

Regional Health Profile for Yukon-Kuskokwim Health Corporation



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Cover map used with permission from the Alaska Area Office.

Introduction

The Alaska Native Epidemiology Center (EpiCenter) developed the Regional Health Profiles to provide an overview of the health status of Alaska Natives for each of the service areas of Alaska's Tribal Health Organizations. We hope this information will be useful as a baseline for grant proposals and in the implementation and evaluation of prevention programs.

The Regional Health Profile is divided into basic demographic information, mortality statistics and three sections that mirror that of Healthy Alaskans 2010.

- Demographics
- Mortality and Morbidity
- Health Promotion
- Health Protection
- Preventive Services and Access to Health Care

Each section has subsections about specific topics. We provided the most up-to-date data available on each topic at the time of the development of the profile.

Technical Notes

Data Sources

Multiple data sources were utilized to develop the community health profile. The data sources used for each of the indicators is identified in Table 1 on page 5. Listed below are the data sources used to access regional level data for the profile:

- 1) National Patient Information Reporting System (NPIRS)
- 2) State of Alaska Department of Labor (AK DOL)
- 3) 1990 and 2000 U.S. Census
- 4) Alaska Bureau of Vital Statistics (ABVS)
- 5) Behavioral Risk Factor Surveillance System (BRFSS)
- 6) Youth Risk Behavior Survey (YRBS)
- 7) Alaska Trauma Registry (ATR)
- 8) ANTHC Immunization Registry
- 9) Alaska Area Diabetes Program
- 10) ANTHC Department of Environmental Health and Engineering (ANTHC DEHE)
- 11) Government Performance and Results Act (GPRA)

A general description of the major data sources is included in Appendix D.

Analyses

Much of the information presented in this document was previously analyzed and has been reproduced for this report. Table 1 shows by whom data was analyzed for each indicator. Previously analyzed data is identified in Table 1 as being analyzed by the 'data source'. The Alaska Native Epidemiology Center and the ANTHC Injury Prevention Program also provided data analysis for this report. A description of the methods used in these analyses is listed below.

Technical Notes

Behavioral Risk Factor Surveillance System (BRFSS)

For this report, the results of BRFSS respondents from the YKHC service area were analyzed in order to give an estimate of several behavioral measures on the regional level. We followed CDC recommendations that data should not be reported where the unweighted sample size for the denominator is smaller than 50. In order to achieve a minimum sample size of 50, multiple years of respondent data were combined for analysis. For this reason, indicators reported include several years of data. Every year, the BRFSS survey contains slightly varied questions depending on the health topics that are of interest that particular year. Due to this variation, years presented in this report may vary between indicators. Data was analyzed in SAS Version 9.

Although these estimates can be useful for planning or evaluation purposes, the number of respondents from the region is relatively small therefore readers should use caution in the interpretation of these estimates. Confidence intervals were not calculated for these estimates. For this reason, differences in estimates between populations, age groups, sexes, and over time in this report cannot be said to be statistically significant.

BRFSS data is not age-adjusted to account for the different age distributions between populations. Since Alaska's population as a whole is younger than the U.S. Population as a whole, comparisons between these populations should be interpreted with caution.

Alaska Bureau of Vital Statistics

Mortality Data for YKHC Alaska Natives and Alaska Natives statewide included in this report was analyzed by the Alaska Native Epidemiology Center. Deaths cover the years 1999-2003 with the exception of Table 17. Leading Causes of Unintentional Injury Death, which covers the years 1999-2005. Rates are age adjusted to the US Standard population. We only calculated rates for those causes that had at least five deaths during the interval studied. Data for US Whites was available through the National Cancer Institute's Surveillance Epidemiology and End Results (SEER) Program. We created rate ratios to compare YKHC Alaska Natives (YKHC AN) to US Whites and calculated confidence intervals around these ratios. YKHC AN Rates were said to be statistically different if the 95% confidence interval did not contain one. The on-line SEERStat software was used to calculate mortality rates.

Geographical Definition

In this profile, Yukon-Kuskokwim Health Corporation (YKHC) service area has been geographically defined as one of the following, depending on the data source:

- Bethel and Wade Hampton Census Areas combined or separately: This definition fits the YKHC service area with the following exceptions: Goodnews Bay and Platinum are included but are not part of the YKHC service area; Grayling, Anvik, Shageluk or Holy Cross are not included but are part of the YKHC service area; a map of the Bethel and Wade Hampton Census areas is presented on page 3.
- Yukon-Kuskokwim Delta Service Unit: Indian Health Service designation which fits YKHC service area
- YKHC's service area

Table 1 identifies which geographical boundary was used for each of the indicators.

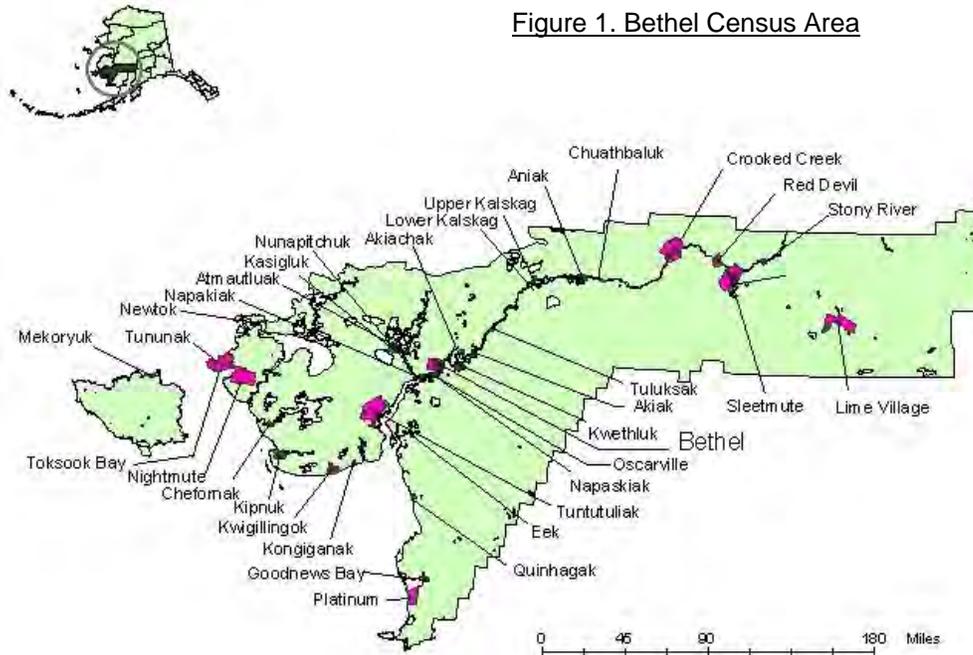


Figure 1. Bethel Census Area

Data Source: Alaska Department of Labor and Workforce Development, Research and Analysis and US Census Bureau, 2000 Tigerline Files

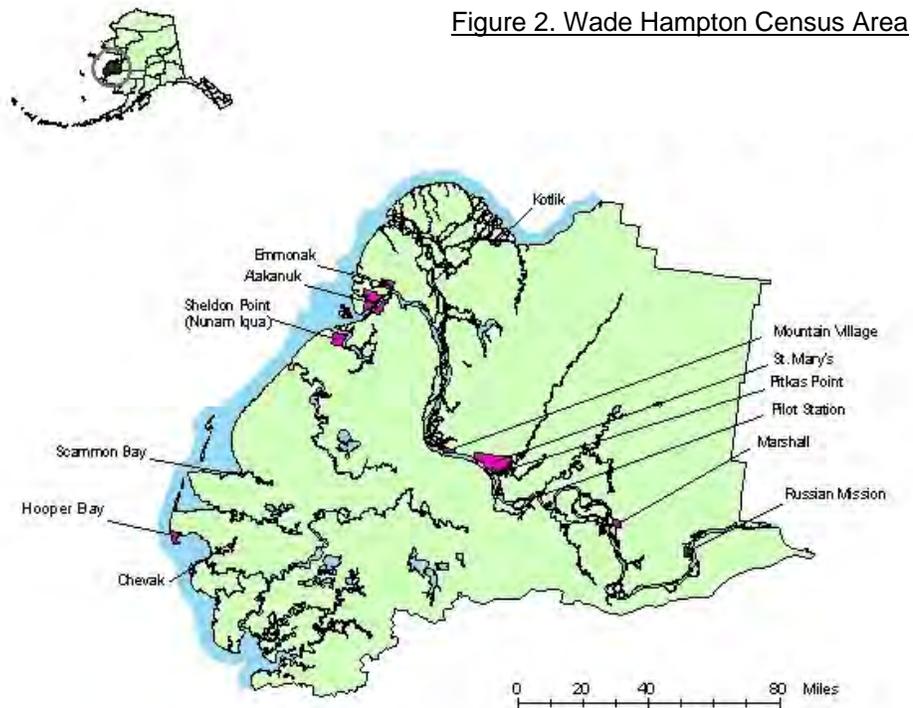


Figure 2. Wade Hampton Census Area

Data Source: Alaska Department of Labor and Workforce Development, Research and Analysis and US Census Bureau, 2000 Tigerline Files

Race Classification

The way that Alaska Native is classified varies by data source.

BRFSS: Alaska Natives were those respondents who identified themselves as American Indian, Alaska Native, alone or in combination with any other race.

Alaska Bureau of Vital Statistics: For mortality rates, Alaska Natives are those who were identified as American Indian or Alaska Native on their death certificate. Infant death certificates are matched with the birth certificate to ensure race is classified the same as on the birth certificate. For birth statistics, the birth certificate is used to determine race status. In most cases, the child's race is determined by the mother's race.

YRBS: Alaska Natives were those respondents who identified themselves as American Indian, Alaska Native, alone or in combination with any other race.

Where possible, data was presented for Alaska Natives only. However, the most current data for Employment Status, Poverty Status and Household Income includes all races. The population presented is listed for each indicator in Table 1.

Population Estimates for Rates Calculations

Mortality Rates: "Bridged" population estimates from the State of Alaska Department of Labor were used by the AN Epidemiology Center to calculate mortality rates. Bridged estimates were necessary to adjust for the new option in the Census 2000 to identify as multiple races, rather than one race.

Injury Hospitalization Rates: "Bridged" population estimates from the State of Alaska Department of Labor were used by ANTHC Injury Prevention to calculate injury hospitalization rates. These rates are not age-adjusted.

Table 1. Technical Notes by Indicator

Indicator	Data Source	Analyses Conducted by:	Geographical Definition	Population	Years Presented
Demographics					
I.H.S. User Population	NPIRS	Data Source	Yukon Kuskokw im Delta Service Unit	Alaska Natives	FY 2004
Census Counts by Community	I.H.S., AK Area	Data Source	Yukon Kuskokw im Delta Service Unit	Alaska Natives	2000
2004 Population Estimates	AK DOL	Data Source	Bethel/Wade Hampton Census Areas combined	Alaska Natives	2004
Educational Attainment	2000 U.S. Census	Data Source	Bethel/Wade Hampton Census Areas combined	Alaska Natives	2000
Employment Status	AK DOL	Data Source	Bethel and Wade Hampton Census Areas separately	All Races	Sep-06
Poverty Status and Household Income	2000 U.S. Census	SAIPE	Bethel and Wade Hampton Census Areas separately	All Races	2003
Mortality and Morbidity					
Mortality	ABVS	AN Epidemiology Center	Yukon Kuskokw im Delta Service Unit	Alaska Natives	1999-2003
Hospital Discharges, Inpatient Days	NPIRS	Data Source	Yukon Kuskokw im Delta Service Unit	Alaska Natives	2005
Health Promotion					
Adult Behavior Data– Tobacco Use, Physical Activity, Obesity, Substance Abuse, Overw eight	GPRA, BRFSS	GPRA, AN Epidemiology Center	Yukon Kuskokw im Delta Service Unit	Alaska Natives	Varies by Indicator
Adolescent Behavior Data–Overw eight, Tobacco Use, Substance Abuse, Vigorous Physical Activity	YRBS	Data Source	State of Alaska	Alaska Natives	1995, 2003
Health Protection					
Injury Hospitalizations	AK Trauma Registry	ANTHC IP	Bethel/Wade Hampton Census Areas combined	Alaska Natives	1991-2003
Injury Deaths	ABVS	AN Epidemiology Center	Bethel/Wade Hampton Census Areas combined	Alaska Natives	1999-2005
Preventive Services and Access to Health Care					
Cancer Screenings– Colorectal Cancer, Cervical Cancer, Breast Cancer, Overw eight	GPRA, BRFSS	AN Epidemiology Center	Yukon Kuskokw im Delta Service Unit	Alaska Natives	Varies by Indicator
Immunizations	ANTHC Immunization Registry	Data Source	YKHC Service Area	I.H.S. User Population	Varies by Indicator
Diabetes	Alaska Area Diabetes Program	Data Source	Yukon Kuskokw im Delta Service Unit	Alaska Natives	2004
Maternal, Infant and Child Health and Family Planning	ABVS	Data Source	Bethel/Wade Hampton Census Areas	Alaska Natives	2000-2004
Environmental Health	ANTHC DEHE	Data Source	Yukon Kuskokw im Delta Service Unit	N/A	2001
Sexually Transmitted Diseases	AK Division of Epidemiology	Data Source, AN Epidemiology Center	Yukon Kuskokw im Delta Service Unit	Alaska Natives	2005

NPIRS- National Patient Information Reporting System

AKDOL- Alaska Department of Labor

ABVS- Alaska Bureau of Vital Statistics

BRFSS- Behavioral Risk Factor Surveillance System

YRBS- Youth Risk Behavior Survey

Glossary of Terms

HP Goal– Healthy People 2010 objectives that are targeted to be achieved by the year 2010.

Age-Adjusted (direct method)– The application of age-specific rates in a population of interest to a standardized age distribution in order to eliminate differences in observed rates that result from age differences in population composition. This adjustment is usually done when comparing two or more populations at one point in time or one population at two or more points in time.

Birthweight– Weight of fetus or infant at time of delivery (recorded in pounds and ounces, or grams)

Body Mass Index- Anthropometric measure, defined as weight in kilograms divided by the square of height in meters. This measure correlates closely with body density and skin fold thickness.

Crude rate– An estimate of the proportion of a population that experiences the event of interest (e.g. assault hospitalization rate) during a specified period. It is calculated by dividing the number of observations by the appropriate population multiplied by 100,000 (or other appropriate multiplier). When interpreting crude rates, bear in mind that rates may be affected by differences in the population structures between areas. For example, if high numbers of older people were living in an area, this alone would result in higher crude death rates for many causes.

Infant Mortality Rate– A rate based on period files calculated by dividing the number of infant deaths during a calendar year by the number of live births reported in the same year. It is expressed as the number of infant deaths per 1,000 live births.

The International Classification of Diseases (ICD Code)– A system designed for the classification of morbidity and mortality information for statistical purposes, and for the indexing of hospital records by disease and operations, for data storage and retrieval. The ICD is developed collaboratively between the World Health Organization (WHO) and international centers.

Mortality Rate- An estimate of the proportion of a population that dies during a specified period. It is calculated by dividing the number of observations by the appropriate population multiplied by 100,000 (or other appropriate multiplier). This is also referred to as death rate.

Prevalence– The number of events, e.g., instances of a given disease or other condition, in a given population at a designated time.

Service Unit– The local administrative unit of the Indian Health Service.

Weighted percent– Percent resulting after responses of person in various subgroups (re.g. region, age, sex) are adjusted to compensate for the over-representation or under-representation of these persons in a sample. In the BRFSS data set, factors that are adjusted include: the number of telephones per household, the number of adults in a household, the geographic distribution of the sample, and the demographic distribution of the sample.

