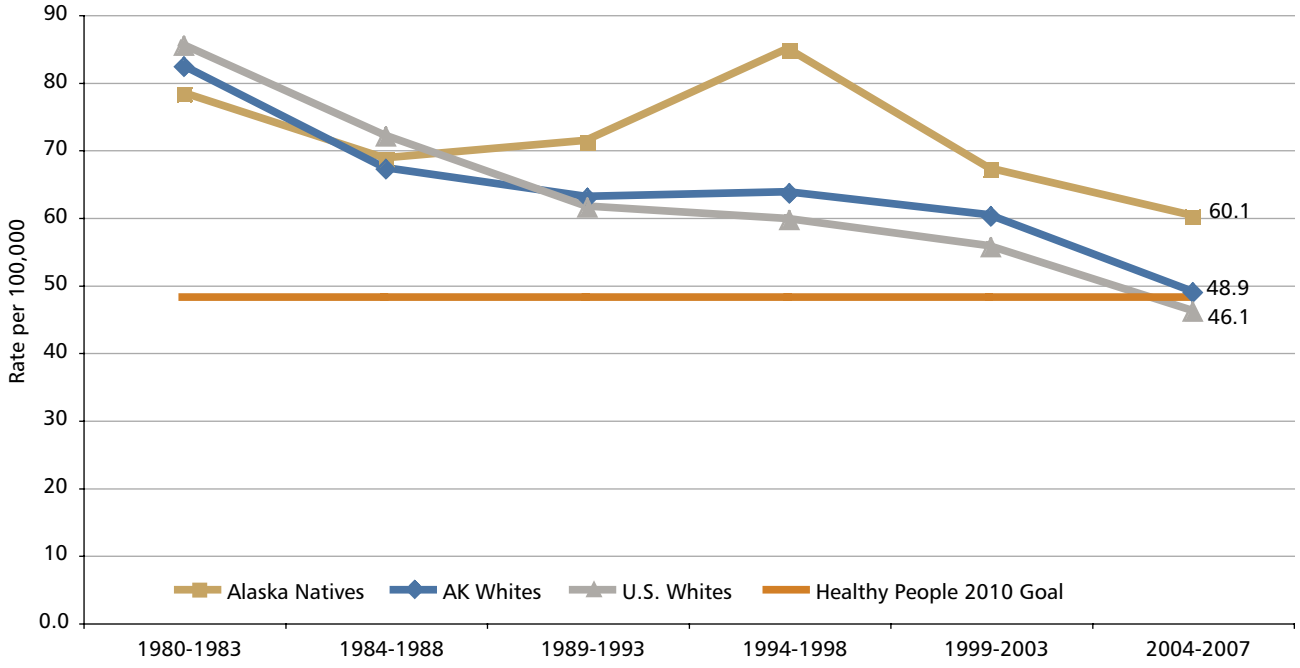
- Although there appears to be variations between regions for cerebrovascular disease death rates, none of the regions were significantly different than all other regions combined.
- Although the cerebrovascular disease death rates have decreased among Alaska Native people, the decrease is not significant. Alaska Native people have not as yet achieved the Healthy People 2010 goal.
- During 2004-2007, the Alaska Native cerebrovascular disease death rate was 30% higher than for U.S. Whites ($p<.05$) but not significantly different than for Alaska Whites.

Data Availability: Mortality data is available by borough or census area, as well as by race, and statewide. Periodic reports on Alaska Native Mortality are published by the AN EpiCenter http://www.anthc.org/chs/epicenter

For more information:
Alaska Bureau of Vital Statistics at http://www.hss.state.ak.us/dph/bvs/

Average Annual Age-Adjusted Cerebrovascular Disease Death Rates per 100,000, 1980-2007

Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program
U.S. Whites and AK Whites 2004-2007 data point is for 2004-2005 only

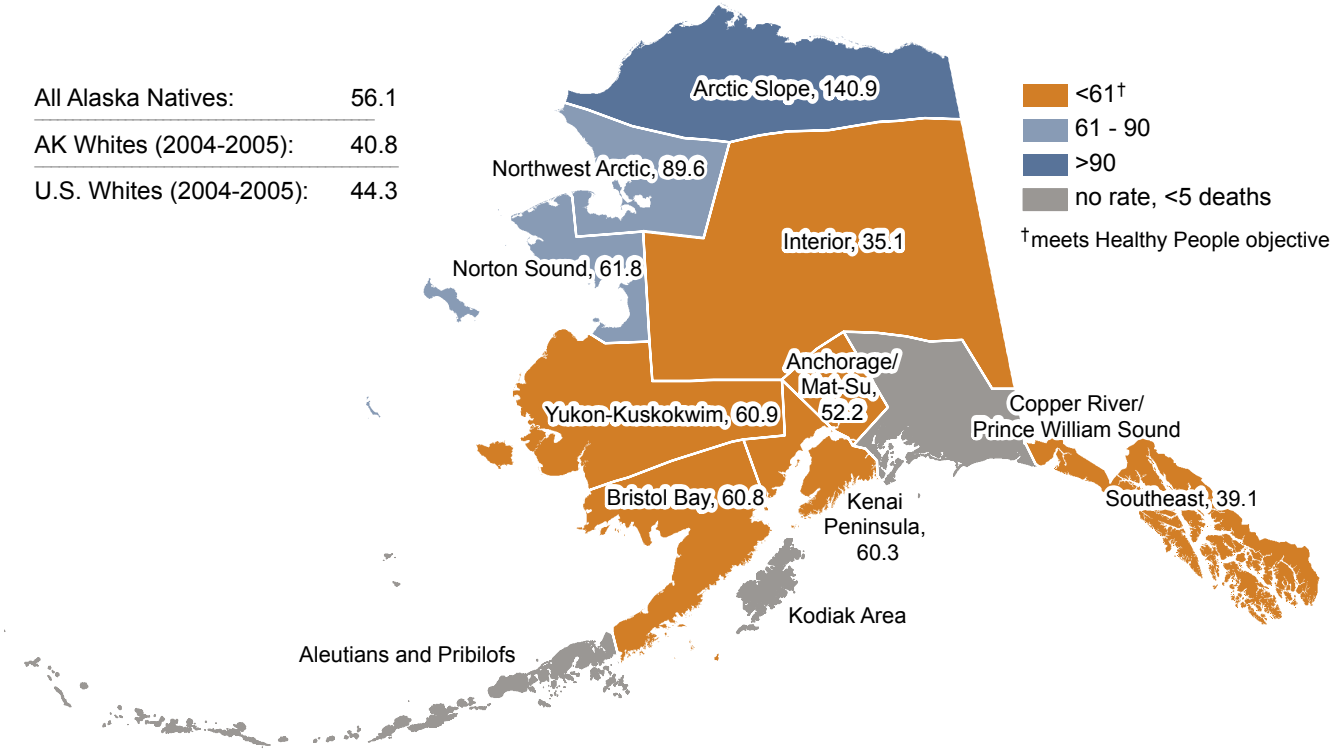


Mortality – Chronic Obstructive Pulmonary Disease (COPD)

Average Annual Age-Adjusted COPD Death Rates per 100,000 by Region, Alaska Natives, 2004-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	56.1
AK Whites (2004-2005):	40.8
U.S. Whites (2004-2005):	44.3



Healthy People 2010, Objective 24.10:
Reduce the COPD death rate to 60 per 100,000.

Healthy Alaskans 2010, Objective 24.4: Reduce the COPD death rate to 21.7 per 100,000.

Summary:

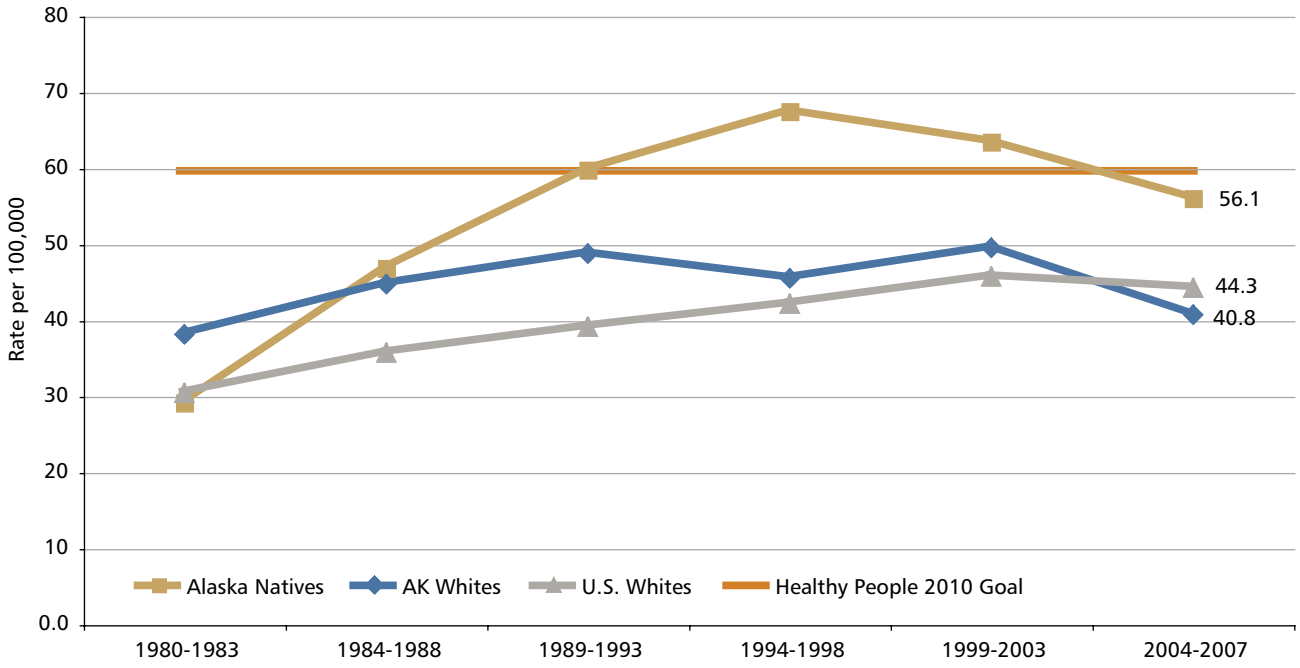
- Although there appears to be variations between regions for COPD death rates, only Arctic Slope's death rate is significantly higher ($p<.05$) than the rate for all other regions.
- The Alaska Native COPD death rate has increased 92% since 1980 ($p<.05$). The rate peaked in 1994-1998 and appears to be decreasing.
- During 2004-2007, the Alaska Native COPD death rate was 40% higher than for Alaska Whites ($p<.05$) but not significantly different than for U.S. Whites.

Data Availability: Mortality data is available by borough or census area, as well as by race, and statewide. Periodic reports on Alaska Native Mortality are published by the AN EpiCenter http://www.anthc.org/cs/chs/epicenter

For more information:
Alaska Bureau of Vital Statistics at http://www.hss.state.ak.us/dph/bvs/

Average Annual Age-Adjusted COPD Death Rates per 100,000, 1980-2007

Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program
U.S. Whites and AK Whites 2004-2007 data point is for 2004-2005 only

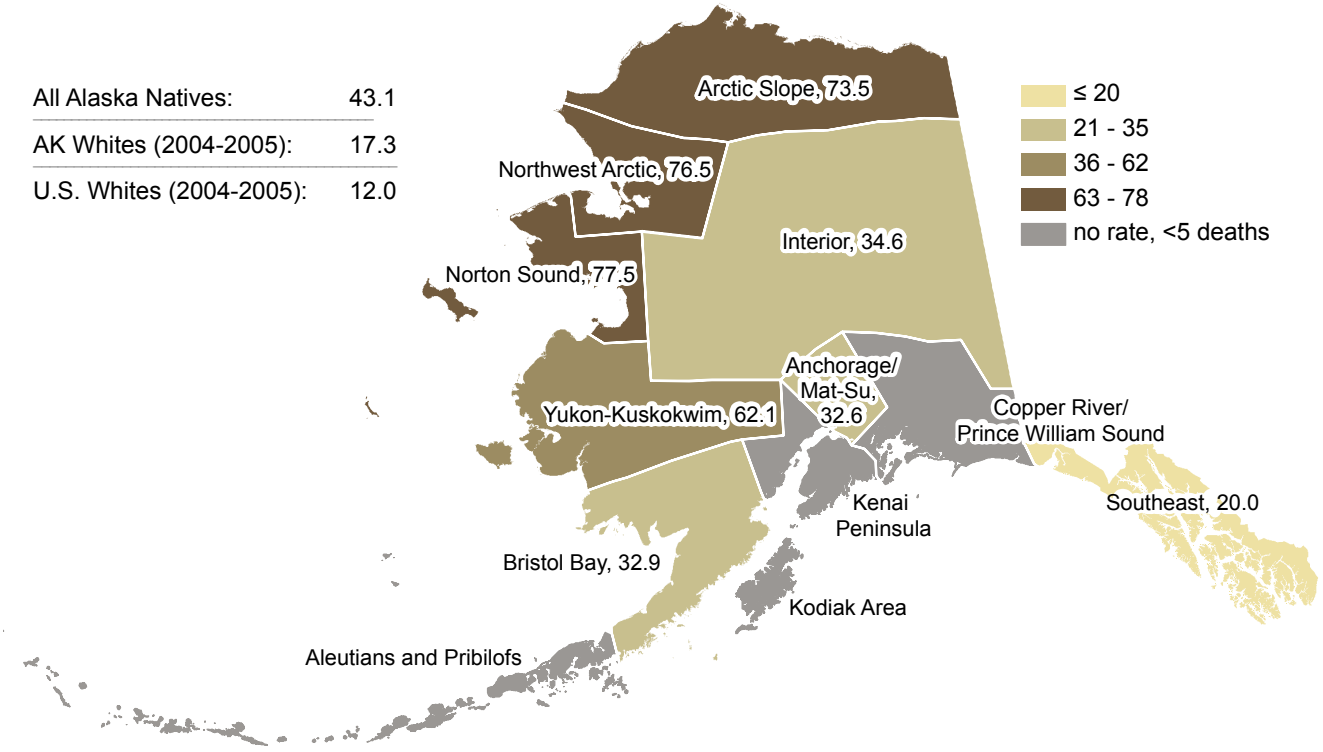


Mortality – Suicide

Average Annual Age-Adjusted Suicide Death Rates per 100,000 by Region, Alaska Natives, 2004-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	43.1
AK Whites (2004-2005):	17.3
U.S. Whites (2004-2005):	12.0



Healthy People 2010, Objective 18.1: Reduce the suicide rate to 5 per 100,000.

Healthy Alaskans 2010, Objective 5.1: Reduce the suicide rate to 11 per 100,000.

Summary:

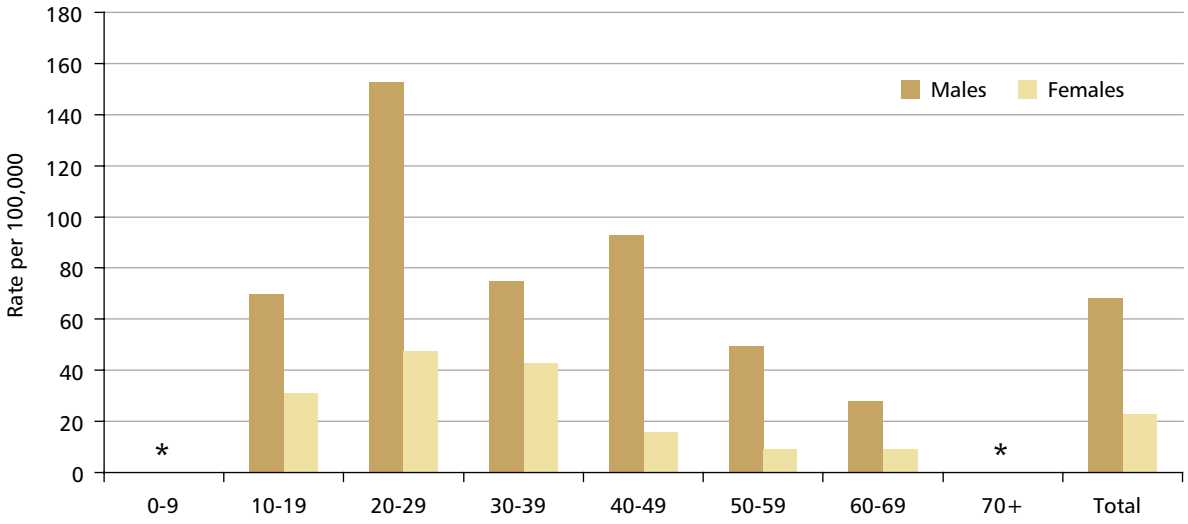
- The suicide death rate for the Yukon-Kuskokwim, Northwest Arctic and Norton Sound regions are significantly higher ($p<.05$) than for all other regions combined. The suicide death rate for Anchorage/Mat-Su is significantly lower than the rate for all other regions. Although it appears that Arctic Slope's suicide rate is higher, the number of deaths is too small to detect a significant difference.
- The suicide rate for men is about 3 times that of women. Men aged 20-29 years had the highest suicide rate of any age group, male or female.
- The suicide rate for Alaska Native people has not changed significantly since 1980. However, the U.S. White rate decreased by 8% ($p<.05$) since 1980. The Healthy People 2010 goal has not been achieved by either population.
- During 2004-2007, the Alaska Native suicide death rate was 3.6 times greater than for U.S. Whites ($p<.05$) and 2.5 times greater than for Alaska Whites ($p<.05$).

Data Availability: Mortality data is available by borough or census area, as well as by race, and statewide. Periodic reports on Alaska Native Mortality are published by the AN EpiCenter http://www.anthc.org/chs/epicenter

For more information:
Alaska Bureau of Vital Statistics at http://www.hss.state.ak.us/dph/bvs/

Average Annual Suicide Death Rates per 100,000 by Age Group and Gender, Alaska Natives, 2004-2007

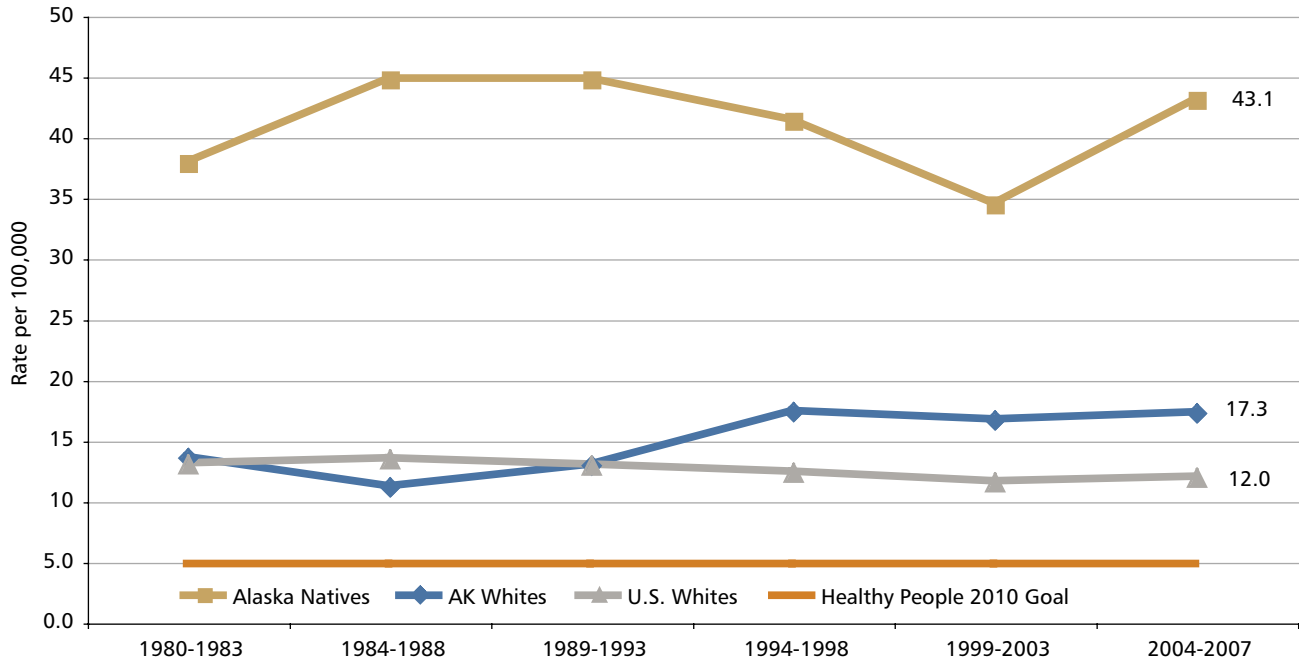
Data Source: Alaska Bureau of Vital Statistics



*Less than 3 deaths, no rate calculated

Average Annual Age-Adjusted Suicide Death Rates per 100,000, 1980-2007

Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program
U.S. Whites and AK Whites 2004-2007 data point is for 2004-2005 only

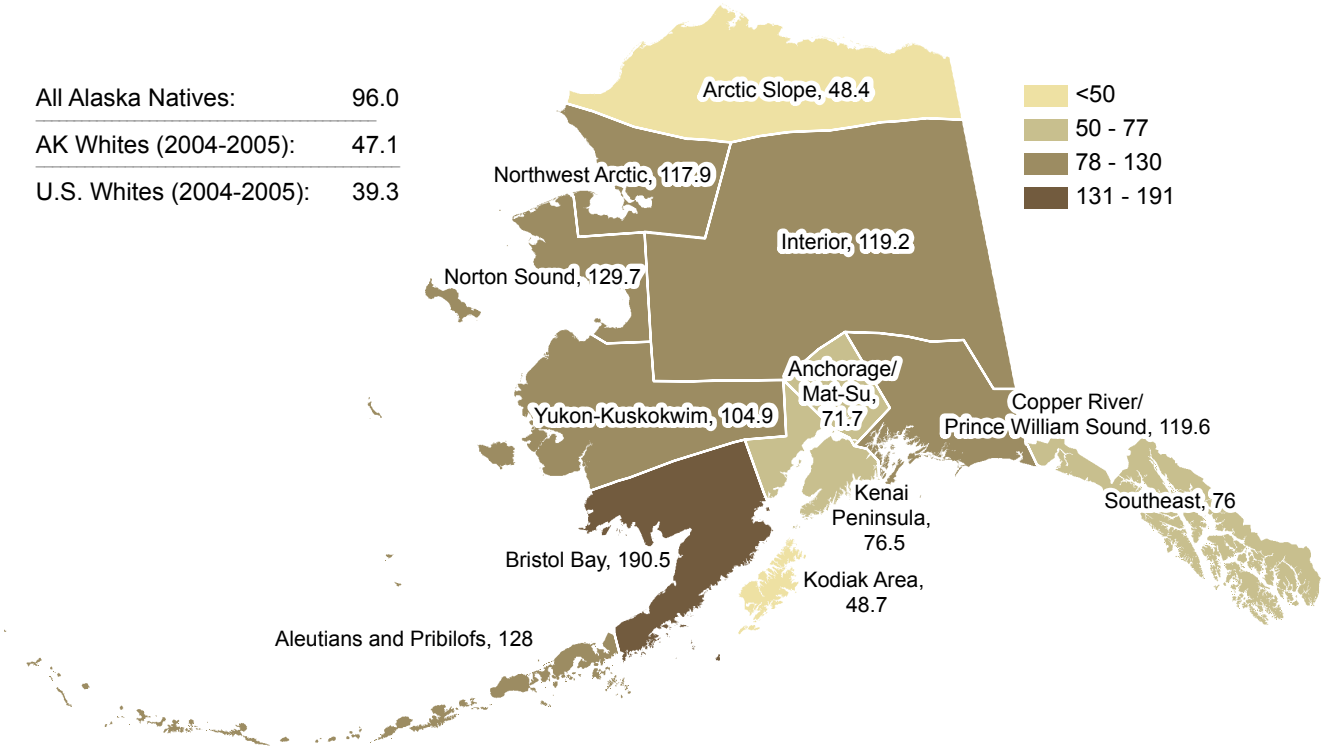


Mortality – Unintentional Injuries

Average Annual Age-Adjusted Unintentional Injury Death Rates per 100,000 by Region, Alaska Natives, 2004-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	96.0
AK Whites (2004-2005):	47.1
U.S. Whites (2004-2005):	39.3



Healthy People 2010, Objective 15.13: Reduce the unintentional injury death rate to 17.5 per 100,000.population.

Healthy Alaskans 2010, Objective 8.1:
Reduce the unintentional injury death rate to 31 per 100,000 population.

Summary:

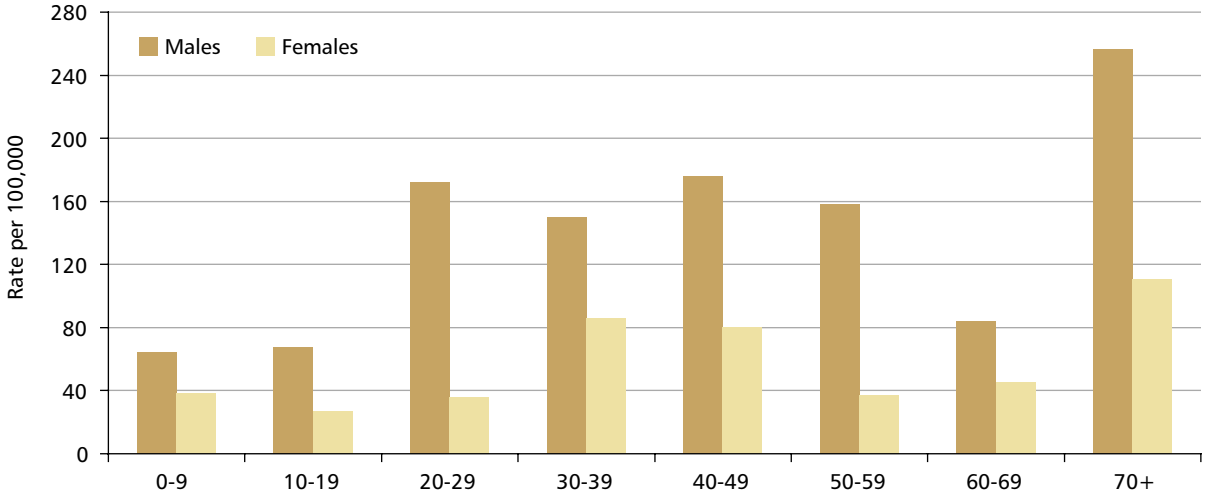
- The unintentional injury death rate for the Bristol Bay region is significantly higher ($p<.05$) than the rate for all other regions and is significantly lower ($p<.05$) for the Anchorage/Mat-Su region. Although it appears that Arctic Slope and Kodiak's unintentional injury death rate is lower, the number of deaths is too small to detect a significant difference.
- Unintentional injury death rates are higher for men than women for all age groups.
- Unintentional injury death rates decreased 47% between 1980 and 2007 ($p<.05$). However, Alaska Native people have not yet achieved the Healthy People 2010 goal.
- During 2004-2007, the Alaska Native unintentional injury death rate was 2.4 times greater than for U.S. Whites ($p<.05$) and 2.0 times greater than for Alaska Whites ($p<.05$).

Data Availability: Mortality data is available by borough or census area, as well as by race, and statewide. Periodic reports on Alaska Native Mortality are published by the AN EpiCenter http://www.anthc.org/chs/epicenter

For more information:
Alaska Bureau of Vital Statistics at http://www.hss.state.ak.us/dph/bvs/

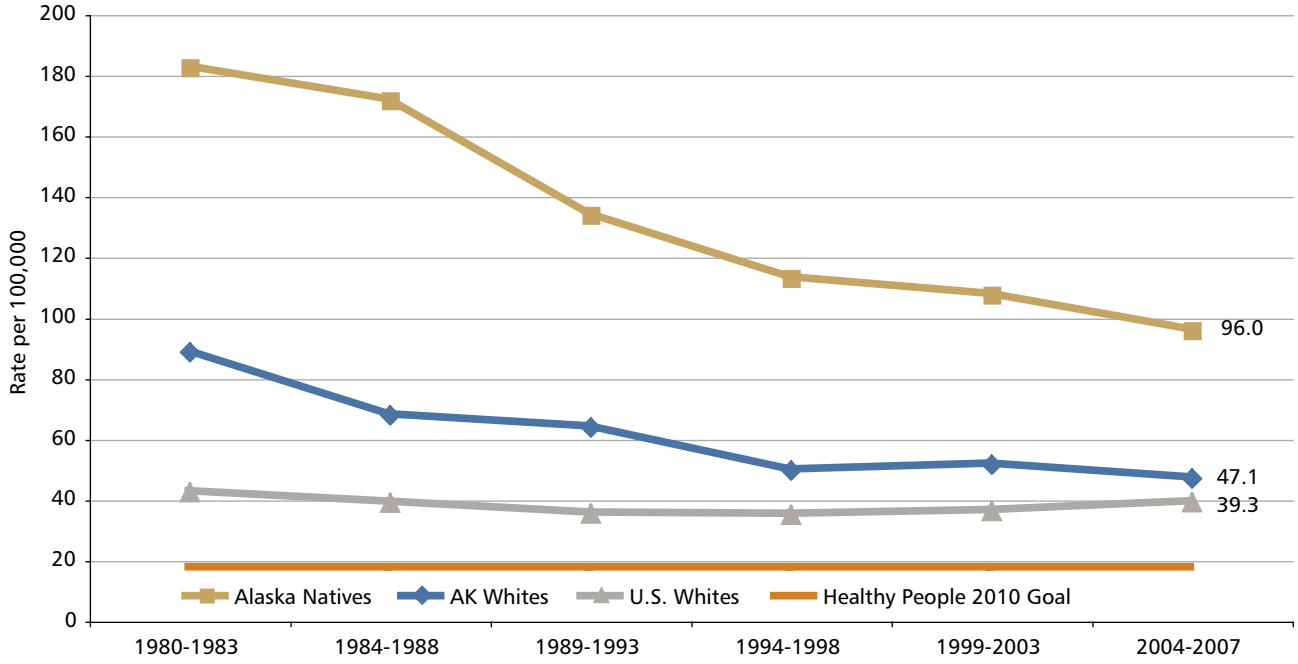
Average Annual Unintentional Injury Death Rates per 100,000 by Age Group and Gender, Alaska Natives, 2004-2007

Data Source: Alaska Bureau of Vital Statistics



Average Annual Age-Adjusted Unintentional Injury Death Rates per 100,000, 1980-2007

Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program
U.S. Whites and AK Whites 2004-2007 data point is for 2004-2005 only



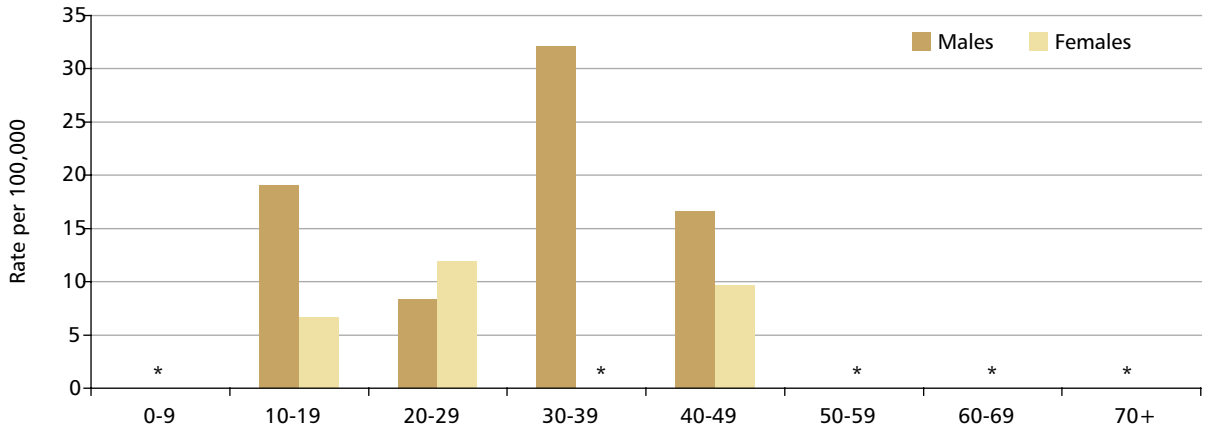
Mortality – Homicide

Healthy People 2010, Objective 15.32: Reduce the homicide rate to 3 per 100,000.

Healthy Alaskans 2010, Objective 9.1: Reduce the homicide rate to 4 per 100,000.