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Regional Health Profile Overview

			ALASKA				U.S.
Indicator	Alaska Data Source	Healthy Alaskans Objective	YKHC AN	All AK Native	AK Non-Native	AK, All Races	U.S. White
Reduce the overall cancer death rate (deaths/year per 100,000 pop., age-adjusted)	AN EpiCenter ₁	159.9	258.9 ₁ (1999-2003)	245.4 ₁ (1999-2003)	N/A	195.3 ₉ (1999-2003)	193.5 ₁ (2000-2003)
Reduce deaths due to disease of the heart (deaths/year per 100,000 pop., age-adjusted)	AN EpiCenter ₁	CHD: 120 stroke: 48	216.0 ₁ (1999-2003)	210.4 ₁ (1999-2003)	N/A	187.2 ₆ (2000-2004)	243.6 ₁ (1999-2003)
Reduce unintentional injury death rate (deaths/year per 100,000 pop., age-adjusted)	AN EpiCenter ₁	17.5	119.6 ₁ (1999-2003)	109.0 ₁ (1999-2003)	AK White: 51.7 ₄ (1999-2003)	59.2 ₄ (1999-2003)	36.4 ₁ (1999-2003)
Reduce the Suicide Rate (deaths/year per 100,000 pop., age-adjusted)	AN EpiCenter ₁	5	44.5 ₁ (1999-2003)	36.1 ₁ (1999-2003)	AK White: 16.7 ₄ (1999-2003)	18.6 ₄ (1999-2003)	11.6 ₁ (1999-2003)
Reduce deaths from homicides (deaths/year per 100,000 pop., age-adjusted)	AN EpiCenter ₁	3	19.6 ₁ (1999-2003)	17.7 ₁ (1999-2003)	AK White: 4.2 ₄ (1999-2003)	6.5 ₄ (1999-2003)	3.9 ₁ (1999-2003)
Health Promotion							
Tobacco Use							
Reduce the percentage of adults w ho smoke cigarettes (smoked more than 100 cigarettes in lifetime and smoked w ithin the last month)	BRFSS ₂ , GPRA	14%	BRFSS: 34% ₂ (2002-2004)	BRFSS: 45% ₂ (2005)	BRFSS: 21% ₂ (2005)	BRFSS: 25% ₂ (2005)	BRFSS: 20.4% ₂ (2005)
Reduce the percentage of adults w ho use smokeless tobacco	BRFSS ₂	3%	38% ₂ (2002)	10% ₂ (2005)	4% ₂ (2005)	5% ₂ (2005)	N/A
Reduce cigarette smoking by adolescents (smoked in the last 30 days)	YRBS ₃	17%	N/A	44.2% ₃ (2003)	12.3% ₃ (2003)	19.3% ₃ (2003)	25.9% ₃ (2005)
Physical Activity							
Increase the proportion of adults w ho engage in regular, preferably daily, moderate physical activity	BRFSS ₂	40%	51% ₂ (2003)	25% ₂ (2005)	22% ₂ (2005)	23% ₂ (2005)	51.1% ₂ (2005)
Increase the proportion of adolescents w ho engage in vigorous physical activity	YRBS ₃	85%	N/A	56.0% ₃ (2003)	71.3% ₃ (2003)	67.8% ₃ (2003)	65.5% ₃ (2005)
Overweight and Obesity							
Reduce the proportion of adults w ho are obese (BMI greater than or equal to 30)	BRFSS ₂ , GPRA	18%	BRFSS: 25% ₂ (2000-2004)	BRFSS: 31% ₂ (2005)	BRFSS: 24% ₂ (2005)	BRFSS: 27% ₂ (2005)	BRFSS: 23.5% ₂ (2005)
Reduce the proportion of adolescents w ho are overw eight (BMI greater than or equal to 95th percentile)	YRBS ₃ , GPRA	5%	GPRA: 31% (2006)	YRBS: 13.7% ₃ (2003)	YRBS: 10.2% ₃ (2003)	YRBS: 11% ₃ (2003)	YRBS: 11.8% ₃ (2005)
Substance Abuse							
Reduce binge drinking among adults (consumed 5 or more drinks on one occasion in the last 30 days)	BRFSS ₂	13%	12% ₂ (2000-2004)	21% ₂ (2005)	17% ₂ (2005)	18% ₂ (2005)	14.3% ₂ (2005)
Increase the proportion of adolescents not using the follow ing during the past 30 days: Alcohol	YRBS ₃	60%	N/A	37.6% ₃ (2003)	39.1% ₃ (2003)	38.8% ₃ (2003)	46.4% ₃ (2005)

* Infant Mortality Rate calculated with fewer than 20 deaths and should be interpreted with caution

- 1) AN Epi Center– Alaska Native Epidemiology Center
- 2) BRFSS– Behavioral Risk Factor Surveillance System
- 3) YRBS- Youth Risk Behavior Survey
- 4) CDC NCIPC– Center for Disease Control and Prevention, National Center for Injury Prevention and Control
- 5) ANTHC/DEHE– Alaska Native Tribal Health Consortium, Division of Environmental Health and Engineering
- 6) ABVS– Alaska Bureau of Vital Statistics
- 7) ANTHC Immunization Program
- 8) OANHR– Office of Alaska Native Health Research

- 9) National Cancer Institute, State Cancer Profiles
- 10) Alaska Native Tribal Health Consortium, Injury Prevention Program
- 11) Alaska Trauma Registry
- 12) National Center for Health Statistics
- 13) Alaska Department of Environmental Conservation
- 14) National Center for Health Statistics, National Immunization Survey
- 15) National Cancer Institute, Surveillance and End Results Program

Regional Health Profile Overview

			ALASKA				U.S.
Indicator	Alaska Data Source	Healthy Alaskans Objective	YKHC AN	All AK Native	AK Non-Native	AK, All Races	U.S. White
	Health Protection						
Injury Prevention							
Reduce hospitalizations due to nonfatal unintentional injuries per 100,000	ANTHC/Injury Prevention Program ₁₀	570	910 ₁₀ (1991-2001)	1010.8 ₁₀ (1991-2001)	N/A	635 ₁₁ (1998)	U.S. All Races: 410.7 ₁₂ (2004)
Environmental Quality							
Increase number of communities w ith access to safe water and proper sewage disposal	ANTHC/DEHE ₅	98%	served water: 61% served sewer: 60% (2001) ₅	N/A	N/A	88% ₁₃ (2000)	N/A
Preventive Services and Access to Care							
Maternal and Child Health							
Reduce Infant Death Rate (infant deaths w ithin 1 year of birth per 1,000 live births)	ABVS ₆	4.5	Bethel Census Area: *10.5 ₆ (1998-2002)	10.3 ₆ (1998-2004)	5.4 ₆ (1998-2004)	6.4 ₆ (2002-2004)	5.6 ₁₂ (2004)
Increase the proportion of pregnant w omen receiving adequate or better prenatal care (APNCU)	ABVS ₆	90%	25.8% ₆ (2002-2004)	49.5% ₆ (2002-2004)	White: 72.8% ₆ (2002-2004)	66.1% ₆ (2002-2004)	80.0% ₁₂ (2003)
Immunizations							
Increase the proportion of young children w ho have received all vaccines recommended for universal administration (% children 19 to 35 months w ho have received 4:3:1:3:3 series)	ANTHC Immunization Program ₇	90%	90% ₇ (as of June 2006)	86% ₇ (as of June 2006)	White: 72.0% ₁₄ (2004)	75.3% ₁₄ (2004)	83% ₁₄ (2004)
Increase the proportion of adults aged 65 years and older w ho are vaccinated annually against influenza	ANTHC Immunization Program ₇	90%	46% ₇ (as of June 2006)	55.9% ₇ (June 30, 2006)	White: 60.2% ₂ (2005)	61.1% ₂ (2005)	67.6% ₂ (2005)
Increase the proportion of adults aged 65 years and older w ho have ever been vaccinated against pneumococcal disease	ANTHC Immunization Program ₇	90%	91% ₇ (as of June 2006)	89.4% ₇ (June 30, 2006)	White: 61.3% ₂ (2005)	61.1% ₂ (2005)	67.6% ₂ (2005)
Cancer							
Increase the proportion of adults w ho receive colorectal screening examination (adults 50 years and older w ho have ever had a sigmoidoscopy or colonoscopy)	BRFSS ₂	64%	27% ₂ (2001-2004)	50% ₂ (2004)	51% ₂ (2004)	51% ₂ (2004)	54.4% ₂ (2004)
Increase the proportion of w omen aged 40 years and older w ho have received a mammogram w ithin the preceding 2 years	BRFSS ₂ , GPRA	76%	(2006) BRFSS: 67% (2002 & 2004)	BRFSS: 67% ₂ (2004)	BRFSS: 67% ₂ (2004)	BRFSS: 67% ₂ (2004)	BRFSS: 74.6% ₂ (2004)
Increase the proportion of w omen aged 18 years and older w ho have received a Pap test w ithin the preceding 3 years (w omen w ho have not had a hysterectomy)	BRFSS ₂ , GPRA	95%	GPRA: 8% (2006) BRFSS: 91% (2002 & 2004)	BRFSS: 90% ₂ (2004)	BRFSS: 88% ₂ (2004)	BRFSS: 89% ₂ (2004)	BRFSS: 86.4% ₂ (2004)
Reduce the overall cancer incidence rate per 100,000	OAHR ₈	N/A	407.6 ₁ (1989-2003)	509.1 ₃ (1996-2003)	White: 488.3 ₁₅ (1996-2003)	488.1 ₁₅ (1996-2003)	478.4 ₁₅ (2000-2003)
Sexually Transmitted Diseases							
Increase the proportion of sexually active high school students w ho use condoms	YRBS ₃	75%	N/A	68% ₃ (2003)	60% ₃ (2003)	62% ₃ (2003)	62.5% ₃ (2003)

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Demographic Information

2004 I.H.S. User Population

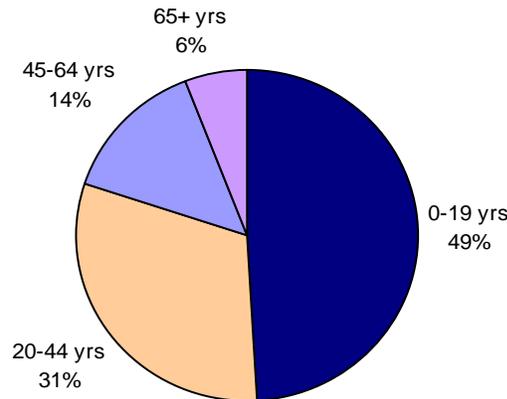
Definition: An I.H.S. user is defined as an eligible American Indian/Alaska Native (AI/AN) who used a health facility that reports to the I.H.S. national data system at least once in a three year period (see Appendix A). I.H.S. user population data are provided by fiscal year (FY) which runs from October 1 through September 30 of the following year.

Summary:

- In FY2004, 38% of the YKHC user population was under the age of 15.
- Close to six percent (5.7%) of the user population is over the age of 65.

Geographical definition: YKHC service area is defined as the Yukon-Kuskokwim Service Unit for Indian Health Service User data.

Figure 3. I.H.S. User Population by Age Group, Alaska Natives
YKHC Service Area, 2004



Data Source: Indian Health Service National Patient Information and Reporting System (NPIRS) ¹
Note: Age is determined from the end date of FY 2004.

Table 2 . I.H.S. User Population, Alaska Natives, by Sex and Age,
YKHC Service Area, FY2004

Age (Years)	Males		Females		Total	
	Number	%	Number	%	Number	%
Less than 1	339	1.5%	323	1.4%	662	2.8%
1 to 4	1,298	5.6%	1,234	5.3%	2,532	10.9%
5 to 9	1,528	6.6%	1,356	5.8%	2,884	12.4%
10 to 14	1,441	6.2%	1,419	6.1%	2,860	12.3%
15 to 19	1,302	5.6%	1,169	5.0%	2,471	10.6%
20 to 24	894	3.8%	909	3.9%	1,803	7.8%
25 to 34	1,353	5.8%	1,270	5.5%	2,623	11.3%
35 to 44	1,414	6.1%	1,325	5.7%	2,739	11.8%
45 to 54	1,098	4.7%	1,037	4.5%	2,135	9.2%
55 to 64	616	2.7%	589	2.5%	1,205	5.2%
65 +	630	2.7%	700	3.0%	1,330	5.7%
Unknown	0	0.0%	0	0.0%	0	0.0%
Total	11,913	51%	11,331	49%	23,244	100%

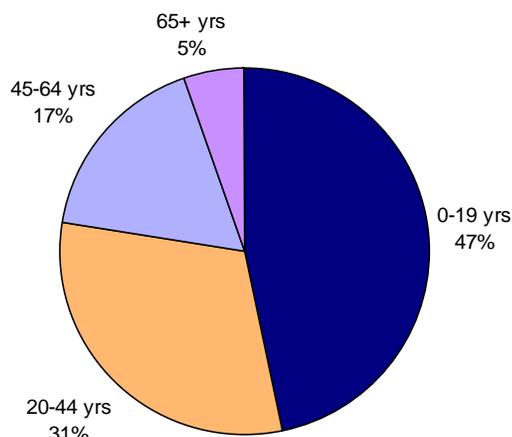
Data Source: Indian Health Service National Patient Information and Reporting System (NPIRS) ¹
Note: Age is determined from the end date of FY 2004.

2004 Population Estimates

Definition: 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>

Geographical Definition: YKHC service area is defined as the Bethel and Wade-Hampton Census Areas combined.

Figure 4. Population Distribution by Age Group, Alaska Natives
YKHC Service Area, 2004



Data source: Alaska Department of Labor and Workforce Development 2

Table 3. Population Estimates by Age Group, Alaska Natives
YKHC service area, 2004

Age (Years)	Total		Male		Female	
	Number	%	Number	%	Number	%
0-4	999	13.8%	1551	7.4%	1339	6.4%
5-9	2624	12.5%	1362	6.5%	1262	6.0%
10-14	2648	12.6%	1371	6.5%	1277	6.1%
15-19	2231	10.6%	1125	5.4%	1106	5.3%
20-24	1419	6.8%	698	3.3%	721	3.4%
25-29	1176	5.6%	586	2.8%	590	2.8%
30-34	1185	5.7%	600	2.9%	585	2.8%
35-39	1263	6.0%	658	3.1%	605	2.9%
40-44	1276	6.1%	691	3.3%	585	2.8%
45-49	1083	5.2%	552	2.6%	531	2.5%
50-54	798	3.8%	423	2.0%	375	1.8%
55-59	630	3.0%	330	1.6%	300	1.4%
60-64	525	2.5%	267	1.3%	258	1.2%
65+	1,217	5.8%	570	2.7%	647	3.1%
	20,965	100.0%	10,784	51.4%	10,181	48.6%

Data source: Alaska Department of Labor and Workforce Development 2

Table 4. Census Counts by YKHC Community, 1990 and 2000, Alaska Natives and Total Population

Community	Alaska Native Population, 2000 Census	AK Native as % of Total Population, 2000 Census	Total Population, 2000 Census	Alaska Native Population 1990 Census	Total Population 1990 Census	% Change, AK Native Pop. 1990-2000
Akiachak B*	564	96%	585	457	481	23%
Akiak B	294	95%	309	277	285	6%
Alakanuk WH**	638	98%	652	521	544	22%
Aniak B	419	73%	572	382	540	10%
Anvik YK***	94	90%	104	75	82	25%
Atmautluak B	282	96%	294	250	258	13%
Bethel B	3,719	68%	5,471	2,986	4,674	25%
Chefornak B	386	98%	394	312	320	24%
Chevak WH	734	96%	765	556	598	32%
Chuathbulak B	112	94%	119	87	97	29%
Crooked Creek B	128	93%	137	96	106	33%
Eek B	271	97%	280	243	254	12%
Emmonak WH	720	94%	767	591	642	22%
Grayling YK	178	92%	194	194	208	-8%
Holy Cross YK	219	96%	227	259	277	-15%
Hooper Bay WH	971	96%	1,014	811	845	20%
Kasigluk B	525	97%	543	405	425	30%
Kipnuk B	631	98%	644	458	470	38%
Kongiganak B	349	97%	359	286	294	22%
Kotlik WH	568	96%	591	447	461	27%
Kwethluk B	676	95%	713	538	558	26%
Kwigillingok B	331	98%	338	264	278	25%
Lime Village B	0	0%	6	40	42	-100%
Lower Kalskag B	255	96%	267	286	291	-11%
Marshall WH	341	98%	349	253	273	35%
Mekoryuk B	203	97%	210	176	177	15%
Mountain Village WH	706	94%	755	614	674	15%
Napaimute B	0	0%	0	3	3	-100%
Napakiak B	341	97%	353	300	318	14%
Napaskiak B	383	98%	390	311	328	23%
Newtok B	311	97%	321	193	207	61%
Nightmute B	197	95%	208	146	153	35%
Nunam Iqua (Sheldon Point) WH	154	94%	164	101	109	52%
Nunapitchuk B	447	96%	466	367	378	22%
Oscarville B	61	100%	61	52	57	17%
Pilot Station WH	537	98%	550	440	463	22%
Pitka's Point WH	117	94%	125	129	135	-9%
Quinhagak B	540	97%	555	470	501	15%
Red Devil B	25	52%	48	27	53	-7%
Russian Miss-Yuk WH	278	94%	296	233	246	19%
Saint Mary's WH	438	88%	500	366	441	20%
Scammon Bay WH	453	97%	465	331	343	37%
Shageluk YK	125	97%	129	132	139	-5%
Sleetmute B	89	89%	100	92	106	-3%
Stony River B	52	85%	61	45	51	16%
Toksook Bay B	519	98%	532	401	420	29%
Tuluksak B	403	94%	428	342	358	18%
Tuntutuliak B	366	99%	370	290	300	26%
Tununak B	315	97%	325	304	316	4%
Upper Kalskag B	208	90%	230	146	172	42%
*B= Bethel Census Area	**WH= Wade Hampton Census Area			***YK= Yukon Koyukuk Census Area		

Population Pyramid

Summary:

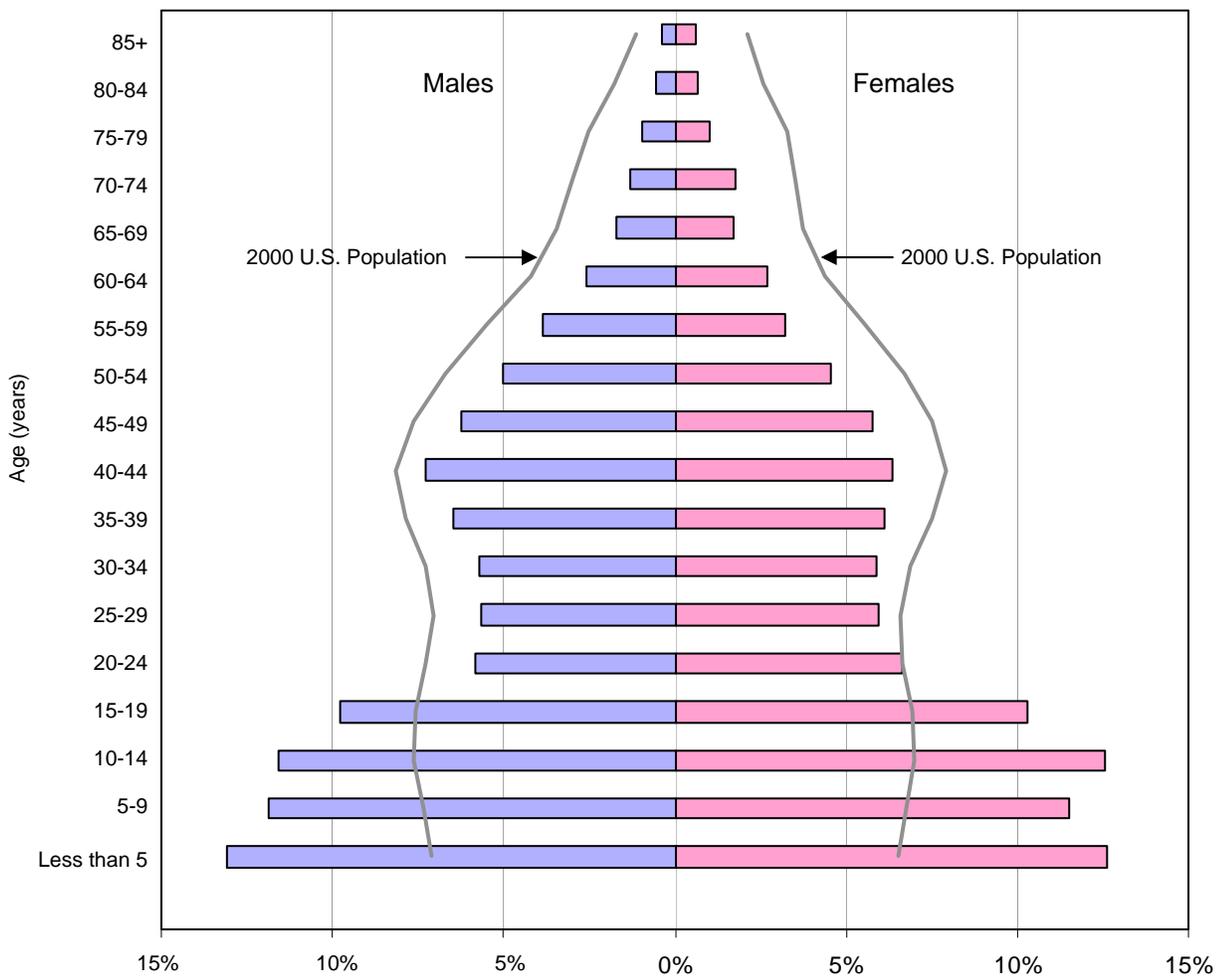
- As shown in Figure 2, a much larger proportion of the YKHC Alaska Native population is under the age of 20 as compared to the U.S. population.
- In 2004, males accounted for 51.4% of the population in the YKHC service area. Females accounted for 48.6% of the population.

Data Availability: Population estimates are available by state, race, borough or census area, place, and with modified age race (MARS) estimates, 1945-2005

For more information: For population estimates, go to the State of Alaska Department of Labor at <http://almis.labor.state.ak.us/>

Geographical Definition: YKHC service area is defined as the Bethel and Wade-Hampton Census Areas combined.

Figure 5. Population Pyramid, Alaska Natives, YKHC Service Area, 2004



Data source: Alaska Department of Labor and Workforce Development 2

Educational Attainment

Summary:

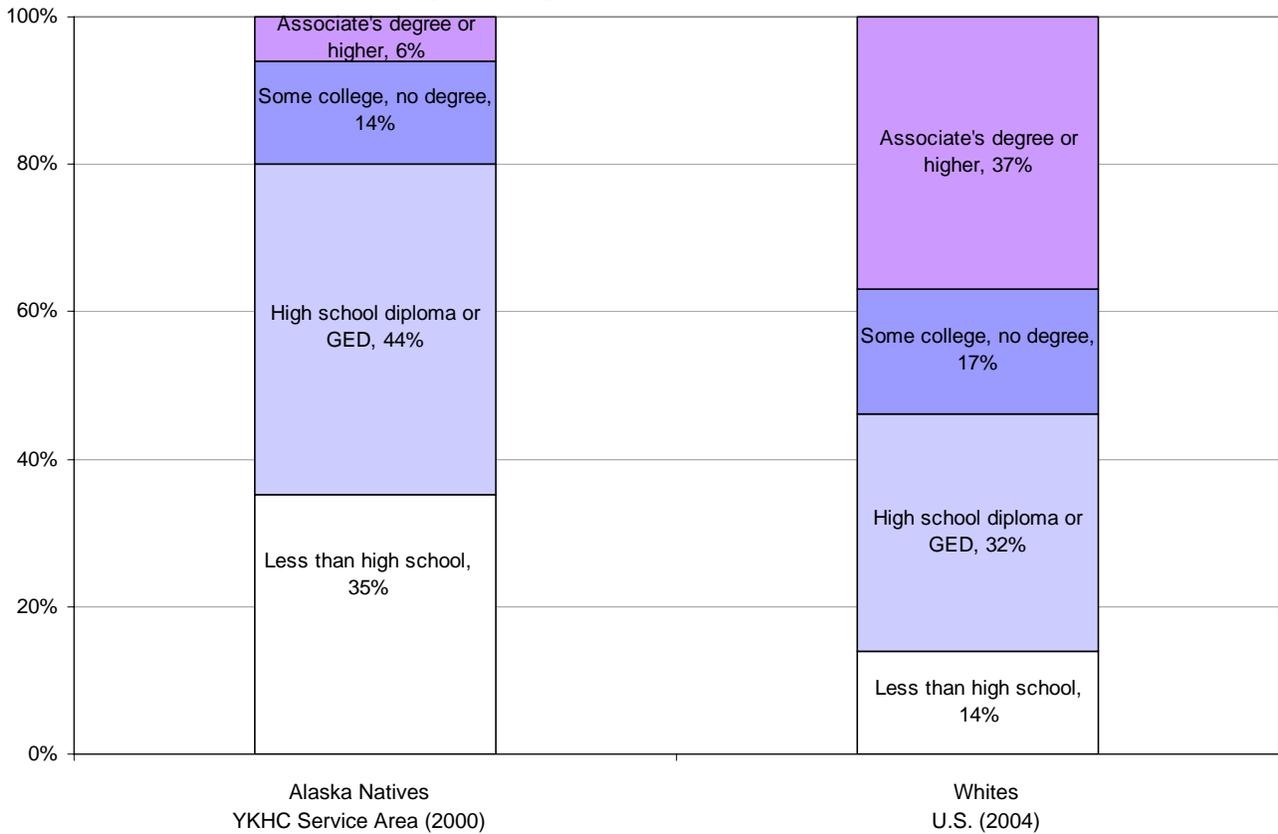
- Among Alaska Natives living in the YKHC service area in 2000, 6% had received an associate's degree or higher as compared to 37% of the U.S. White population.
- In 2000, 35% of Alaska Natives in the YKHC Service area reported having less than a high school diploma as compared to 14% of U.S. Whites.

Data availability: Data on the state level and census area/borough is available for census years (once every ten years). National level data is available through 2004 from the Current Population Survey

Geographical Definition: YKHC service area is defined as the Bethel and Wade-Hampton Census Areas combined.

For more information: Go to American Factfinder at <http://factfinder.census.gov/>

Figure 6. Highest Educational Attainment



Data Source: 2000 US Census 4, 19

Employment Status

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.

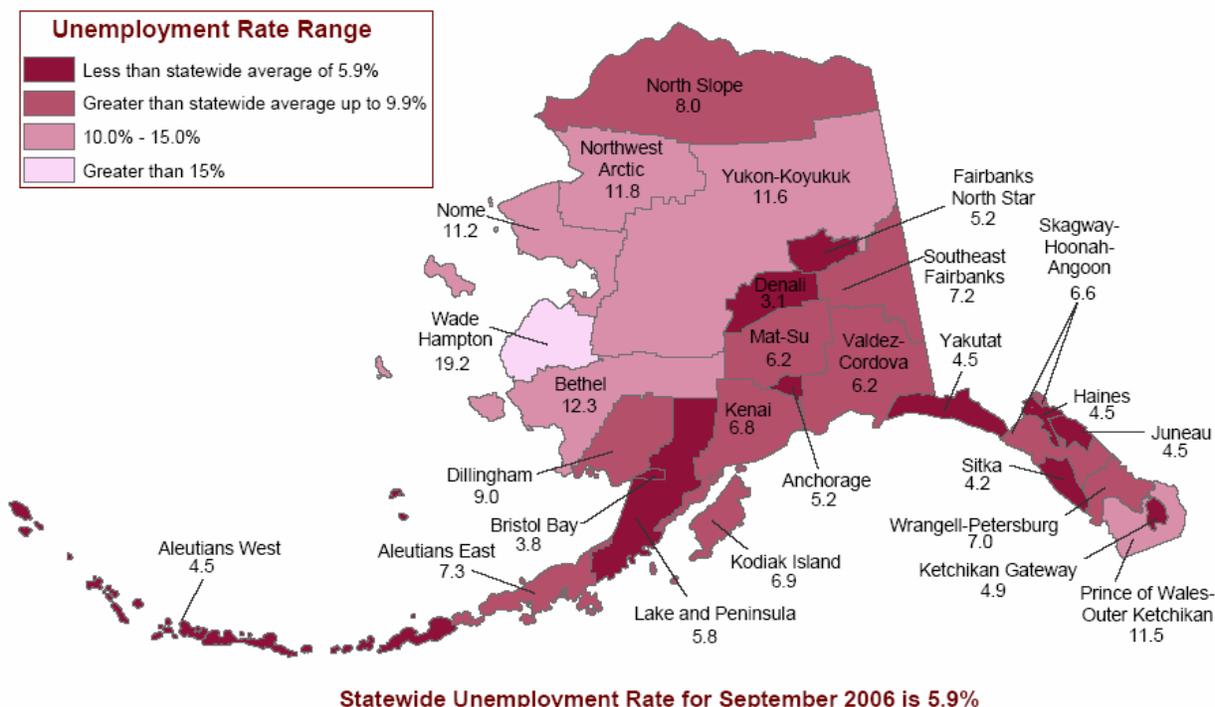
Summary:

- In September of 2006, the unemployment rate for Wade Hampton and Bethel Census areas was 19.2% and 12.3% respectively.
- The statewide unemployment rate of 5.9% was less than half of the unemployment rate in either census area.

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

For more information: Current employment statistics for boroughs and census areas in Alaska can be found at the Department of Labor and Workforce Development website at <http://almis.labor.state.ak.us/>

Figure 7. Unemployment Rate by Census Area, All Races, September 2006



Map provided by Alaska, Department of Labor and Workforce Development

Poverty Status

Definition: The U.S. Census defines poverty in a complex way that does not take into account the higher cost of living in Alaska. The Department of Health and Human Services (DHHS) adjusts poverty guidelines for entitlement programs such as Women, Infants and Children (WIC), and Temporary Assistance for Needy Families (TANF) for local factors. For a single person, the 1999 DHHS poverty level for Alaska for one person was \$10,320 and for a four-person household it was \$20,880 (Federal Register, 1999).

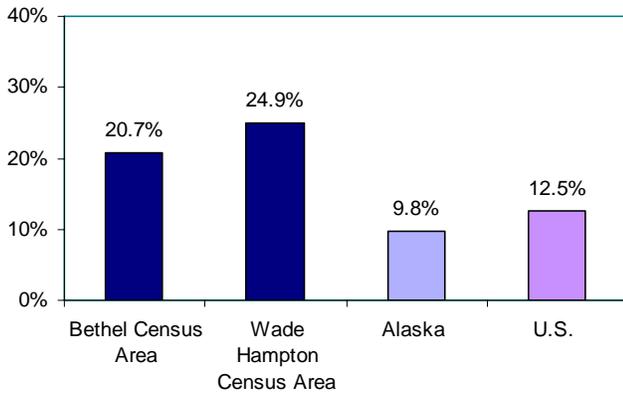
Summary:

- In 2003, The percent of residents living below the federal poverty level in the Bethel and Wade Hampton Census Areas was twenty percent (20.7%) and twenty-five percent (24.9%) respectively.
- Over one-quarter of children living in the Bethel and Wade Hampton Census areas were living below the poverty level in 2003.

Data availability: Available by borough/census area and statewide through 2003.

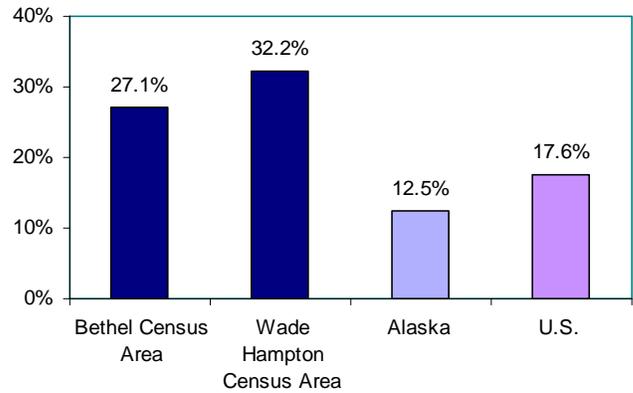
For more information: A source for the most current estimates of income and poverty is the U.S. Census' Small Area Income and Poverty Estimates program at <http://www.census.gov/hhes/www/saie/>

Figure 8. Estimated percent below Poverty Level
All Races and Ages
2003



Data source: Small Area Income and Poverty Estimates Program 6

Figure 9. Estimated percent below Poverty Level
Under 18, All Races
2003



Data source: Small Area Income and Poverty Estimates Program 6

Household Income

Definition: The person who was designated as head of household completed the 2000 Census form and reported household income. Income includes all monetary sources of income including wages, the Permanent Fund Dividend, Corporation Dividends and Public Assistance (Census 2000 Summary File 4 Technical Documentation, 2003). Income does not include subsistence resources.

Summary:

- For 2003, the estimated median household income in Wade-Hampton Census Area was about half that of Alaskans statewide (\$27,650 vs. \$52,391).

Data availability: Available by Borough/Census Area and Statewide through 2003.

For more information: A source for the most current estimates of income and poverty is the U.S. Census' Small Area Income and Poverty Estimates program at <http://www.census.gov/hhes/www/saie/>

Figure 10. Estimated Median Household Income
2003



Data source: Small Area Income and Poverty Estimates Program

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Mortality and Morbidity

Mortality– 1999-2003

Summary:

- The top three leading causes of death among Alaska Natives in the YKHC Service area during 1999-2003 were cancer, unintentional injury and heart disease.
- Malignant neoplasm (cancer) was the leading cause of death, accounting for 19.4% of all deaths in the YKHC service area during 1999-2003.
- The age-adjusted cancer mortality rate for YKHC is 30% higher than for U.S. Whites. ($p < .05$).
- YKHC Alaska Natives are more than three times as likely to die of an unintentional injury than U.S. Whites (119.6 vs. 36.4/100,000, $p < .05$).
- YKHC Alaska Natives are almost four times (3.8) as likely to die of suicide as U.S. Whites (44.5 vs. 11.6/100,000, $p < .05$).

Data availability: Mortality data is available by borough or census area, race, and statewide through 2004. Periodic Reports on Alaska Native Mortality are published by the Alaska Native Epidemiology Center <http://www.anthc.org/cs/chs/epi/>

Geographical Definition: YKHC service area is defined as the Yukon-Kuskokwim Delta Service Unit.