Average Annual Homicide Rate per 100,000 by Age Group and Gender Alaska Natives, 2004-2007

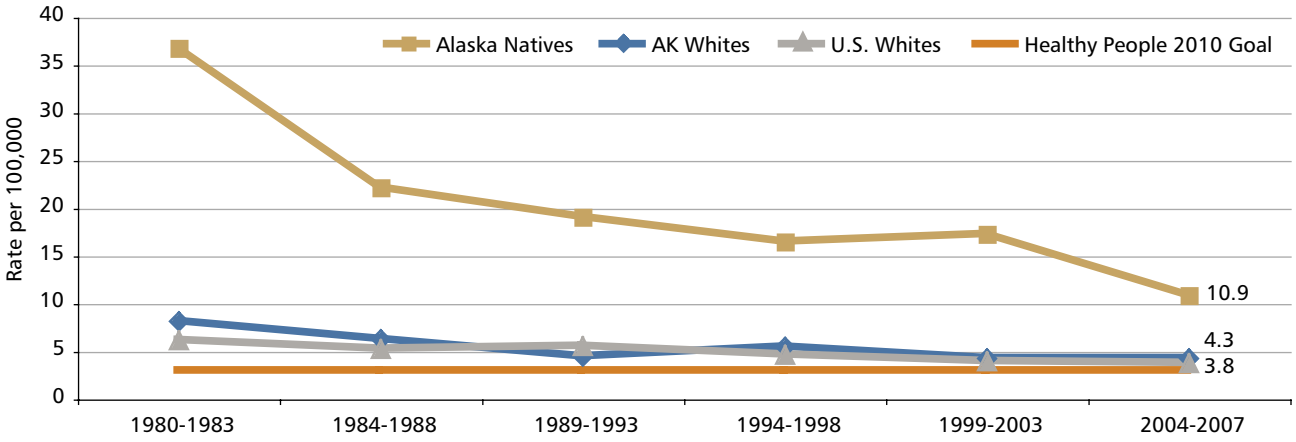
Data Source: Alaska Bureau of Vital Statistics



*Less than 3 deaths, no rate calculated

Average Annual Age-Adjusted Homicide Rate per 100,000, 1980-2007

Data Source: Alaska Bureau of Vital Statistics U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program
U.S. Whites and AK Whites 2004-2007 data point is for 2004-2005 only



Summary:

- Rates of homicide are highest among 30-39 year old men.
- The homicide rate decreased by 70% since 1980 ($p<.05$).
- During 2004-2007, Alaska Native people were 2.5 times more likely to die by homicide than AK Whites ($p<.05$) and 2.9 times more than U.S. Whites ($p<.05$).

Data Availability: Mortality data is available by borough or census area, as well as by race, and statewide. Periodic reports on Alaska Native Mortality are published by the AN EpiCenter http://www.anthc.org/chs/epicenter

For more information:
Alaska Bureau of Vital Statistics at http://www.hss.state.ak.us/dph/bvs/

Injury Death – Leading Causes

Leading Causes of Injury Death, Alaska Natives, 2005-2007

Data Source: Alaska Bureau of Vital Statistics

Rank	Cause	No. of Deaths	% of Total
1	Suicide	141	28.7%
2	Unintentional Poisoning	61	12.4%
3	Motor Vehicle Traffic	46	9.3%
4	Drowning	41	8.3%
5	Homicide	39	7.9%
6	Natural/Environmental	39	7.9%
7	ATV/Snowmachine	27	5.5%
8	Other Transport (Boat, etc.)	27	5.5%
9	Suffocation	19	3.9%
10	Fire/Flame	15	3.0%
11	Fall	7	1.4%
12	Pedestrian (Other)	6	1.2%
13	Firearm	3	0.6%
	Other	9	1.9%
	Not Specified	12	2.4%
	Total	**492**	**100%**

Summary:

- Suicide was the leading cause of injury death among Alaska Native people during 2005-2007. Suicides made up more than one quarter of all injury deaths.
- Unintentional poisoning was the second leading cause of injury death, resulting in 61 deaths.

Data Availability: Injury death data is available at the tribal health regional level, by census area, race and statewide. Data is complete through 2007.

For more information:
ANTHC's Injury Prevention Program or visit their website at
http://www.anthc.org/chs/wp/injprev/
Or visit the Alaska Bureau of Vital Statistics at
http://www.hss.state.ak.us/dph/bvs/

HIGHLIGHTS

• MORBIDITY •

- During FY2007, the leading cause of hospitalizations for the Alaska Tribal Health System was childbirth and complications of pregnancy, resulting in 2,596 hospitalizations, with an average length of stay of 2.5 days. The second leading cause was for diseases of the respiratory system, third was for injuries and poisoning and the fourth was for diseases of the digestive system. These four causes accounted for nearly 50% of all hospitalizations.
- The leading cause of outpatient visits for the Alaska Tribal Health System during FY2007 was for diseases of the respiratory system (7.3%). The second leading cause was for mental health disorders (7.0%).
- During 2003-2005, falls were the leading cause of injury hospitalization, accounting for about one in every four (27%) injury hospitalizations. The second and third leading causes are suicide attempts (18.9%) and assaults (12.0%), respectively.

Photo by Jerry McDonnell

Hospitalizations – Leading Causes

Hospitalizations by Diagnosis Groupings,
Alaska Tribal Health System, Alaska Natives, Fiscal Year 2007

Data Source: I.H.S. National Data Warehouse
Note: ICD-9 Codes in each group are listed in parentheses

Rank	Cause	Number	Days	Average Length of Stay	% Total
1	Complications of Pregnancy, Childbirth and the Puerperium (630-677)	2,596	6,566	2.5	18.0%
2	Diseases of the Respiratory System (460-519)	1,579	8,655	5.5	11.0%
3	Injury and Poisoning (800-999)	1,456	7,143	4.9	10.1%
4	Diseases of the Digestive System (520-579)	1,296	6,046	4.7	9.0%
5	Mental Disorders (290-319)	696	2,419	3.5	4.8%
6	Diseases of the Circulatory System (390-459)	676	3,738	5.5	4.7%
7	Symptoms, Signs and Ill-defined Conditions (780-799)	516	1,666	3.2	3.6%
8	Diseases of the Genitourinary System (580-629)	511	2,072	4.1	3.6%
9	Diseases of the Musculoskeletal System and Connective Tissue (710-739)	490	2,560	5.2	3.4%
10	Diseases of the Skin and Subcutaneous Tissue (680-709)	401	2,207	5.5	2.8%
11	Neoplasms (140-239)	395	2,411	6.1	2.7%
12	Infectious and Parasitic Diseases (001-139)	274	2,443	8.9	1.9%
13	Endocrine, Nutritional, Metabolic and Immunity Disorders (240-279)	258	1,145	4.4	1.8%
14	Certain Conditions Originating in the Perinatal Period (760-779)	190	987	5.2	1.3%
15	Diseases of the Nervous System and Sense Organs (320-389)	176	997	5.7	1.2%
16	Disease of the Blood and Blood-forming Organs (280-289)	97	399	4.1	0.7%
17	Congenital Anomalies (740-759)	54	268	5.0	0.4%
	Total	**14,387**	**66,098**	**4.6**	

Ambulatory Care – Leading Causes of Outpatient Visits

**Outpatient Visits by Diagnosis Groupings,
Alaska Tribal Health System, Alaska Natives, Fiscal Year 2007**

Data Source: I.H.S. National Data Warehouse
Note: ICD-9 Codes in each group are listed in parentheses

Rank	Cause	Number	% Total
1	Diseases of the Respiratory System (460-519)	102,838	7.3%
2	Mental Disorders (290-319)	98,859	7.0%
3	Diseases of the Nervous System and Sense Organs (320-389)	95,636	6.8%
4	Diseases of the Musculoskeletal System and Connective Tissue (710-739)	90,923	6.5%
5	Symptoms, Signs and Ill-defined Conditions (780-799)	80,551	5.7%
6	Injury and Poisoning (800-999)	62,726	4.5%
7	Diseases of the Circulatory System (390-459)	47,989	3.4%
8	Diseases of the skin and subcutaneous tissue (680-709)	42,112	3.0%
9	Endocrine, Nutritional, Metabolic and Immunity Disorders (240-279)	37,952	2.7%
10	Diseases of the Digestive System (520-579)	35,529	2.5%
11	Diseases of the Genitourinary System (580-629)	35,289	2.5%
12	Infectious and Parasitic Diseases (001-139)	30,742	2.2%
13	Complications of Pregnancy, Childbirth and the Puerperium (630-677)	17,920	1.3%
14	Neoplasms (140-239)	8,648	0.6%
15	Disease of the Blood and Blood-forming Organs (280-289)	5,770	0.4%
16	Congenital Anomalies (740-759)	2,191	0.2%
17	Certain Conditions Originating in the Perinatal Period (760-779)	1,199	0.1%
	Total	**1,403,539**	

Injury Hospitalizations

Definition: An injury hospitalization is defined as having sustained an injury that results in either inpatient admission or transfer to an acute care facility.

Healthy People 2010, Objective 15.14: Reduce non-fatal unintentional injuries (developmental).

Healthy Alaskans 2010, Objective 8.2: Reduce hospitalizations due to non-fatal unintentional injuries to 57 per 10,000 population.

Injury Hospitalizations by Cause, Alaska Natives, 2003-2005 Data Source: Alaska Trauma Registry

Rank	Cause	No. of Hospitalizations	% of Total
1	Falls	1311	27.0%
2	Suicide Attempt	920	18.9%
3	Assault	585	12.0%
4	Motor Vehicle Traffic Occupant	273	5.6%
5	All-Terrain Vehicle	214	4.4%
6	Snow Machine	210	4.3%
7	Unintentional Poisoning	143	2.9%
8	Other	134	2.8%
9	Sports	129	2.7%
10	Pedestrian	126	2.6%
11	Cut	121	2.5%
12	Bicycle	117	2.4%
13	Accidentally Struck by Person/Object	112	2.3%
14	Water Transport	50	1.0%
15	Fire/Flames	47	1.0%
16	Hypothermia/Frostbite	47	1.0%
17	Unintentional Firearm	45	0.9%
18	Fall from Playground Equipment	37	0.8%
19	Hot Substance/Burn	36	0.7%
20	Dog Bite	30	0.6%
30	Other	170	3.5%
	Total	**4857**	**100%**

Summary:

- Falls were the leading cause of injury hospitalization during 2003-2005, accounting for more than one in every four injury hospitalizations.
- Suicide attempts were the second leading cause, accounting for nearly one in every five injury hospitalizations.

Data Availability: The Alaska Trauma Registry tracks all injury hospitalizations statewide.

For more information:
ANTHC's Injury Prevention Program
http://www.anthc.org/chs/wp/injprev/

HIGHLIGHTS

• LIFESTYLE RISK FACTORS – ADULTS •

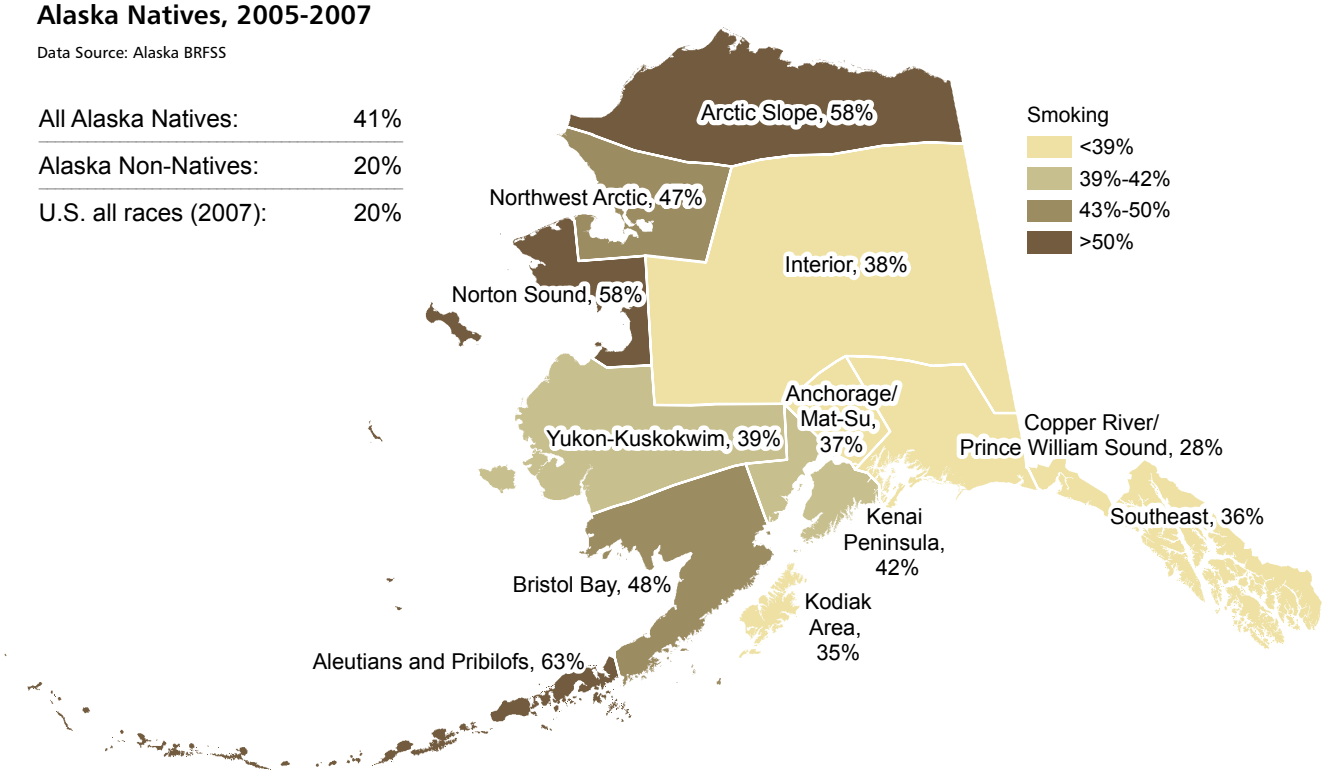
- Smoking prevalence among Alaska Native people has remained constant since the early 1990s. The proportion of Alaska Native people estimated to be current smokers is twice that of Alaska non-Natives (41% vs. 20%, $p<.05$).
- Smokeless tobacco use varies widely between regions: 3% to 34%.
- The prevalence of obesity increased 63% among Alaska Native people between 1991-1992 and 2005-2007 ($p<.05$).
- The prevalence of binge drinking has declined since the early 1990s, when it was estimated to be over 30% among Alaska Native people ($p<.05$). Currently, binge drinking is equally prevalent among Alaska Natives and Alaska non-Natives at about 18%.

Tobacco Use – Smoking

Smoking Rates by Region, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS

All Alaska Natives:	41%
Alaska Non-Natives:	20%
U.S. all races (2007):	20%



Definition: Current smokers are adults who have smoked at least 100 cigarettes in their lifetime and currently smoke every day or some days.

Healthy People 2010, Objective 27.1a:
Reduce tobacco use by adults to 12%.

Healthy Alaskans 2010, Objective 3.8:
Reduce the percentage of adults who smoke cigarettes to 14%.

Summary:

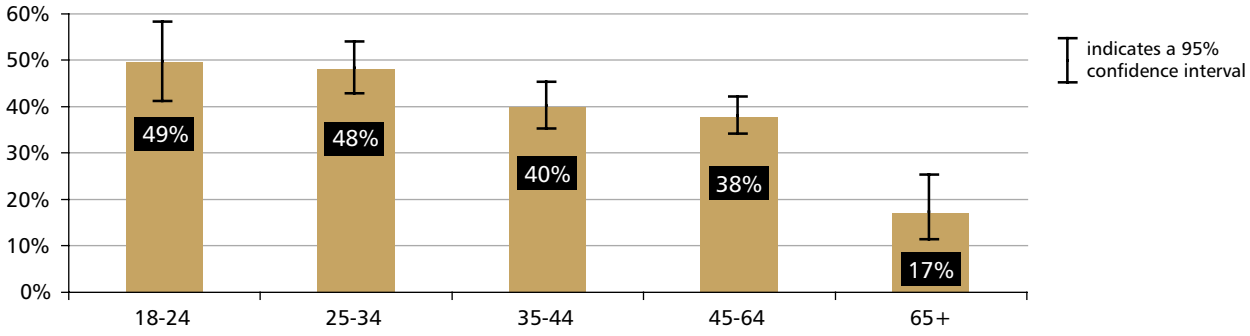
- The smoking prevalence in the Arctic Slope, Norton Sound and Aleutians and Pribilofs regions is significantly higher than for Alaska Natives statewide ($p<.05$).
- Younger adults are significantly more likely to smoke (49%) than older adults (17% of those age 65 and over, $p<.05$).
- Men are more likely to smoke than women ($p<.05$).
- Smoking prevalence among Alaska Native people has remained constant since the early 1990s, while among Alaska non-Natives it has declined slightly. Neither population has reached the Healthy People 2010 goal.
- During 2005-2007, more than twice as many Alaska Native people were estimated to be current smokers than Alaska non-Natives (41% vs. 20%, $p<.05$).

Data Availability: Available by race, gender, 5 BRFSS regions, and statewide.

For more information: For Alaska, go to http://www.hss.state.ak.us/dph/chronic/hsl/brfss/default.htm. For nationwide data, go to http://www.cdc.gov/brfss/

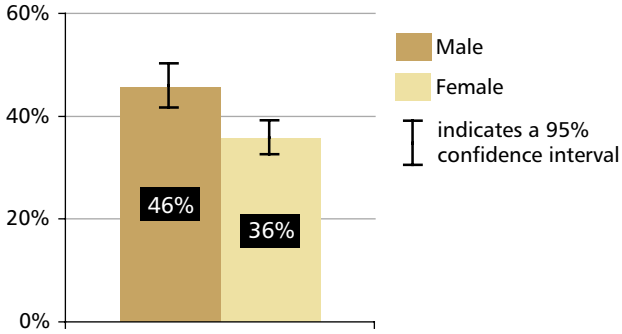
Current Smokers by Age Group, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



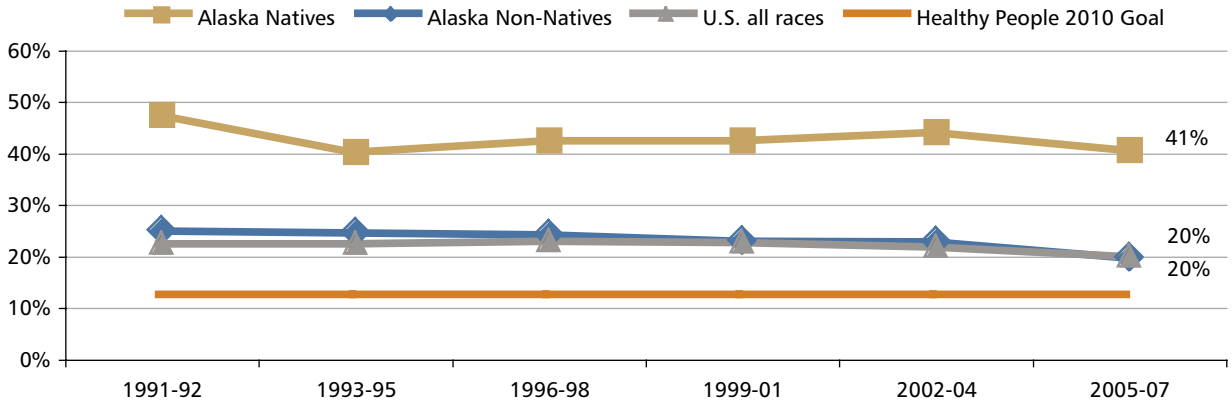
Current Smokers by Gender, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



Current Smokers, Alaska Natives, Alaska Non-Natives and U.S. all races, 1991-2007

Data Source: Alaska BRFSS
US Data Source: CDC BRFSS

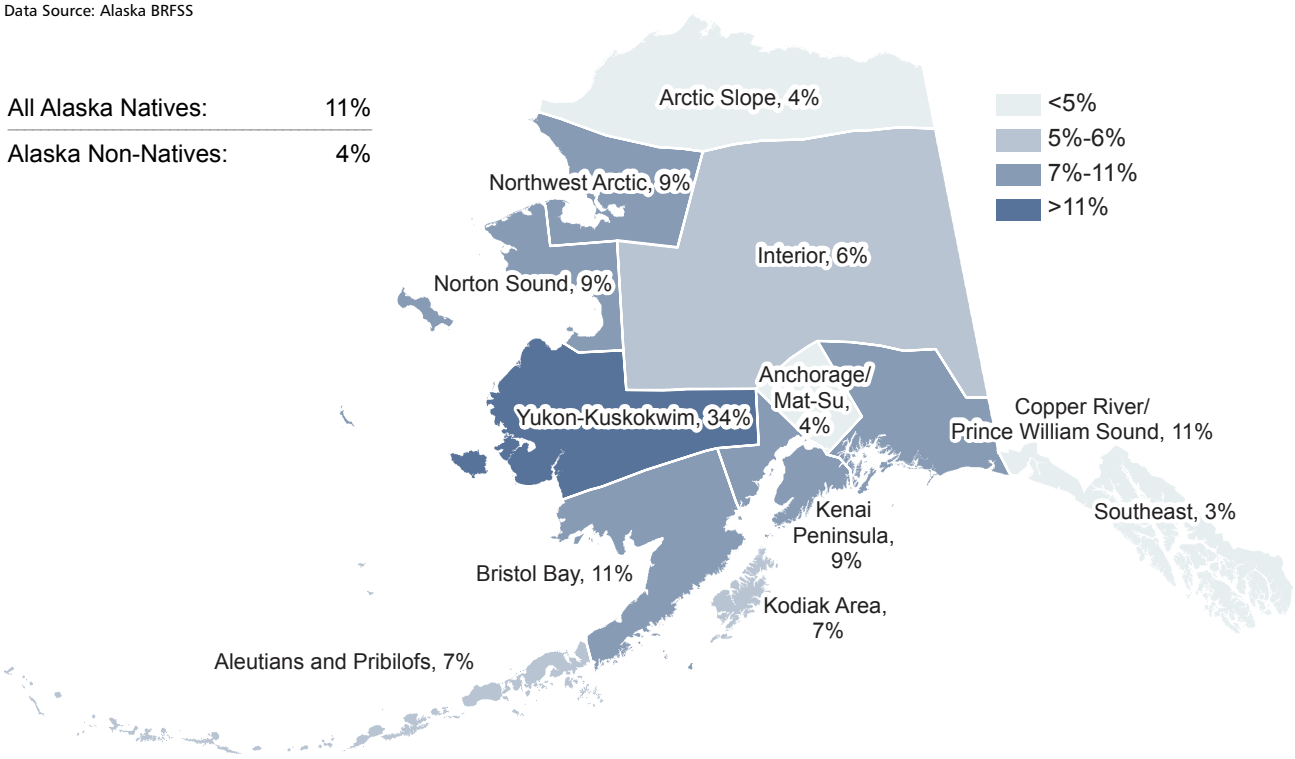


Tobacco Use – Smokeless

Smokeless Tobacco Usage Rates by Region, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS

All Alaska Natives:	11%
Alaska Non-Natives:	4%



Definition: Adults who currently use chewing tobacco, snuff or both.

Healthy People 2010, Goal 27.1b: Reduce spit tobacco use by adults to 0.4%.

Healthy Alaskans 2010, Objective 3.9: Reduce the percentage of adults who use smokeless tobacco to 0.4%.

Summary:

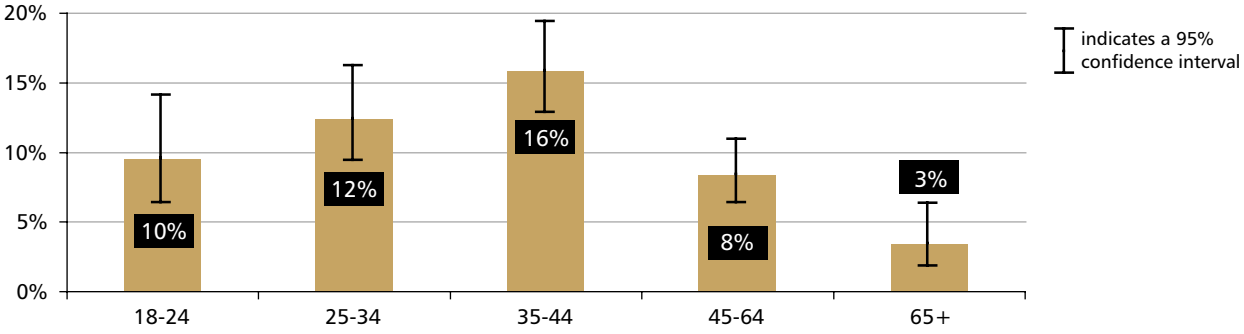
- The smokeless tobacco use rate in the Yukon-Kuskokwim region is estimated to be significantly higher than for Alaska Natives statewide (34% vs. 11%) and significantly lower for the Interior, Anchorage/Mat-Su and Southeast regions ($p<.05$). Although it appears that Arctic Slope has a lower rate, the number of respondents in this region was too small to detect a significant difference.
- Smokeless tobacco use among adults appears to be less common among older Alaska Native people and most common among 35-44 year olds.
- Men are about twice as likely to use smokeless tobacco as are women (14% vs. 7%, $p<.05$).
- Smokeless tobacco use rates among Alaska Natives have not decreased since 1991. Neither Alaska Natives nor Alaska non-Natives have reached the Healthy People 2010 goal.
- During 2005-2007, Alaska Natives were about three times as likely as Alaska non-Natives to be smokeless tobacco users (11% vs. 4%, $p<.05$).

Data Availability: Available by race, gender, 5 BRFSS regions, and statewide.

For more information: For Alaska, go to http://www.hss.state.ak.us/dph/chronic/hsl/brfss/default.htm. For nationwide data, go to http://www.cdc.gov/brfss/

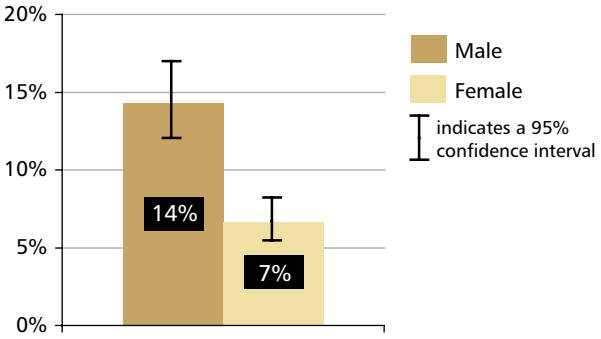
Smokeless Tobacco Use by Age Group, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



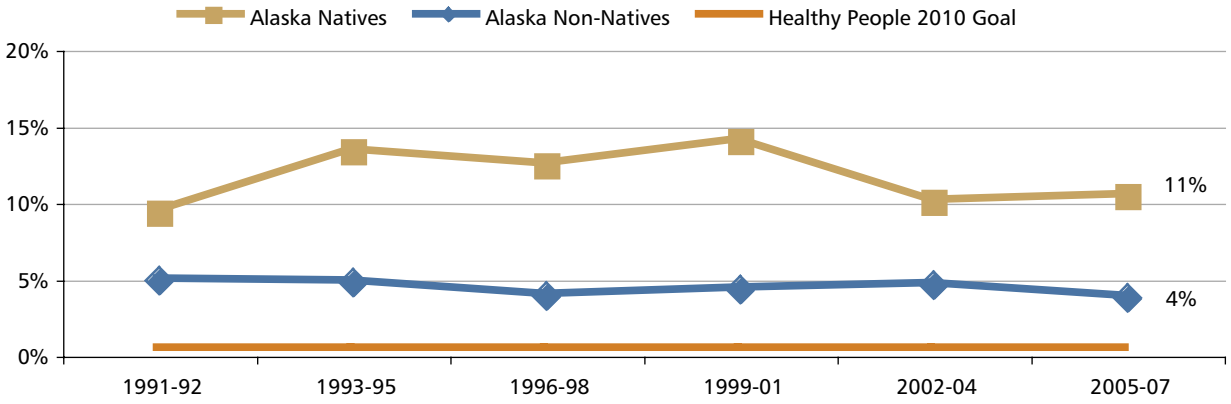
Smokeless Tobacco Use by Gender, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



Smokeless Tobacco Use, Alaska Natives and Alaska Non-Natives, 1991-2007

Data Source: Alaska BRFSS
US Data Source: CDC BRFSS

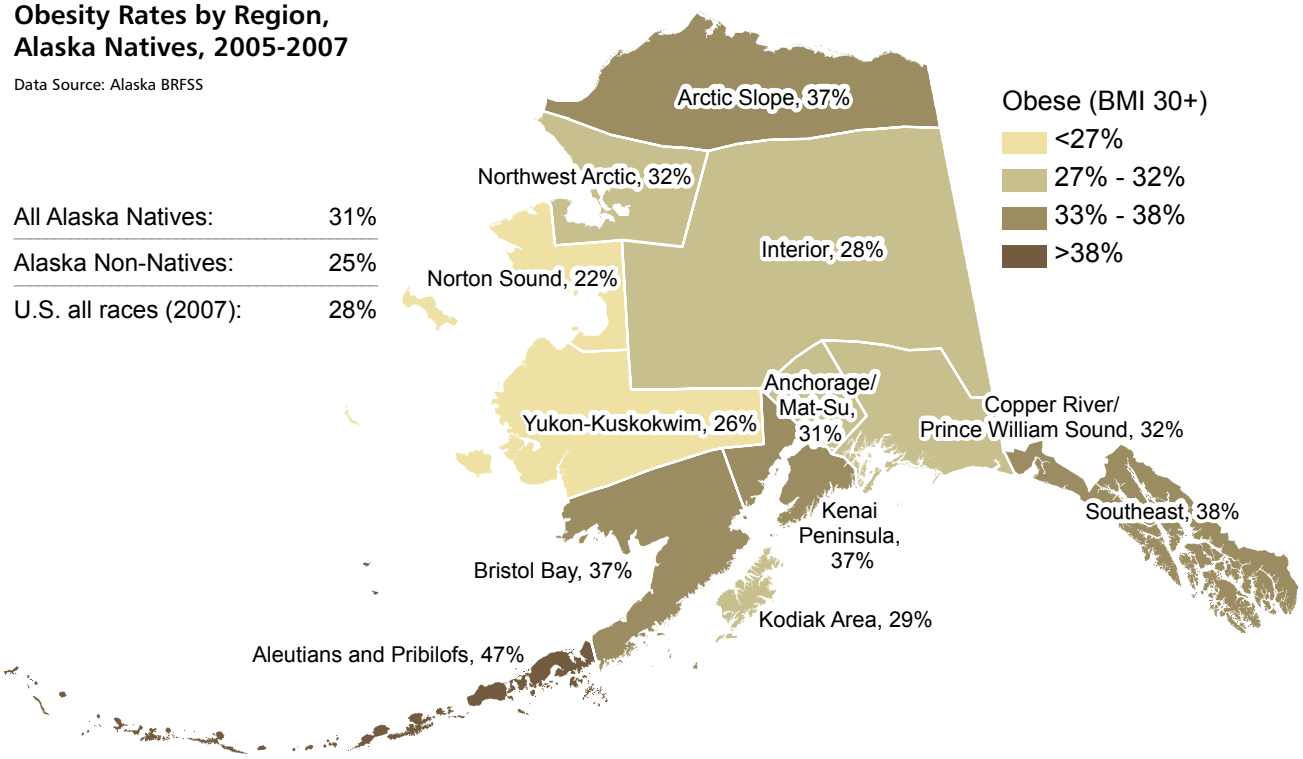


Obesity

Obesity Rates by Region, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS

All Alaska Natives:	31%
Alaska Non-Natives:	25%
U.S. all races (2007):	28%



Definition: Obesity is defined as having a body mass index (BMI) of 30 or greater. Overweight is defined as having a BMI of 25-29.

Healthy People 2010, Goal 19.1 and 19.2: Increase proportion of adults who are at a healthy weight to 60%. Reduce the proportion of adults who are obese to 15%.

Healthy Alaskans 2010, Objective 4.4: Reduce the proportion of adults who meet criteria for overweight to 30%, and reduce obesity to 18%.

Summary:

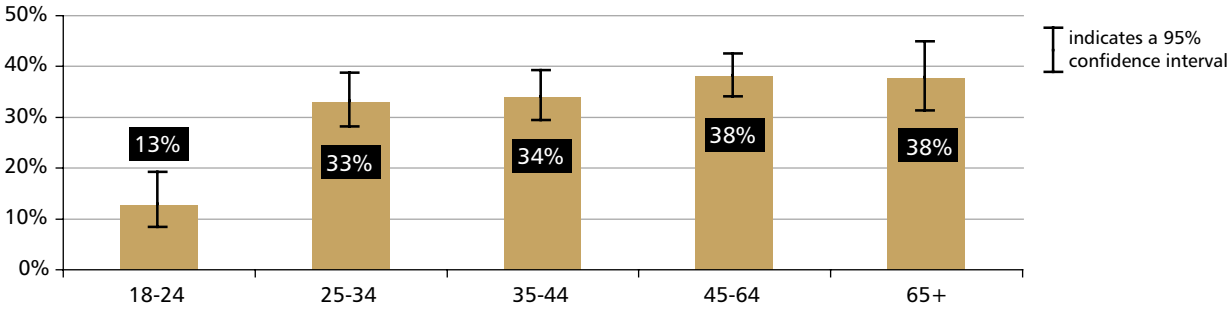
- The obesity rate in the Southeast and Aleutians and Pribilofs regions are estimated to be significantly higher than for Alaska Natives statewide (38% and 47% respectively vs. 31%, $p<.05$) and significantly lower for the Norton Sound region (22%, $p<.05$).
- Obesity is more common in Alaska Native adults age 25 and over ($p<.05$), and highest in those age 45 and over.
- Alaska Native men are more likely than women to be overweight (46% vs. 30%, $p<.05$).
- Alaska Native women are more likely than men to be obese (36% vs. 26%, $p<.05$).
- The prevalence of obesity increased 63% among Alaska Native people between 1991-1992 and 2005-2007 ($p<.05$).
- In 2005-2007, Alaska Native obesity rates were significantly higher than for Alaska non-Natives and U.S. all races ($p<.05$). None of these populations reached the Healthy People 2010 goal.

Data Availability: Available by race, gender, 5 BRFSS regions, and statewide.

For more information: For Alaska, go to http://www.hss.state.ak.us/dph/chronic/hsl/brfss/default.htm. For nationwide data, go to http://www.cdc.gov/brfss/

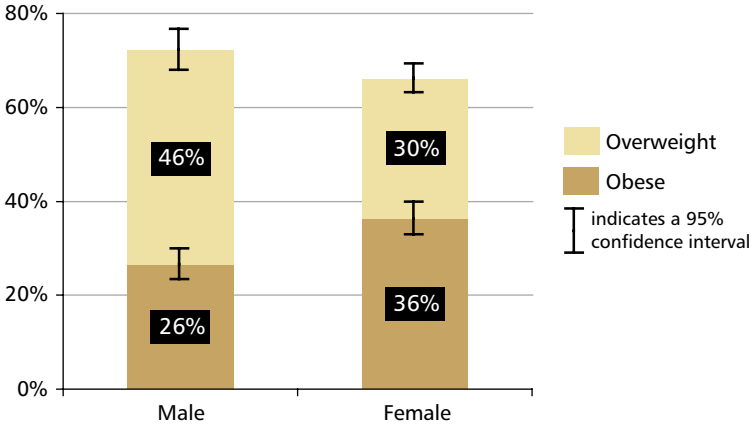
Obesity by Age Group, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



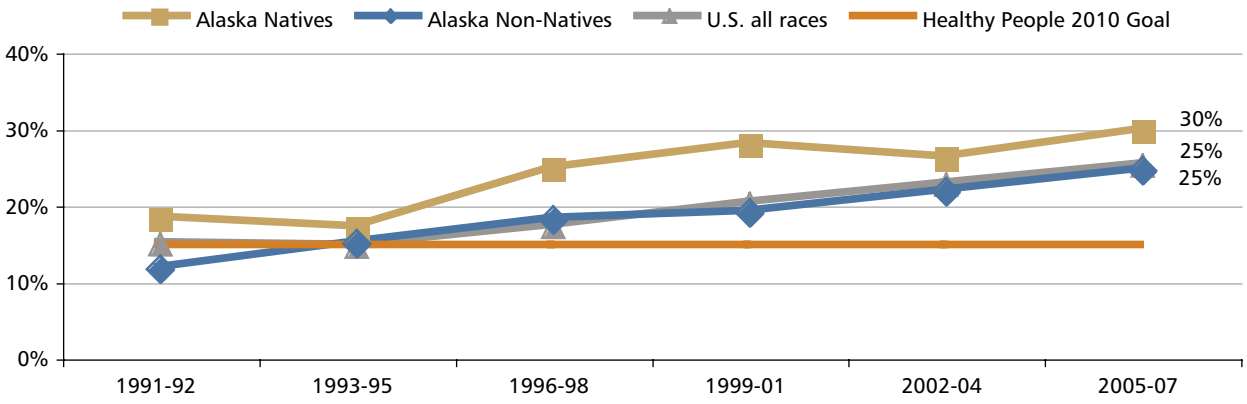
Overweight or Obesity by Gender, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



Obesity, Alaska Natives, Alaska Non-Natives and U.S. all races, 1991-2007

Data Source: Alaska BRFSS
US Data Source: CDC BRFSS

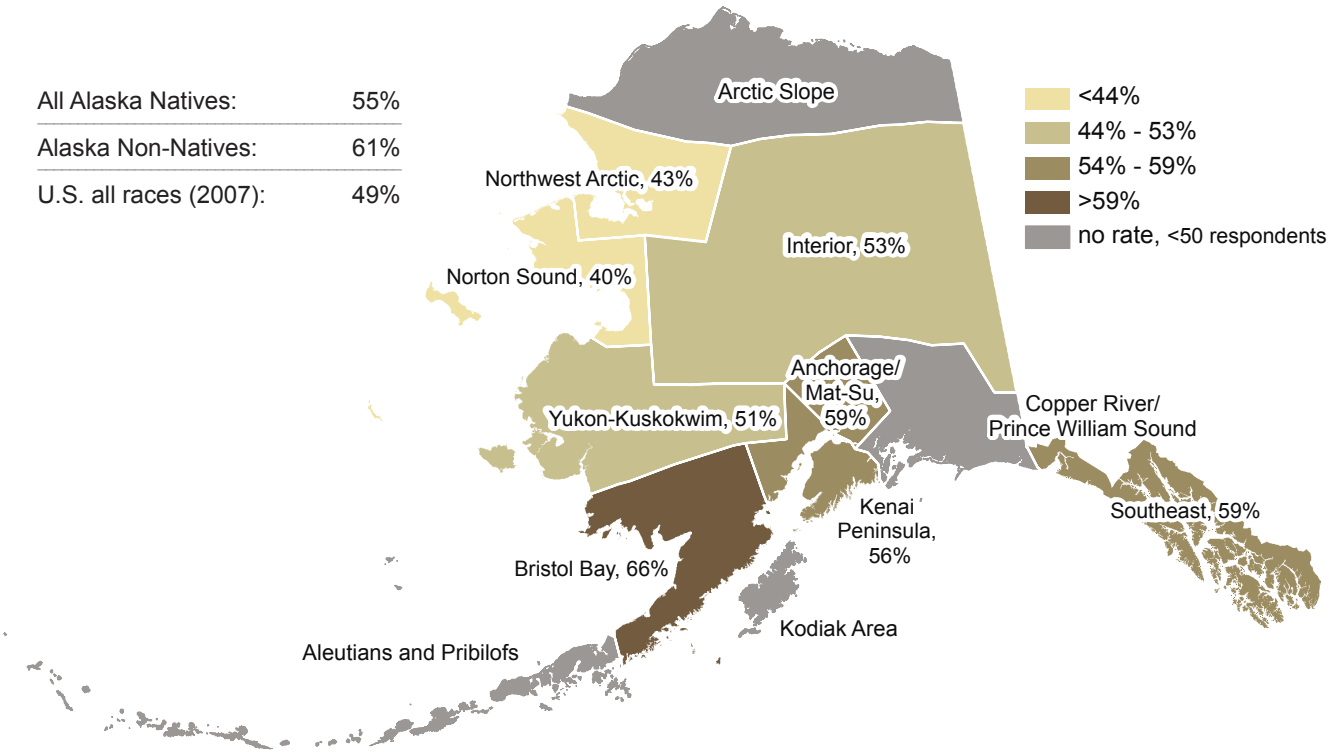


Physical Activity

Met Moderate or Vigorous Physical Activity Recommendations by Region, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS

All Alaska Natives:	55%
Alaska Non-Natives:	61%
U.S. all races (2007):	49%



Definition: Adults who participated in moderate physical activity (30 or more minutes a day, 5 or more days per week) or vigorous physical activity (20 or more minutes a day, 3 times or more a week).

Healthy People 2010, Goal 22.2: Increase the proportion of adults who engage in regular, preferably daily, moderate physical activity to 30%.

Healthy Alaskans 2010, Objective 1.2: Increase the proportion of adults who engage in regular, preferably daily, moderate physical activity to 40%.

Summary:

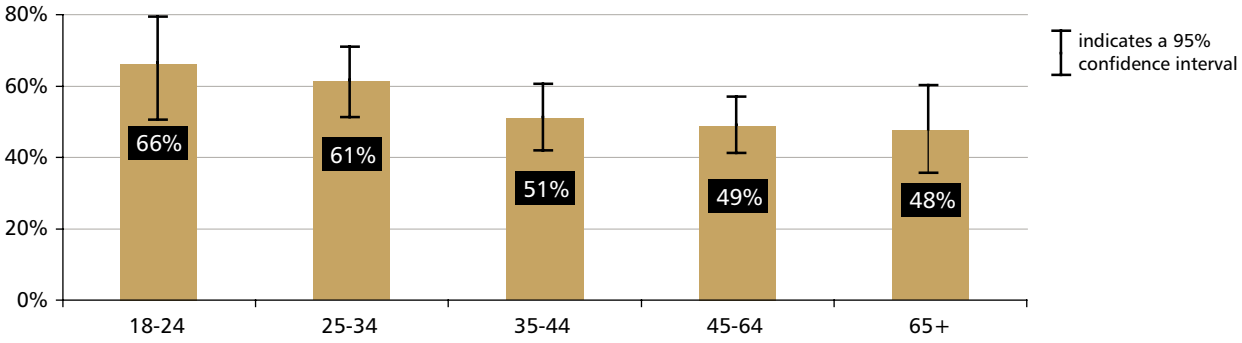
- Although there appears to be variations between regions, none of the region's rates of physical activity are significantly different from Alaska Natives statewide. All regions appear to meet the Healthy People objective.
- A greater percentage of Alaska Native people report meeting physical activity recommendations than do the U.S. all races population (55% vs. 49%, $p<.05$).
- Reported physical activity rates appear to decrease with age.
- Men were more likely to meet physical activity recommendations than women (63% vs. 48%, $p<.05$).
- The prevalence of physical activity among Alaska Native people has not changed significantly since 2001.

Data Availability: Available by race, gender, 5 BRFSS regions, and statewide.

For more information: For Alaska, go to http://www.hss.state.ak.us/dph/chronic/hsl/brfss/default.htm. For nationwide data, go to http://www.cdc.gov/brfss/

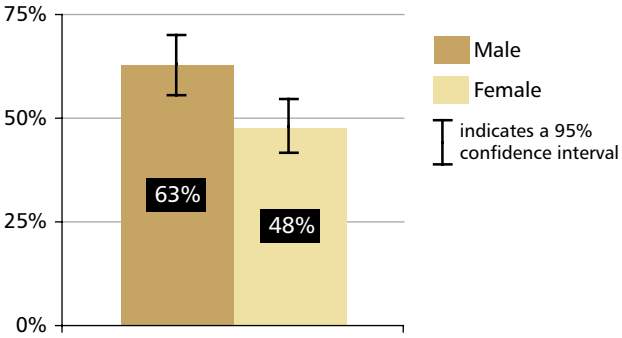
Met Moderate or Vigorous Physical Activity Recommendations by Age Group, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



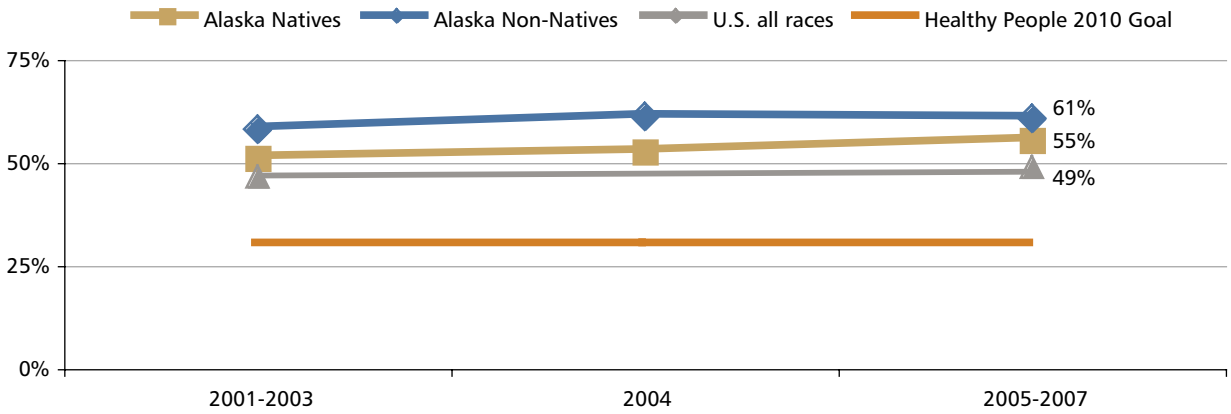
Met Moderate or Vigorous Physical Activity Recommendations by Gender, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



Met Moderate or Vigorous Physical Activity Recommendations, Alaska Natives, Alaska Non-Natives and U.S. all races, 1991-2007

Data Source: Alaska BRFSS
US Data Source: CDC BRFSS

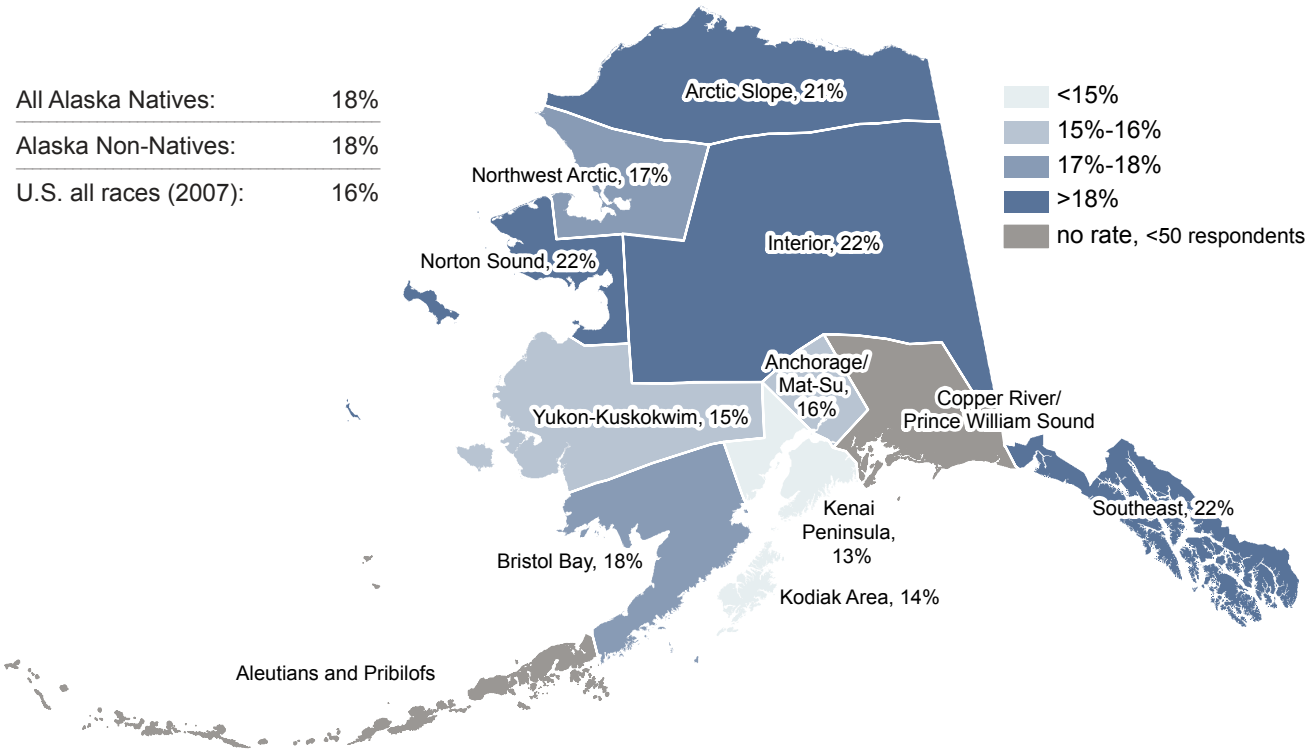


Binge Drinking

Binge Drinking Rates by Region, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS

All Alaska Natives:	18%
Alaska Non-Natives:	18%
U.S. all races (2007):	16%



Definition: Binge drinking is defined as having 5 or more drinks on one or more occasions in the past 30 days.

Healthy People 2010, Goal 26.11c: Reduce the percentage of adults who engage in binge drinking during past month to 6%.

Healthy Alaskans 2010, Objective 4.4: Reduce binge drinking among adults to 13%.

Summary:

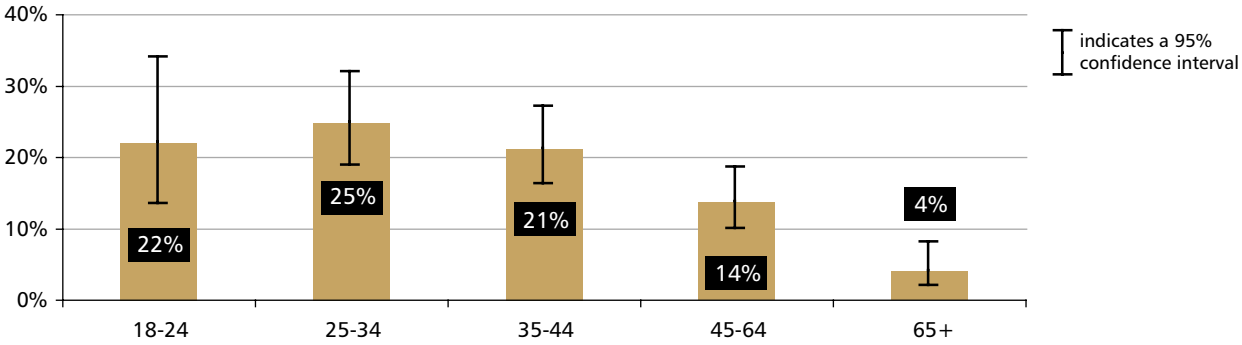
- Although there appears to be variations between regions, none of the region's rates of binge drinking are significantly different from Alaska Natives statewide.
- The prevalence of binge drinking among Alaska Native adults age 65 and older is significantly lower than for other adults ($p<.05$).
- Men are significantly more likely to binge drink than women (25% vs. 14%, $p<.05$).
- The prevalence of binge drinking has declined since the early 1990's, when it was estimated to be over 30% among Alaska Native people ($p<.05$).
- Binge drinking is equally prevalent among Alaska Natives and Alaska non-Natives at about 18%. Neither population has reached the Healthy People 2010 Goal.

Data Availability: Available by race, gender, 5 BRFSS regions, and statewide.

For more information: For Alaska, go to http://www.hss.state.ak.us/dph/chronic/hsl/brfss/default.htm. For nationwide data, go to http://www.cdc.gov/brfss/

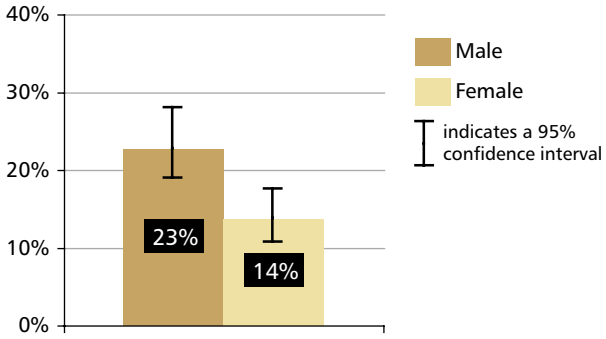
Binge Drinking by Age Group, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



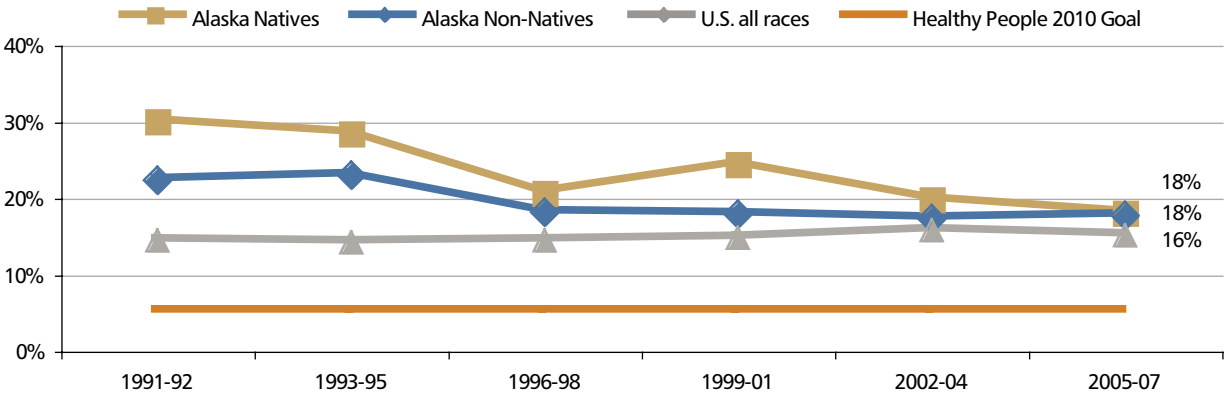
Binge Drinking by Gender, Alaska Natives, 2005-2007

Data Source: Alaska BRFSS



Binge Drinking, Alaska Natives, Alaska Non-Natives and U.S. all races, 1991-2007

Data Source: Alaska BRFSS
US Data Source: CDC BRFSS



HIGHLIGHTS

• LIFESTYLE RISK FACTORS – ADOLESCENTS •

- In 2007, 32% of Alaska Native high school students smoked cigarettes on one or more of the past 30 days. This was a significantly higher rate than for U.S. students (20%) and Alaska non-Native students (13%, $p<.05$). However, this was a large improvement from 1995, when 66% of Alaska Native high school students had smoked in the past month ($p<.05$).
- The proportion of Alaska Native high school students who were at risk of overweight increased from 2003 to 2007 (13.0% to 21.4%). The proportion of Alaska Native high school students who are overweight is similar to that of U.S. students (13.2% vs. 13.0%).
- The percent of Alaska Native high school students who report having at least one drink of alcohol on one or more of the past 30 days (41.0%) is not significantly different from Alaska non-Native (39.3%) or U.S. students (44.7%).

Tobacco Use – Adolescents

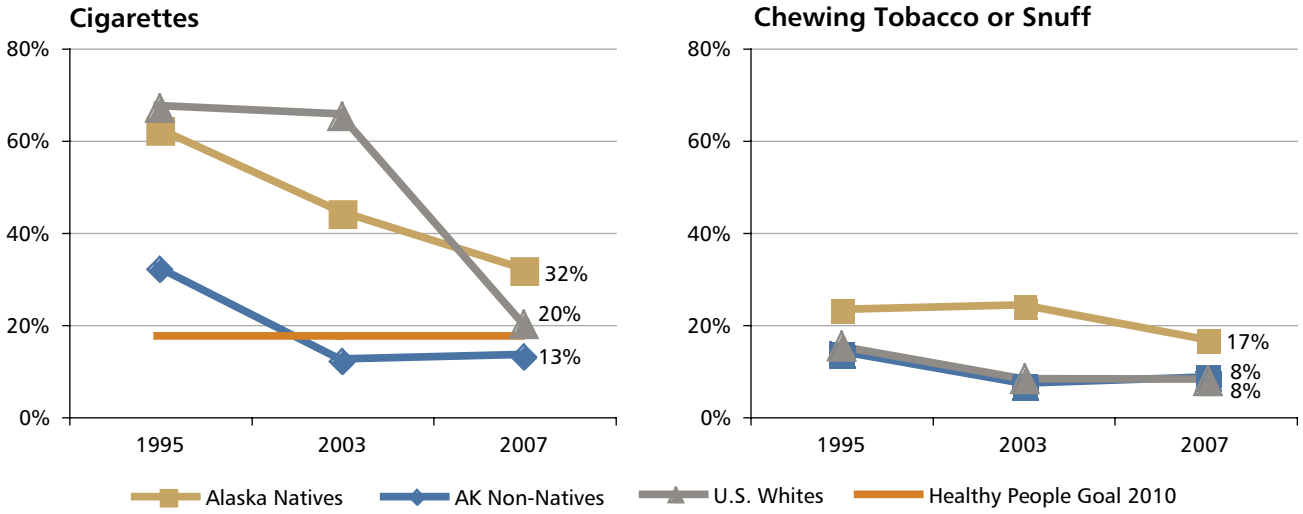
Definition: Percent of high school students, grades 9-12, who have smoked cigarettes on one or more of the past 30 days.

Healthy People 2010, Objective 27.2b: Reduce cigarette smoking by adolescents to 17%.

Healthy Alaskans 2010, Objective 3.1: Reduce cigarette smoking by adolescents to 16%.

High School Students Who Have Used Tobacco on One or More of the Past 30 Days

Data Source: Alaska Youth Risk Behavior Survey
US Data Source: Youth Risk Behavior Survey



Summary:

- In 2007, 32% of Alaska Native high school students smoked cigarettes on one or more of the past 30 days. This was a significantly higher rate than for U.S. students (20%) and Alaska non-Native students (13%, $p<.05$). However, this was a large improvement from 1995, when 66% of Alaska Native high school students had smoked in the past month ($p<.05$).
- In 2007, 17% of Alaska Native high school students had used chewing tobacco or snuff during the past 30 days. Although there appears to be differences between Alaska Native and non-Native students' smokeless tobacco use rates, these differences were not statistically significant.

Data Availability: Available by race and statewide. Sample size is not large enough to be broken down to the regional level.

For more information: For Alaska Youth Risk Behavior Survey Reports (YRBS), go to http:// www.hss.state.ak.us/dph/chronic/school/YRBS.htm
For state and national level data, visit CDC Youth Risk Behavior Surveillance System at http://apps.nccd.cdc.gov/yrbss/

Overweight – Adolescents

Definition: In children and adolescents, *overweight* is defined as having a Body Mass Index (BMI) greater than or equal to the 95th percentile (based on CDC growth charts).

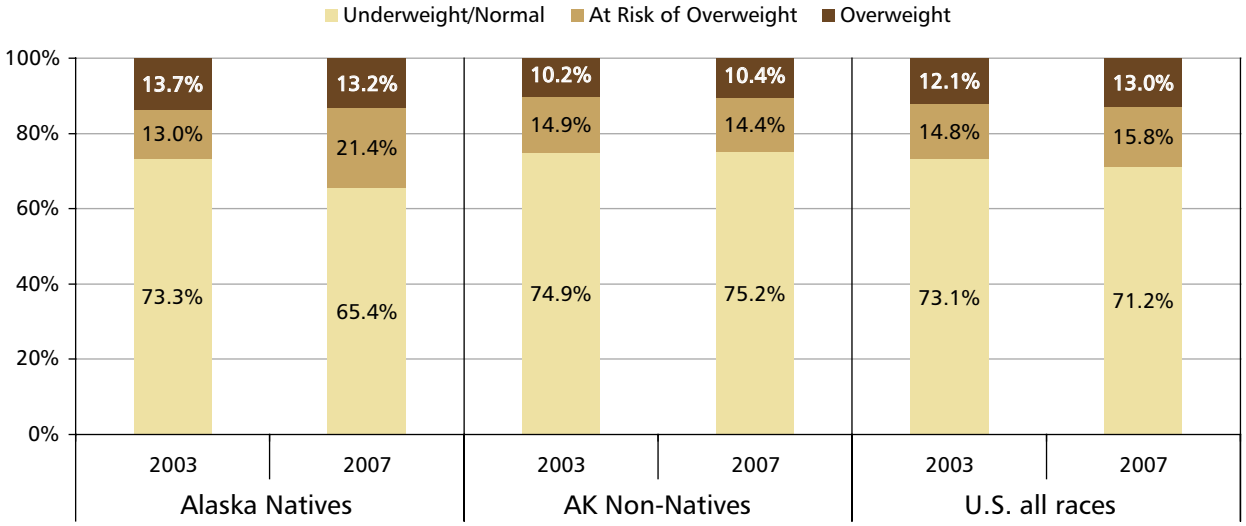
At risk of overweight is defined as having a Body Mass Index greater than the 85th but less than 95th percentile.

Healthy People 2010, Goal 19-3c: Reduce the proportion of children and adolescents who are overweight to 5%.

Healthy Alaskans 2010, Objective 1.5: Reduce the proportion of adolescents who are overweight to 5%.

Weight Status by BMI, High School Students

Data Source: Alaska Youth Risk Behavior Survey
US Data Source: Youth Risk Behavior Survey



Summary:

- The proportion of Alaska Native high school students who were overweight remained similar from 2003 to 2007. However, the proportion of Alaska Native high school students who were at risk of overweight appears to have increased from 2003 to 2007.
- The proportion of Alaska Native high school students who are overweight is similar to that of U.S. students.

Data Availability: Available by race and statewide. Sample size is not large enough to be broken down to the regional level.

For more information: For Alaska Youth Risk Behavior Survey Reports (YRBS), go to http:// www.hss.state.ak.us/dph/chronic/school/YRBS.htm
For state and national level data, visit CDC Youth Risk Behavior Surveillance System at http://apps.nccd.cdc.gov/yrbss/

Physical Activity – Adolescents

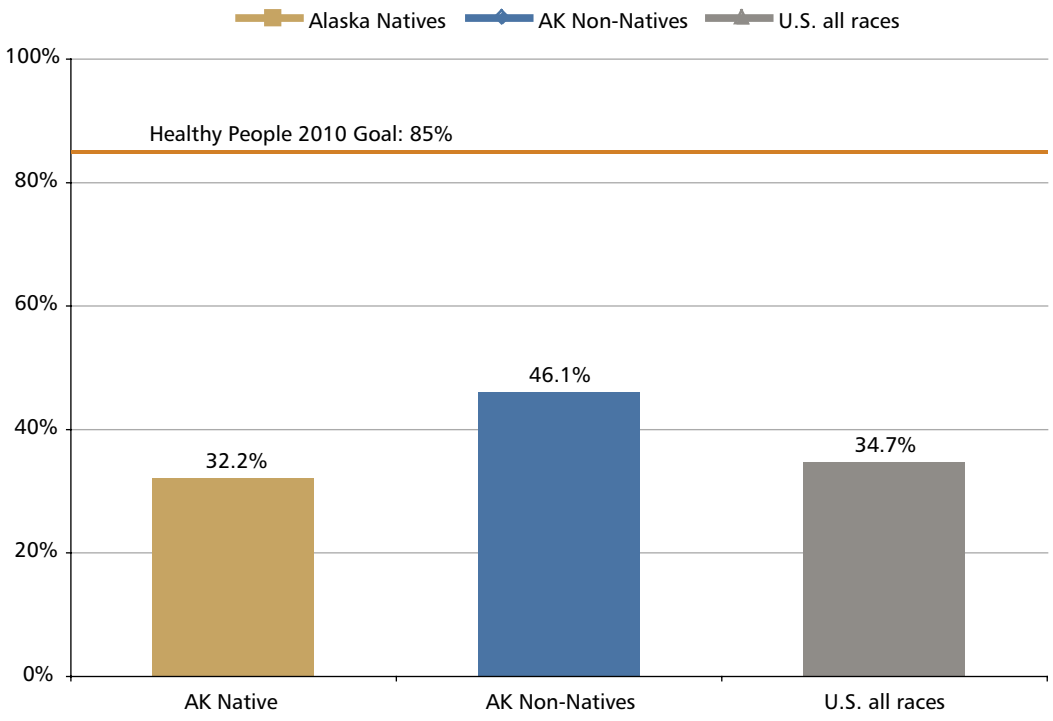
Definition: Recommended levels of physical activity for adolescents is defined as students who were physically active for a total of at least sixty minutes per day on five or more of the past seven days.

Healthy People 2010, Objective 22.7: Increase the proportion of adolescents who engage in recommended levels of physical activity to 85%.

Healthy Alaskans 2010, Objective 1.5: Increase the proportion of adolescents who engage in recommended levels of physical activity to 85%.

Percent of High School Students who meet Recommended Levels of Physical Activity, 2007

Data Source: Alaska Youth Risk Behavior Survey
US Data Source: Youth Risk Behavior Survey



Summary:

- 32% of Alaska Native high school students engaged in recommended levels of physical activity. This was 15% less than Alaska non-Native students ($p<.05$).
- None of the above high school student populations have achieved the Healthy People 2010 goal.

Data Availability: Available by race and statewide. Sample size is not large enough to be broken down to the regional level.