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

Table 5. Leading Causes of Death by Rank
1999-2003

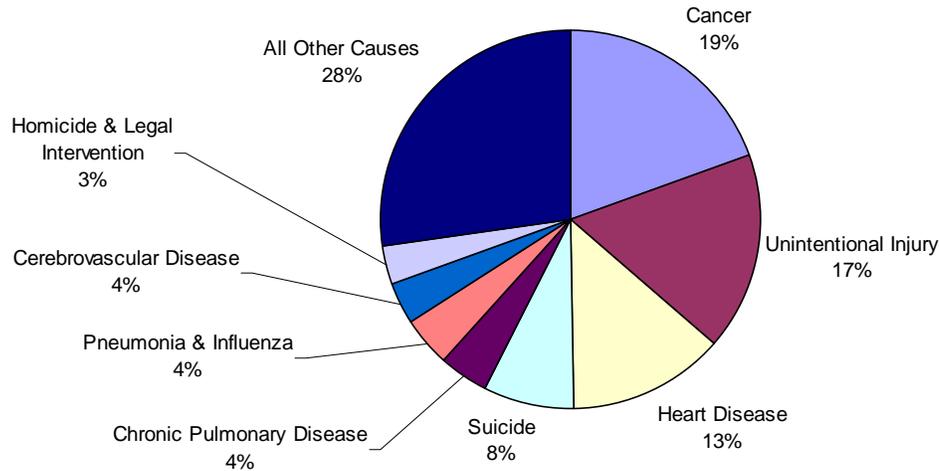
Alaska Natives (AN) YKHC Service Area	Number	% Deaths	U.S. Whites Rank	AN Statewide Rank
1. Cancer	119	19.4%	2	1
2. Unintentional Injury	104	17.0%	5	3
3. Heart Disease	82	13.4%	1	2
4. Suicide	48	7.8%	8	4
5. Chronic Pulmonary Disease	26	4.2%	4	6
6. Pneumonia and Influenza	25	4.1%	6	8
7. Cerebrovascular Disease	22	3.6%	3	5
8. Homicide & Legal Intervention	20	3.3%	10	7
9. Diabetes Mellitus	4	0.7%	6	10
10. Chronic Liver Disease	3	0.5%	9	9
All other causes	159	26.0%		
Total	612	100%		

Data Source: Alaska Bureau of Vital Statistics ⁷

U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program ²⁰

Mortality– 1999-2003

Figure 11. Leading Causes of Death, Alaska Natives, YKHC Service Area, 1999-2003



Data Source: Alaska Bureau of Vital Statistics 7

Table 6. Leading Causes of Death Age-Adjusted Mortality Rates per 100,000, 1999-2003

Mortality Rates, age adjusted per 100,000, 1999-2003	YKHC AN	AN Statewide	U.S. Whites	Healthy People Goal	Rate Ratio (YKHC vs. US White)
Cancer	258.9	245.4	193.5	159.9	1.3*
Heart Disease	190.9	211.4	243.6	166	0.9
Unintentional Injuries	119.6	116.1	36.4	17.5	3.3*
Cerebrovascular Diseases	57.4	64.4	55.6	48	1
Suicide	44.5	36.3	11.6	5	3.9*
Homicide and Legal Intervention	19.6	19	4	3	4.9*

*YKHC AN rate is significantly different from US White rate ($P < .05$);

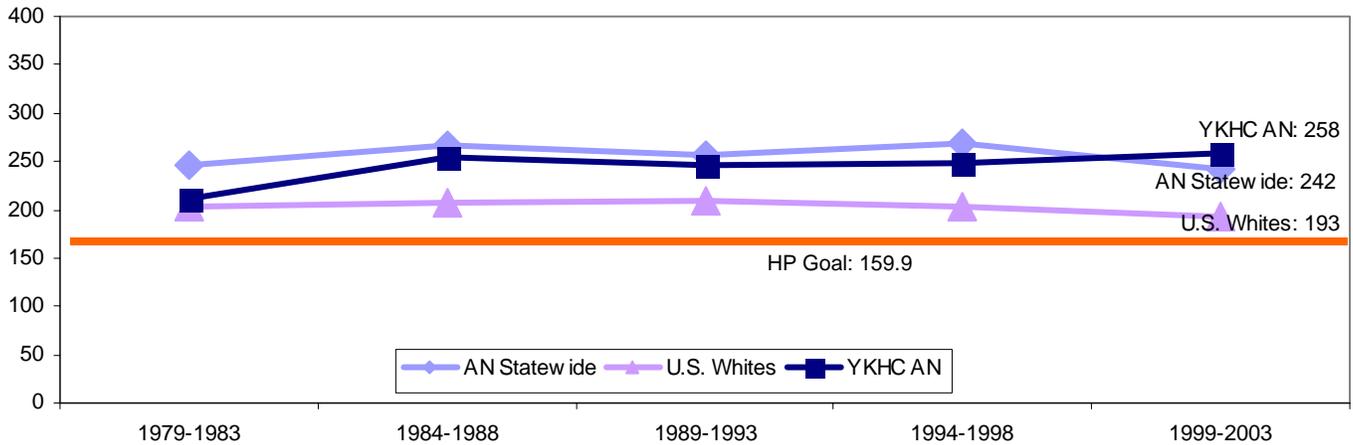
Alaska Data Source: Alaska Bureau of Vital Statistics (7); Analysis Conducted by: Alaska Native Epidemiology Center; U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program (20)

Mortality- Trends, 1979-2003

Summary:

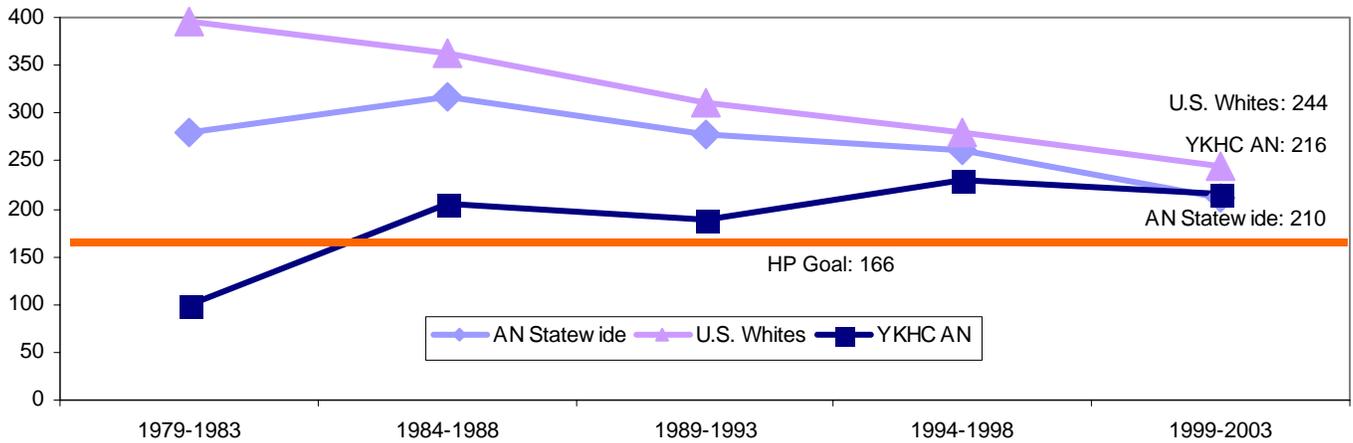
- The cancer death rate in the YKHC service area increased 23% between 1979-1983 (210.4) and 1999-2003 (258.9). During this same time period the US White rate decreased by 4%.
- During 1999-2003, 119 Alaska Natives in the YKHC service area died from cancer.
- The heart disease death rate more than doubled between 1979-1988, but remained relatively constant until 2003.
- During 1999-2003, 82 Alaska Natives in the YKHC service area died from heart disease.

Figure 12. Age-Adjusted Cancer Death Rates per 100,000, 5-year Intervals, 1979-2003



Data Source: Alaska Bureau of Vital Statistics ⁷
 U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program ²⁰

Figure 13. Age-Adjusted Heart Disease Death Rates per 100,000, 5-year Intervals, 1979-2003



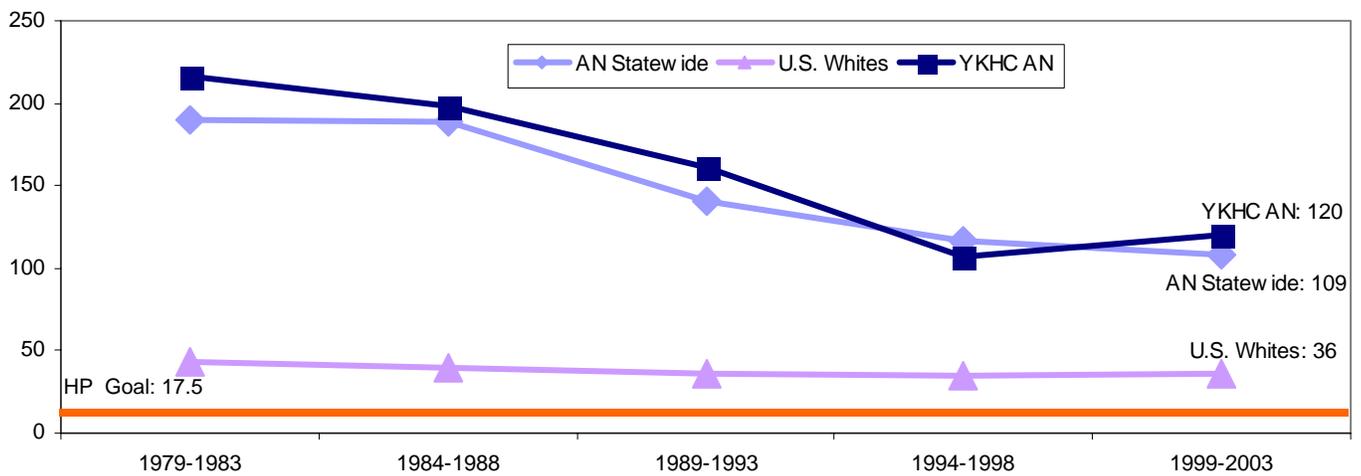
Data Source: Alaska Bureau of Vital Statistics ⁷
 U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program ²⁰

Mortality– Trends, 1979-2003

Summary:

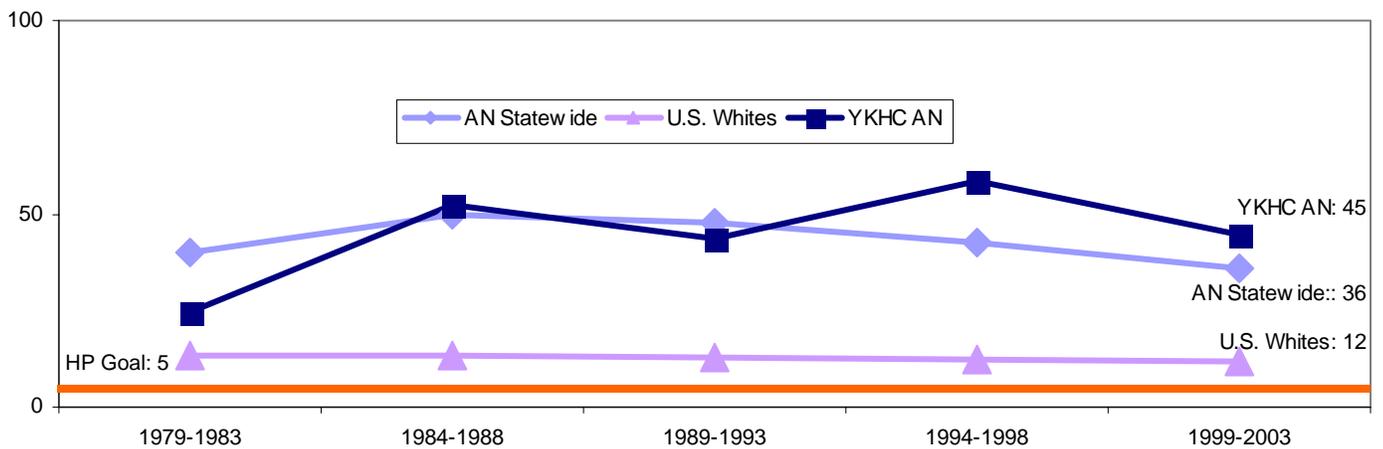
- During 1979-2003, there was a significant decrease in the unintentional injury death rate for Alaska Natives in the YKHC service area. 104 Alaska Natives in the YKHC service area died as a result of an unintentional injury during 1999-2003, 37 fewer deaths than 1979-1983.
- Suicide rates doubled between 1979 and 1988, but remained relatively constant from 1988 until 2003. The suicide death rate for US Whites decreased 12% between 1979-1983 and 1999-2003.

Figure 14. Age-Adjusted Unintentional Injury Death Rates per 100,000, 5-year Intervals, 1979-2003



Data Source: Alaska Bureau of Vital Statistics ⁷
 U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program ²⁰

Figure 15. Age-Adjusted Suicide Death Rates per 100,000, 5-year Intervals, 1979-2003



Data Source: Alaska Bureau of Vital Statistics ⁷
 U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program ²⁰

Hospitalizations– Leading Causes of Hospital Discharges

Table 7. Top 15 Hospital Discharges by ICD Recode*
All Ages, Fiscal Year 2005

Alaska Totals		
1	Deliveries (Childbirth)	1,772
2	Accidents & Injuries	1,083
3	Pneumonia	602
4	Complications of Pregnancy	333
5	Infected Skin	308
6	Heart Disease	303
7	Alcohol Abuse	239
8	Bronchitis, Emphysema	239
9	Malignant Neoplasms	238
10	Psychoses	193
11	Urinary Tract Infections	187
12	Bone & Joint Disorders	187
13	Disease of the Appendix	179
14	Gynecologic Problems & Breast	146
15	Disease of Gall Bladder	124
Total Number of Discharges		7,486

Data Source: I.H.S. NPIRS⁸

* ICD Recode combines similar primary diagnoses into categories

Table 8. Top 15 Hospital Discharges by ICD Recode*
All Ages, Fiscal Year 2005

Yukon-KuskokwimDelta Regional Hospital		
1	Deliveries (Childbirth)	383
2	Pneumonia	254
3	Psychoses	136
4	Alcohol Abuse	134
5	Bronchitis, Emphysema	123
6	Infected Skin	121
7	Accidents & Injuries	106
8	Neuroses & Personality Disorders	86
9	Complications of Pregnancy	76
10	Heart Disease	46
11	Urinary Tract Diseases	44
12	Nutritional & Metabolic Disorders	27
13	Perinatal Conditions	26
14	Abdominal Pain	23
15	Asthma	23
Total Number of Discharges		1,766

Data Source: I.H.S. NPIRS⁸

* ICD Recode combines similar primary diagnoses into categories

Hospitalizations– Leading Causes of Inpatient Days

Table 9. Top 15 Inpatient Days by ICD Recode*
All Ages, Fiscal Year 2005

Alaska Totals		
1	Accidents & Injuries	6,046
2	Deliveries (childbirth)	4,294
3	Pneumonia	3,322
4	Alcohol Abuse	3,241
5	Malignant Neoplasms	2,295
6	Infected Skin	1,863
7	Psychoses	1,316
8	Heart Disease	1,276
9	Bone & Joint Disorders	1,120
10	Bronchitis, Emphysema	988
11	Urinary Tract Diseases	956
12	Cerebrovascular Diseases	871
13	Complications of Pregnancy	812
14	Diseases of the Nervous System	716
15	Arthritis	613
Total Number of Inpatient Days		36,278

Data Source: I.H.S. NPIRS⁸

* ICD Recode combines similar primary diagnoses into categories

Table 10. Top 15 Inpatient Days by ICD Recode*
All Ages, Fiscal Year 2005

Yukon-Kuskokwim Delta Regional Hospital		
1	Alcohol Abuse	2,738
2	Psychoses	979
3	Pneumonia	975
4	Deliveries (childbirth)	835
5	Infected Skin	453
6	Bronchitis, Emphysema	446
7	Accidents & Injuries	341
8	Neuroses & Personality Disorders	181
9	Urinary Tract Diseases	159
10	Heart Disease	123
11	Complications of Pregnancy	115
12	Nutritional & Metabolic Disorders	104
13	Perinatal Conditions	94
14	Asthma	91
15	Viral Diseases	76
Total Number of Inpatient Days		8,154

Data Source: I.H.S. NPIRS⁸

* ICD Recode combines similar primary diagnoses into categories

Hospitalizations– Leading Causes of Outpatient Visits

Table 11, Top 15 Outpatient Visits by ICD Recode*
All Ages, Fiscal Year 2005

<u>Alaska Totals</u>		
1	Upper Respiratory Problems	43,401
2	Accidents & Injuries	37,981
3	Pregnancy, childbirth & puerperium	34,770
4	Hospital Med/Surgical Follow-up	33,154
5	Bone & Joint Disorders	30,234
6	Assessment of Symptoms	29,347
7	Neuroses & Non-Psychotic Disorders	28,803
8	Tests Only (Lab, X-Ray, Screening)	25,997
9	Musculoskeletal Disorder	22,724
10	Hypertension	22,418
11	Otitis Media	16,098
12	Refractive Error	15,940
13	Diabetes Mellitus	14,593
14	Physical Examinations	13,715
15	Gynecologic Problems & Breast	13,321
Total Number of Outpatient Visits		571,455

Data Source: I.H.S. NPIRS^g

* ICD Recode combines similar primary diagnoses into categories

Table 12. Top 15 Outpatient Visits by ICD Recode*
All Ages, Fiscal Year 2005

<u>Yukon-Kuskokwim Delta Regional Hospital</u>		
1	Upper Respiratory Problems	4,742
2	Hospital Med/Surgical Follow-up	4,552
3	Pregnancy, childbirth & puerperium	4,331
4	Refractive Error	2,907
5	Accidents & Injuries	2,444
6	Infected Skin & Abrasions	2,094
7	Neuroses & Non-Psychotic Disorders	2,065
8	Assessment of Symptoms	2,041
9	Bone & Joint Disorders	1,614
10	Tests Only (Lab, X-Ray, Screening)	1,405
11	Otitis Media	1,369
12	Hypertension	1,294
13	Well Child Care	1,110
14	Alcohol Abuse	1,092
15	Pneumonia	1,067
Total Number of Outpatient Visits		47,517

Data Source: I.H.S. NPIRS^g

* ICD Recode combines similar primary diagnoses into categories

Health Promotion

Tobacco Use– Smoking

Definition:

Tobacco Screening Rates: Patients ages 5 and older who were screened for tobacco use (smoking and/or smokeless tobacco) during calendar year 2006.

Current Smoker: Of those patients who were screened, the proportion who were identified as current smokers.

Note: Excludes those patients who had less than 2 visits to a medical clinic within the past 3 years.

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%.

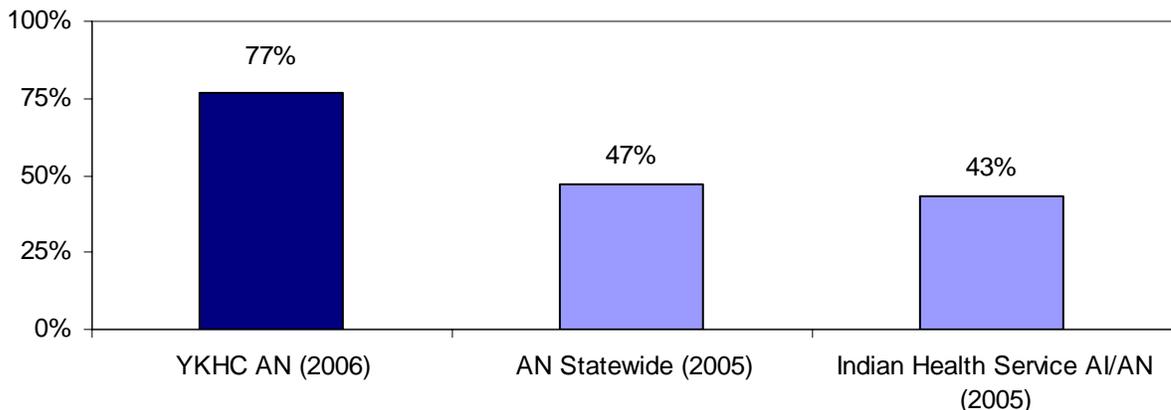
Summary:

- More than 3 out of every 4 YKHC Alaska Native patients ages 5 and older were screened for tobacco use during 2006. For I.H.S. facilities nationwide, less than 2 out of every 4 patients had been screened.
- Of those patients who were screened for tobacco use during 2006, 46% were smokers. 59% used some form of tobacco. More than half of males smoked, and 4 out of every 10 females smoked (Figure 17).
- As seen in Figure 18, the percent of patients screened for tobacco use increased from 27% in 2002 to 76.6% in 2006.

Note: According to the State of AK BRFSS (self reported telephone survey: results not shown in figures), 18-24 year olds had the highest smoking rates among Alaska Natives in the YKHC service area. More than half in this age group (54%) are current smokers (2000-2004). During this same time period, 34% of all YKHC Alaska Natives were current smokers.

Geographical Definition: YKHC AN includes all patients residing in communities served by YKHC.

Figure 16. Percent of Patients Screened for Tobacco Use
5 years and older

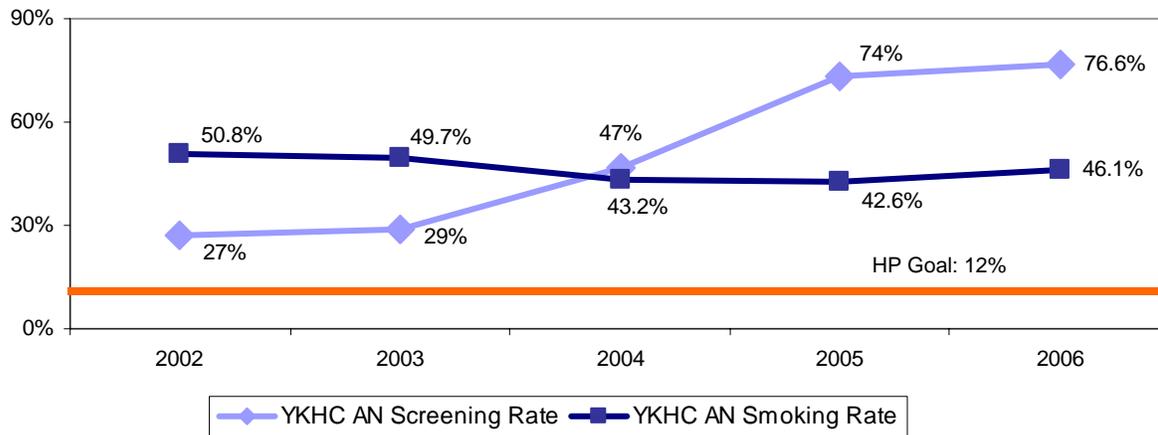


YKHC AN Data Source: YKHC GPRA Report Calendar Year 2006¹⁹

AN Statewide and Indian Health Service Data Source: Government Performance and Results Act 2005 and 2006²⁶

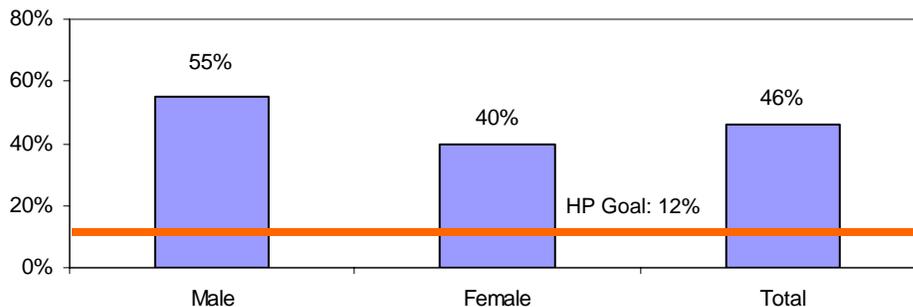
Tobacco Use– Smoking

Figure 17. Tobacco Screening Rates and Smoking Rates, YKHC Alaska Natives 5 years and older 2002-2006



YKHC AN Data Source: YKHC GPRA Report Calendar Year 2006₁₉

Figure 18. Current Smokers by Gender, YKHC Alaska Natives, 5 years and older, 2006



YKHC AN Data Source: YKHC GPRA Report Calendar Year 2006₁₉

Tobacco Use– Smokeless Tobacco

Definition: Of those patients ages 5 and older who were screened during calendar year 2006, the proportion who were identified as current smokeless tobacco users.

Note: Excludes those patients who had less than 2 visits to a medical clinic within the past 3 years.

Healthy People 2010, Objective : Reduce spit tobacco use by adults to .4%.

Healthy Alaskans 2010, Objective 3.9: Reduce the percentage of adults who use smokeless tobacco to 3%

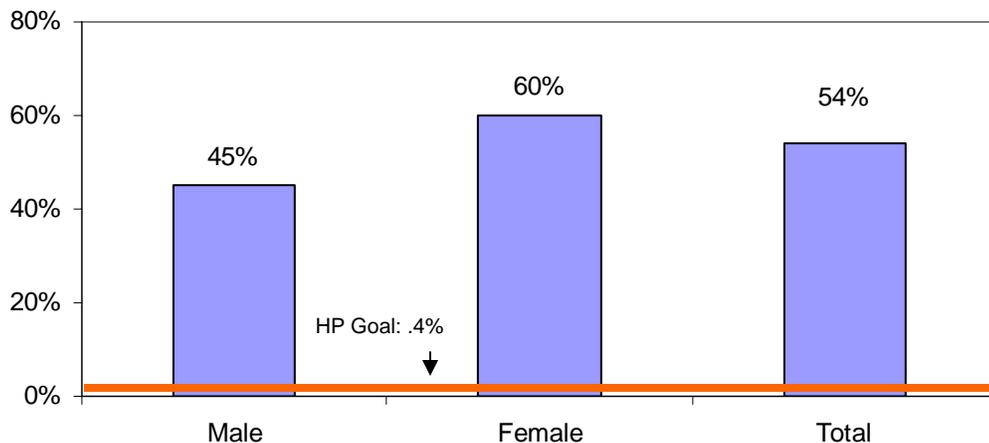
Summary:

- Of those patients screened for tobacco use at YKHC during fiscal year 2006, 54% were current smokeless tobacco users.
- Six out of ten females were current smokeless tobacco users. More females than males used smokeless tobacco.

Geographical Definition: YKHC AN includes all patients residing in communities served by YKHC.

Note: According to the State of AK BRFSS (self reported telephone survey: results not shown in figures), 18% of Alaska Natives statewide are smokeless tobacco users (2001-2002).

Figure 19. Current Smokeless Tobacco Users by Gender, YKHC Alaska Natives, 2006



Data Source: YKHC GPRA Report Calendar Year 2006₁₉

Physical Activity

Definition: Percent of adults who participated in moderate physical activity 30 or more minutes a day, 5 or more days per week or vigorous physical activity for 20 or more minutes a day, 3 times or more a week.

Healthy People 2010, Objective 22.2: Increase the proportion of adults who engage in regular, preferably daily, moderate physical activity for at least 30 minutes per day to 30%.

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

Summary:

- The percent of Alaska Natives in the YKHC service area who meet physical activity recommendations is about 7% less than that for all Alaskans.

Geographical Definition: YKHC AN includes all residents living in communities served by YKHC.

Note: For a description of CDC recommendations for physical activity, visit <http://www.cdc.gov/nccdphp/>

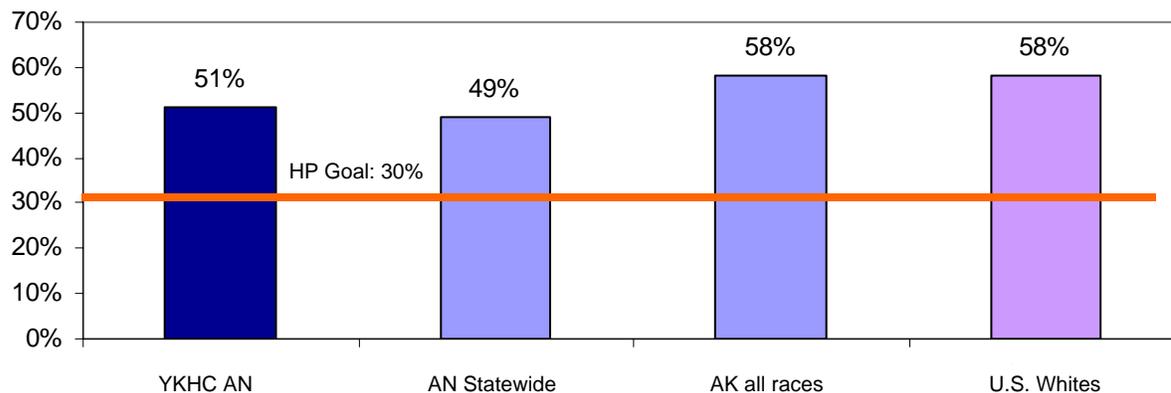
Table 13. Meets moderate or vigorous physical activity recommendations, 2003

	n	Weighted %	N
<i>Population</i>			
YKHC AN	52	51%	110
AN Statewide	262	49%	533
AK all race	1450	58%	2545
U.S. Whites	1450	58%	2516

Data Source: Alaska Behavioral Risk Factor Surveillance System ⁹
 Analysis conducted by: Alaska Native Epidemiology Center

n= number of respondents who report they have smoked at least 100 cigarettes in their lifetime and currently smoke
 N=total number of respondents in this subgroup

Figure 20. Meets moderate or vigorous physical activity recommendations, 2003



Data Source: Alaska Behavioral Risk Factor Surveillance System ⁹
 Analysis conducted by: Alaska Native Epidemiology Center
 U.S. Data Source: Behavioral Risk Factor Surveillance System ²¹

Obesity

Definition:

Adults 19 –74 years: Patients who have a current Body Mass Index (BMI) assessment with a BMI of 30 or greater. Current BMI assessment requires that height and weight has been collected within the last five years or if over age 50, within the last two years.

Healthy People 2010, Objective 19.1 and 19.2: Increase proportion of adults who are at a healthy weight (BMI between 18.5 and 25) 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%

Children 18 and younger (defined as overweight): Patients who have a current Body Mass Index (BMI) assessment with a BMI greater than or equal to the 95th percentile using age-specific NHANES II tables. Current BMI assessment requires that height and weight has been collected within the last year.

Healthy People 2010, Objective 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%.

Note: Excludes those patients who had less than 2 visits to a medical clinic within the past 3 years.

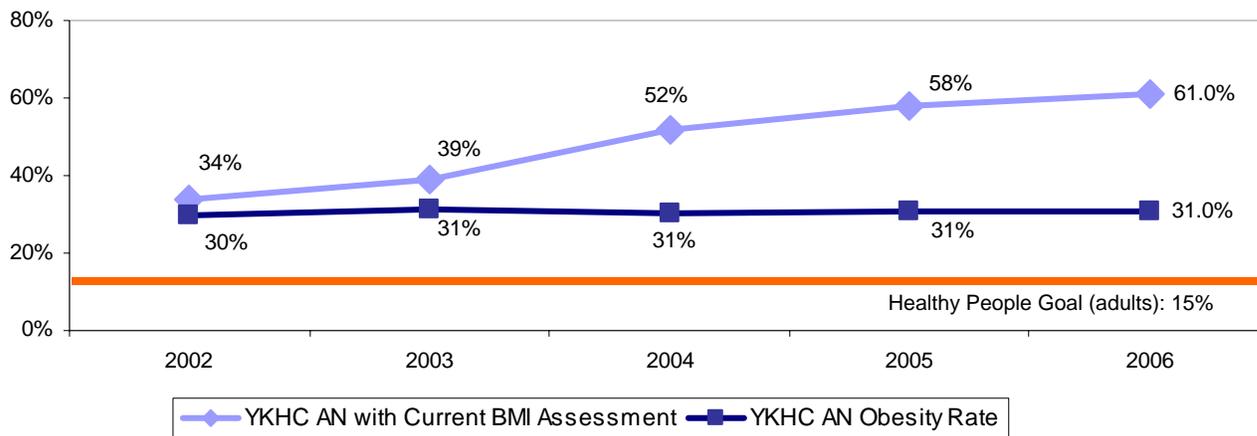
Summary:

- The percent of YKHC Alaska Native patients with a current BMI on record increased by 27% between 2002 and 2006 (refer to Figure 23).
- In 2006, almost one-third of YKHC Alaska Native patients (2-74 years) were obese.
- More females were obese than males (34% vs. 26%).
- Almost one-third of YKHC Alaska Native patients ages 2 to 5 years were overweight.
- The rate of obesity among YKHC Alaska Native patients (2-74 years) only increased by 1% between 2002 and 2006.

Geographical Definition: YKHC AN includes all patients residing in communities served by YKHC.

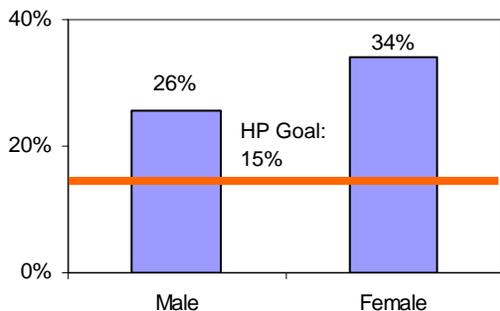
Obesity

**Figure 21. Current BMI Assessment and Obesity Rates
YKHC Alaska Natives, 2-74 years, 2002-2006**



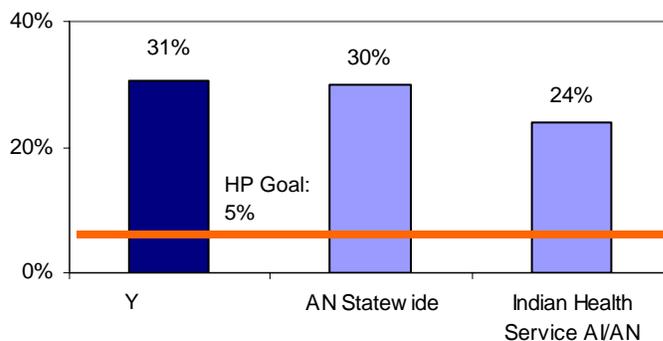
YKHC AN Data Source: YKHC GPRA Report Calendar Year 2006₁₉

**Figure 22. Obesity by Gender
YKHC Alaska Natives, 2-74 years, 2006**



YKHC AN Data Source: YKHC GPRA Report Calendar Year 2006₁₉

**Figure 23. Percent of Children who are Overweight
by Population, 2-5 years, 2006**



YKHC AN Data Source: YKHC GPRA Report Calendar Year 2006₁₉

Substance Abuse– Binge Drinking

Definition: Percent of adults who have had 5 or more drinks on one or more occasions in the past 30 days.

Healthy People 2010, Objective 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:

- The self-reported rates of binge drinking are slightly lower for YKHC Alaska Natives than the binge drinking rates for Alaska Natives statewide.
- The self-reported rates of binge drinking decreased slightly between 1993 and 2004.