For more information: For Alaska Youth Risk Behavior Survey Reports (YRBS), go to http:// www.hss.state.ak.us/dph/chronic/school/YRBS.htm
For state and national level data, visit CDC Youth Risk Behavior Surveillance System at http://apps.nccd.cdc.gov/yrbss/

Substance Abuse – Adolescents

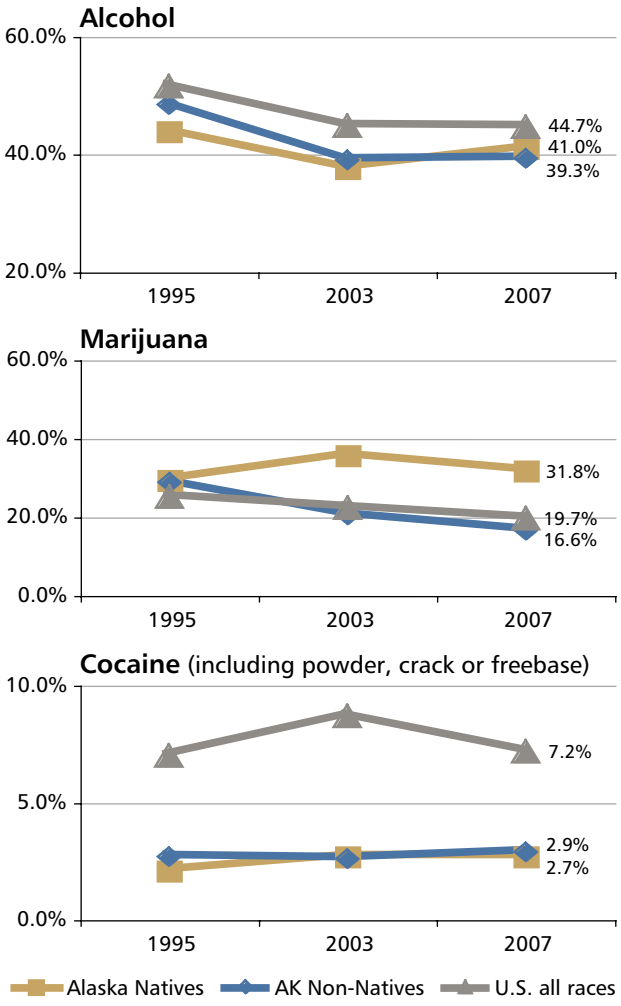
Definition: Substance abuse among adolescents is defined as having used alcohol, marijuana or cocaine in the past 30 days.

Healthy People 2010, Objective 26.10a: Increase the proportion of adolescents not using alcohol or any illicit drugs during the past 30 days to 89%.

Healthy Alaskans 2010, Objective 4.7: Increase the proportion of adolescents not using alcohol or any illicit drugs during the past 30 days to 60%.

Percent of High School Students who have used Alcohol or Drugs on One or More of the Past 30 Days

Data Source: Alaska Youth Risk Behavior Survey
US Data Source: Youth Risk Behavior Survey



Summary:

- The percent of Alaska Native high school students who report having at least one drink of alcohol on one or more of the past 30 days is not significantly different from Alaska non-Native or U.S. students.
- Almost one-third (32%) of Alaska Native high school students report using marijuana during one or more of the past 30 days compared to 17% of Alaska non-Native high school students ($p<.05$).
- The percent of Alaska Native high school students who used any form of cocaine in the last month was similar to that for Alaska non-Native students. This rate is much lower than for U.S. high school students ($p<.05$).

Data Availability: Available by race and statewide. Sample size is not large enough to be broken down to the regional level.

For more information: For Alaska Youth Risk Behavior Survey Reports (YRBS), go to http:// www.hss.state.ak.us/dph/chronic/school/YRBS.htm
For state and national level data, visit CDC Youth Risk Behavior Surveillance System at http://apps.nccd.cdc.gov/yrbss/

HIGHLIGHTS

• MATERNAL AND CHILD HEALTH •

- Although there was a significant decrease (48%) in the infant mortality rate for Alaska Native infants between 1980-1983 and 2004-2007 (17.2 vs. 9.0 per 1,000 live births, $p<.05$), the rate remains twice that of Alaska Whites (9.0 vs. 4.4, $p<.05$). This disparity is largely found during the post-neonatal period.
- Alaska Native women are 3 times as likely to smoke during pregnancy as Alaska White women (30.2% vs. 10.3%, $p<.05$). However, between 1996 and 2007, there was a 6% decrease in the percent of Alaska Native women who reported smoking during pregnancy.
- The percent of mothers who use smokeless tobacco during pregnancy is greatest in southwest Alaska. In the Yukon-Kuskokwim region, 41% of mothers report using smokeless tobacco during pregnancy.
- There has been a steady decline in the percent of Alaska Native women who report alcohol consumption during pregnancy. Between 1996 and 2007, the disparity between Alaska Native women and Alaska White women decreased from 4 times greater to 1.5 times greater ($p<.05$).

Maternal and Child Health – Infant Mortality Rate

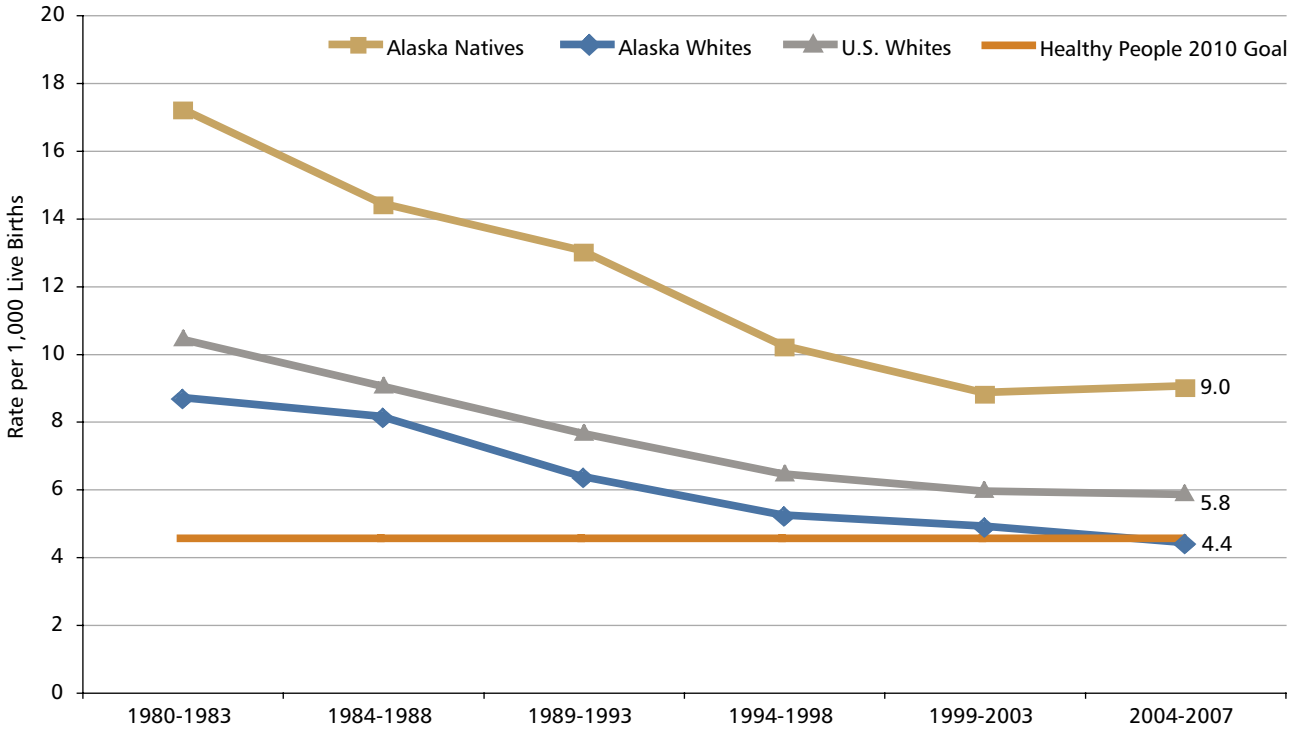
Definition: Infant mortality rate is defined as the number of deaths within the first year of life per 1,000 live births. The neonatal mortality rate is defined as the number of deaths within the first 28 days of life per 1,000 live births. The post-neonatal mortality rate is defined as the number of deaths between 29 days and one year per 1,000 live births.

Healthy People 2010, Goal 16.1c. Reduce infant death rate to 4.5/1,000 live births. Reduce neonatal mortality rate to 2.9. Reduce post-neonatal mortality rate to 1.2.

Healthy Alaskans 2010, Objective 16.2: Reduce infant death rate to 4.5/1,000 live births. Reduce neonatal mortality rate to 2.9. Reduce post-neonatal mortality rate to 2.4.

Average Annual Infant Mortality Rates per 1,000 live births, 1980-2007

Alaska Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program



Summary:

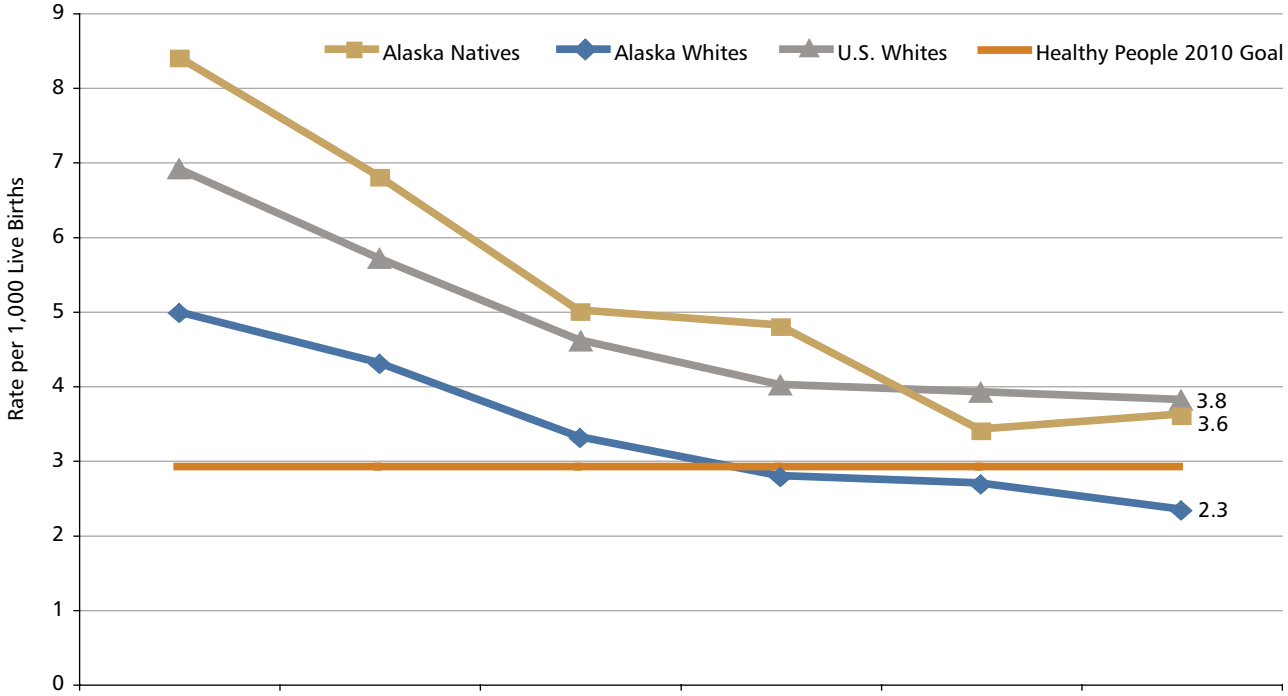
- During 2004-2007, the Alaska Native infant mortality rate was twice that of Alaska Whites (9.0 vs. 4.4, $p<.05$).
- Between 1980-1983 and 2004-2007, there was a significant decrease (48%) in the infant mortality rate for Alaska Native infants (17.2 vs. 9.0 per 1,000 live births, $p<.05$).
- During 2004-2007 the neonatal mortality rate among Alaska Native infants was about the same as U.S. Whites. However, the Alaska Native post-neonatal mortality rate was 2.7 times that of Alaska Whites (5.4 vs. 2.0, $p<.05$).

Data Availability: Mortality data is available by borough or census area, race, and statewide.

For more information: Alaska Bureau of Vital Statistics at http://www.hss.state.ak.us/dph/bvs/

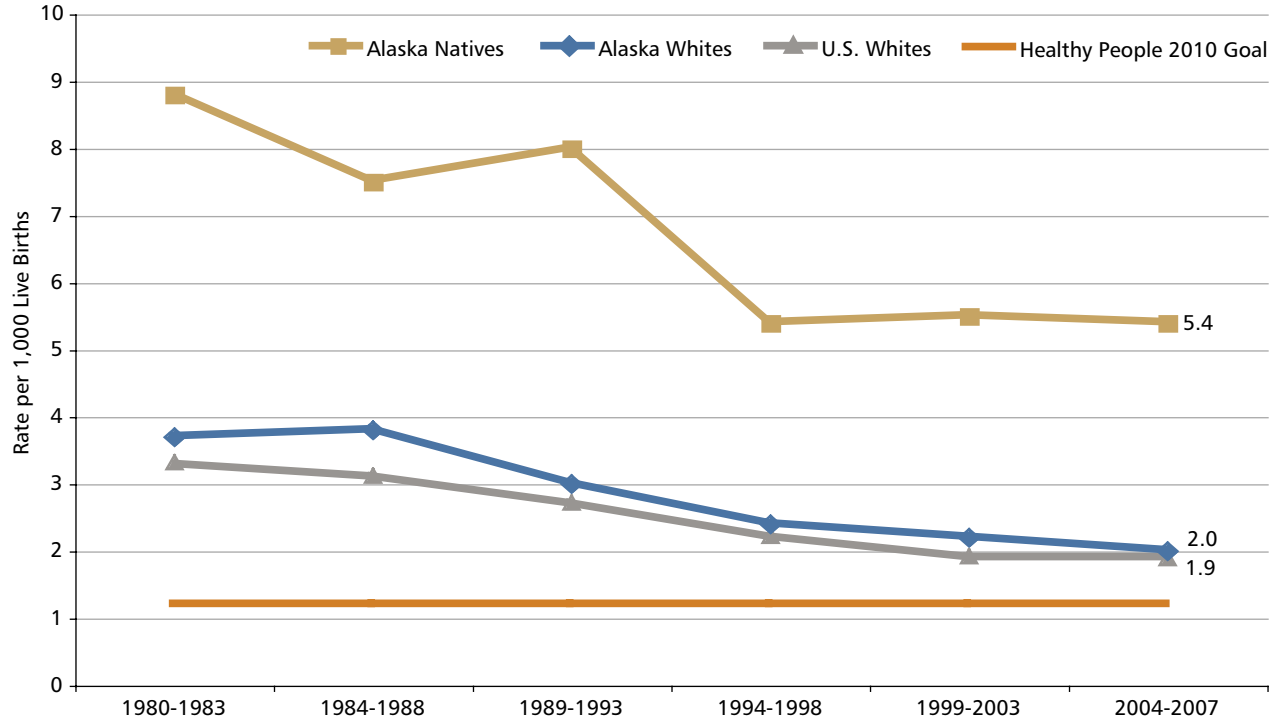
Average Annual Neonatal (Births to 28 days) Mortality Rates per 1,000 live births, 1980-2007

Alaska Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: National Center for Health Statistics



Average Annual Post-Neonatal (29 days to one year) Mortality Rates per 1,000 live births, 1980-2007

Alaska Data Source: Alaska Bureau of Vital Statistics
U.S. Data Source: National Center for Health Statistics

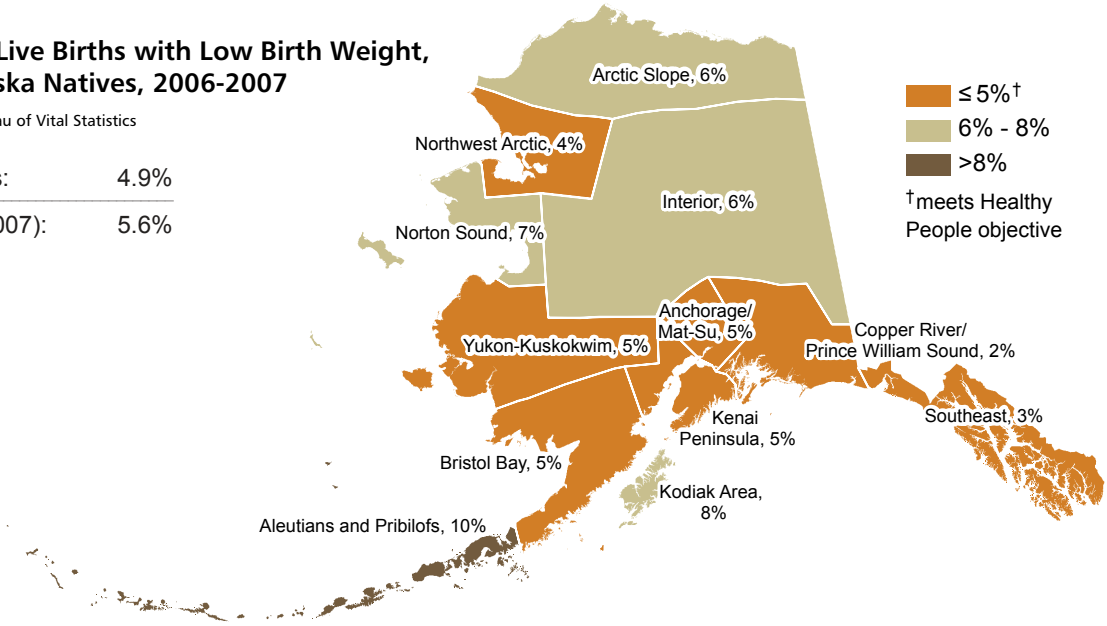


Maternal and Child Health – Low Birth Weight

Percentage of Live Births with Low Birth Weight, by Region, Alaska Natives, 2006-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	4.9%
Alaska Whites (2007):	5.6%



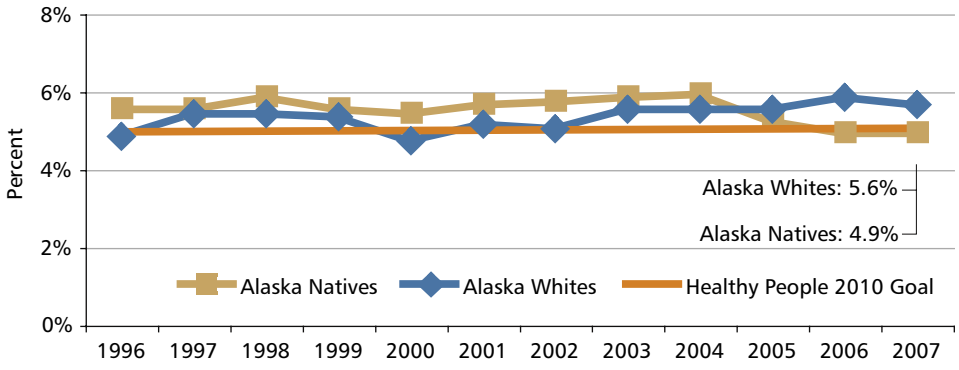
Definition: Low birth weight is defined as births less than 2500 grams.

Healthy People 2010, Goal 16.10a: Reduce low birth weight (LBW) to 5% of live births.

Healthy Alaskans 2010, Objective 16.12: Reduce percentage of live births who have low birth weight to 4%.

Percentage of Live Births with Low Birth Weights, 1996-2007

Data Source:
Alaska Bureau of Vital Statistics



Summary:

- Although there appears to be variations between regions, none of the regions' percent of low birth weight infants was significantly different than Alaska Natives statewide.
- The percent of Alaska Native infants born with low birth weight has not changed since 1996. This percentage was comparable to the percentage of low birth weight among Alaska White infants.

Data Availability: Available census area, by race, statewide.

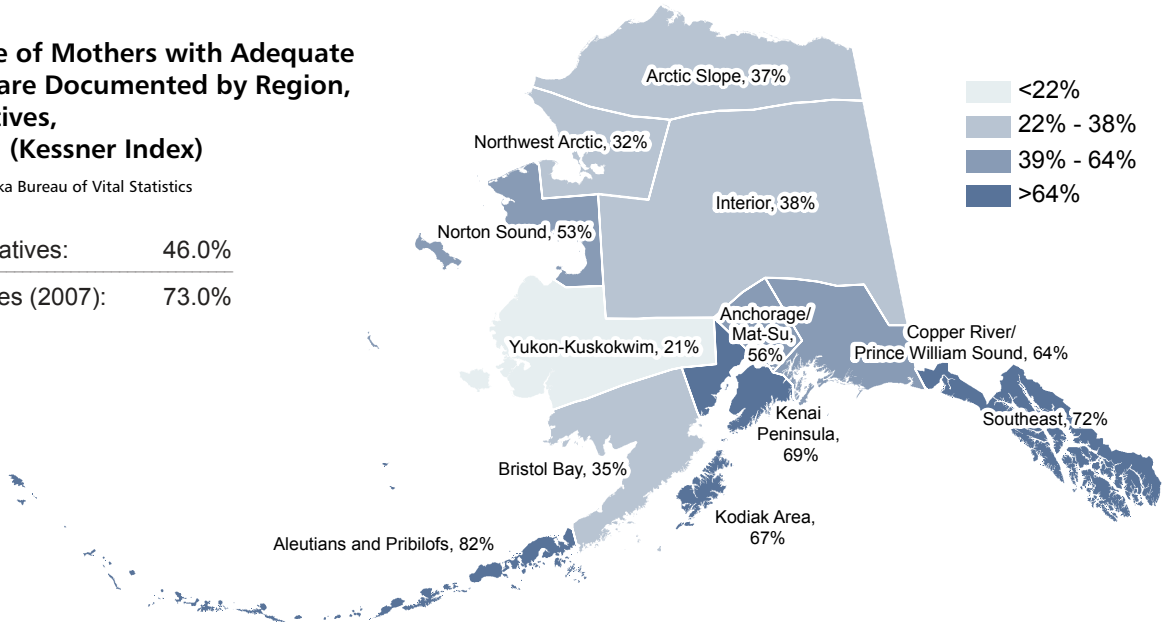
For more information: Statewide birth statistics are available at http:/ www.hss.state.ak.us/DPH/bvs/ data/default.htm

Maternal and Child Health – Adequate Prenatal Care Documented

Percentage of Mothers with Adequate Prenatal Care Documented by Region, Alaska Natives, 2006-2007 (Kessner Index)

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	46.0%
Alaska Whites (2007):	73.0%



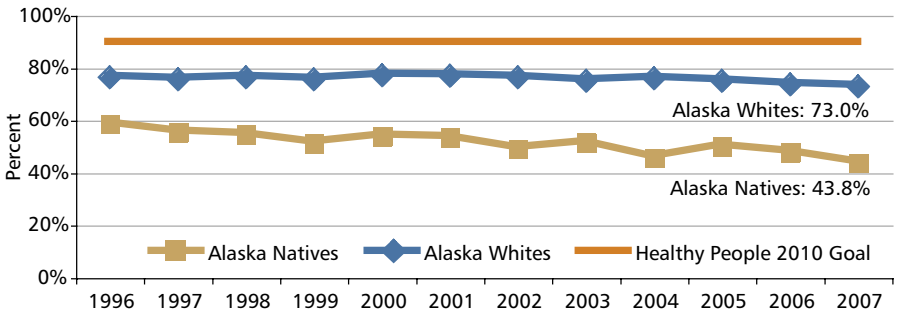
Definition: Adequacy of prenatal care is based on the Kessner Index or the APNCU (Adequacy of Prenatal Care Utilization Index). Both of these indices depend on documentation of care. The Kessner Index categorizes the adequacy of prenatal care based on the month pregnancy care starts, number of visits, and length of gestation. This index assigns three levels of care: adequate, intermediate, or inadequate.

Healthy People 2010, Goal 16.6b: Increase the proportion of women who receive adequate prenatal care to 90%.

Healthy Alaskans 2010, Objective 11.b: Increase the proportion of pregnant women who receive adequate prenatal care to 90%.

Percentage of Mothers with Adequate Prenatal Care, Documented, 1996-2007 (Kessner Index)

Data Source: Alaska Bureau of Vital Statistics



Summary:

- The Aleutians and Pribilofs, Anchorage/Mat-Su, Kenai Peninsula, Kodiak Area and Southeast regions had higher rates of documented adequate prenatal care than Alaska Natives statewide ($p<.05$). The Bristol Bay, Interior, Northwest Arctic and Yukon-Kuskokwim regions had lower rates of documented adequate prenatal care than Alaska Natives statewide ($p<.05$).
- About 29% percent fewer Alaska Native mothers appear to have received adequate prenatal care as compared to Alaska White mothers ($p<.05$). This may be due to prenatal care not being documented on birth certificate forms. In addition, the percent of Alaska Native mothers with documented adequate prenatal care has decreased 15% since 1996.

Data Availability: Available by census area, by race, statewide.

For more information: Statewide birth statistics are available at http:/ www.hss.state.ak.us/DPH/ bvs/data/default.htm

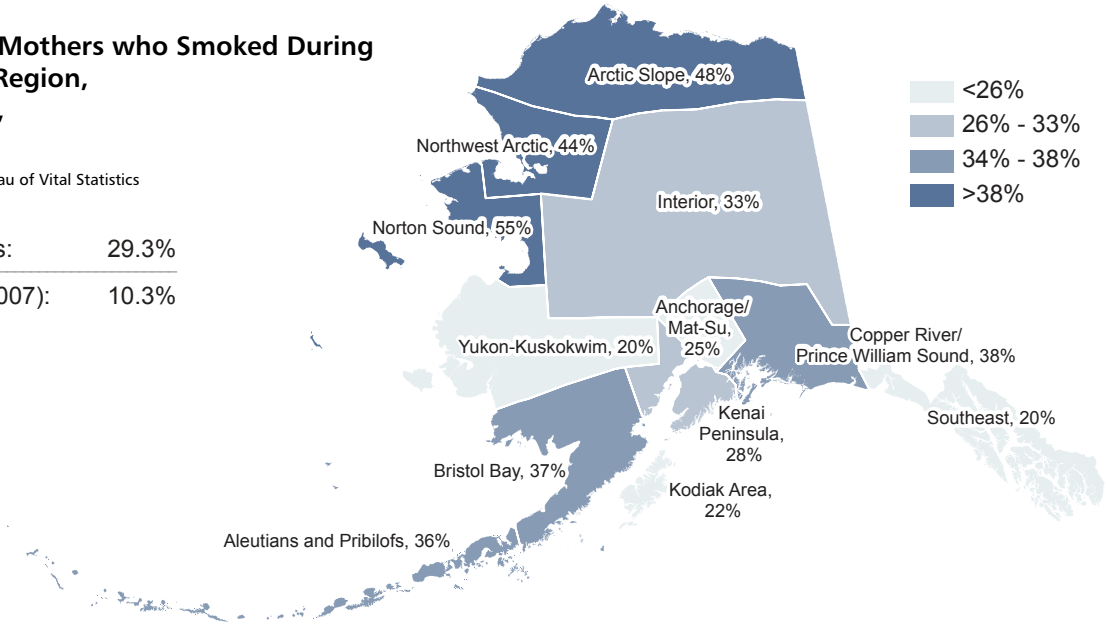
Note: Data are from birth certificates which document adequacy of prenatal care.

Maternal and Child Health – Smoking During Pregnancy

Percentage of Mothers who Smoked During Pregnancy by Region, Alaska Natives, 2006-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	29.3%
Alaska Whites (2007):	10.3%



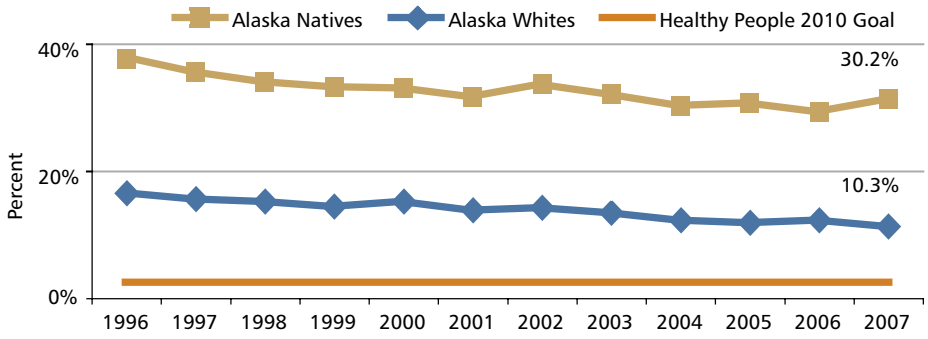
Definition: Women who reported smoking any time during pregnancy.

Healthy People 2010, Goal 16.17c. Increase the reported abstinence in past month from cigarette smoking by pregnant women to 99%.

Healthy Alaskans 2010, Objective 16.18. Decrease proportion of women who delivered a live birth who report cigarette smoking during last three months of pregnancy to 15%.

Percentage of Mothers who Smoked During Pregnancy, 1996-2007

Data Source: Alaska Bureau of Vital Statistics



Summary:

- Based on birth certificate form documentation, Alaska Native women from the Arctic Slope, Northwest Arctic and Norton Sound regions were more likely to have reported smoking during pregnancy than were Alaska Native mothers statewide ($p<.05$) and women from the Anchorage/Mat-Su, Southeast and Yukon-Kuskokwim regions were less likely to have reported smoking during pregnancy than were Alaska Native mothers statewide ($p<.05$).
- The percent of Alaska Native women who reported smoking during pregnancy decreased by 6% since 1996. There was a corresponding decrease in smoking among Alaska White mothers. Alaska Native women appear to report smoking 3 times more than Alaska White mothers (30.2% vs. 10.3%, $p<.05$).

Data Availability: Available by census area, by race, statewide.

For more information: Statewide birth statistics are available at http://www.hss.state.ak.us/DPH/bvs/data/ default.htm

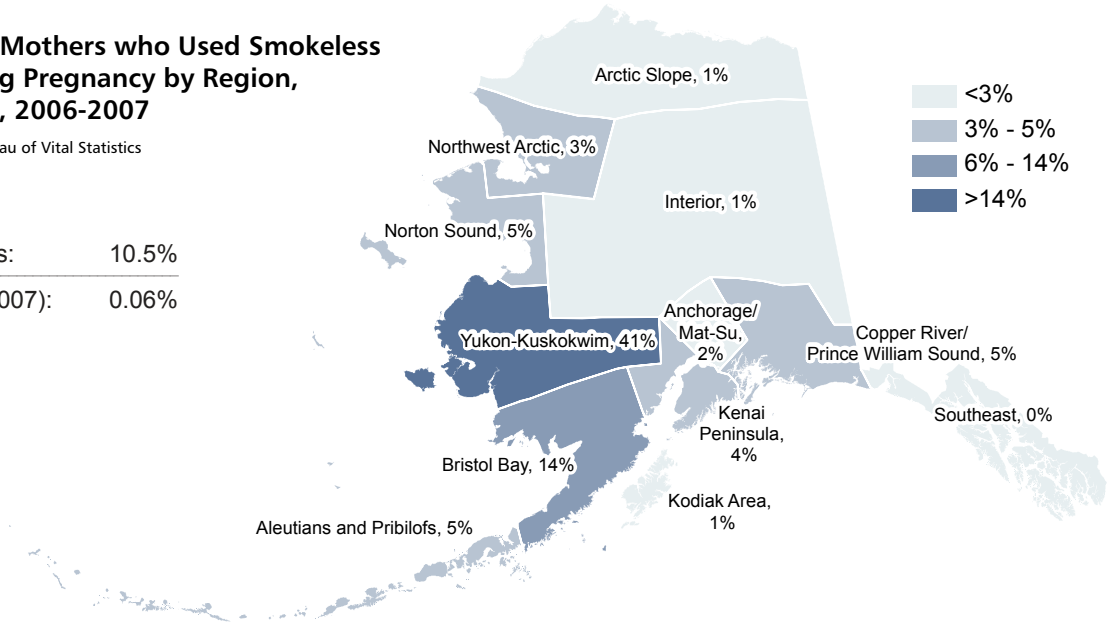
Note: Data is from birth certificates which document smoking and alcohol use at any time during pregnancy. This measure is different than the Healthy People and Healthy Alaskan objectives.

Maternal and Child Health – Smokeless Tobacco Use During Pregnancy

Percentage of Mothers who Used Smokeless Tobacco During Pregnancy by Region, Alaska Natives, 2006-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	10.5%
Alaska Whites (2007):	0.06%



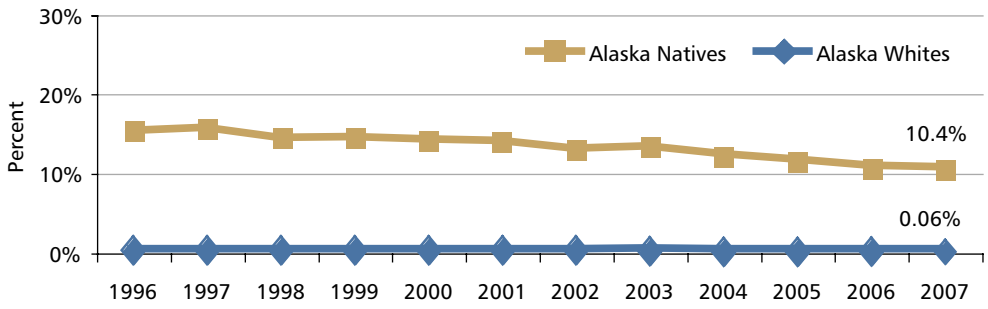
Definition: Women who reported smokeless tobacco use during pregnancy.

Healthy People 2010, Goal 16-17c. None available

Healthy Alaskans 2010, Objective 16.18. None available

Percentage of Mothers who Used Smokeless Tobacco During Pregnancy, 1996-2007

Data Source: Alaska Bureau of Vital Statistics



Summary:

- Statewide, 10.4% of Alaska Native women reported using smokeless tobacco while pregnant (2007).
- Alaska Native women from the Yukon-Kuskokwim region were more likely to have reported using smokeless tobacco during pregnancy than were Alaska Native mothers statewide (41% vs. 10.5%, $p<.05$)
- Smokeless tobacco use during pregnancy is about 170 times greater among Alaska Native women than among Alaska White mothers (10.4 vs. 0.06, $p<.05$).

Data Availability: Available by census area, by race, statewide.

For more information: Statewide birth statistics are available at http://www.hss.state.ak.us/DPH/bvs/data/default.htm

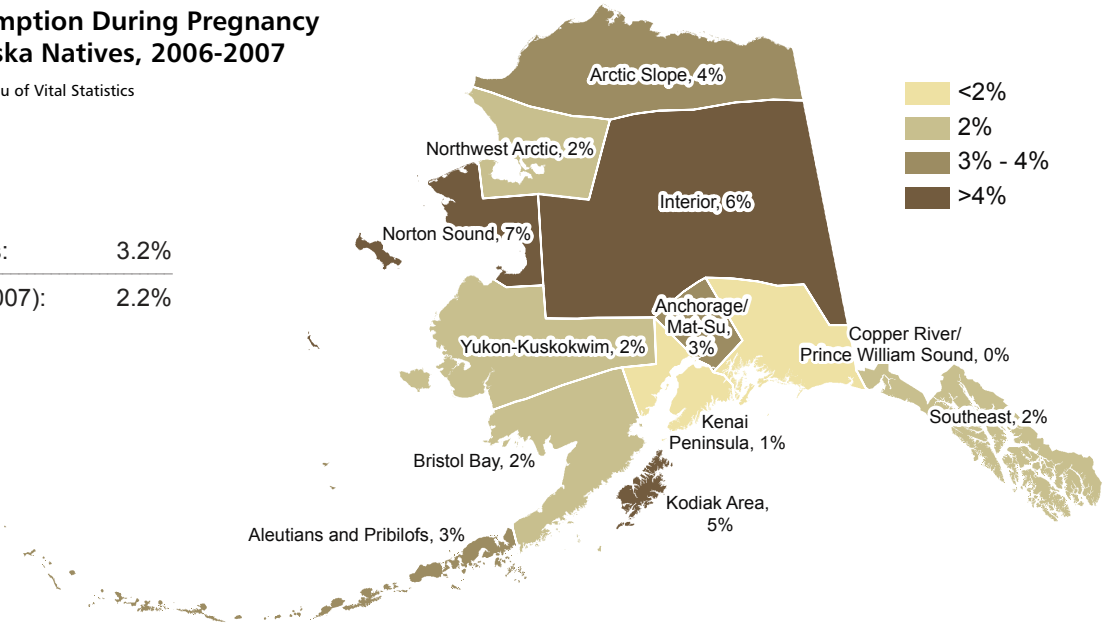
Note: Data is from birth certificates which document smoking and alcohol use at any time during pregnancy.

Maternal and Child Health – Alcohol Consumption During Pregnancy

Alcohol Consumption During Pregnancy by Region, Alaska Natives, 2006-2007

Data Source: Alaska Bureau of Vital Statistics

All Alaska Natives:	3.2%
Alaska Whites (2007):	2.2%



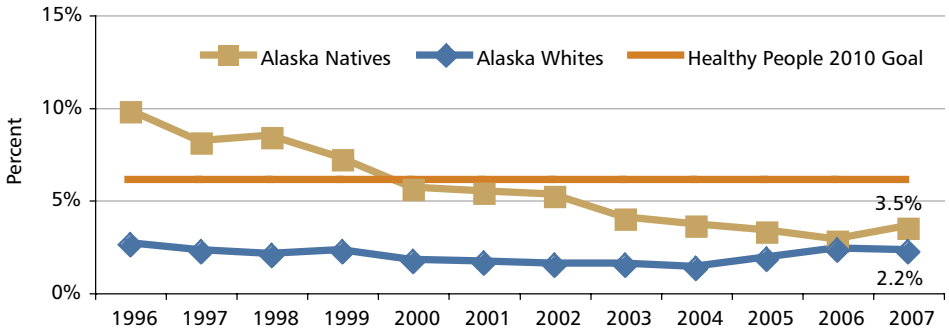
Definition: Women who reported alcohol consumption any time during pregnancy.

Healthy People 2010, Goal 16-17a. Increase the reported abstinence in the past 6 months from alcohol use by pregnant women to 94% (or 6% use).

Healthy Alaskans 2010, Objective 16-17. Decrease proportion of women who delivered a live birth who report the use of alcohol during last 3 months of pregnancy to 3.5%.

Alcohol Consumption Any Time During Pregnancy, 1996-2007

Data Source: Alaska Bureau of Vital Statistics



Summary:

- Alaska Native women from the Interior and Norton Sound regions were more likely to have reported alcohol consumption at some point during pregnancy than Alaska Native women statewide ($p<.05$). Alaska Native women from the Kenai Peninsula were less likely to have reported alcohol consumption during pregnancy ($p<.05$).
- There has been a steady decline in the percent of Alaska Native women who reported alcohol consumption during pregnancy. Between 1996 and 2007, the disparity between Alaska Native women and Alaska White women has decreased from 4 times greater to 1.5 times greater ($p<.05$).

Data Availability: Available by census area, by race, statewide.

For more information: Statewide birth statistics are available at http://www.hss.state.ak.us/DPH/bvs/data/default.htm

Note: Data is from birth certificates which document smoking and alcohol use at any time during pregnancy. This measure is different than the Healthy People and Healthy Alaskan objectives.

HIGHLIGHTS

• CANCER AND CANCER SCREENING •

- The most frequently diagnosed cancers for Alaska Native people during 2003-2005 were colon/rectum, lung/bronchus and breast cancers. Together, these three types of cancer comprise over half of all new cancer diagnoses.
- There is no significant difference in breast cancer incidence between Alaska Native and U.S. White women. In GPRA Year 2008, 58% of Alaska Native women age 52-64 years had a documented mammogram within the preceding two year period. The range for the facilities reporting was from 14.3% to 71.6%.
- There is no significant difference in cervical cancer incidence between Alaska Native and U.S. White women. In GPRA Year 2008, 74% of Alaska Native women age 21-64 years had a documented Pap test within the preceding three-year period. The range for the facilities reporting was from 33.3% to 84.9%.
- The Alaska Native colorectal cancer incidence rate is more than twice that for U.S. Whites (98.3 vs. 45.3, $p<.05$). In GPRA year 2008, 50.1% of Alaska Native patients, age 51-80 years, had received colorectal cancer screening. The range for the facilities reporting was from 7.2% to 64%.

Leading Cancers

Leading Cancers, All Alaska Natives

Data Source: ANTHC Alaska Native Tumor Registry

	1993 to 1995		
Rank	Site	No.	% of Total
1	Lung & Bronchus	151	21.4%
2	Colon & Rectum	122	17.3%
3	Breast	115	16.3%
4	Prostate	49	6.9%
5	Oral Cavity & Pharynx	32	4.5%
6	Stomach	30	4.2%
7	Kidney & Renal Pelvis	29	4.1%
8	Liver	15	2.1%
9	Pancreas	15	2.1%
10	Leukemia	14	2.0%
	Other	135	19.1%
	Total	**707**	**100.0%**

	2003 to 2005		
Rank	Site	No.	% of Total
1	Colon & Rectum	191	18.0%
2	Lung & Bronchus	188	17.7%
3	Breast	181	17.0%
4	Prostate	60	5.6%
5	Kidney & Renal Pelvis	46	4.3%
6	Stomach	39	3.7%
7	Oral Cavity & Pharynx	36	3.4%
8	Pancreas	28	2.6%
9	Non-Hodgkin Lymphoma	26	2.4%
10	Leukemia	22	2.1%
	Other	245	23.1%
	Total	**1,062**	**100.0%**

Summary:

- The most frequently diagnosed cancers for Alaska Native people during 2003-2005 were colon/rectum, lung/bronchus and breast cancers. Together, these three types of cancer comprise over half of all new cancer diagnoses.
- The leading cancers in 1993-1995 and 2003-2005 were similar. However, the number of colon/rectum cancers increased by 54% between these two time periods, making it the leading cause of new cases of cancer.

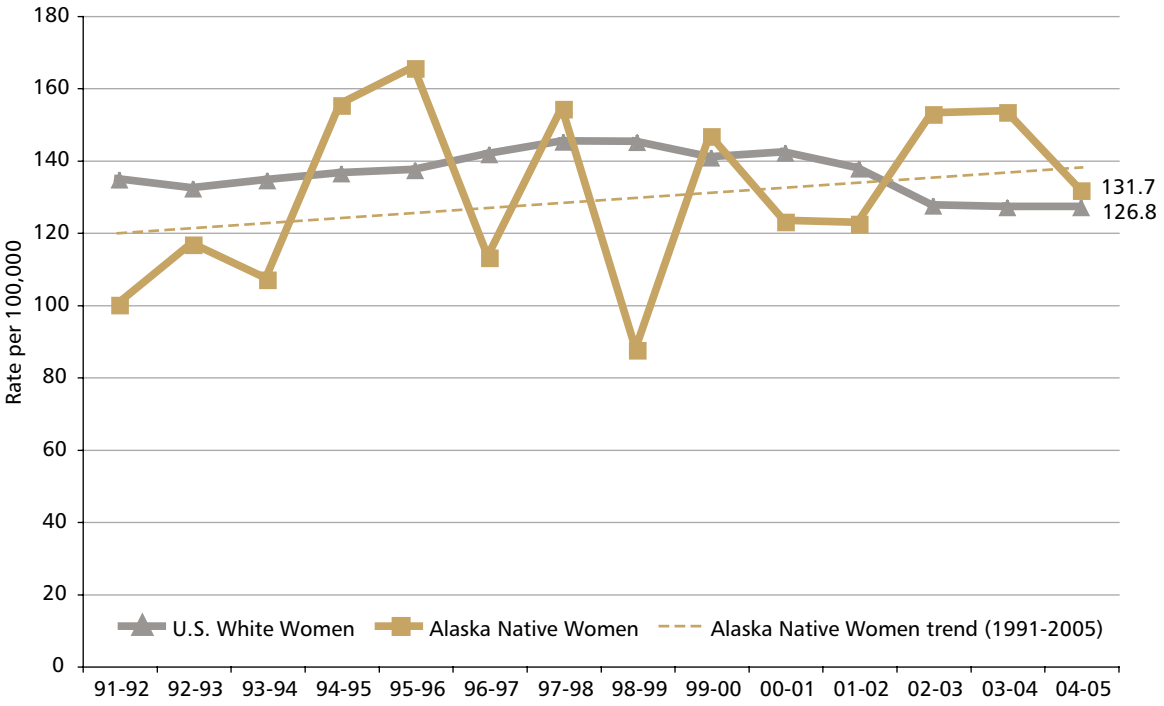
Breast Cancer and Cancer Screening

Healthy People 2010, Goal 3.13: Increase the proportion of women aged 40 years and older who have received a mammogram within the preceding 2 years to 70%.

Healthy Alaskans 2010, Objective 22.11: Increase the proportion of women aged 40 years and older who have received a mammogram within the preceding 2 years to 76%.

Age-Adjusted Breast Cancer Incidence Rates per 100,000, All Ages, Women, 1991-2005

Data Source: SEER



Summary:

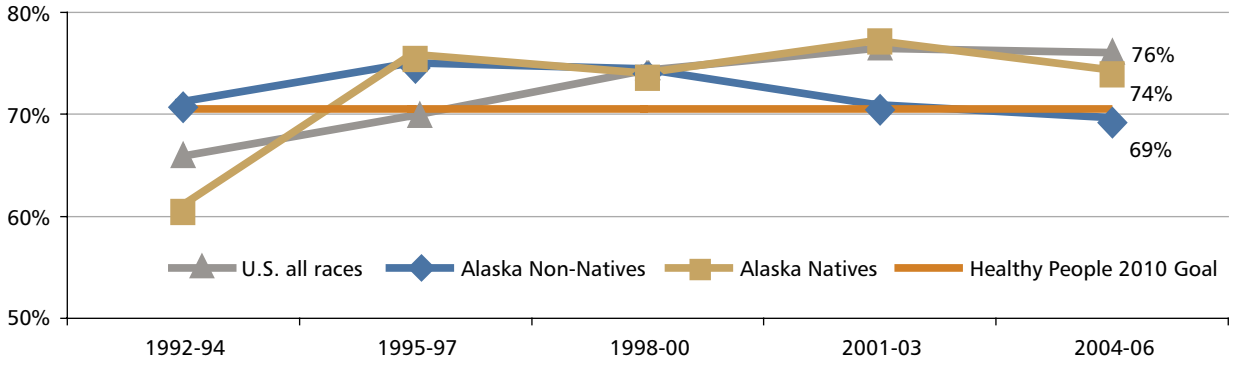
- Although there appears to be an increase in breast cancer incidence between 1991 and 2005 for Alaska Native women, the number of cancers was too few to detect a significant difference. In 2005, there was no significant difference in breast cancer incidence between Alaska Native and U.S. White women.
- According to the BRFSS, 74% of Alaska Native women report having received a mammogram within the past 2 years. This is not significantly different from Alaska non-Native women or U.S. women.
- Of those Alaska tribal health facilities reporting in GPRA Year 2008, 58% of Alaska Native women age 52-64 years had a documented mammogram within the preceding two year period. The range for the facilities reporting was from 14.3% to 71.6%.

Breast Cancer Screening – Rate per BRFSS

Definition: Females age 40 and older who report a mammogram within the last 2 years.

Percent of women with a mammogram in the last two years, 40 years and older, 1992-2006

Data Source: Alaska BRFSS
U.S. Data Source: CDC BRFSS



Breast Cancer Screening – Rate per GPRA

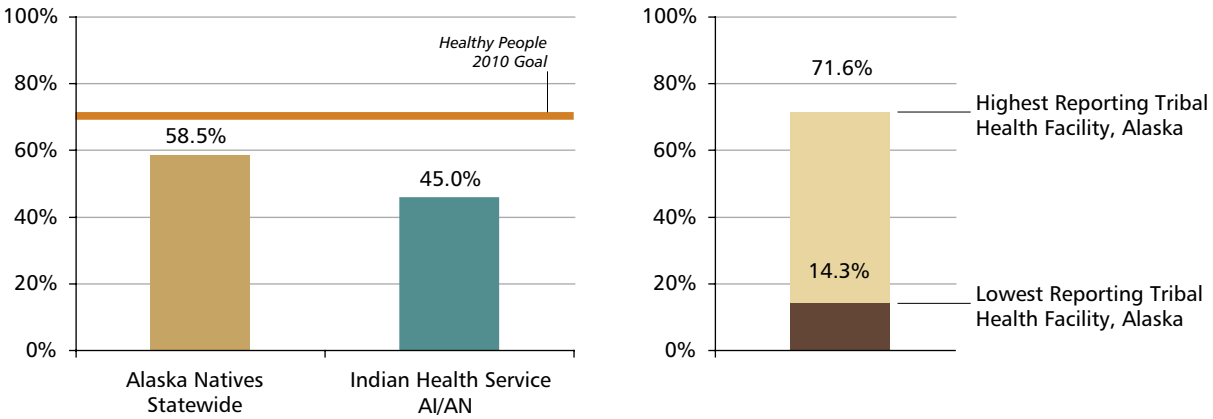
Definition: Female patients aged 52 through 64 that have a documented mammogram during the two-year period 2007-2008.

Note: Excludes those with a documented bilateral mastectomy OR two separate unilateral mastectomies OR a refusal to receive the exam within the past year OR had less than 2 visits to a medical clinic within the past 3 years.

For GPRA information refer to Appendix B.

Percent of women with a mammogram in the last two years, 52-64 years, GPRA Year (GY) 2008

Data Source: GPRA



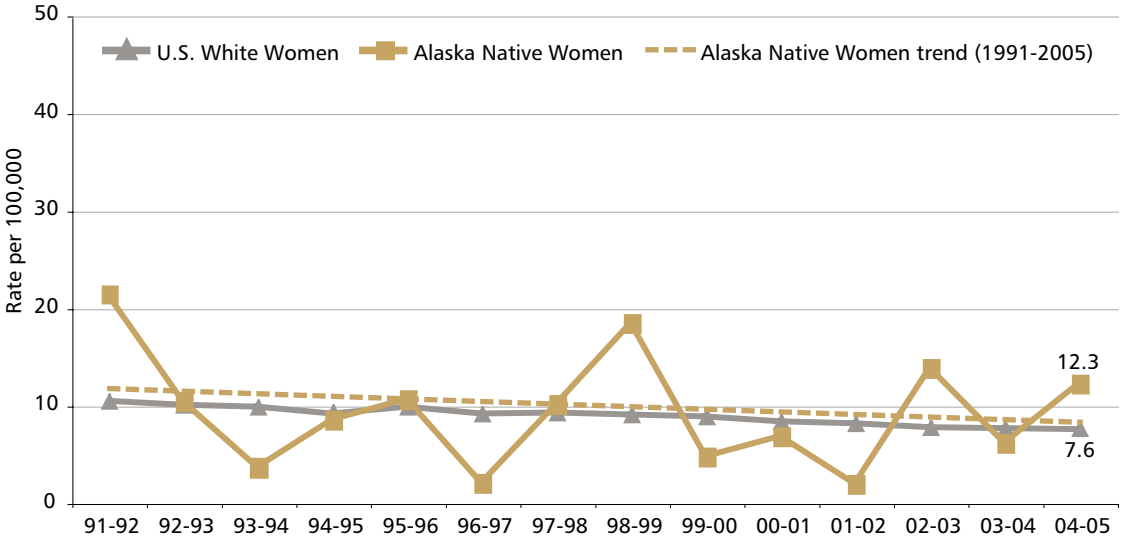
Cervical Cancer and Cancer Screening

Healthy People 2010, Goal 3.13: Increase the proportion of women aged 18 years and older who received a Pap test within the preceding 3 years to 90%.

Healthy Alaskans 2010, Objective 22.11: Increase the proportion of women aged 18 years and older who received a Pap test within the preceding 3 years to 95%.

Age-Adjusted Cervical Cancer Incidence Rates per 100,000, All Ages, Women, 1991-2005

Data Source: SEER



Summary:

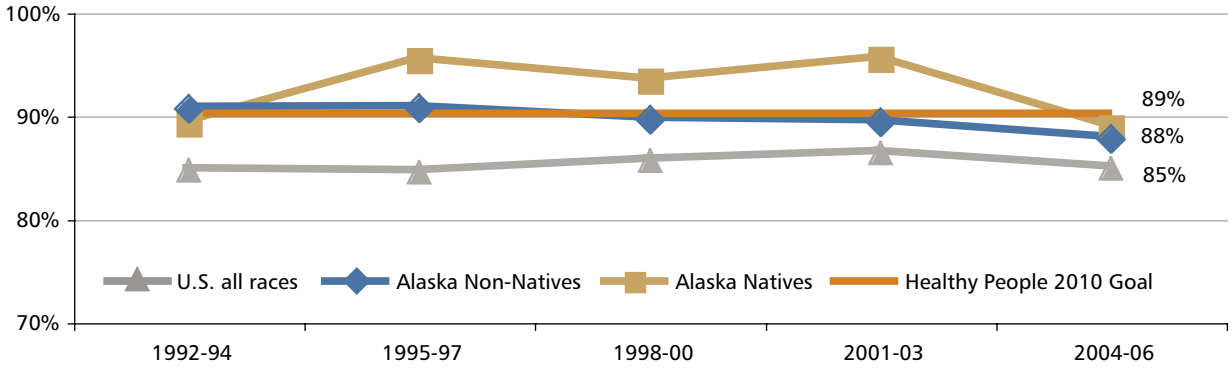
- Although there appears to be a decrease in cervical cancer incidence between 1991 and 2005 for Alaska Native women, the number of cancers was too few to detect a significant difference. There is no significant difference in cervical cancer incidence between Alaska Native and U.S. White women.
- According to the BRFSS, 89% of Alaska Native women report having received a Pap test within the past 3 years. This is not significantly different from Alaska non-Native women or U.S. women.
- Of those Alaska tribal health facilities reporting in GPRA Year 2008, 74% of Alaska Native women age 21-64 years had a documented Pap test within the preceding three-year period. The range for the facilities reporting was from 33.3% to 84.9%.

Cervical Cancer Screening – Rate per BRFSS

Definition: Females age 18 and older who report at least one Pap test within the last three years.

Percent of women with a Pap test in the last three years, 18 years and older, 1992-2006

Data Source: Alaska BRFSS



Cervical Cancer Screening – Rate per GPRA

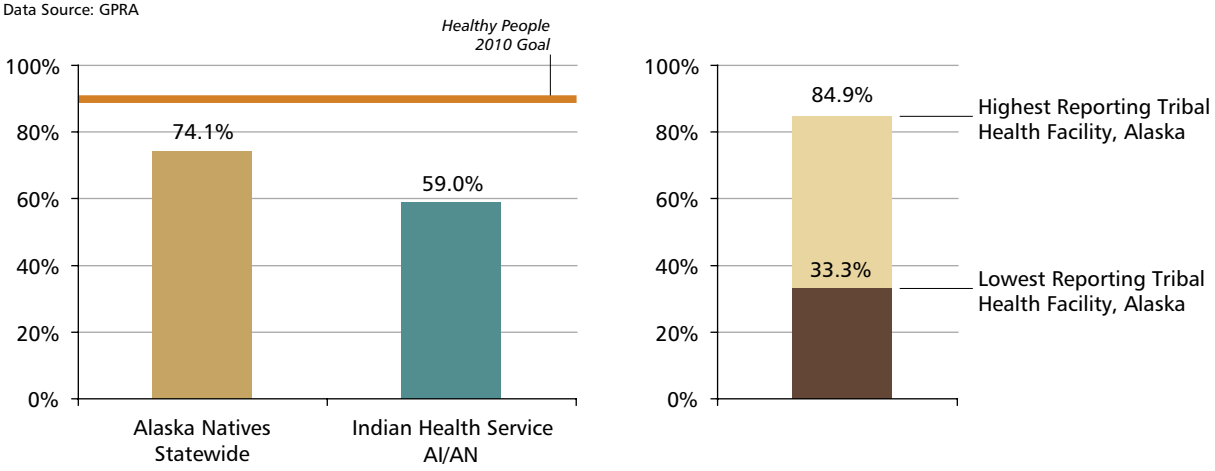
Definition: Female patients aged 21 through 64 that have a documented Pap test during the preceding three years.

Note: Excludes those with a documented hysterectomy OR a refusal to receive the test within the past year OR had less than 2 visits to a medical clinic within the past 3 years.

For GPRA information refer to Appendix B.

Percent of women with a Pap test in the last three years, 21-64 years, GY2008

Data Source: GPRA



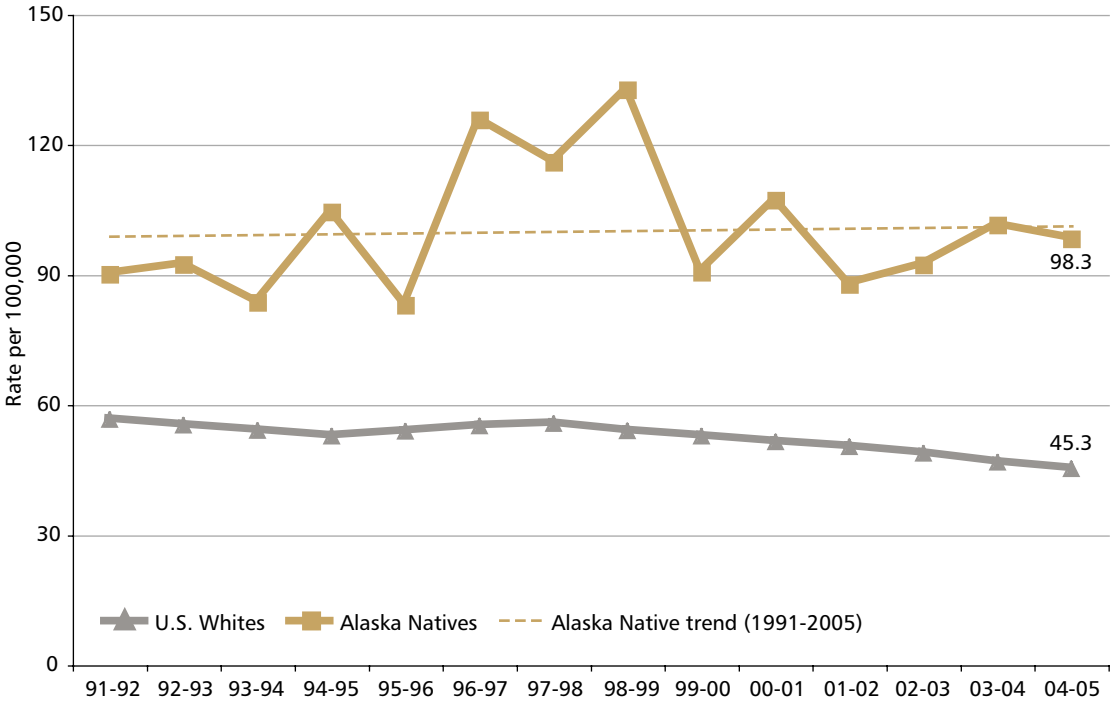
Colorectal Cancer (CRC) and Cancer Screening

Healthy People 2010, Goal 3.13: Increase the proportion of adults aged 50 years and older who have ever received a colorectal cancer screening examination to 50%.

Healthy Alaskans 2010, Objective 22.10: Increase the proportion of adults 50 years and older who received colorectal cancer screening examinations to 64%.

Age-Adjusted Colorectal Cancer Incidence Rates per 100,000, All Ages, 1991-2005

Data Source: SEER



Summary:

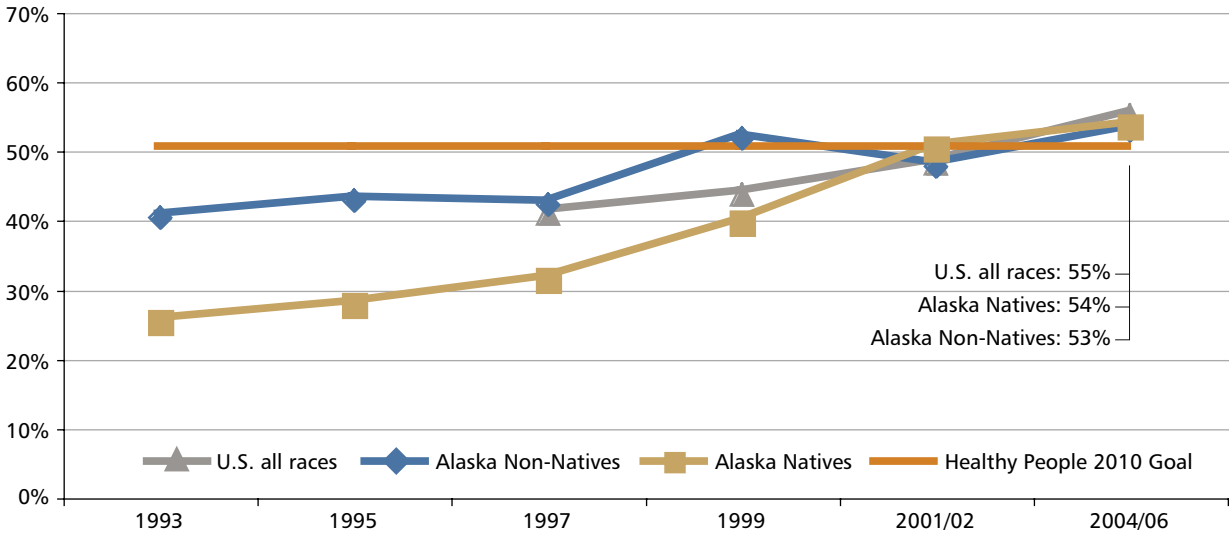
- During 1991-2005, the Alaska Native colorectal cancer incidence rate was consistently higher than for U.S. Whites. In 2005, the Alaska Native rate was more than twice that for U.S. Whites (98.3 vs. 45.3, $p<.05$).
- According to the BRFSS, the Alaska Native colorectal cancer screening rate increased significantly between 1993 and 2006 ($p<.05$). The Alaska Native screening rate during 2004-2006 was 54%, similar to that for U.S. all races and Alaska non-Natives.
- Of those Alaska tribal health facilities reporting in GPRA year 2008, 50.1% of Alaska Native patients, age 51-80 years, had received colorectal cancer screening. The range for the facilities reporting was from 7.2% to 64%.

Colorectal Cancer Screening – Rate per BRFSS

Definition: Adults age 50 and older who report ever having a sigmoidoscopy or colonoscopy. This does not include fecal occult blood test.

Percent who have ever had a sigmoidoscopy or colonoscopy, 50 years and older, 1993-2006

Data Source: Alaska BRFSS U.S. Data Source: CDC BRFSS



Colorectal Cancer Screening – Rate per GPRA

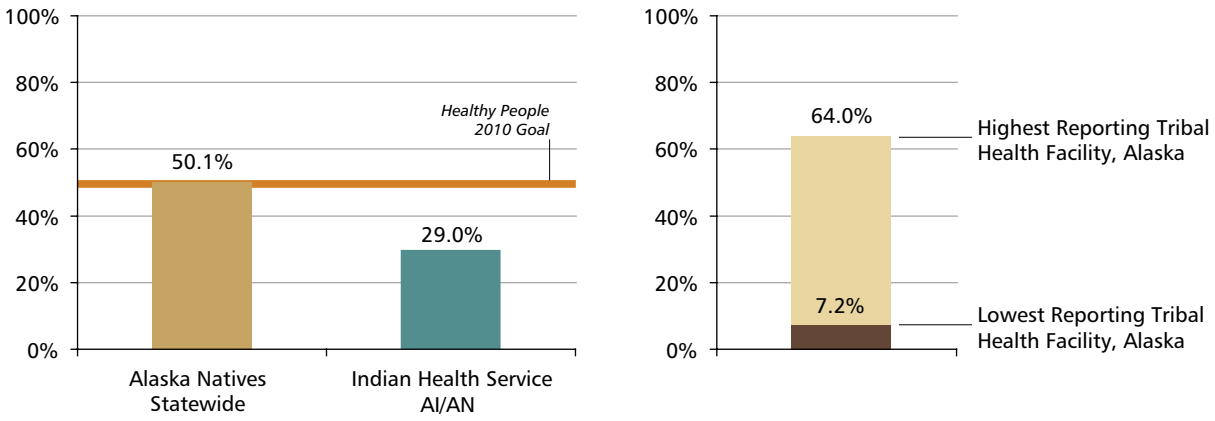
Definition: Adults aged 51 to 80 who have had any colorectal cancer screening, defined as one of the following: 1) Fecal occult blood test during the report period; 2) Flexible sigmoidoscopy or double contrast barium enema in the past 5 years; or 3) Colonoscopy in the past 10 years; or 4) A documented refusal in the past year.

Note: Excludes those with a documented history of colorectal cancer or a total colectomy OR had less than 2 visits to a medical clinic within the past 3 years.

For GPRA information refer to Appendix B.

Percent with Colorectal Cancer Screening, 51-80 Years, GY2008

Data Source: GPRA



HIGHLIGHTS

• ADDITIONAL TOPICS •

• IMMUNIZATIONS •

- Of those Alaska tribal health facilities reporting in GPRA year 2008, 48.4% of Alaska Native patients aged 65 years and older had received an influenza vaccination during the report period.
- Of those Alaska tribal health facilities reporting in GPRA year 2008, 90.8% of Alaska Native patients aged 65 years and older had ever received a pneumococcal vaccination.
- Of those Alaska tribal health facilities reporting in GPRA year 2008, 82.9% of Alaska Native patients aged 19-35 months had received the recommended 4:3:1:3:3 immunization series. This rate exceeds the Healthy People 2010 goal as well as the nationwide Indian Health Service rate (78.0%).

• DIABETES •

- The prevalence of diagnosed diabetes among Alaska Native people for 2007 was 40 per 1,000 user population as compared to 66 per 1,000 non-Hispanic U.S. Whites (2004-2006). The prevalence ranged from 24 per 1,000 in the YK region to 84 per 1,000 in the Annette Island region.
- The prevalence of diabetes has increased in every region of the state between 1990 and 2007. The rate of increase was the greatest in Norton Sound (201%) and Bristol Bay (200%).