Data availability: Available by race, gender, 5 BRFSS regions, and statewide, 1991-2005.

Geographical Definition: YKHC AN includes all residents living in communities served by YKHC.

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/> or

Note: See Cautionary Note, Appendix B, regarding the interpretation of estimates of BRFSS data analyzed on a tribal health regional level.

Table 14. Alcohol Use- Binge Drinking, YKHC Alaska Natives,
18 years and older

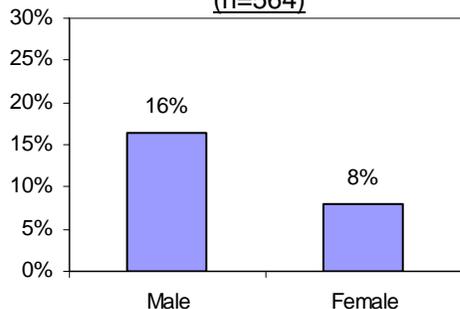
	n	Weighted %	N
<i>Sex (2000-2004)</i>			
Male	42	16%	210
Female	32	8%	280
Total	74	12%	564
<i>Age Group (2000-2004)</i>			
18-24	11	13%	78
25-34	25	18%	135
35-44	26	12%	184
45-54	7	8%	95
55+	5	7%	72
<i>Years</i>			
1993-1995	43	20%	273
1996-1998	26	17%	176
1999-2001	45	17%	298
2002-2004	49	13%	351

Data Source: Alaska Behavioral Risk Factor Surveillance System⁹
Analysis conducted by: Alaska Native Epidemiology Center

n= number of respondents who report they have binge drink
N=total number of respondents in this subgroup

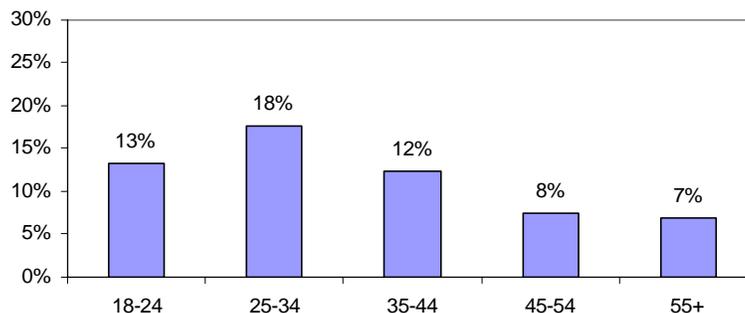
Substance Abuse– Binge Drinking

Figure 24. Binge Drinking by Gender, YKHC Alaska Natives, 18 years and older, 2000-2004 (n=564)



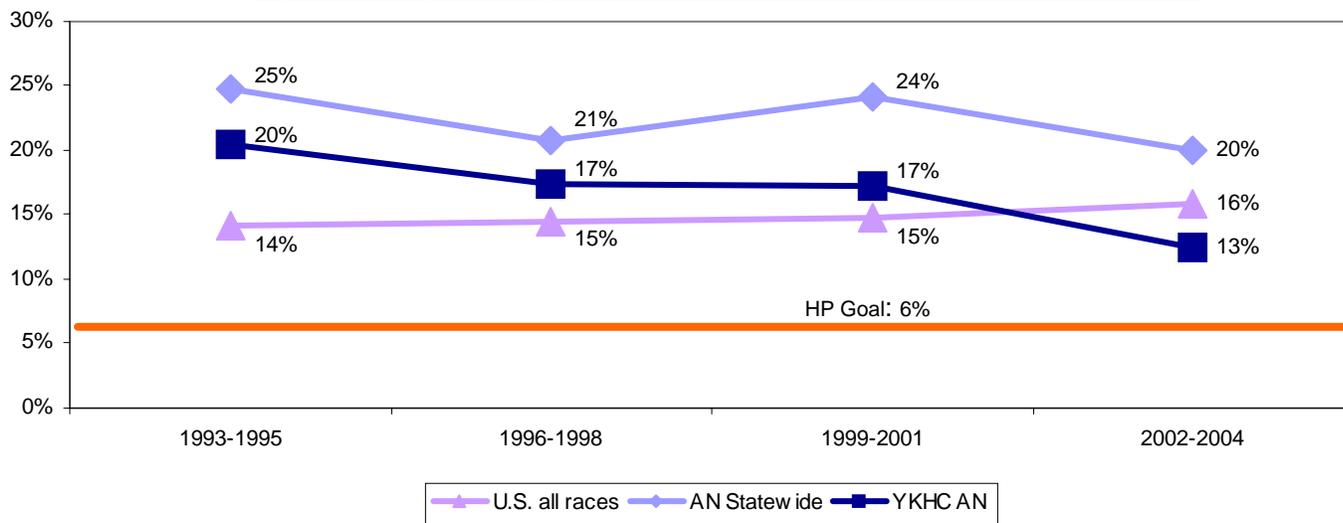
Data Source: Alaska Behavioral Risk Factor Surveillance System ⁹
 Analysis conducted by: Alaska Native Epidemiology Center

Figure 25. Binge Drinking by Age Group, YKHC Alaska Natives, 18 years and older, 2000-2004 (n=564)



Data Source: Alaska Behavioral Risk Factor Surveillance System ⁹
 Analysis conducted by: Alaska Native Epidemiology Center

Figure 26. Binge Drinking, YKHC Alaska Natives, 18 years and older, 1993-2004



Data Source: Alaska Behavioral Risk Factor Surveillance System ⁹
 Analysis conducted by: Alaska Native Epidemiology Center
 U.S. Data Source: Behavioral Risk Factor Surveillance System ²¹

Overweight– Adolescents

Definition: Percent of high school students grade 9-12 who have a body mass index (BMI) greater than or equal to the 95th percentile (based on age-specific NHANES 1)

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

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

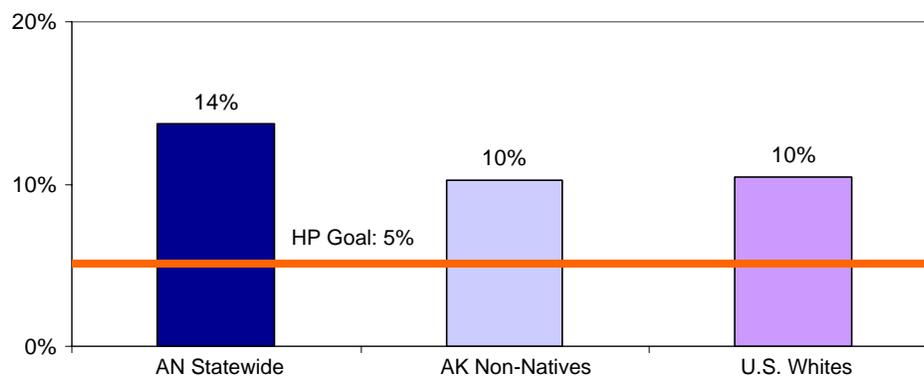
Summary:

- According to data from the 2003 Youth Risk Behavior Survey, 14% of Alaska Native high school students are overweight. This is slightly higher than the rate for Alaska non-natives and U.S. Whites.

Data availability: Alaska data is available for 1995, 1999 and 2003. Sample Size is not large enough to be broken down to the regional level. Due to a small sample size from 2005, no data was able to be analyzed.

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 website at <http://apps.nccd.cdc.gov/yrbss/>

Figure 27. Percent of high school students who are overweight
2003 (weighted, n=7668)



Data Source: Alaska Youth Risk Behavior Survey ¹⁰
US Data Source: Youth Risk Behavior Survey ²²

Vigorous Physical Activity– Adolescents

Definition: Percent of high school students grade 9-12 who exercise or participate in sports activities for at least 20 minutes that cause sweating and heavy breathing on 3 or more of the past 7 days.

Healthy People 2010, Objective 22-7: Increase the proportion of adolescents who engage in vigorous physical activity to 85%.

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

Summary:

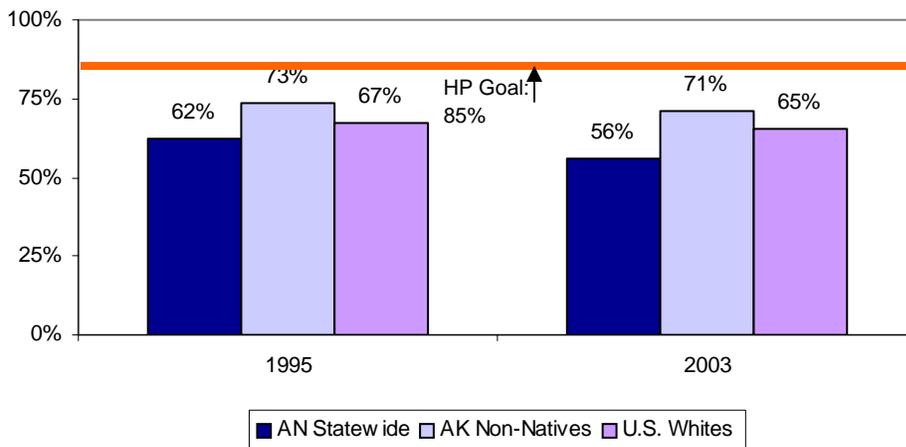
- The rates of vigorous physical activity among adolescents decreased between 1995 and 2003 among AK Natives, AK Non-Natives and U.S. Whites.

Data availability: available by race, statewide. Sample Size is not large enough to be broken down to the regional level. Due to a small sample size from 2005, no data was able to be analyzed.

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 website at <http://apps.nccd.cdc.gov/yrbss/>

Figure 28. Percent of high school students who engage in vigorous physical activity 1995 and 2003 (n=7914, weighted)



Data Source: Alaska Youth Risk Behavior Survey 10
 US Data Source: Youth Risk Behavior Survey 22

Tobacco Use– Adolescents

Definition: Percent of high school students grade 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%.

Summary:

- In 2003, 44% of Alaska Natives high school students smoked cigarettes on one or more of the past 30 days. This was an 18% decrease from 1995.
- The percent of Alaska Native high school students who used chewing tobacco or snuff during the past 30 days did not decrease between 1995 and 2003 as compared to the percent of Non-Native high school students which decreased by half over the 8-year period (15% to 7%).

Data availability: Alaska data is available for 1995, 1999 and 2003. Sample size is not large enough to be broken down to the regional level. Due to a small sample size from 2005, no data was able to be analyzed.

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 website at <http://apps.nccd.cdc.gov/yrbss/>

Tobacco Use— Adolescents

Figure 29. Percent of high school students who smoked cigarettes on one or more of the past 30 days, 1995 and 2003 (n=7243, weighted)

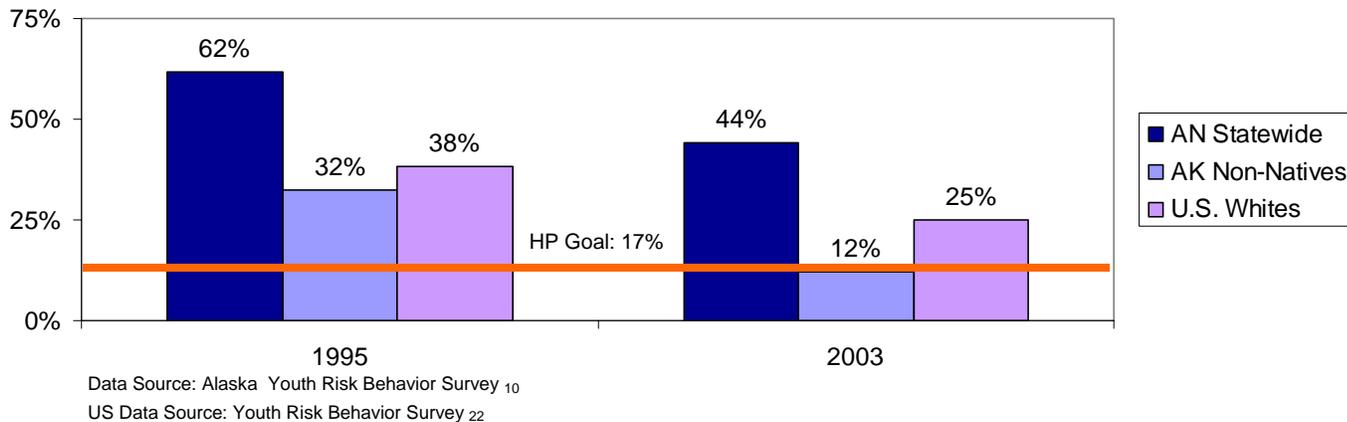


Figure 30. Percent of high school students who used chewing tobacco or snuff on one or more of the past 30 days, 1995 and 2003 (n=7678, weighted)

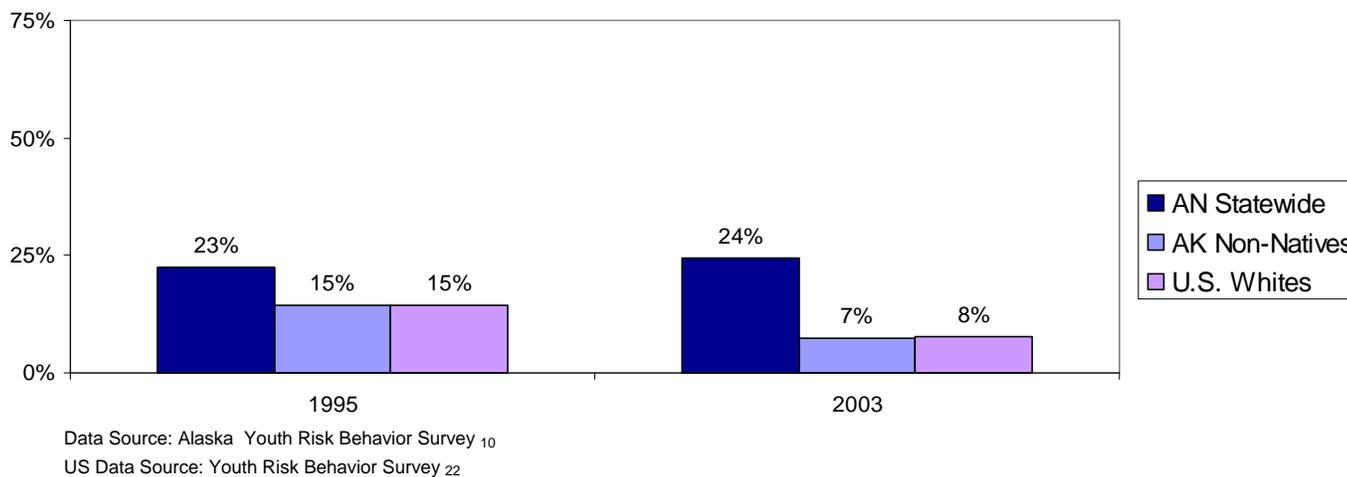
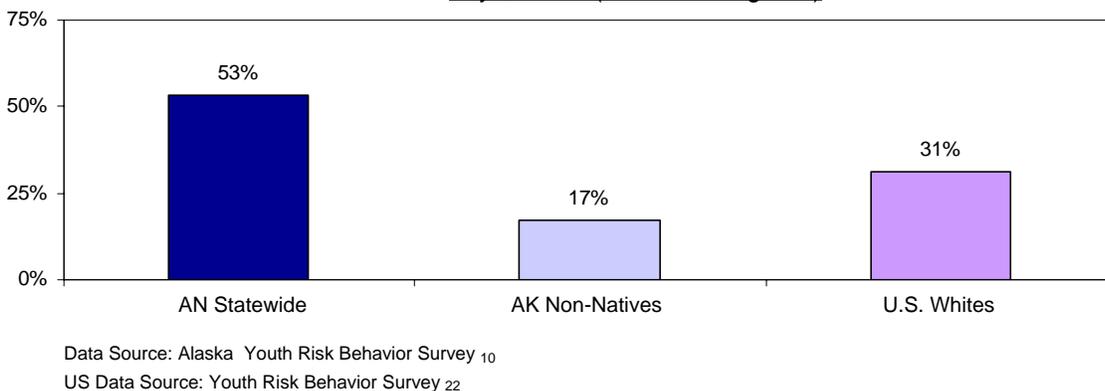


Figure 31. Percent of high school students who used any tobacco during the past 30 days, 2003 (n=7099, weighted)



Substance Abuse– Adolescents

Definition: Percent of high school students grade 9-12 who have not 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% (Decrease proportion who use to 11%).

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% (Decrease proportion who use to 40%).

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 was smaller than for U.S. Whites (38% vs. 47%).
- A little over one-third (36%) of AK Native high school students report using marijuana during one or more of the past 30 days compared to 22% of U.S. Whites.
- The percent of AK Native high school students tried a form of cocaine in the last month was similar to that for U.S. Whites (3% vs. 4%).

Data availability: Alaska data is available for 1995, 1999 and 2003. Sample Size is not large enough to be broken down to the regional level. Due to a small sample size from 2005, no data was able to be analyzed.