• INFECTIOUS DISEASES •

- Sexually Transmitted Infections (STI) comprised 89.4% of all Alaska Native reportable infectious disease cases.
- Chlamydia was by far the most commonly reported infectious disease, accounting for 80% of all reported infectious diseases.
- The Chlamydia rate reported for Alaska Native men is about 4 times greater than is reported for Alaska White men. The Chlamydia rate reported for Alaska Native women is about 7 times greater than is reported for Alaska White women.

• ENVIRONMENTAL HEALTH •

- The percent of housing units with water and sewer service varies by major rural regional health corporation from 58% to 98%.

• DENTAL •

- Of those Alaska tribal health facilities reporting in GPRA year 2008, 20% of Alaska Native patients had a documented dental visit within the past year. The range for the Alaska tribal health facilities reporting was from 1.9% to 53.6%.

Immunizations – Adults Ages 65 and Older

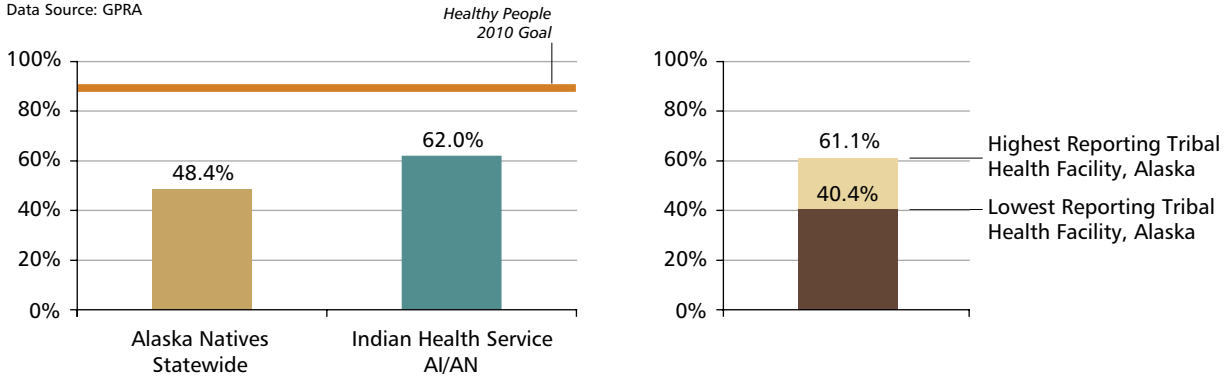
Definition: 1) Patients aged 65 years and older with influenza vaccine documented during the report period or with documented refusal;
2) Patients aged 65 years and older with pneumococcal vaccine documented at any time before the end of the report period, including refusals in past year.

Healthy People 2010, Goal 14.29: Increase the proportion of elderly adults (65 years and older) immunized against influenza and pneumococcal disease to 90%.

Healthy Alaskans 2010, Goal 18.14: Increase the proportion of elderly adults (65 years and older) immunized against influenza and pneumococcal disease to 90%.

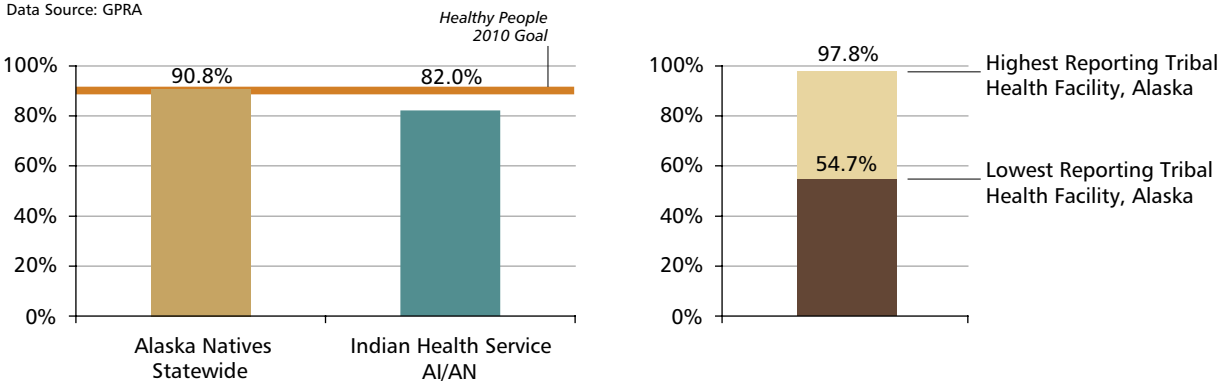
Influenza Vaccination Rates, Adults 65 years and older, GY2008

Data Source: GPRA



Pneumococcal Vaccination Rates, Adults 65 years and older, GY2008

Data Source: GPRA



Summary:

- Of those Alaska tribal health facilities reporting in GPRA year 2008, 48.4% of Alaska Native patients age 65 years and older had received an influenza vaccination during the report period. The range for the facilities reporting was from 40.4% to 61.1%.
- Of those Alaska tribal health facilities reporting in GPRA year 2008, 90.8% of Alaska Native patients age 65 years and older had ever received a pneumococcal vaccination. This rate meets the Healthy People 2010 goal. The range for the facilities reporting was from 54.7% to 97.8%.

Data Availability: Available by region (tribal health organizations), statewide for AK Natives and nationwide for the Indian Health Service. Data on immunization coverage for non-Natives is less comprehensive.

For more information: ANTHC Immunization Program at http://www.anthc.org/chs/immunization/

Immunizations – Childhood

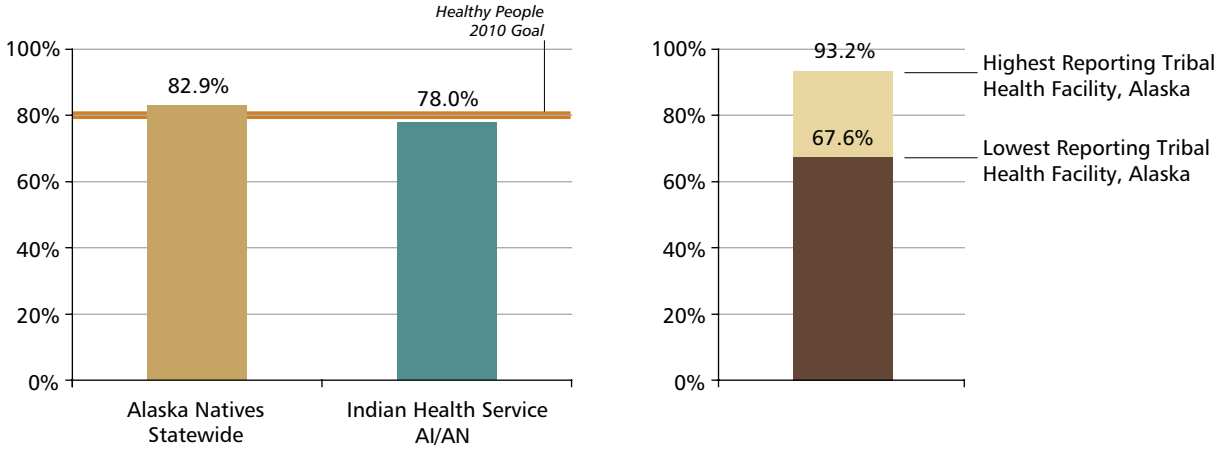
Definition: Children age 19-35 months who have received the 4:3:1:3:3 combination (4 doses of diphtheria-tetanus-pertussis (DTP), 3 doses of polio, 1 dose of measles-mumps-rubella (MMR), 3 doses of Hepatitis B, and 3 doses of *Haemophilis influenza*, type B (Hib) vaccines), including refusals, contraindications, and evidence of disease. This measure includes all active patients in the Immunization package who are 19-35 months at end of report period.

Healthy People 2010, Goal 14.24a: Increase the proportion of young children aged 19-35 months who have received the 4:3:1:3:3 series to 80%.

Healthy Alaskans 2010, Goal 18.10: Increase proportion of young children aged 19-35 months who have received the 4:3:1:3:3 series to 90%.

Two-Year Old 4:3:1:3:3 Vaccination Coverage, GY2008

Data Source: GPRA



Summary:

- Of those Alaska tribal health facilities reporting in GPRA year 2008, 82.9% of Alaska Native patients age 19-35 months had received the 4:3:1:3:3 series. This rate exceeds the Healthy People 2010 goal as well as the nationwide Indian Health Service rate (78.0%).
- The range for the Alaska tribal health facilities reporting was from 67.6% to 93.2%.

Data Availability: Available by region (tribal health organizations), statewide for AK Natives and nationwide for the Indian Health Service. Data on immunization coverage for non-Natives is less comprehensive.

For more information:
ANTHC Immunization Program at http://www.anthc.org/chs/immunization/

Diabetes

Definition: Diabetes mellitus, commonly referred to as diabetes, is a chronic metabolic disease characterized by high blood sugar levels, which result from defects in insulin secretion, insulin action, or both.

Healthy People 2010, Goal 5.3: Reduce the overall rate of diabetes that is clinically diagnosed to 25 per 1,000 population.

Healthy Alaskans 2010, Goal 23.4: Prevent diabetes: Reduce new cases per year to 2.5 per 1,000 population

2007 Diabetes Prevalence, Alaska Natives, (age-adjusted prevalence per 1,000 population)

Map provided by the ANTHC Alaska Area Diabetes Program

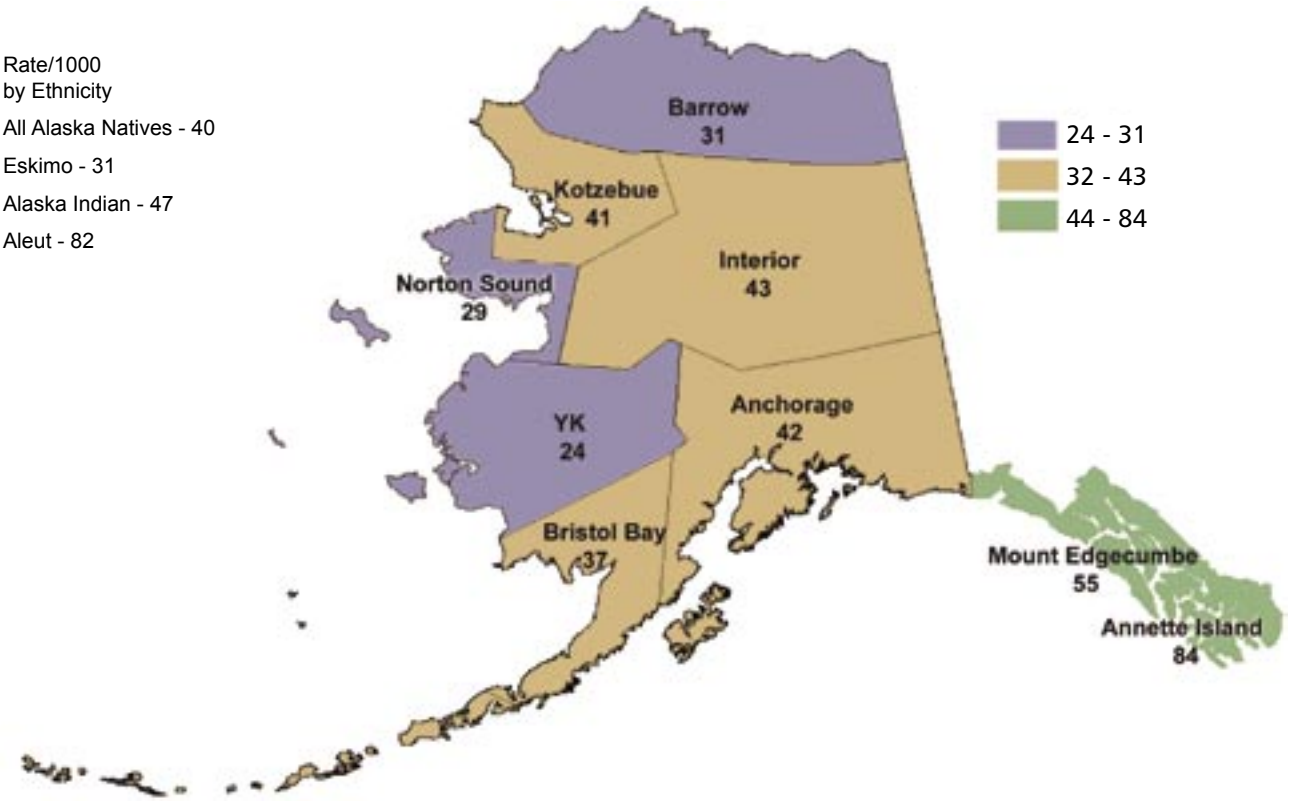
Rate/1000
by Ethnicity

All Alaska Natives - 40

Eskimo - 31

Alaska Indian - 47

Aleut - 82



Summary:

- The 2007 diabetes prevalence per 1,000 user population ranged from 24 per 1,000 in the YK region to 84 per 1,000 in the Annette Island region. The prevalence of diabetes in the U.S. as a whole is 66 per 1,000 (CDC, 2004-2006).
- The prevalence of diabetes has increased in every region of the state between 1990 and 2007. The rate of increase was the greatest in Norton Sound (201%) and Bristol Bay (200%).

For more information: ANTHC Alaska Area Diabetes Program at http://www.anmc.org/services/diabetes/

Percent Rate of Increase in Diabetes Prevalence Among Alaska Natives, 1990 versus 2007

Map provided by the ANTHC Alaska Area Diabetes Program

Percent Increase by Ethnicity

All Alaska Natives - 117%

Eskimo - 176%

Alaska Indian - 105%

Aleut - 148%

Reportable Infectious Diseases

Definition: Diseases that are legally reportable by health care providers to the Alaska Division of Public Health. Reportable infectious diseases are those that spread easily and can put others in a community at risk of being infected.

Reportable Infectious Disease Cases, Alaska Natives, January 1, 2007 - October 3, 2008

Data Source: Alaska Section of Epidemiology

Infectious Disease	Cases	%
Chlamydia	4103	79.3%†
Gonorrhea	476	9.2%†
Hepatitis C	198	3.8%
Pneumococcal invasive	135	2.6%
Tuberculosis, Pulmonary	52	1.0%
Chlamydia, PID	37	0.7%†
Pertussis	32	0.6%
Salmonella	25	0.5%
GAS invasive disease	24	0.5%
GBS invasive disease	18	0.3%
Chicken Pox	15	0.3%
Botulism, Foodborne	13	0.3%
Campylobacter	12	0.2%
Gonorrhea, PID	9	0.2%†
Invasive H Flu, Not Meningitis	7	0.1%
Giardia	5	0.1%
Hepatitis B	3	0.1%
Meningitis, Haemophilus	3	0.1%
Other Infectious Diseaes	10	0.2%
Total	**5177**	**100.0%**

Summary:

- Sexually Transmitted Infections (STI) comprised at least 89.4% of all Alaska Native reportable infectious disease cases (†).
- Chlamydia was by far the most commonly reported infectious disease, accounting for 80% of all reported infectious diseases.

Data availability: Available by AK Dept. of Labor region and statewide.

For more information: State of Alaska Section of Epidemiology website at http://www.epi.hss.state.ak.us/

Sexually Transmitted Infections (STI) Gonorrhea and Chlamydia

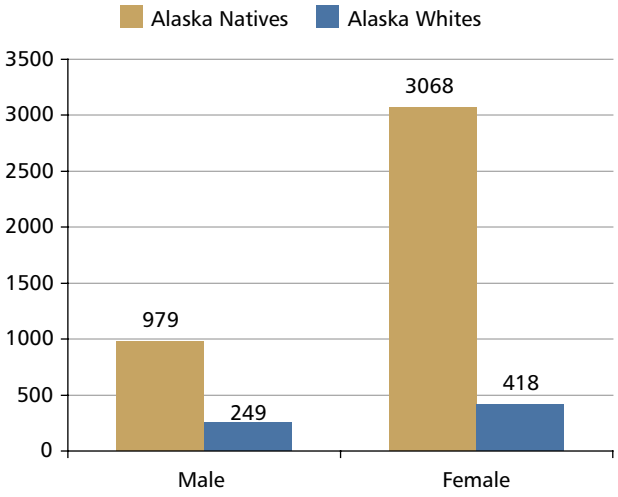
Definition: Chlamydia is a common sexually transmitted infection caused by *Chlamydia trachomatis*, a bacterium, which can damage a woman's reproductive organs. Gonorrhea is an STI caused by the bacterium *Neisseria gonorrhoeae*.

Healthy People 2010, Objective 25.1 and 25.2: Reduce the proportion of adolescents and young adults with Chlamydia trachomatis infections to 3%; Reduce gonorrhea rate to 19 per 100,000 population.

Healthy Alaskans 2010, Objective 19.1 and 19.2: Reduce Chlamydia trachomatis rate to 114 per 100,000 population. Reduce gonorrhea rate to 19 per 100,000 per population

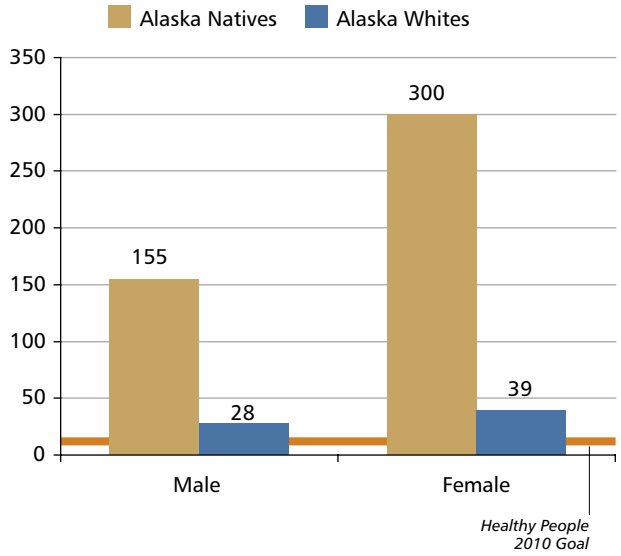
Chlamydia Rate per 100,000 population, 2007

Data Source: State of AK Epidemiology



Gonorrhea Rate per 100,000 population, 2007

Data Source: State of AK Epidemiology



Summary:

- The Chlamydia rate reported for Alaska Native men is about 4 times greater than is reported for Alaska White men. The Chlamydia rate reported for Alaska Native women is about 7 times greater than is reported for Alaska White women.
- The Gonorrhea rate reported for Alaska Native men is about 5.5 times greater than is reported for Alaska White men. The Gonorrhea rate reported for Alaska Native women is about 7.7 times greater than is reported for Alaska White women.

Data Availability: Available by region, by race, statewide.

For more information:
http://www.epi.hss.state.ak.us/hivstd/

Environmental Health – Water and Sewer Service Rates

Definition: Water and sewer service is defined as a housing unit with flush toilets and pressurized water.

Note: Housing units which have received funding for water services but have not yet been connected are not included in the percent of housing units with served water and sewer.

Healthy People 2010: N/A

Healthy Alaskans 2010, Objective 11.7: Increase the number of communities with access to safe water and proper sewage disposal to 98%.

Water and Sewer Service Rates by Major Rural Regional Health Corporation, Alaska, 2008

Data Source: ANTHC DEHE, 8/20/08
Rural regional health corporations not included are due to data unavailability.

Major Rural Regional Health Corporation	2008 Housing Units with Flush Toilets & Pressurized Water	2008 Total Housing Units	% Served
Bristol Bay Area Health Corporation (BBAHC)	1364	1572	**87%**
Kodiak Area Native Association (KANA)	349	356	**98%**
Maniilaq Association	865	1140	**76%**
Norton Sound Health Corporation (NSHC)	970	1509	**64%**
Southeast Alaska Regional Health Consortium (SEARHC)	2288	2329	**98%**
Tanana Chiefs Conference (TCC)	1150	1930	**60%**
Yukon-Kuskokwim Health Corporation (YKHC)	2753	4760	**58%**

Summary:

- The percent of housing units with water and sewer service vary by major rural regional health corporation, from 58% to 98%.
- Only two regional health corporations meet the Healthy Alaskans goal of 98%, KANA and SEARHC.

Data availability: Available by tribal health region, census area, statewide.

For more information: ANTHC's Division of Environmental Health and Engineering at http://www.anthc.org/dehe/envhlth/index.cfm or Alaska Department of Environmental Conservation at http://www.dec.state.ak.us/

Dental Health

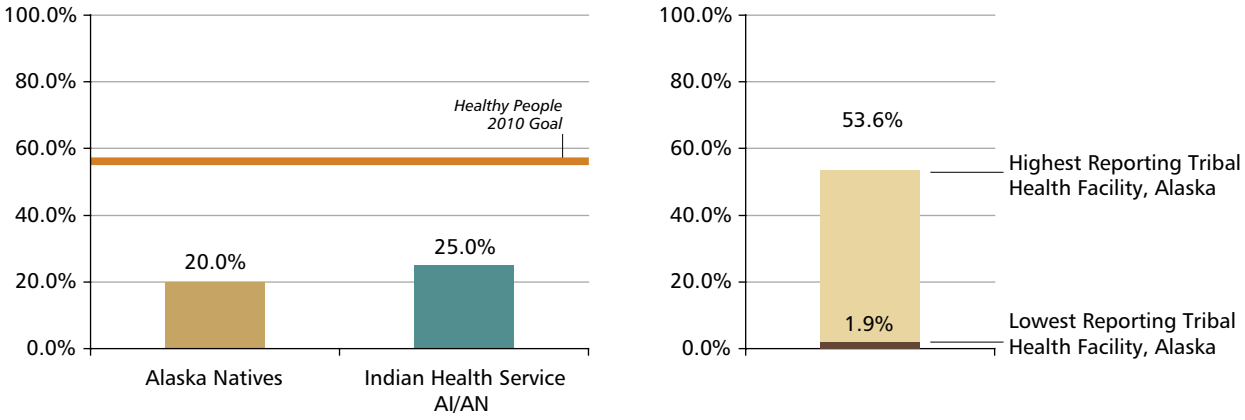
Definition: Patients with a documented dental visit during the report year, including refusals.

Healthy People 2010, Goal 21.10: Increase the proportion of children and adults who use the oral health care system each year to 56%.

Healthy Alaskans 2010, Objective 13.7: Increase the proportion of children and adults who use the oral health care system each year to 80%.

Percent of Patients with Dental Visits in Past Year, GY2008

Data Source: GPRA



Summary:

- Of those Alaska tribal health facilities reporting in GPRA year 2008, 20% of Alaska Native patients had a documented dental visit within the past year.
- The range for the Alaska tribal health facilities reporting was from 1.9% to 53.6%.

Data Availability: Data Availability: Available by region (tribal health organizations), statewide for AK Natives and nationwide for the Indian Health Service.

For more information: Alaska GPRA Pilot Project at http://www.anthc.org/ref/hs/GPRA/ or the I.H.S. GPRA Project at http://www.ihs.gov/NonMedicalPrograms/PlanningEvaluation/pe-gpra.asp

Aleutians and Pribilofs Region

Leading Causes of Death (2004-2007)

	Cause of Death	Aleutians and Pribilofs # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Aleutians and Pribilofs vs. Alaska Natives
1	Cancer	14	21%	237.5	1.0
2	Heart Disease	13	20%	274.8	1.6
3	Unintentional Injury	10	15%	128.0	1.3
4	Chronic Liver Disease	4	6%	51.3	3.0*
5	Cerebrovascular Disease	3	5%	76.8	1.3
	Total- All Causes	66	100%	1139.7	1.1

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Aleutians and Pribilofs	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	47%	35%	60%	31%*	25%*
Current Smokers	63%	51%	74%	41%*	20%*
Smokeless Tobacco Users	7%	3%	15%	11%	4%
Meets Physical Activity Recommendations	NA	NA	NA	55%	61%
Binge Drinkers	NA	NA	NA	18%	18%

** significantly different from region, p<.05; [1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Aleutians and Pribilofs	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	10%	5%	6%
Adequate Prenatal Care	82%	46%*	73%
Smoking during Pregnancy	36%	29%	10%*
Smokeless Tobacco during Pregnancy	5%	11%	0%
Alcohol Consumption during Pregnancy	3%	3%	2%

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Anchorage Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	42	40
% Rate of Increase since 1990	76%	117%

Anchorage/Mat-Su Region

Leading Causes of Death (2004-2007)

	Cause of Death	Anchorage/ Mat-Su # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Anchorage/Mat-Su vs. Alaska Natives
1	Cancer	132	18%	198.3	0.8*
2	Heart Disease	115	16%	188.7	1.1
3	Unintentional Injury	74	10%	71.7	0.7*
4	Suicide	40	6%	32.6	0.7*
5	Cerebrovascular Disease	31	4%	55.3	0.9
	Total- All Causes	733	100%	1074.3	1.0

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Anchorage/ Mat-Su	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	31%	25%	38%	31%	25%
Current Smokers	37%	30%	45%	41%	20%*
Smokeless Tobacco Users	4%	2%	7%	11%*	4%
Meets Physical Activity Recommendations	59%	46%	72%	55%	61%
Binge Drinkers	16%	10%	26%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Anchorage/ Mat-Su	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	5%	5%	6%
Adequate Prenatal Care	56%	46%*	73%
Smoking during Pregnancy	25%	29%*	10%*
Smokeless Tobacco during Pregnancy	2%	11%*	0%
Alcohol Consumption during Pregnancy	3%	3%	2%

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Anchorage Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	42	40
% Rate of Increase since 1990	76%	117%

Arctic Slope Region

Leading Causes of Death (2004-2007)

	Cause of Death	Arctic Slope # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Arctic Slope vs. Alaska Natives
1	Cancer	25	23%	274.5	1.2
2	Heart Disease	17	15%	273.4	1.5
3	Suicide	12	11%	73.5	1.8
4	Unintentional Injury	8	7%	48.4	0.5
5	COPD	8	7%	140.9	2.6*
	Total- All Causes	111	100%	1350.5	1.3*

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Arctic Slope	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	37%	28%	47%	31%	25%*
Current Smokers	58%	47%	68%	41%*	20%*
Smokeless Tobacco Users	4%	1%	13%	11%	4%
Meets Physical Activity Recommendations	NA	NA	NA	55%	61%
Binge Drinkers	21%	11%	36%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Arctic Slope	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	6%	5%	6%
Adequate Prenatal Care	37%	46%	73%*
Smoking during Pregnancy	48%	29%*	10%*
Smokeless Tobacco during Pregnancy	1%	11%*	0%
Alcohol Consumption during Pregnancy	4%	3%	2%

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Barrow Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	31	40
% Rate of Increase since 1990	158%	117%

Environmental Health (2008)

Measure	Arctic Slope Native Assn.	AK Tribal Health System
Water and Sewer Service Rates	94%	76%

Bristol Bay Region

Leading Causes of Death (2004-2007)

	Cause of Death	Bristol Bay # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Bristol Bay vs. Alaska Natives
1	Unintentional Injury	38	24%	190.5	2.1*
2	Cancer	36	22%	271.9	1.2
3	Heart Disease	25	15%	200.5	1.1
4	COPD	7	4%	60.8	1.1
5	Suicide	7	4%	32.9	0.8
	Total- All Causes	162	100%	1151.5	1.1

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Bristol Bay	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	37%	30%	45%	31%	25%*
Current Smokers	48%	41%	56%	41%	20%*
Smokeless Tobacco Users	11%	7%	18%	11%	4%*
Meets Physical Activity Recommendations	66%	54%	77%	55%	61%
Binge Drinkers	18%	11%	28%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Bristol Bay	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	5%	5%	6%
Adequate Prenatal Care	36%	46%*	73%*
Smoking during Pregnancy	37%	29%	10%*
Smokeless Tobacco during Pregnancy	14%	11%	0%*
Alcohol Consumption during Pregnancy	2%	3%	2%

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Bristol Bay Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	37	40
% Rate of Increase since 1990	200%	117%

Environmental Health (2008)

Measure	Bristol Bay Area Health Corp.	AK Tribal Health System
Water and Sewer Service Rates	87%	76%

Copper River/Prince William Sound Region

Leading Causes of Death (2004-2007)

	Cause of Death	Copper River/ Prince Wm. Sound # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Copper River/Prince Wm. Sound vs. Alaska Natives
1	Cancer	13	23%	304.5	1.3
2	Heart Disease	9	16%	217.1	1.2
3	Unintentional Injury	6	11%	119.6	1.2
4	COPD	4	7%	117.5	2.1
5	Chronic Liver Disease	3	5%	45.7	2.7
	Total- All Causes	57	100%	1231.8	1.2

Adult Behaviors (2005-2007)

Measure	Copper River/ Prince Wm. Sound	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	44%	30%	59%	31%	25%*
Current Smokers	28%	18%	42%	41%	20%
Smokeless Tobacco Users	11%	4%	27%	11%	4%
Meets Physical Activity Recommendations	NA	NA	NA	55%	61%
Binge Drinkers	NA	NA	NA	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Copper River/ Prince Wm. Sound	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	2%	5%	6%
Adequate Prenatal Care	64%	46%	73%
Smoking during Pregnancy	39%	29%	10%*
Smokeless Tobacco during Pregnancy	5%	11%	0%
Alcohol Consumption during Pregnancy	0%	3%	2%

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Anchorage Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	42	40
% Rate of Increase since 1990	76%	117%

Interior Region

Leading Causes of Death (2004-2007)

	Cause of Death	Interior # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Interior vs. Alaska Natives
1	Cancer	72	20%	239.8	1.0
2	Unintentional Injury	51	14%	119.2	1.3
3	Heart Disease	39	11%	138.6	0.8
4	Suicide	19	5%	34.6	0.8
5	Cerebrovascular Disease	15	4%	58.3	1.0
	Total- All Causes	360	100%	1078.5	1.0

Adult Behaviors (2005-2007)

Measure	Interior	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	27%	22%	33%	31%	25%
Current Smokers	38%	32%	44%	41%	20%*
Smokeless Tobacco Users	6%	4%	9%	11%*	4%
Meets Physical Activity Recommendations	53%	43%	63%	55%	61%
Binge Drinkers	22%	16%	29%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Interior	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	6%	5%	6%
Adequate Prenatal Care	38%	46%*	73%*
Smoking during Pregnancy	33%	29%	10%*
Smokeless Tobacco during Pregnancy	1%	11%*	0%*
Alcohol Consumption during Pregnancy	6%	3%*	2%*

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Interior Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	43	40
% Rate of Increase since 1990	92%	117%

Environmental Health (2008)

Measure	Tanana Chiefs Conference	AK Tribal Health System
Water and Sewer Service Rates	60%	76%

Kenai Peninsula Region

Leading Causes of Death (2004-2007)

	Cause of Death	Kenai Peninsula # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Kenai Peninsula vs. Alaska Natives
1	Cancer	29	22%	275.2	1.2
2	Heart Disease	29	22%	298.1	1.7*
3	Unintentional Injury	13	10%	76.5	0.8
4	Cerebrovascular Disease	9	7%	92.3	1.6
5	COPD	6	4%	60.3	1.1
	Total- All Causes	135	100%	1242.4	1.2

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Kenai Peninsula	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	33%	25%	41%	31%	25%
Current Smokers	42%	34%	51%	41%	20%*
Smokeless Tobacco Users	9%	5%	15%	11%	4%*
Meets Physical Activity Recommendations	56%	40%	70%	55%	61%
Binge Drinkers	13%	8%	22%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Kenai Peninsula	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	5%	5%	6%
Adequate Prenatal Care	69%	46%*	73%
Smoking during Pregnancy	28%	29%	10%*
Smokeless Tobacco during Pregnancy	4%	11%*	0%*
Alcohol Consumption during Pregnancy	1%	3%*	2%*

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Anchorage Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	42	40
% Rate of Increase since 1990	76%	117%

Kodiak Area Region

Leading Causes of Death (2004-2007)

	Cause of Death	Kodiak Area # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Kodiak Area vs. Alaska Natives
1	Cancer	17	27%	307.8	1.3
2	Cerebrovascular Disease	7	11%	118.2	2.0
3	Unintentional Injury	5	8%	48.7	0.5
4	COPD	4	6%	69.9	1.3
5	Heart Disease	4	6%	61.8	0.3*
	Total- All Causes	64	100%	1003.5	0.9

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Kodiak Area	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	29%	19%	41%	31%	25%
Current Smokers	35%	23%	48%	41%	20%*
Smokeless Tobacco Users	7%	3%	16%	11%	4%
Meets Physical Activity Recommendations	NA	NA	NA	55%	61%
Binge Drinkers	14%	6%	29%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval* *NA = not available*

Maternal and Child Health (2006-2007)

Measure	Kodiak Area	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	8%	5%	6%
Adequate Prenatal Care	67%	46%*	73%
Smoking during Pregnancy	22%	29%	10%*
Smokeless Tobacco during Pregnancy	1%	11%	0%
Alcohol Consumption during Pregnancy	5%	3%	2%

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Anchorage Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	42	40
% Rate of Increase since 1990	76%	117%

Environmental Health (2008)

Measure	Kodiak Area	AK Tribal Health System
Water and Sewer Service Rates	98%	76%

Northwest Arctic Region

Leading Causes of Death (2004-2007)

	Cause of Death	Northwest Arctic # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Northwest Arctic vs. Alaska Natives
1	Cancer	39	24%	269.9	1.1
2	Unintentional Injury	29	18%	117.9	1.2
3	Heart Disease	22	13%	190.9	1.1
4	Suicide	22	13%	76.5	1.9*
5	COPD	10	6%	89.6	1.7
	Total- All Causes	166	100%	1051.9	1.0

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Northwest Arctic	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	32%	25%	40%	31%	25%
Current Smokers	47%	39%	55%	41%	20%*
Smokeless Tobacco Users	9%	5%	16%	11%	4%*
Meets Physical Activity Recommendations	43%	29%	59%	55%	61%*
Binge Drinkers	17%	10%	28%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Northwest Arctic	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	4%	5%	6%
Adequate Prenatal Care	32%	46%*	73%*
Smoking during Pregnancy	44%	29%	10%*
Smokeless Tobacco during Pregnancy	3%	11%*	0%*
Alcohol Consumption during Pregnancy	2%	3%	2%

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Kotzebue Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	41	40
% Rate of Increase since 1990	136%	117%

Environmental Health (2008)

Measure	Maniilaq Assn.	AK Tribal Health System
Water and Sewer Service Rates	76%	76%

Norton Sound Region

Leading Causes of Death (2004-2007)

	Cause of Death	Norton Sound # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Norton Sound vs. Alaska Natives
1	Cancer	36	18%	219.7	0.9
2	Unintentional Injury	33	17%	129.7	1.4
3	Heart Disease	25	13%	144.5	0.8
4	Suicide	23	12%	77.5	1.9*
5	COPD	9	5%	61.8	1.1
	Total- All Causes	199	100%	1019.7	0.9

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Norton Sound	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	22%	17%	28%	31%*	25%
Current Smokers	58%	51%	65%	41%*	20%*
Smokeless Tobacco Users	9%	6%	14%	11%	4%*
Meets Physical Activity Recommendations	40%	29%	53%	55%*	61%*
Binge Drinkers	22%	15%	32%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Norton Sound	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	7%	5%	6%
Adequate Prenatal Care	53%	46%	73%*
Smoking during Pregnancy	55%	29%*	10%*
Smokeless Tobacco during Pregnancy	5%	11%*	0%*
Alcohol Consumption during Pregnancy	7%	3%	2%*

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Norton Sound Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	29	40
% Rate of Increase since 1990	201%	117%

Environmental Health (2008)

Measure	Norton Sound Health Corp.	AK Tribal Health System
Water and Sewer Service Rates	64%	76%

Southeast Region

Leading Causes of Death (2004-2007)

	Cause of Death	Southeast # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Southeast vs. Alaska Natives
1	Cancer	89	23%	205.1	0.8
2	Heart Disease	59	15%	147.9	0.8
3	Unintentional Injury	35	9%	76.0	0.8
4	Cerebrovascular Disease	20	5%	51.2	0.8
5	COPD	17	4%	39.1	0.7
	Total- All Causes	388	100%	886.5	0.8*

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Southeast	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	38%	33%	43%	31%*	25%*
Current Smokers	36%	32%	42%	41%	20%*
Smokeless Tobacco Users	3%	2%	6%	11%*	4%
Meets Physical Activity Recommendations	60%	51%	68%	55%	61%
Binge Drinkers	22%	17%	29%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Southeast	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	3%	5%	6%*
Adequate Prenatal Care	72%	46%*	73%
Smoking during Pregnancy	20%	29%*	10%*
Smokeless Tobacco during Pregnancy	0%	11%*	0%
Alcohol Consumption during Pregnancy	2%	3%	2%

** significantly different from region, p<.05*

Diabetes (2007)

	Southeast		
Measure	Mount Edgecumbe Service Unit	Annette Island Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	55	84	40
% Rate of Increase since 1990	118%	133%	117%

Environmental Health (2008)

Measure	Southeast Alaska Regional Health Corp.	AK Tribal Health System
Water and Sewer Service Rates	98%	76%

Yukon-Kuskokwim Region

Leading Causes of Death (2004-2007)

	Cause of Death	Yukon-Kuskokwim # Deaths	% of Deaths	Rate per 100,000	Rate Ratio: Yukon-Kuskokwim vs.Alaska Natives
1	Cancer	115	21%	273.7	1.2
2	Unintentional Injury	81	15%	104.9	1.1
3	Heart Disease	66	12%	192.9	1.1
4	Suicide	57	11%	62.1	1.6*
5	Cerebrovascular Disease	23	4%	71.9	1.2
	Total- All Causes	543	100%	1165.7	1.1

** significant difference, p<.05*

Adult Behaviors (2005-2007)

Measure	Yukon-Kuskokwim	Lower CI[1]	Upper CI[1]	Alaska Natives Statewide	Alaska non-Natives Statewide
Obese (BMI 30+)	26%	22%	30%	31%*	25%
Current Smokers	39%	35%	44%	41%	20%*
Smokeless Tobacco Users	34%	30%	38%	11%*	4%
Meets Physical Activity Recommendations	51%	42%	59%	55%	61%*
Binge Drinkers	15%	11%	21%	18%	18%

** significantly different from region, p<.05;* *[1] 95% Confidence Interval*

Maternal and Child Health (2006-2007)

Measure	Yukon-Kuskokwim	Alaska Natives Statewide	Alaska Whites
Low Birth Weight	5%	5%	6%
Adequate Prenatal Care	21%	46%*	73%*
Smoking during Pregnancy	20%	29%*	10%*
Smokeless Tobacco during Pregnancy	41%	11%*	0%*
Alcohol Consumption during Pregnancy	2%	3%	2%

** significantly different from region, p<.05*

Diabetes (2007)

Measure	Yukon-Kuskokwim Service Unit	Alaska Natives Statewide
Diabetes Prevalence per 1,000	24	40
% Rate of Increase since 1990	159%	117%

Environmental Health (2008)

Measure	Yukon-Kuskokwim Health Corp.	AK Tribal Health System
Water and Sewer Service Rates	58%	76%

Appendix A – Tribal Health Regions

Tribal Health Region	Title I and V THOs in Region	Census Area/Borough included in Region	Exceptions to Census Areas/Boroughs	
			(villages in addition)	(villages removed)
Aleutians and Pribilofs	Aleutian Pribilof Islands Association (APIA), Eastern Aleutian Tribes Inc., St. George Traditional Council	Aleutians East Borough, Aleutians West Borough		
Anchorage/ Mat-Su	Southcentral Foundation (SCF), Chickaloon Village, Native Village of Eklutna, Knik Tribal Council	Anchorage Municipality, Matanuska-Susitna Borough		
Arctic Slope	Arctic Slope Native Association (ASNA), Ukpeagvik Inupiat Corporation	North Slope Borough		Point Hope (Northwest Arctic), Anaktuvak Pass (Interior)
Bristol Bay	Bristol Bay Area Health Corporation (BBAHC)	Dillingham, Lake and Peninsula Borough, Bristol Bay Borough	Goodnews Bay, Platinum	
Copper River/Prince William Sound	Chugachmiut Inc. (part)*, Chitina Traditional Council, Copper River Native Association (CRNA), Mt. Sanford Tribal Consortium, Valdez Native Tribe	Valdez/Cordova	Cantwell	
Interior	Tanana Chiefs Conference (TCC), Council of Athabascan Tribal Governments, Fairbanks Native Assoc., Tanana IRA Native Council	Denali Borough, Fairbanks North Star Borough, Southeast Fairbanks, Yukon-Koyukuk	Anaktuvak Pass	Cantwell (Copper River/Prince William Sound); Grayling, Anvik Shageluk, Holy Cross (Yukon-Kuskokwim)
Kenai Peninsula	Chugachmiut (part)*, Kenaitze Indian Tribe IRA, Ninilchik Traditional Council, Seldovia Village Tribe	Kenai Peninsula Borough		
Kodiak Area	Kodiak Area Native Assoc. (KANA), Native Village of Karluk	Kodiak Island Borough		
Northwest Arctic	Maniilaq Association	Northwest Arctic Borough	Point Hope	
Norton Sound	Norton Sound Health Corp. (NSHC), Native Village of Diomede	Nome		
Southeast	Southeast Alaska Regional Health Corp. (SEARHC), Hoonah Indian Association, Ketchikan Indian Corporation, Metlakatla Indian Community, Yakutat Tlingit Tribe	Yakutat Borough, Skagway-Hoonah-Angoon, Haines Borough, Juneau Borough, Sitka Borough, Wrangell-Petersburg, Prince of Wales/Outer Ketchikan, Ketchikan-Gateway Borough, Yakutat Borough		
Yukon-Kuskokwim	Akiachak Native Community, Native Village of Quinhagak, Yukon Kuskokwim Health Corp. (YKHC)	Bethel, Wade Hampton	Grayling, Anvik, Shageluk, Holy Cross	Goodnews Bay, Platinum (Bristol Bay)

** Chugachmiut is separated into 2 regions: Chenega Bay, Tatitlek, Valdez and Cordova are included in Copper River/Prince William Sound; Port Graham, Nanwalek and Seward are included in Kenai Peninsula.*

Appendix B – Methods and References

For the purposes of this report, Alaska Natives also include American Indians living in Alaska.

DEMOGRAPHICS

Alaska Department of Labor and Workforce Development (AK DOLWD)
Bridged population estimates for Alaska Natives for 2007 and population projections were obtained from the State of Alaska's Department of Labor and Workforce Development (AK DOLWD). The AK DOLWD uses the census, vital records and other data to provide estimates of the population between census years. An explanation of the "bridged" estimates used in these figures can be found at http://146.63.75.50/research/pop/estimates/Alaska1990Race.htm. Unemployment rates were also obtained from the AK DOLWD.

Unemployment includes anyone who has made an active attempt to find work in the four-week period up to and including the week that includes the 12th of the referenced month. Due to the scarcity of employment opportunities in rural Alaska, many individuals do not meet the official definition of unemployed because they are not conducting active job searches.

Demographics Unit, Research and Analysis, Alaska Department of Labor and Workforce Development, State of Alaska. (2008). *Alaska State Race Bridged Smooth Series 1990-2007.* Juneau, AK. Retrieved September 1, 2008 from http://laborstats.alaska.gov/.

Demographics Unit, Research and Analysis, Alaska Department of Labor and Workforce Development, State of Alaska. (2008). *Alaska Population Projections (2007-2030).* Juneau, AK. Retrieved September 1, 2008 from http://laborstats.alaska.gov/.

Research and Analysis Unit, Alaska Department of Labor and Workforce Development, State of Alaska. (2008). *Monthly Unemployment Rate, September 2008*. Retrieved December 1, 2008 from http://almis.labor.state.ak.us/.

U.S. Census
Census statistics were obtained for Alaska Native people for several demographic measures, including educational attainment, household income, and poverty status. These statistics are only available for Alaska Native people separate from other races during census years. The most recent statistics available are for 2000. The next census will be in 2010.

United States Census Bureau (2003). *Census 2000 Summary File 4.* Retrieved June 2008 from http://www.census.gov.

National Patient Information and Reporting System (NPIRS), Indian Health Service
User population counts for FY2007 were obtained from the NPIRS. An I.H.S. user is defined by the Indian Health Service (I.H.S.) as an eligible American Indian/Alaska Native (AI/AN) who used a tribal health facility at least once in the previous three year period. The facility must be one that reports to the national I.H.S. data system. I.H.S. user population data are provided by federal fiscal year (FY). For example, FY2007 is from October 1, 2006 through September 30, 2007.

Indian Health Service (I.H.S.) National Patient Information and Reporting System (NPIRS). (2007). *Alaska 2007 Native Active User Populations, Based on the I.H.S. User Population Report (B), Version 75*. Anchorage, AK. http://www.ihs.gov/facilitiesservices/areaoffices/alaska/dpehs/index.asp.

Department of Education and Early Development, State of Alaska
Dropout rates for students grades seven through twelve were obtained from the State of Alaska's Department of Education and Early Development.

Department of Education and Early Development, State of Alaska (2000-2006). *Dropout Rates.* Juneau, AK. Retrieved July 20, 2008 from http://www.eed.state.ak.us/stats/.

MORTALITY

Alaska Bureau of Vital Statistics and the National Cancer Institute's (NCI) Surveillance and End Results (SEER) Program
Death certificate data from the State of Alaska Bureau of Vital Statistics was used to calculate death rates for Alaska Natives (AN) for the years 1980-2007. Rates were only calculated for those causes that had at least three deaths during the interval studied. Race is assigned at time of death by either

next of kin, or the coroner. There is often concern about under-reporting of minority groups on death certificate data, however, a 1996 study estimated that under-reporting of Alaska Native people on death certificates is low (5%).

All mortality rates were age-adjusted to the 2000 U.S. standard population. Alaska Native mortality rates were compared to mortality rates for U.S. Whites (USW) and AK Whites (AKW). Data for these populations were calculated utilizing the on-line SEERStat software. Rate ratios were created to compare Alaska Natives to USW rates and confidence intervals were calculated around these ratios. Alaska Native rates were considered significantly different if the 95% confidence interval did not contain one. For the regional profiles, rate ratios were created comparing the Alaska Native rate for each region to the rate for all other Alaska Native people statewide. Significance testing was done in the same manner as for other rate ratios.

Changes in mortality over the period 1980-2007 were analyzed. Mantel-Haenszel Chi-square tests for trend were used to test for a significant change over time. Percentage change over time was calculated by subtracting the rate for the first time period from the rate for the most recent time period and dividing by the rate for the first time period. The rank of the leading causes of death were calculated for Alaska Natives from among a list of 50 leading causes of death as defined by the National Center for Health Statistics (NCHS), which is based on the International Classification of Diseases (ICD-10). SPSS Version 11.5 (SPSS Inc., Chicago, Ill.) was used for analysis.

Population estimates used in the calculation of mortality rates for Alaska Natives for the years 1980-1999 are based on NCI SEER bridged estimates. Age-gender estimates were calculated by applying the 1980 Census age-gender distribution for Alaska Natives to the years 1980-1984. An average of the 1980 and 1990 Census age-gender distributions was applied to 1985-1989 estimates. The 1990 Census age-gender distribution was applied to 1990-1994 estimates, and an average of the 1990 and 2000 Census age-gender distributions was applied to 1995-1999 estimates.

Population estimates for Alaska Native people for the years 2000-2006 are based on the National Center for Health Statistics' (NCHS) post-censal series by year, census area, age, sex, race, and Hispanic origin. Census areas were combined to form the tribal health regions (Refer to *Appendix A*). Population counts for villages that were included in tribal health regions other than those to which their census areas belonged were added or subtracted from the appropriate tribal health region. Counts for Alaska Natives in these villages came from 2000 Census data.

Research Unit, Alaska Bureau of Vital Statistics, Division of Public Health, Department of Health and Human Services, State of Alaska (1980-2007). http://www.hss.state.ak.us/DPH/bvs/Profiles/default.htm.

Indian Health Service. *Adjusting for Miscoding of Indian Race on State Death Certificates.* Rockville, MD: U.S. Department of Health and Human Services, Public Health Service: 1996.

Surveillance, Epidemiology, and End Results (SEER) Program (http://www.seer.cancer.gov) *SEER*Stat Database: Mortality - All COD, Aggregated With State, Total U.S. for Expanded Races (1969-2005) <Katrina/Rita Population Adjustment>,* National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2008. Underlying mortality data provided by NCHS. http://www.cdc.gov/nchs.

United States Census Bureau (2003). *Census 2000 Summary File 4.* Retrieved June 2008 from http://www.census.gov.

Surveillance, Epidemiology, and End Results (SEER) Program (http://www.seer.cancer.gov) *SEER*Stat Database: 1969-2005. US Population data.* http://seer.cancer.gov/popdata/index.html.

National Center for Health Statistics. *Vintage 2006 Bridged-race post-censal population estimates for July 1, 2000 - July 1, 2006, by year, county, single-year of age, bridged-race, Hispanic origin, and sex. R*eleased 8/16/2007. Retrieved June 2008 from http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm.

United States Census Bureau. *County Estimates by Age, Sex, Race: 1980*. Retrieved June 2008 from http://www.census.gov/popest/archives/1980s/PE-02.html.

U.S. Census Bureau. *1990 to 1999 Annual Time Series of County Population Estimates By Age, Sex, Race, and Hispanic Origin*. Retrieved June 2008 from http://www.census.gov/popest/archives/1990s/CO-99-12.html.

MORBIDITY

National Data Warehouse, Indian Health Service
The leading causes of hospital discharge and leading causes of outpatient visits for Fiscal Year 2007 were obtained from the Indian Health Service National Data Warehouse. The National Data Warehouse (NDW) project is an upgrade of the Indian Health Service's (IHS) national data repository, the National Patient Information Reporting System (NPIRS). It contains all registration records and all encounter records (dated October 1, 2000 to the present) from facilities that report to the I.H.S. data system. Tables included in this report include encounters from all facilities within the Alaska Tribal Health System. (http://www.ihs.gov/CIO/DataQuality/warehouse/index.asp).

Indian Health Service National Data Warehouse, National Patient Information and Reporting System (NPIRS). *Inpatient Report 2C- By Area, FY 2007.* Rockville, MD.

Indian Health Service National Data Warehouse, National Patient Information and Reporting System (NPIRS). *Outpatient Report 1C- By Area, FY 2007.* Rockville, MD.

Alaska Trauma Registry
The Alaska Trauma Registry (ATR) is an information system of the most seriously injured patients in Alaska, and the treatment that they have received. Since 1991, the trauma registry has collected data from all 24 of Alaska's acute care hospitals. The purpose of the registry is to evaluate the quality of trauma patient care and to plan and evaluate injury prevention programs. The criteria for inclusion in the ATR are patients with injuries who are admitted to an Alaska hospital, held for observation, transferred to another acute care hospital, or declared dead in the emergency department. Injuries include trauma, poisoning, suffocation, and the effects of reduced temperature.

(Description from http://www.hss.state.ak.us/dph/ipems/injury_prevention/trauma.htm)

Alaska Trauma Registry, Section of Injury Prevention & EMS, Department of Health and Human Services, State of Alaska (2003-2005). http://www.hss.state.ak.us/dph/ipems/injury_prevention/trauma.htm.

LIFESTYLE RISK FACTORS – ADULTS

Behavioral Risk Factor Surveillance System (BRFSS)
Several behavior measures included in this report are calculated from the Alaska BRFSS. The BRFSS is an on-going telephone survey funded by the Centers for Disease Control and Prevention which is used to estimate the prevalence of behavioral risk factors in the general population. All 50 states conduct a form of this survey every year. The survey has been administered in Alaska since 1991. Because it is not feasible to query every resident, a random sample is drawn in which all Alaska residents have a known probability of selection. Alaska is stratified into five geographic regions with an approximately equal number of participants chosen from each region. This method purposefully over-samples rural regions, necessary to ensure that an adequate number of responses are available to obtain accurate estimates for non-urban areas of sparser population. Thus Alaska Native people are over-sampled as well, as they are more likely to reside in non-urban areas. Approximately 2,500 Alaska residents are sampled each year, about 500 of whom are Alaska Native. Because of the complex sample design, care must be taken in analyzing and interpreting BRFSS results.

Results of Alaska BRFSS respondents were used to provide estimates of several behavioral measures. Precision of estimates reported is directly related to the sample size obtained for each risk factor of interest. In order to increase the available sample size and improve the precision of the estimates for Alaska Native people, this report presents results for a three-year period (2005-2007) rather than reporting results of a single most recent year. Every year, the BRFSS survey contains a core of consistent questions, and additional modules of questions depending on the health topics that are of interest that particular year. Thus for some measures, reported data is not available for all three years, and estimates are less precise. Similarly, some measures apply to only a further smaller sub-sample of the population of interest (e.g. women over age 40), and are thus less precise.

Alaska Native BRFSS estimates were compared to estimates for Alaska non-Native and U.S. all races. Data for Alaska non-Natives were calculated from the Alaska BRFSS. 95% confidence intervals were created for these estimates. Corresponding estimates and confidence intervals for U.S. all races were obtained from the CDC. Alaska Native estimates were considered significantly different from the comparison populations if the two confidence intervals did not overlap. Regional estimates were compared to estimates for Alaska Natives statewide

and were considered significantly different if the two confidence intervals did not overlap. Estimates for regions were only included where the number of respondents for that region were 50 or more.

This report also presents trend data to examine how prevalence of risk factors has changed over time. Estimates are shown mostly by three-year time periods: 1991-1992, 1993-95, 1996-98, 1999-2001, 2002-04, and 2005-07. The one exception is the first two year time period. BRFSS began in 1991, creating this exception.

To compensate for the over-representation or under-representation of persons in various sub-groups, the data are weighted to adjust the distribution of the sample data so that it reflects the demographics of the total population of the sampled area.

While counts of persons responding to a survey question give some indication of the precision of the resulting estimate, a more accurate measure is provided by the confidence intervals supplied for each prevalence estimate. A 95% confidence interval around an estimate specifies a range in which the true value for the population (not just of persons surveyed) lies. Thus, a wider confidence interval indicates greater uncertainty about the true prevalence in the population.

While the BRFSS instrument has been shown to be at least moderately reliable and valid for all questions, and highly reliable and valid for many questions, there remain reasons to interpret the results with caution. The BRFSS is a telephone survey, which is much less expensive and more efficient to conduct than are face-to-face interviews. However the portion of the Alaska population without land-line based telephone service is therefore not represented, and may consist of persons that are different than those with land-line phones. Furthermore, the survey relies on self-reported data, and potential bias in misrepresentation of responses on sensitive or unknown topics may exist. Results presented are not age-adjusted, a statistical method used to allow comparisons of populations with different age distributions. As such, when interpreting overall estimates that are likely to vary with age, it is worth noting that Alaska's population tends to be younger than the U.S. population, and the Alaska Native population tends to be slightly younger than the Alaska non-Native population.

All BRFSS statistical analysis was performed using R, version 2.6.0, an open-source software environment for statistical computing and graphics.

National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services. *Behavioral Risk Factor Surveillance System Survey Data, 1991-2007.* Atlanta, Georgia. http://www.cdc.gov/brfss/.

R Development Core Team (2007). *R: A language and environment for statistical computing. R Foundation for Statistical Computing*, Vienna, Austria.

ISBN 3-900051-07-0. http://www.R-project.org.

LIFESTYLE RISK FACTORS – ADOLESCENTS

Youth Risk Behavior Survey

Several of the adolescent measures in this report are from the Alaska Youth Risk Behavior Survey. The Youth Risk Behavior Survey (YRBS) is part of an epidemiological surveillance system that was established in 1988 by the CDC.

The purpose of the Youth Risk Behavior Survey (YRBS) is to help monitor the prevalence of behaviors that put Alaskan youth at risk for the most significant health and social problems that can occur during adolescence and adulthood, in order to assist in prevention, intervention, planning, and evaluation. The YRBS survey is a school-based survey of high school students administered in cooperation with the Department of Education and Early Development. This anonymous survey examines a minimum of six categories of adolescent behavior: behaviors that result in unintentional and intentional injuries, tobacco use, alcohol and other drug use, sexual behaviors that can result in HIV infection, other sexually transmitted infections (STI's), unintended pregnancies, dietary behaviors, and physical activity.

The YRBS has been administered in Alaska six times, 1995, 1999, 2001, 2003, 2005 and 2007 but only collected enough surveys to reliably analyze and publish the results during the years 1995, 1999, 2003, and 2007.

(Description adapted from http://www.cdc.gov/HealthyYouth/yrbs/index.htm)

National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention (CDC). *Youth Risk Behavior Surveillance System Survey Data, 1995-2007.* Atlanta, Georgia. http://www.cdc.gov/HealthyYouth/yrbs/index.htm.

MATERNAL AND CHILD HEALTH

Alaska Bureau of Vital Statistics
The data for Alaska Native and Alaska White prenatal risk and protective factors and birth outcome indicators was provided by the Alaska Bureau of Vital Statistics. When the State of Alaska calculates maternal and child health data, race is assigned to the infant based on the race of the mother. For the purposes of this report, if the mother and/or the father are Alaska Native, the child was considered Alaska Native. This method of classification yields larger numbers of Alaska Native infants as compared to the number classified by the Bureau of Vital Statistics. This is important because the Alaska Tribal Health System serves pregnant women, as well as children where either parent is Alaska Native or American Indian. When counting data related to Alaska White children, only births to White mothers in which the father was not Alaska Native are counted. For this reason, this number is smaller than the statistics reported by the state.

Risk factor data presented in this report for tobacco and alcohol use during pregnancy is based on what is documented on the birth certificate.

The data for Alaska infant mortality was also provided by the Alaska Bureau of Vital Statistics for the years 1998-2007. For the years prior to 1998, infant mortality data came from the Alaska Area Indian Health Service publication, Alaska Native Births and Infant Deaths 1980-1997. U.S. White infant mortality data came from the National Vital Statistics Reports, 2008 and the Health, United States, 2005 publication. The National Cancer Institute's SEER Database was used to calculate mortality rates and leading causes of death for Alaska Native and Alaska White children.

Research Unit, Alaska Bureau of Vital Statistics, Division of Public Health, Department of Health and Human Services, State of Alaska (1980-2007). http://www.hss.state.ak.us/dph/bvs/.

National Center for Health Statistics. *Health, United States; 2005.* Hyattsville, Maryland: Public Health Service, 2005.

Alaska Area Native Health Service, Division of Planning, Evaluation, and Health Statistics. Alaska Native Tribal Health Consortium (ANTHC). *Alaska Native Births and Infant Deaths 1980-1997.* Anchorage, Alaska: ANTHC. August 2001.

Mathews TJ, MacDorman MF. Infant mortality data from the 2005 period: linked birth/ infant death data set. *National Vital Statistics Reports,.vol 57 no 2.* Hyattsville Maryland: National Center for Health Statistics. 2008.

CANCER

National Cancer Institute's (NCI) Surveillance and End Results (SEER) Program
Cancer incidence rates and leading cancers were obtained from the NCI's SEER Program. Cancer data contained in the NCI SEER registry for Alaska Natives is collected by the Alaska Native Tumor Registry (ANTR), a state-wide population-based registry of all cancers diagnosed among Alaska Natives since 1969. The Alaska Native Tumor Registry (ANTR) includes diagnostic, staging and treatment information on American Indian and Alaska Native people with cancer who were living in Alaska at the time of diagnosis, and who met eligibility requirements for Indian Health Service benefits. ANTR case-finding sources include: hospital and clinic discharge diagnoses for tribal and non-tribal hospitals in the state; pathology reports from the Alaska Native Medical Center; other in-state hospital tumor registries; autopsy reports; state death certificates; and the state of Alaska Cancer Registry.

Surveillance, Epidemiology, and End Results (SEER) Program. *SEER*Stat Database: Incidence - SEER 17 Regs Limited-Use + Hurricane Katrina Impacted Louisiana Cases, Nov 2007 Sub (1973-2005 varying) - Linked To County Attributes - Total U.S., 1969-2005 Counties*, National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2008, based on the November 2007 submission. (http://www.seer.cancer.gov)

Government and Performance Results Act (GPRA)
Cancer screening rates were provided by the GPRA Pilot Project for GPRA Year (GY) 2008. GPRA years begin July 1st of the previous calendar year and end June 30th of the GPRA year. Although many of the tribal health facilities participated in GPRA reporting in GY2008, not all facilities participated. Therefore these rates are not a complete picture of all Alaska Native patients within the Alaska Tribal Health Care System. Facility specific rates are available with permission of the facility.

Indian Health Service National Government Performance and Results Act of 1993 (GPRA), Clinical Reporting System v8.0. *Alaska Area 2008 GPRA Report*. Report run by Alaska GPRA Pilot Project on August 1, 2008. http://www.anthc.org/ref/hs/GPRA/.

Indian Health Service National Government Performance and Results Act of 1993 (GPRA). *12 Area Summary Report, 2007. http://www.ihs.gov/FacilitiesServices/areaOffices/California/uploadedfiles/gpra/GPRA-2007_12AreaReport_Public.pdf.*

Behavioral Risk Factor Surveillance System (BRFSS)
Cancer screening rates were also provided by the BRFSS. BRFSS description and reference is provided earlier in this appendix.

IMMUNIZATIONS

Government and Performance Results Act (GPRA)
Immunization rates were provided by the GPRA Pilot Project for GPRA Year (GY) 2008. GPRA years begin July 1 of the previous calendar year and end June 30 of the GPRA year. Although many of the tribal health facilities participated in GPRA reporting in GY2008, not all facilities participated. Therefore these rates are not a complete picture of all Alaska Native patients within the Alaska Tribal Health Care System. Facility specific rates are available with permission of the facility.

Indian Health Service National Government Performance and Results Act of 1993 (GPRA), Clinical Reporting System v8.0. *Alaska Area 2008 GPRA Report*. Report run by Alaska GPRA Pilot Project on August 1, 2008. http://www.anthc.org/ref/hs/GPRA/.

Indian Health Service National Government Performance and Results Act of 1993 (GPRA). *12 Area Summary Report, 2007. http://www.ihs.gov/FacilitiesServices/areaOffices/California/uploadedfiles/gpra/GPRA-2007_12AreaReport_Public.pdf.*

ENVIRONMENTAL HEALTH

ANTHC Division of Environmental Health and Engineering (DEHE)
Water and sewer service rates were obtained from the ANTHC DEHE.

Environmental Health Program, Division of Environmental Health and Engineering, Alaska Native Tribal Health Consortium. (2008) Anchorage, AK. http://www.anthc.org/cs/dehe/envhlth/.

DIABETES

Alaska Area Diabetes Program
Diabetes rates and rate of increase maps for 2007 were provided by the ANTHC Alaska Area Diabetes Program.

ANTHC Alaska Area Diabetes Program, Alaska Native Tribal Health Consortium. (2007). Anchorage, AK. http://www.anmc.org/services/diabetes/.

INFECTIOUS DISEASES

State of Alaska, Division of Public Health, Department of Epidemiology
The number of Alaska Native cases of reportable infectious diseases was provided by the State of Alaska, Division of Public Health, Epidemiology for the period January 1, 2007-October 3, 2008.

Infectious Disease Program, Section of Epidemiology, Department of Health and Social Services, State of Alaska. http://www.epi.hss.state.ak.us/id/default.stm.

DENTAL

Government and Performance Results Act (GPRA)
Dental visits were provided by the GPRA Pilot Project for GPRA Year (GY) 2008. GPRA years begin July 1 of the previous calendar year and end June 30 of the GPRA year. Although many of the tribal health facilities participated in GPRA reporting in GY2008, not all facilities participated. Therefore these rates are not a complete picture of all Alaska Native patients within the Alaska Tribal Health Care System. Facility specific rates are available with permission of the facility.

Indian Health Service National Government Performance and Results Act of 1993 (GPRA), Clinical Reporting System v8.0. *Alaska Area 2008 GPRA Report*. Report run by Alaska GPRA Pilot Project on August 1, 2008. http://www.anthc.org/ref/hs/GPRA/.