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 website at <http://apps.nccd.cdc.gov/yrbss/>

Substance Abuse– Adolescents

Figure 32. Percent of high school students who had at least one drink of alcohol on one or more of the past 30 days, 1995 and 2003

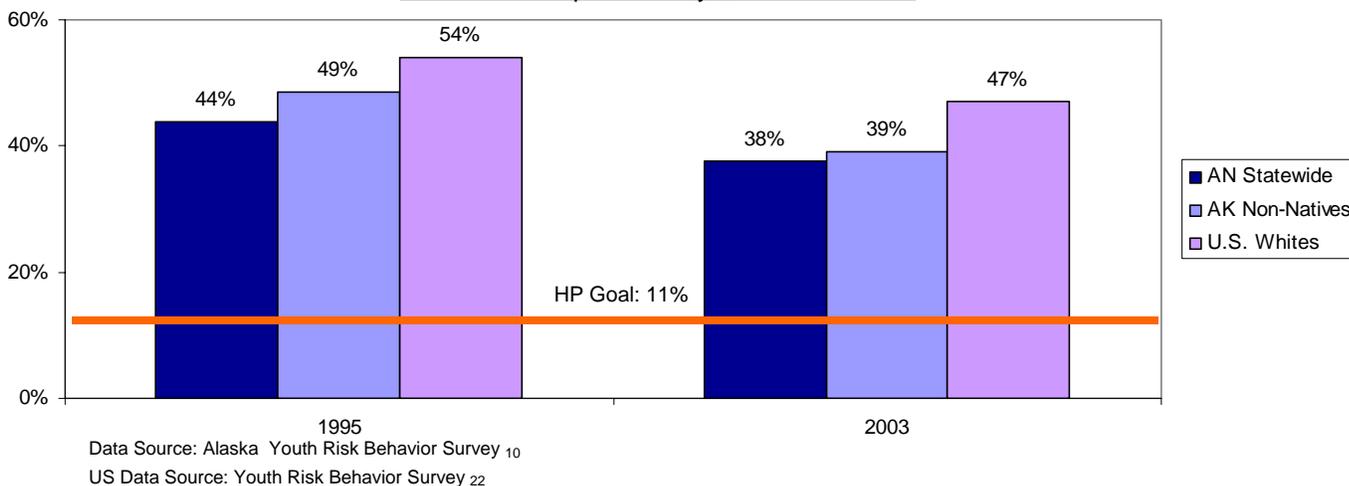


Figure 33. Percent of high school students who used marijuana on one or more of the past 30 days, 1995 and 2003

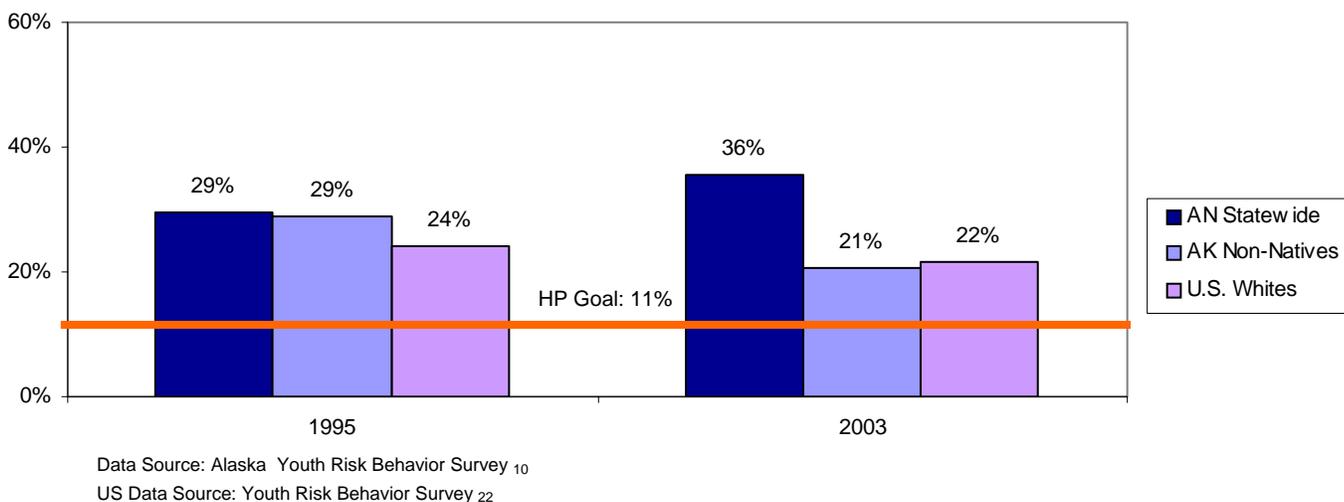
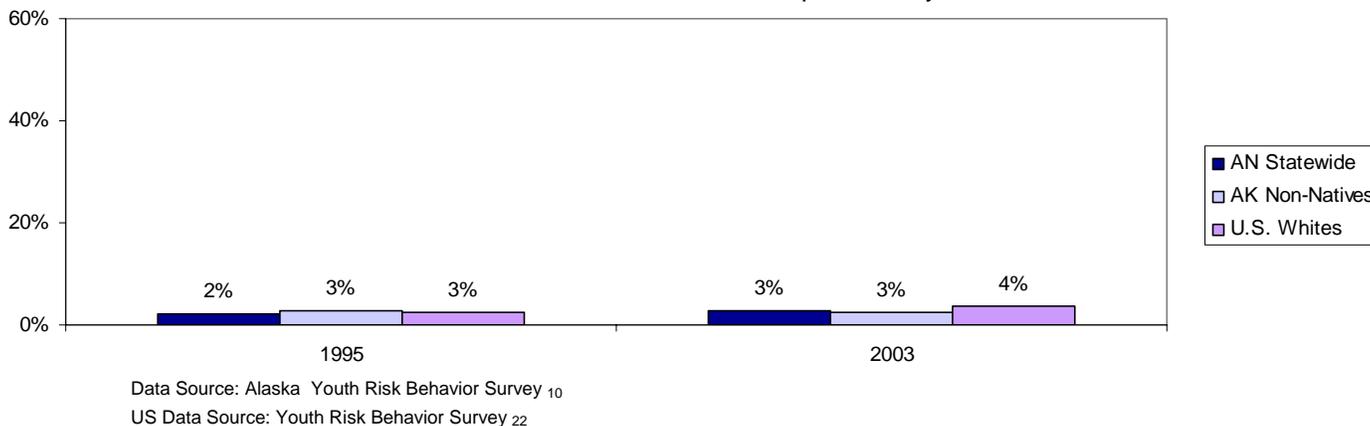


Figure 34. Percent of high school students who used any form of cocaine, including powder, crack or freebase on one or more of the past 30 days, 1995 and 2003



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Health Protection

Unintentional Injury Death– Leading Causes

Summary:

- Drowning (transport and non-transport related combined) was the leading cause of unintentional injury death in the YKHC service area between 1999-2005, comprising almost one third of all unintentional injury deaths.
- Unintentional injuries resulted in the deaths of 136 Alaska Natives in the YKHC Service area during 1999-2005.

Data availability: Injury death data is available at the tribal health regional level, by census area, race and statewide. Data is complete through 2005.

Geographical Definition: YKHC service area is defined as the Bethel and Wade-Hampton Census Areas combined.

For more information: For injury data on Alaska Natives, contact ANTHC's Injury Prevention Program at 907-729-3513 or visit their website at <http://www.anthc.org/cs/dehe/envhlth/injprev/> Or visit the Alaska Bureau of Vital Statistics at <http://www.hss.state.ak.us/dph/bvs/>

Table 15. Leading Causes of Unintentional Injury Death,
Alaska Natives, YKHC service area, 1999-2005

Cause	No. of Deaths
1. Drowning	44
2. Off Road Vehicle	22
3. Excessive Natural Cold	17
4. Poisoning	10
5. Fire and Burn	6
6. Sequelae of Accident	5
6. Motor Vehicle	5
6. Air Transport	5
Total Deaths, All Causes	136

Data Source: Alaska Bureau of Vital Statistics ¹¹
Analysis Conducted by: Alaska Native Epidemiology Center

Injury Hospitalizations

Healthy People 2010, Objective 15.14: Reduce nonfatal unintentional injuries (developmental)

Healthy Alaskans 2010, Objective 8.2: Reduce hospitalizations due to nonfatal unintentional injuries to 57/10,000 population

Summary:

- YKHC unintentional injury hospitalization rate is 91/10,000.
- During 1991-2003, there were 3,205 injury hospitalizations to Alaska Natives in the Yukon-Kuskokwim Health Corporation coverage area.
- Falls were the most common cause of injury hospitalization in the YKHC service area, accounting for 25% of all injury hospitalizations.
- Suicide attempts accounted for more than one out of every ten injury hospitalizations in the YKHC service area.

Data availability: The Alaska Trauma Registry tracks all injury hospitalizations.

Geographical Definition: YKHC service area is defined as the Bethel and Wade-Hampton Census Areas combined.

For more information: For injury data on Alaska Natives, contact ANTHC's Injury Prevention Program at 907-729-3513 or visit their website at <http://www.anthc.org/cs/dehe/envhlth/injprev/> Or visit the Alaska Trauma Registry at the http://www.hss.state.ak.us/dph/chems/injury_prevention/

Table 16. Five Leading Causes of Non-Fatal Injury Hospitalization by Tribal Health Organization
Alaska Natives, All Ages, Both Sexes, 1991-2003

Rank	Tribal Health Organization									Total
	ASNA	BBAHC	KANA	Maniilaq	NSHC	SCF	Southeast	TCC	YKHC	
1	Falls 245	Falls 280	Falls 95	Falls 267	Falls 328	Falls 1,152	Falls 1,029	Falls 653	Falls 806	Falls 5,185
2	Suicide Attempt 149	ATV 115	Suicide Attempt 46	Suicide Attempt 267	Suicide Attempt 292	Motor Vehicle 737	Suicide Attempt 405	Suicide Attempt 464	Suicide Attempt 412	Suicide Attempt 2,729
3	Assault 121	Suicide Attempt 90	Assault 34	Assault 167	Assault 130	Assault 695	Assault 381	Assault 376	Assault 399	Assault 2,474
4	Snogo 93	Snogo 84	ATV 27	Snogo 163	ATV 125	Suicide Attempt 518	Motor Vehicle 314	Motor Vehicle 245	Snogo 338	Motor Vehicle 1,839
5	ATV 90	Assault 78	Motor Vehicle 23	ATV 108	Snogo 116	Struck by Obj/Person 131	Struck by Obj/Person 207	Snogo 169	Cut/Piercing 167	Snogo 1,029
Total	1,015	970	299	1,329	1,385	4,102	2,999	2,477	3,205	18,768

ASNA: Arctic Slope Native Association, Barrow
 BBAHC: Bristol Bay Area Health Corporation, Dillingham
 KANA: Kodiak Area Native Association, Kodiak
 Maniilaq Association: Kotzebue
 NSHC: Norton Sound Health Corporation, Nome

SCF: Southcentral Foundation, Anchorage
 Southeast: Southeast AK
 TCC: Tanana Chiefs Conference, Fairbanks
 YKHC: Yukon Kuskokwim Health Corporation, Bethel

Provided by: ANTHC Injury Prevention Program^{1,2}

Data Source: Alaska Trauma Registry

Injury Hospitalizations

Figure 35. Crude Non-Fatal Unintentional Injury Hospitalization Rate per 10,000 by Tribal Health Organization, Alaska, 1991-2001

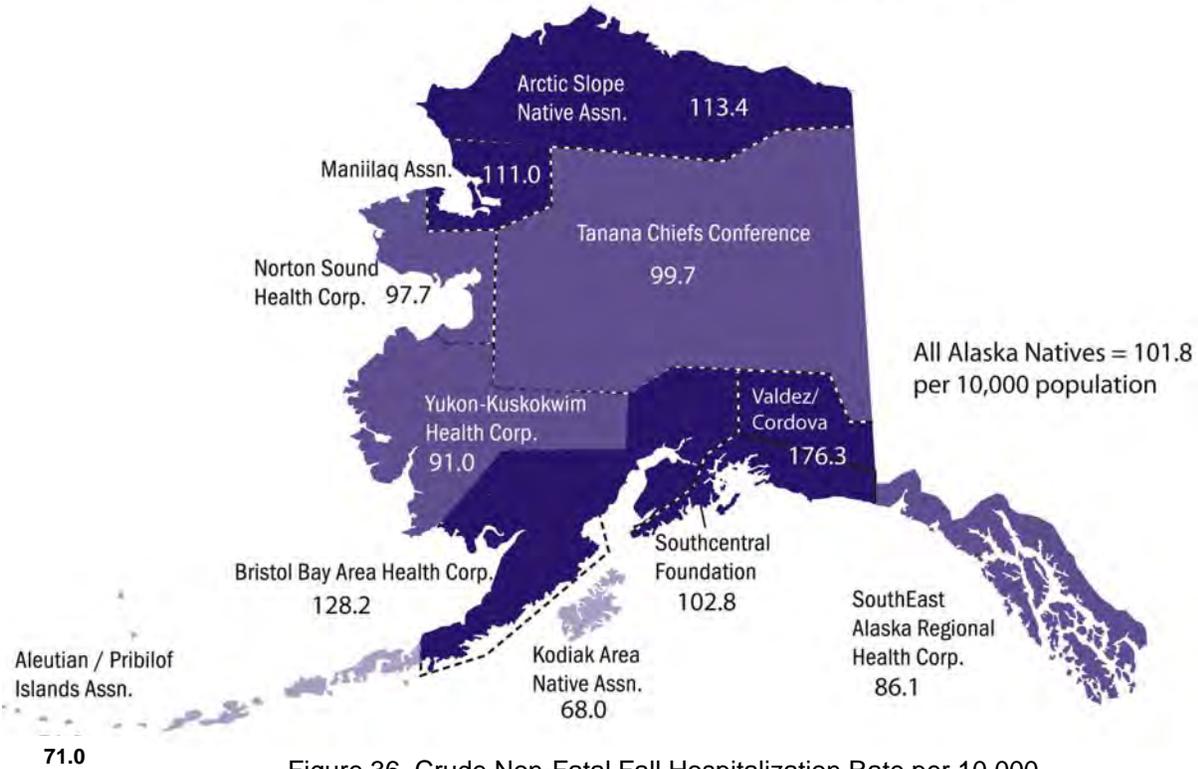
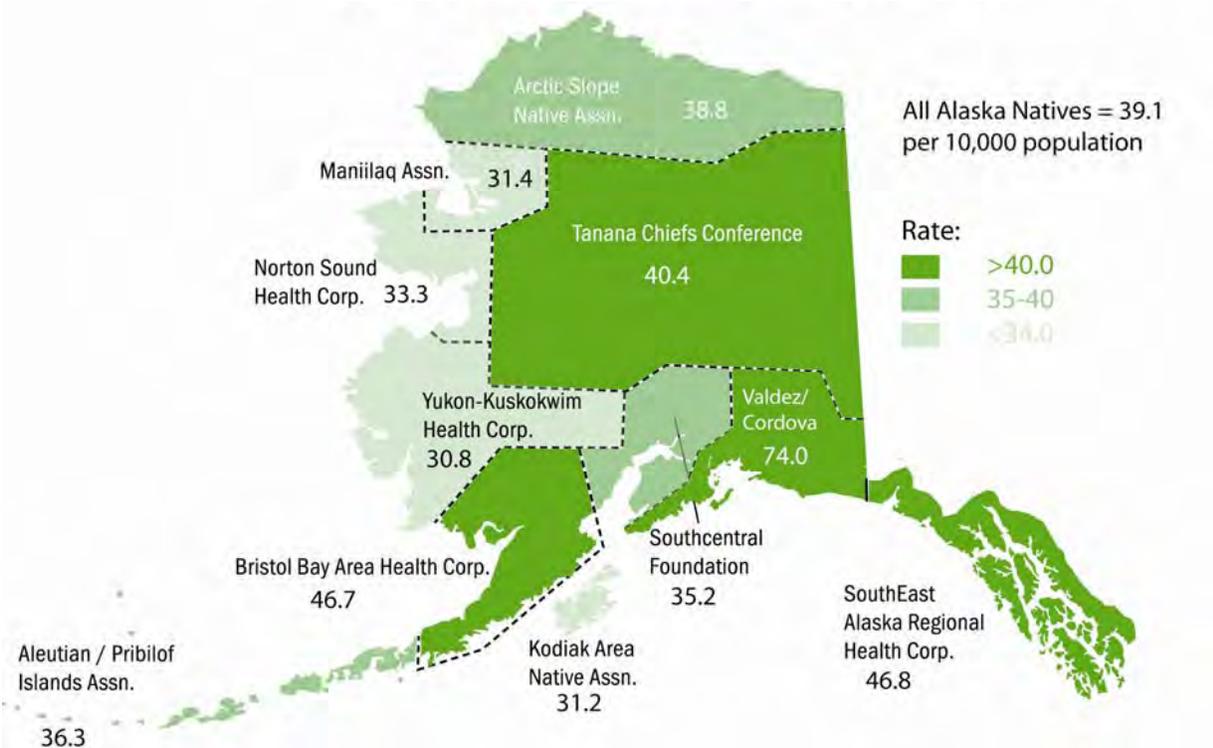
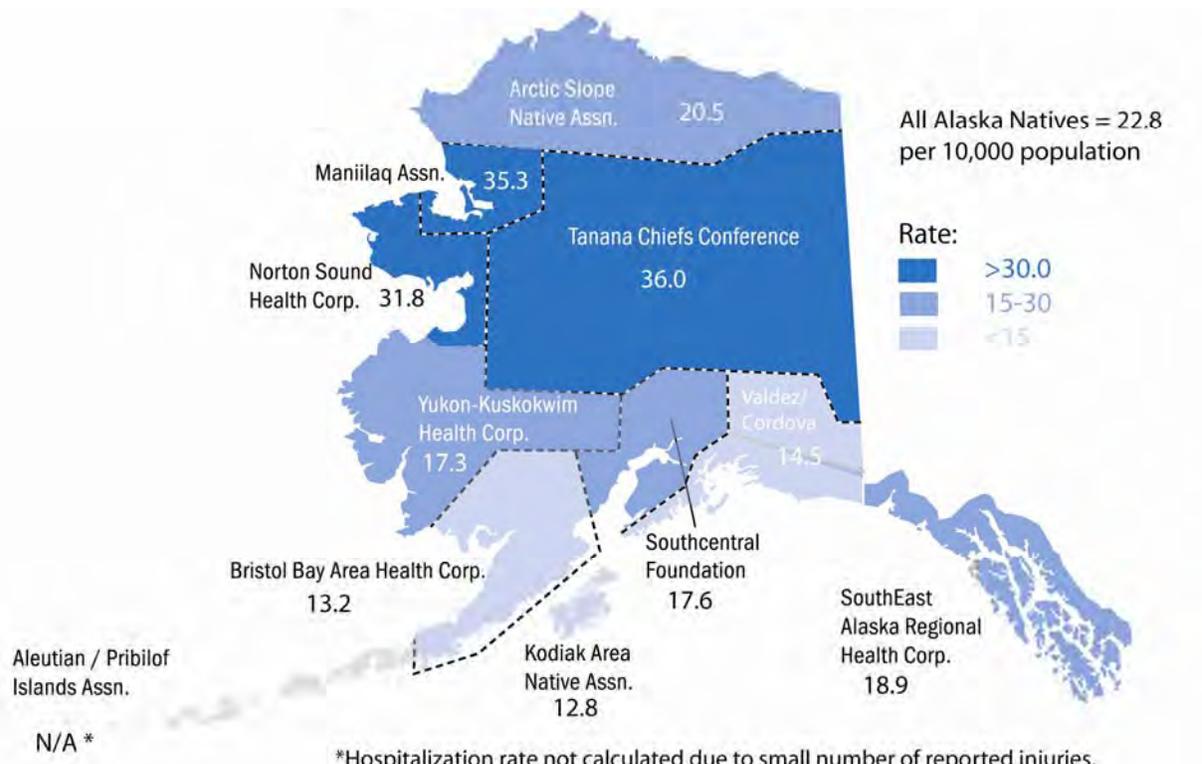