Indian Health Service National Government Performance and Results Act of 1993 (GPRA). *12 Area Summary Report, 2007. http://www.ihs.gov/FacilitiesServices/areaOffices/California/uploadedfiles/gpra/GPRA-2007_12AreaReport_Public.pdf.*

Appendix C – Estimated Alaska Native Population

2000-2005 Estimated Alaska Native Population, 2010-2030 Projected

Data Source: Alaska Dept of Labor & Workforce Development, Research and Analaysis Section

	ESTIMATED TOTALS		PROJECTED TOTALS				
Age (Years)	2000	2005	2010	2015	2020	2025	2030
0-19	47,909	48,240	48,960	51,343	55,101	58,011	60,703
20-64	57,026	61,755	68,564	73,680	76,433	79,490	83,113
65+	6,156	6,940	8,204	10,047	12,790	15,939	19,004
Total	**111,091**	**116,935**	**125,728**	**135,070**	**144,324**	**153,440**	**162,820**

Estimated Alaska Native Population by Tribal Health Region, 2006

Data Source: Alaska Native EpiCenter

Note: For methodology, see Appendix B

Tribal Health Region	Total	Male	Female
Aleutians and Pribilofs	**1,803**	1,006	797
Anchorage/Mat-Su	**29,791**	14,176	15,615
Arctic Slope	**4,878**	2,561	2,317
Bristol Bay	**5,319**	2,739	2,580
Copper River/Prince William Sound	**1,589**	785	804
Interior	**12,754**	6,330	6,424
Kenai Peninsula	**4,477**	2,383	2,094
Kodiak Area	**2,142**	1,110	1,032
Northwest Arctic	**6,269**	3,299	2,970
Norton Sound	**7,216**	3,830	3,386
Southeast	**14,188**	7,043	7,145
Yukon-Kuskokwim	**21,032**	10,831	10,201

Appendix D – Mortality Rates for Leading Causes of Death

Age-Adjusted Mortality Rates, Alaska Natives Statewide, Alaska Whites and U.S. Whites, 1980-2007

Data Source: Alaska Bureau of Vital Statistics

CANCER

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	275	254.3	208.0	1.2*	203.9	1.2*
1984-1988	433	248.0	214.3	1.2*	207.6	1.2*
1989-1993	480	253.3	217.0	1.2*	209.9	1.2*
1994-1998	586	252.1	204.3	1.2*	202.9	1.2*
1999-2003	664	242.3	192.5	1.3*	193.4	1.3*
2004-2007	617	236.8	173.0	1.4*	183.4	1.3*
% Change		NS	-17%**		-10%**	

CEREBROVASCULAR DISEASE

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	70	78.3	82.3	1.0	85.4	0.9
1984-1988	101	68.6	67.2	1.0	72.0	1.0
1989-1993	114	71.2	62.9	1.1	61.5	1.2
1994-1998	150	84.8	63.6	1.3*	59.6	1.4*
1999-2003	158	67.1	60.2	1.1	55.6	1.2*
2004-2007	132	60.1	48.9	1.2	46.1	1.3*
% Change		NS	-41%**		-46%**	

** significant difference, p<.05*

% Change = (rate of 2004-2007 - rate of 1980-1983) / (rate of 1980-1983)

*** A value for % change is given only when a Chi-square test for trend had significance at p<.05*

NS = Not Significant

CHRONIC LIVER DISEASE

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	44	26.4	17.3	1.5*	12.9	2.0*
1984-1988	49	19.1	12.3	1.6*	11.3	1.7*
1989-1993	78	26.2	11.8	2.2*	10.3	2.5*
1994-1998	63	17.6	10.6	1.7*	9.6	1.8*
1999-2003	71	18.7	9.2	2.0*	9.6	1.9*
2004-2007	63	17.8	7.6	2.3*	9.2	1.9*
% Change		NS	-56%**		-29%**	

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	29	29.2	38.2	0.8	30.5	1.0
1984-1988	67	46.9	44.8	1.0	35.8	1.3
1989-1993	100	59.8	48.8	1.2	39.2	1.5
1994-1998	133	67.5	45.6	1.5*	42.2	1.6
1999-2003	151	63.5	49.6	1.3*	45.8	1.4
2004-2007	128	56.1	40.8	1.4*	44.3	1.3
% Change		92%**	NS		45%**	

DIABETES MELLITUS

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	6	6.8	17.0	0.4	16.3	0.4
1984-1988	16	11.2	15.5	0.7	15.9	0.7
1989-1993	42	24.7	24.6	1.0	18.9	1.3
1994-1998	42	20.0	25.0	0.8	21.1	0.9
1999-2003	50	20.0	25.0	0.8	22.8	0.9
2004-2007	46	17.3	22.9	0.8	22.3	0.8
% Change		154%**	35%**		37%**	

** significant difference, p<.05*
% Change = (rate of 2004-2007 - rate of 1980-1983) / (rate of 1980-1983)
*** A value for % change is given only when a Chi-square test for trend had significance at p<.05*
NS = Not Significant

HEART DISEASE

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	293	314.3	329.2	1.0	395.1	0.8*
1984-1988	436	307.2	310.7	1.0	362.5	0.8*
1989-1993	477	284.1	254.7	1.1	310.2	0.9
1994-1998	515	255.1	230.1	1.1	280.2	0.9*
1999-2003	515	212.0	191.2	1.1*	243.6	0.9*
2004-2007	423	178.9	161.2	1.1	209.5	0.9
% Change		-43%**	-51%**		-47%**	

HOMICIDE

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	101	36.8	8.2	4.5*	6.2	5.9*
1984-1988	88	22.2	6.3	3.5*	5.3	4.2*
1989-1993	91	19.1	4.5	4.2*	5.6	3.4*
1994-1998	71	16.5	5.5	3.0*	4.7	3.5*
1999-2003	89	17.3	4.3	4.0*	4.0	4.3*
2004-2007	45	10.9	4.3	2.5*	3.8	2.9*
% Change		-70%**	-48%**		-39%**	

PNEUMONIA AND INFLUENZA

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	73	66.0	39.4	1.7*	29.2	2.3*
1984-1988	92	63.7	30.7	2.1*	34.2	1.9*
1989-1993	103	58.4	22.4	2.6*	34.6	1.7*
1994-1998	77	40.0	19.3	2.1*	33.2	1.2
1999-2003	89	36.4	14.5	2.5*	22.5	1.6*
2004-2007	58	26.8	11.2	2.4*	19.8	1.4*
% Change		-59%**	-72%**		-32%**	

** significant difference, p<.05*
% Change = (rate of 2004-2007 - rate of 1980-1983) / (rate of 1980-1983)
*** A value for % change is given only when a Chi-square test for trend had significance at p<.05*

SUICIDE

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	118	37.9	13.6	2.8*	13.1	2.9*
1984-1988	201	44.8	11.2	4.0*	13.5	3.3*
1989-1993	225	44.8	13.0	3.4*	13.0	3.4*
1994-1998	219	41.4	17.4	2.4*	12.4	3.3*
1999-2003	198	34.5	16.7	2.1*	11.6	3.0*
2004-2007	202	43.1	17.3	2.5*	12.0	3.6*
% Change		NS	27%**		-8%**	

UNINTENTIONAL INJURY

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	463	182.7	88.8	2.1*	42.6	4.3*
1984-1988	573	171.8	68.0	2.5*	39.1	4.4*
1989-1993	541	134.0	64.0	2.1*	35.5	3.8*
1994-1998	483	113.1	49.7	2.3*	35.1	3.2*
1999-2003	499	107.7	51.7	2.1*	36.4	3.0*
2004-2007	391	96.0	47.1	2.0*	39.3	2.4*
% Change		-47%**	-47%**		-8%**	

ALL CAUSES

	Alaska Natives		AK Whites	Alaska Natives vs AK Whites	U.S. Whites	Alaska Natives vs U.S. Whites
	# Deaths	Rate per 100,000	Rate per 100,000	Rate Ratio	Rate per 100,000	Rate Ratio
1980-1983	1958	1358.0	1018.8	1.3*	983.5	1.4*
1984-1988	2611	1236.3	955.0	1.3*	956.1	1.3*
1989-1993	2842	1220.4	886.9	1.4*	898.9	1.4*
1994-1998	2952	1151.3	855.5	1.3*	867.5	1.3*
1999-2003	3397	1119.6	803.8	1.4*	834.6	1.3*
2004-2007	2986	1070.2	718.0	1.5*	783.3	1.4*
% Change		-21%**	-30%**		-20%**	

** significant difference, p<.05*
% Change = (rate of 2004-2007 - rate of 1980-1983) / (rate of 1980-1983)
*** A value for % change is given only when a Chi-square test for trend had significance at p<.05*
NS = Not Significant

Appendix E – Injury Death Rates

Injury Death Rates per 100,000 by Age Group, Alaska Natives Statewide, 2004-2007

Data Source: Alaska Bureau of Vital Statistics

	SUICIDE			
Age Group	# Deaths	Rate per 100,000	U.S. Whites Rate[a]	Alaska Natives vs U.S. Whites Rate Ratio
0-9	<3	-	-	-
10-19	47	50.9	4.9	10.3*
20-29	71	102.0	13.0	7.8*
30-39	33	58.9	14.9	3.9*
40-49	33	53.9	18.5	2.9*
50-59	12	28.9	17.1	1.7
60-69	4	18.3	13.8	1.3
70+	<3	-	-	-
Total	202	43.1	12.0	3.6*

	HOMICIDE			
Age Group	# Deaths	Rate per 100,000	U.S. Whites Rate[a]	Alaska Natives vs U.S. Whites Rate Ratio
0-9	<3	-	-	-
10-19	12	13.0	3.0	4.4*
20-29	7	10.1	7.7	1.3
30-39	11	19.6	5.3	3.7*
40-49	8	13.1	4.3	3.1*
50-59	<3	-	-	-
60-69	<3	-	-	-
70+	<3	-	-	-
Total	46	10.4	3.7	2.8*

	UNINTENTIONAL INJURY			
Age Group	# Deaths	Rate per 100,000	U.S. Whites Rate[a]	Alaska Natives vs U.S. Whites Rate Ratio
0-9	42	51.6	8.9	5.8*
10-19	44	47.6	20.8	2.3*
20-29	74	106.3	41.7	2.5*
30-39	66	117.7	35.1	3.4*
40-49	78	127.4	43.3	2.9*
50-59	40	96.2	36.6	2.6*
60-69	14	64.1	36.4	1.8
70+	33	173.0	124.8	1.4
Total	391	96.0	39.3	2.4*

** significant difference, p<.05*

[a] Rates available for 2004 and 2005 only

Suicide Rates per 100,000 by Age Group and Gender, Alaska Natives, 2004-2007

	MALE				FEMALE			
Age Group	# Deaths	Rate per 100,000	U.S. Whites Rate[a]	Alaska Natives vs U.S. Whites Rate Ratio	# Deaths	Rate per 100,000	U.S. Whites Rate[a]	Alaska Natives vs U.S. Whites Rate Ratio
0-9	<3	-	-	-	0	-	-	-
10-19	33	69.7	7.6	9.2*	14	31.1	2.1	14.8*
20-29	55	152.8	21.2	7.2*	16	47.6	4.2	11.5*
30-39	21	74.9	23.1	3.2*	12	42.8	6.4	6.7*
40-49	28	92.8	27.7	3.4*	5	16.1	9.3	1.7
50-59	10	49.5	26.1	1.9	<3	-	-	-
60-69	3	28.1	23.2	1.2	<3	-	-	-
70+	<3	-	-	-	0	-	-	-
Total	152	68.2	19.7	3.5*	50	22.7	5.1	4.5*

Homicide Rates per 100,000 by Age Group and Gender, Alaska Natives, 2004-2007

	MALE				FEMALE			
Age Group	# Deaths	Rate per 100,000	U.S. Whites Rate[a]	Alaska Natives vs U.S. Whites Rate Ratio	# Deaths	Rate per 100,000	U.S. Whites Rate[a]	Alaska Natives vs U.S. Whites Rate Ratio
0-9	0	-	-	-	<3	-	-	-
10-19	9	19.0	4.6	4.1*	3	6.7	1.2	5.5*
20-29	3	8.3	12.2	0.7	4	11.9	2.9	4.0*
30-39	9	32.1	7.9	4.1*	<3	-	-	-
40-49	5	16.6	6.0	2.8	3	9.7	2.5	3.9
50-59	<3	-	-	-	<3	-	-	-
60-69	<3	-	-	-	0	-	-	-
70+	<3	-	-	-	<3	-	-	-
Total	30	13.5	5.6	2.4*	16	7.3	1.9	3.8*

** significant difference, p<.05*
[a] Rates for 2004 and 2005 only

Unintentional Injury Rates per 100,000 by Age Group and Gender, Alaska Natives, 2004-2007

	MALE				FEMALE			
Age Group	# Deaths	Rate per 100,000	U.S. Whites Rate[a]	Alaska Natives vs U.S. Whites Rate Ratio	# Deaths	Rate per 100,000	U.S. Whites Rate[a]	Alaska Natives vs U.S. Whites Rate Ratio
0-9	27	64.2	10.28	6.2*	15	38.2	7.5	5.1*
10-19	32	67.6	27.9	2.4*	12	26.6	13.4	2.0*
20-29	62	172.2	63.2	2.7*	12	35.7	18.8	1.9
30-39	42	149.7	50.4	3.0*	24	85.7	19.2	4.5*
40-49	53	175.6	60.9	2.9*	25	80.5	25.6	3.1*
50-59	32	158.3	52.2	3.0*	8	37.4	21.3	1.8
60-69	9	84.2	49.8	1.7	5	44.9	24.2	1.9
70+	21	256.4	146.6	1.7*	12	110.3	110.1	1.0
Total	278	124.8	53.1	2.4*	113	51.3	29.1	1.8*

** significant difference, p<.05*
[a] Rates for 2004 and 2005 only

Appendix F – Lifestyle Risk Factors

Lifestyle Risk Factors

Data Source: Alaska BRFSS

Current Smokers, Alaska Natives, 2005-2007			
	Percent	Lower CI	Upper CI
Total	40.7%	38.0%	43.5%
Male	45.7%	41.5%	50.0%
Female	35.6%	32.4%	38.9%
By Age Group			
18-24	49.5%	40.9%	58.1%
25-34	48.2%	42.6%	53.8%
35-44	39.9%	35.0%	45.1%
45-64	37.9%	33.9%	42.0%
65+	17.1%	11.2%	25.1%
By Year			
1991-92	47.6%	41.8%	53.4%
1993-95	40.4%	35.9%	45.0%
1996-98	42.6%	38.3%	47.1%
1999-01	42.6%	38.7%	46.5%
2002-04	44.3%	41.0%	47.7%
2005-07	40.7%	38.0%	43.5%

Smokeless Tobacco Use, Alaska Natives, 2005-2007			
	Percent	Lower CI	Upper CI
Total	10.5%	9.2%	12.0%
Male	14.3%	12.0%	16.9%
Female	6.6%	5.4%	8.1%
By Age Group			
18-24	9.5%	6.3%	14.1%
25-34	12.4%	9.4%	16.2%
35-44	15.8%	12.8%	19.3%
45-64	8.3%	6.3%	10.9%
65+	3.4%	1.8%	6.3%
By Year			
1991-92	9.4%	7.2%	12.2%
1993-95	13.4%	10.8%	16.5%
1996-98	12.5%	9.9%	15.5%
1999-01	14.1%	11.7%	16.8%
2002-04	10.1%	7.6%	13.3%
2005-07	10.4%	9.1%	12.0%

Obesity (30+ BMI), Alaska Natives, 2005-2007

	Percent	Lower CI	Upper CI
Total	31.1%	28.6%	33.6%
Male	26.3%	23.2%	29.7%
Female	36.1%	32.7%	39.7%
By Age Group			
18-24	12.7%	8.2%	19.1%
25-34	33.0%	27.9%	38.6%
35-44	33.9%	29.2%	39.0%
45-64	38.0%	33.9%	42.4%
65+	37.6%	31.1%	44.7%
By Year			
1991-92	18.3%	14.3%	23.2%
1993-95	17.1%	14.2%	20.3%
1996-98	24.7%	21.2%	28.6%
1999-01	27.9%	24.7%	31.5%
2002-04	26.2%	23.4%	29.2%
2005-07	29.8%	27.5%	32.2%

Overweight (BMI between 25-29), Alaska Natives, 2005-2007

	Percent	Lower CI	Upper CI
Total	38.1%	35.3%	40.9%
Male	45.8%	41.5%	50.1%
Female	29.8%	26.9%	33.0%
By Age Group			
18-24	41.9%	33.3%	51.0%
25-34	37.9%	32.4%	43.7%
35-44	42.6%	37.2%	48.1%
45-64	34.7%	30.7%	38.8%
65+	30.8%	24.8%	37.5%
By Year			
1991-92	32.1%	27.4%	37.2%
1993-95	37.0%	32.4%	41.8%
1996-98	37.7%	33.5%	42.0%
1999-01	36.9%	33.3%	40.6%
2002-04	36.5%	33.3%	39.8%
2005-07	36.5%	33.9%	39.3%

Meets Moderate or Vigorous Physical Activity Recommendations, Alaska Natives, 2005-2007

	Percent	Lower CI	Upper CI
Total	55.4%	50.2%	60.4%
Male	62.8%	55.2%	69.7%
Female	47.8%	41.3%	54.3%
By Age Group			
18-24	66.2%	50.2%	79.1%
25-34	61.3%	51.0%	70.7%
35-44	51.0%	41.7%	60.2%
45-64	48.8%	40.9%	56.7%
65+	47.5%	35.3%	60.0%
By Year			
2001-03	51.1%	46.7%	55.6%
2004	52.6%	45.8%	59.4%
2005-07	55.4%	50.2%	60.4%

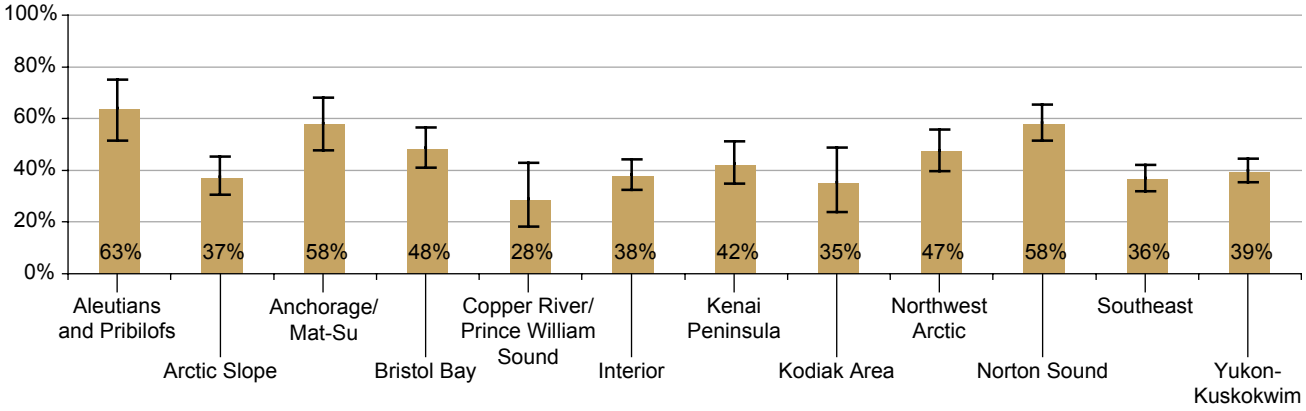
Binge Drinking, Alaska Natives, 2005-2007

	Percent	Lower CI	Upper CI
Total	18.1%	15.3%	21.2%
Male	22.7%	18.2%	28.0%
Female	13.8%	10.7%	17.5%
By Age Group			
18-24	22.1%	13.5%	34.0%
25-34	24.8%	18.9%	32.0%
35-44	21.2%	16.2%	27.1%
45-64	13.7%	10.0%	18.6%
65+	4.0%	2.0%	8.1%
By Year			
1991-92	30.1%	24.9%	35.8%
1993-95	28.5%	23.9%	33.5%
1996-98	20.6%	17.5%	24.2%
1999-01	24.5%	21.0%	28.4%
2002-04	19.9%	17.3%	22.7%
2005-07	18.1%	15.3%	21.2%

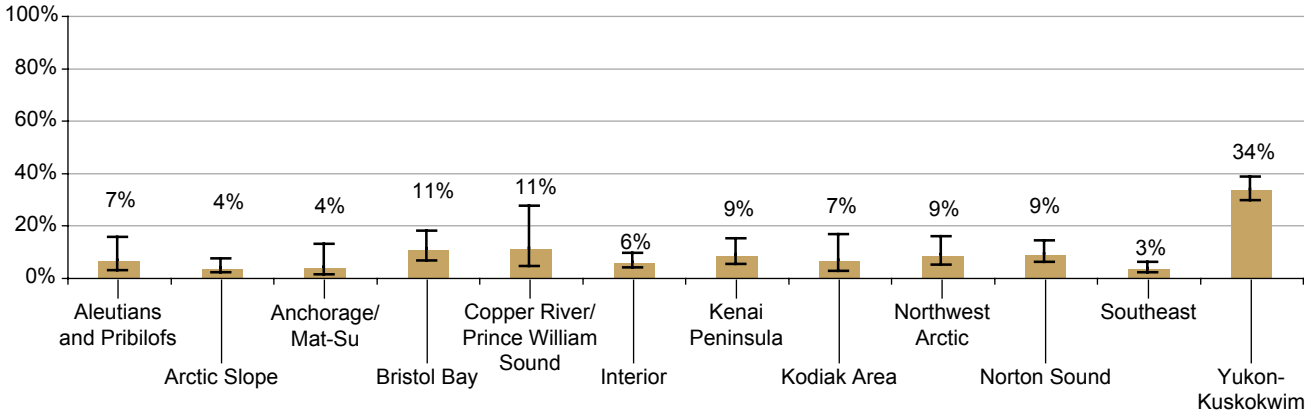
Appendix G – Lifestyle Risk Factors by Region

Data Source: Alaska BRFSS

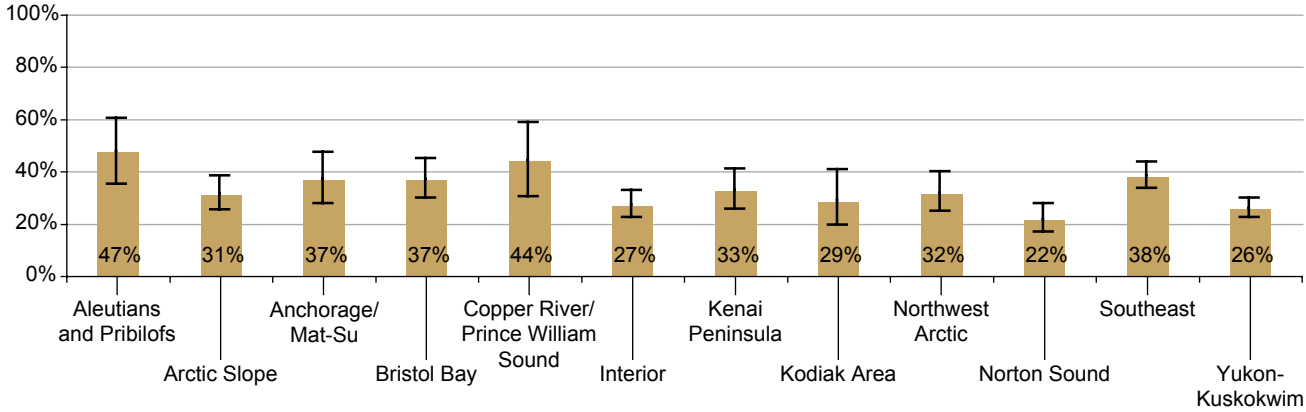
Current Smokers by Region, Alaska Natives, 2005-2007



Current Smokeless Tobacco Use by Region, Alaska Natives, 2005-2007

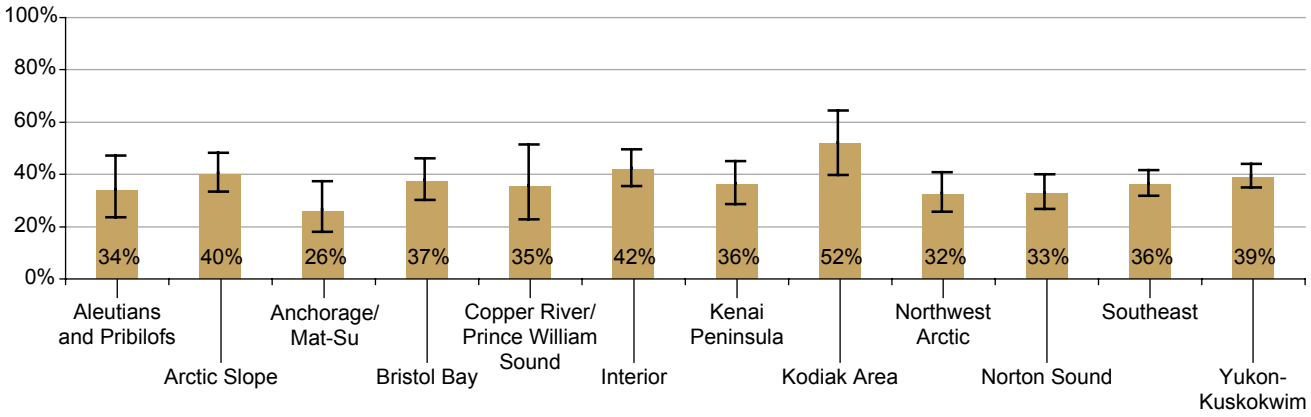


Obesity (30+ BMI) by Region, Alaska Natives, 2005-2007

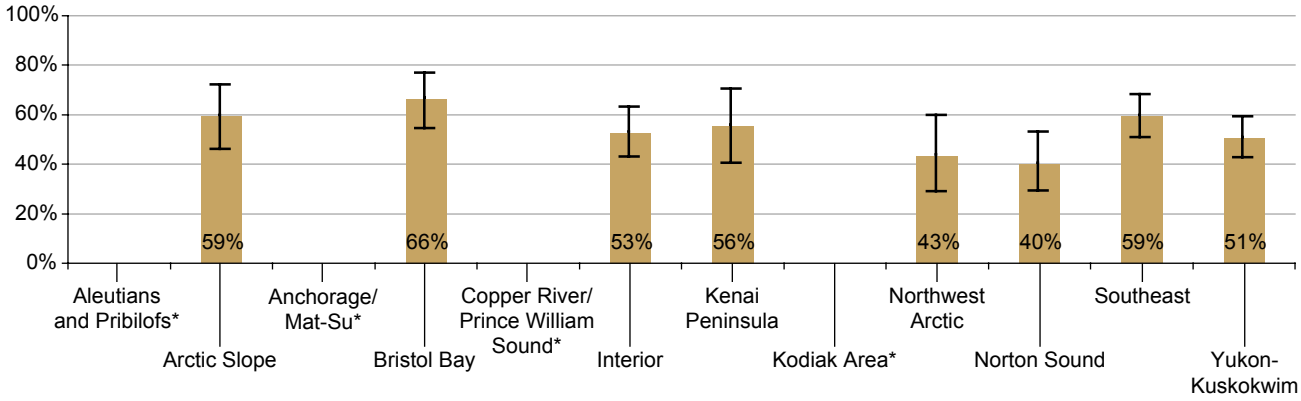


I indicates a 95% confidence interval

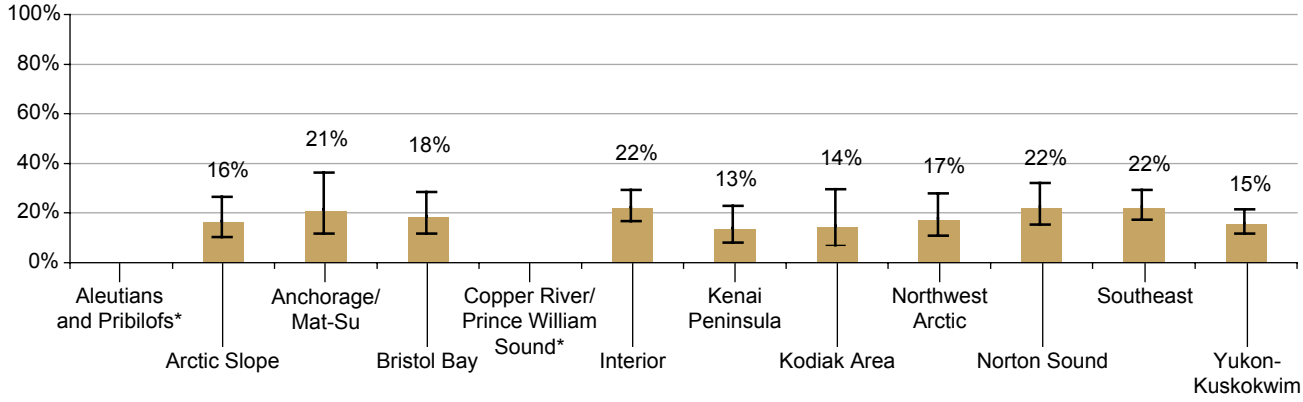
Overweight (25-29 BMI) by Region, Alaska Natives, 2005-2007



Meets Moderate or Vigorous Physical Activity Recommendations, Alaska Natives, 2005-2007



Binge Drinking, Alaska Natives, 2005-2007



I indicates a 95% confidence interval

* no rate calculated, fewer than 50 respondents

Appendix H – Maternal and Child Health

Average Annual Infant Mortality Rates per 1,000 live births, 1980-2007

Alaska Data Source: AK Bureau of Vital Statistics
U.S. Infant Mortality Data Source: SEER
U.S. Neonatal and Post-neonatal infant mortality Data Source: National Center for Health Statistics

	Infant Mortality (Birth to 1 year)					
	1980-1983	1984-1988	1989-1993	1994-1998	1999-2003	2004-2007
U.S. Whites	10.4	9.0	7.6	6.4	5.9	5.8
Alaska Whites[a]	8.7	8.1	6.3	5.2	4.9	4.4
Alaska Natives[b]	17.2	14.4	13.0	10.2	8.8	9.0

	Neonatal Mortality (Birth to 28 days)					
	1980-1983	1984-1988	1989-1993	1994-1998	1999-2003	2004-2007
U.S. Whites	6.9	5.7	4.6	4.0	3.9	3.8
Alaska Whites[a]	5.0	4.3	3.3	2.8	2.7	2.3
Alaska Natives[b]	8.4	6.8	5.0	4.8	3.4	3.6
Healthy People 2010 Goal	2.9	2.9	2.9	2.9	2.9	2.9

	Post-Neonatal Mortality (29 days to 1 year)					
	1980-1983	1984-1988	1989-1993	1994-1998	1999-2003	2004-2007
U.S. Whites	3.3	3.1	2.7	2.2	1.9	1.9
Alaska Whites[a]	3.7	3.8	3.0	2.4	2.2	2.0
Alaska Natives[b]	8.8	7.5	8.0	5.4	5.5	5.4
Healthy People 2010 Goal	1.2	1.2	1.2	1.2	1.2	1.2

[a] *Includes infants who had a white mother and did not have an Alaska Native father.*

[b] *Includes infants who have either an Alaska Native mother or father.*

Note: U.S. White infant mortality data comes from 2 sources, causing slight variability between the infant mortality rate and the sum of the neonatal and postneonatal mortailty rates.

Maternal and Child Health Measures, Alaska Natives and Alaska Whites, 1996-2007

	Smoking	
	Alaska Natives	Alaska Whites
1996	36.9%	15.6%
1997	34.5%	14.6%
1998	33.0%	14.1%
1999	32.2%	13.3%
2000	32.1%	14.1%
2001	30.7%	12.8%
2002	32.7%	13.1%
2003	31.0%	12.4%
2004	29.2%	11.2%
2005	29.6%	10.9%
2006	28.3%*	11.2%
2007	30.2%*	10.3%

	Smokeless Tobacco	
	Alaska Natives	Alaska Whites
1996	15.0%	0.08%
1997	15.4%	0.05%
1998	14.1%	0.05%
1999	14.2%	0.05%
2000	13.9%	0.07%
2001	13.7%	0.12%
2002	12.7%	0.10%
2003	13.0%	0.22%
2004	12.1%	0.07%
2005	11.4%	0.05%
2006	10.6%*	0.05%
2007	10.4%*	0.06%

	Alcohol Use	
	Alaska Natives	Alaska Whites
1996	9.8%	2.6%
1997	8.1%	2.2%
1998	8.4%	2.0%
1999	7.2%	2.2%
2000	5.6%	1.7%
2001	5.4%	1.6%
2002	5.2%	1.5%
2003	4.0%	1.5%
2004	3.6%	1.3%
2005	3.3%	1.8%
2006	2.8%*	2.3%
2007	3.5%*	2.2%

	Adequate Prenatal Care	
	Alaska Natives	Alaska Whites
1996	58.6%	76.5%
1997	55.6%	75.7%
1998	54.7%	76.5%
1999	51.4%	75.7%
2000	54.0%	77.3%
2001	53.5%	77.0%
2002	49.2%	76.5%
2003	51.6%	75.1%
2004	45.8%	76.0%
2005	50.1%	75.1%
2006	47.9%*	73.8%
2007	43.8%*	73.0%

	Low Birthweight	
	Alaska Natives	Alaska Whites
1996	5.5%	4.8%
1997	5.5%	5.4%
1998	5.8%	5.4%
1999	5.5%	5.3%
2000	5.4%	4.7%
2001	5.6%	5.1%
2002	5.7%	5.0%
2003	5.8%	5.5%
2004	5.9%	5.5%
2005	5.2%	5.5%
2006	4.9%	5.8%
2007	4.9%	5.6%

** significant difference from Alaska Whites, p<.05*

Note: Significance testing only calculated for 2006 & 2007

Appendix I – Leading Cause of Death Codes by Category

Leading Cause of Death Codes by Category

Data Source: National Center for Health Statistics

Cause of Death Category	ICD-9 Codes	ICD-10 Codes
Cancer	140-208	C00-C97
Diabetes Mellitus	250	E10-E14
Heart Disease	390-429	I00-I51
Cerebrovascular Diseases	430-434, 436-438	I60-I69
Pneumonia & Influenza	480-487	J10-J18
Chronic Obstructive Pulmonary Disease	490-494, 496	J40-J47
Chronic Liver Disease	571	K70, K73-K74
Unintentional Injury	E800-E929	V, W, X00-X59, Y85, Y86
Suicide	E950-E959	X60-84, Y87.0, U03
Homicide	E960-E979, E999	X85-Y09, U01, U02, Y22-Y24, Y35, Y87.1, Y89.0