Figure 36. Crude Non-Fatal Fall Hospitalization Rate per 10,000 by Tribal Health Organization, Alaska, 1991-2001



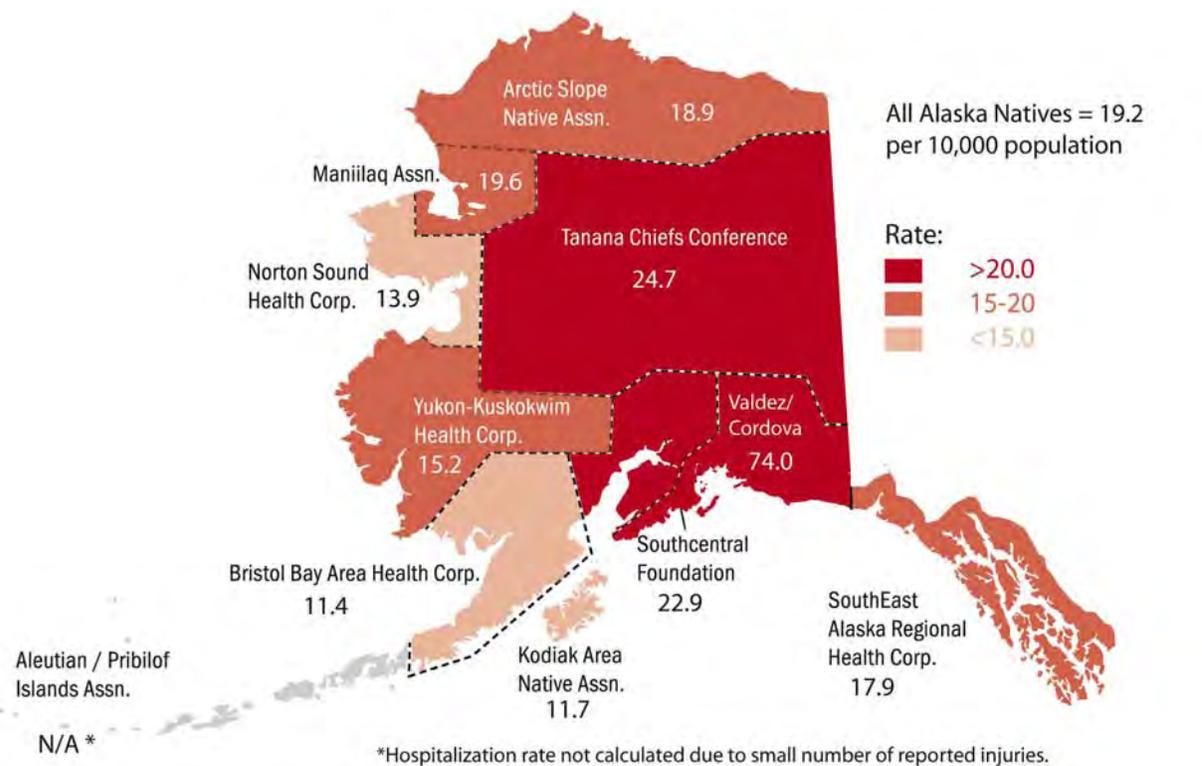
Injury Hospitalizations– Suicide, Assaults

Figure 37. Crude Hospitalization Rate per 10,000 for Suicide Attempts by Tribal Health Organization, Alaska, 1991-2001



*Hospitalization rate not calculated due to small number of reported injuries.

Figure 38. Crude Hospitalization Rate per 10,000 for Assault Injuries by Tribal Health Organization, Alaska, 1991-2001



*Hospitalization rate not calculated due to small number of reported injuries.

Environmental Health– Water and Sewer Service Rates

Definition: Percent of housing units with water/sewer pipes or closed haul services.

Note: Housing units which have received funding for pipes or closed haul 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%.

Summary:

- As of 2006, 66% of the communities in the YKHC service area had water and sewer service.

Data availability: Available by Tribal Health Region, Census Area, Statewide

Geographical Definition: YKHC is defined as all of the communities served by YKHC.

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

Table 17. Water and Sewer Service Rates by Tribal Health Organization, Alaska, 2006

Region	Total Number of Housing Units	% of Housing Units with Served Water and Sewer
ASNA	1668	91%
BBAHC	1863	88%
Maniilaq	1504	82%
NSHC	1565	70%
SEARHC	2098	98%
TCC	877	49%
YKHC	4235	66%

Data Source: ANTHC DEHE 13

Preventive Services and Access to Health Care

Cancer– Leading Cancers

Table 18. Leading Cancers, YKHC Alaska Natives, 1989-2003

	Site	No.	% of Total
1	Colon/Rectum	132	23.8%
2	Lung	115	20.7%
3	Breast	43	7.7%
4	Kidney	33	5.9%
5	Stomach	29	5.2%
6	Pancreas	20	3.6%
7	Oral/Pharynx	19	3.4%
8	Non-Hodgkin	13	2.3%
9	Liver	12	2.2%
10	Prostate	12	2.2%
	Total	428	77.1%

Data Source: ANTHC OAHNHR ¹⁴

Table 19. Leading Cancers, All Alaska Natives, 1989-2003

	Site	No.	% of Total
1	Colon/Rectum	698	18.4%
2	Lung	660	17.4%
3	Breast	583	15.4%
4	Prostate	238	6.3%
5	Stomach	177	4.7%
6	Oral/Pharynx	156	4.1%
7	Kidney	155	4.1%
8	Pancreas	107	2.8%
9	Non-Hodgkin	87	2.3%
10	Leukemia	74	2.0%
	Total	2,935	77.5%

Data Source: ANTHC OAHNHR ¹⁴

Cervical Cancer Screening

Definition: Female patients ages 21 through 64 that have a documented pap smear during the three-year period 2004-2006.

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.

Healthy People 2010, Objective 3-13: Increase the proportion of women aged 18 years and older who received a pap test within preceding 3 years to 90%.

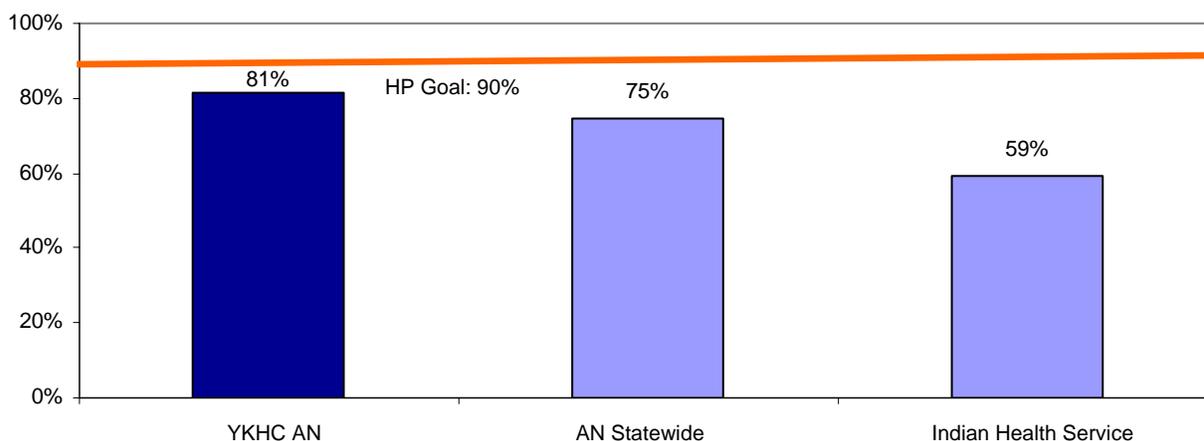
Healthy Alaskans 2010, Objective 22.11: Increase the proportion of women aged 18 years and older who received a pap test within the preceding 3 years to 95%.

Summary:

Eight out of ten YKHC AK Native women had received a cervical cancer screening within three years of the end of 2006. This is 22% higher than that for all I.H.S. AI/AN nationwide.

Geographical Definition: YKHC AN includes all patients residing in communities served by YKHC.

Figure 39. Cervical Cancer Screening Rates, Women, 21-64 years, 2006



YKHC AN Data Source: YKHC GPRA Report Calendar Year 2006¹⁹

AN Statewide and Indian Health Service Data Source: Government Performance and Results Act 2006²⁶

Breast Cancer Screening

Definition: Female patients ages 52 through 64 that have a documented mammogram during a two-year period 2005-2006.

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).

Healthy People 2010, Objective 3-13: Increase the proportion of women aged 40 years and older who have received a mammogram within the preceding 2 years to 70%.

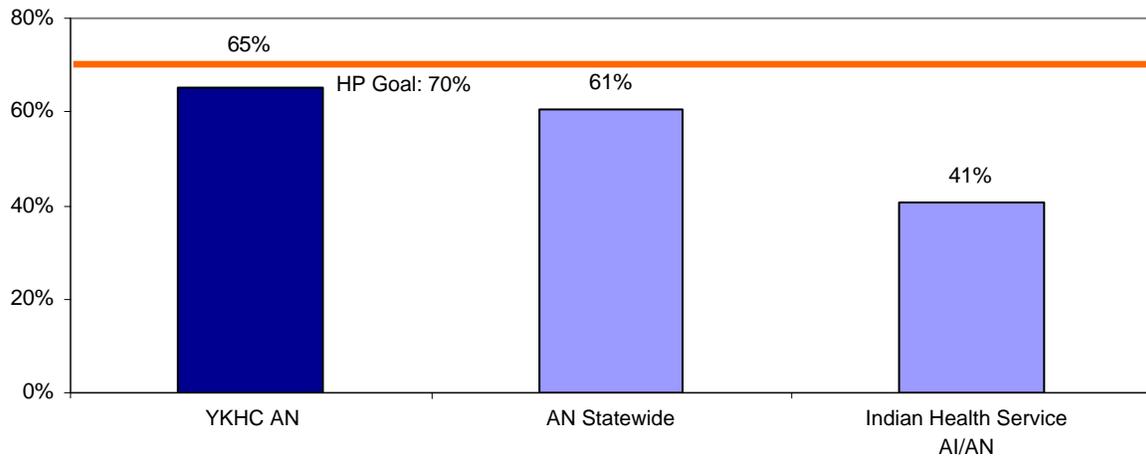
Healthy Alaskans 2010, Objective 22.11: Increase the proportion of women aged 40 years and older who have received a mammogram within the preceding 2 years to 76%.

Summary:

- Sixty-Five percent (65%) of Alaska Native women in the YKHC service area aged 52 to 64 years received a mammogram within two years of the end of 2006. This is 24% higher than for I.H.S. AI/AN women nationwide.

Geographical Definition: YKHC AN includes all patients residing in communities served by YKHC.

Figure 40. Breast Cancer Screening Rates, Women, 52-64 Years, 2006



YKHC AN Data Source: YKHC GPRA Report Calendar Year 2006¹⁹

AN Statewide and Indian Health Service Data Source: Government Performance and Results Act 2005 and 2006²⁶

Colorectal Cancer Screening

Definition: Percent of adults age 50 and older who report ever having a sigmoidoscopy or colonoscopy. (This does not include Fecal Occult Blood Test)

Healthy People 2010, Objective 3-12b: Increase the proportion of adults aged 50 years and older who have ever received a sigmoidoscopy to 50%.

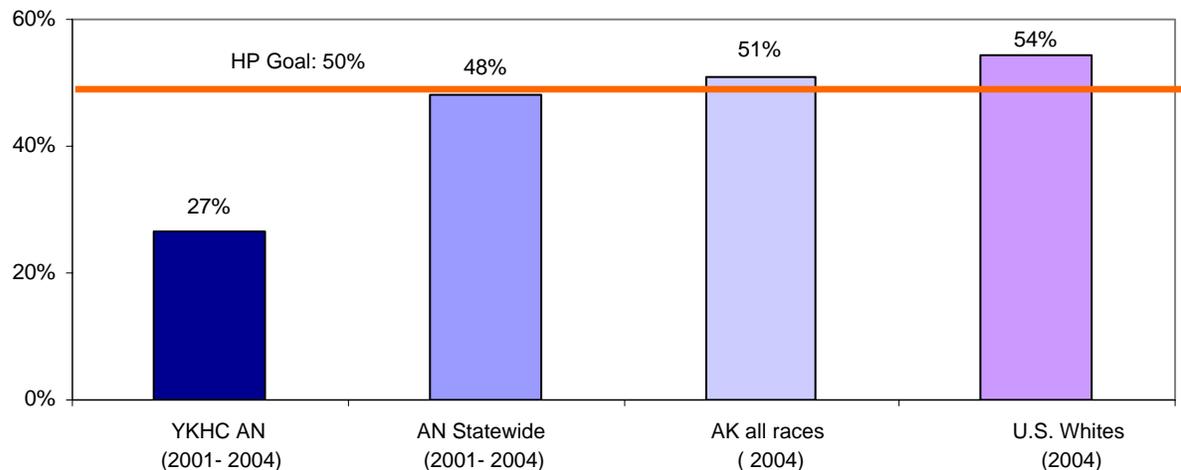
Healthy Alaskans 2010, Objective 22.10: Increase the proportion of adults 50 years and older who received colorectal cancer screening examinations to 64%.

Summary:

- About one out of every four (27%) YKHC Alaska Natives age 50 years and older report ever having a sigmoidoscopy or colonoscopy. Twice the number of U.S. Whites (54%) in the same age group reported ever receiving one of these procedures.

Geographical Definition: YKHC AN includes all residents living in communities served by YKHC..

Figure 41. Percent who have had sigmoidoscopy or colonoscopy ever, 50 years and older, 2001-2004 (weighted, n=76)



Data Source: Alaska Behavioral Risk Factor Surveillance System ⁹
Analysis conducted by: Alaska Native Epidemiology Center
U.S. Data Source: Behavioral Risk Factor Surveillance System ²¹

Immunizations– 4:3:1:3:3

Definition: By two years of age, it is recommended that all children should have received 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 Haemophilus Influenza, type B (Hib) vaccines. This recommendation is referred to in shorthand as "4:3:1:3:3."

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

Healthy Alaskans 2010, Objective 18.10: Increase proportion to 90%

Summary:

- As of June 2006, YKHC service area had attained Healthy Alaskans objective of 90% 4:3:1:3:3 coverage.

Data Availability: Available by region (Tribal Health Organizations), statewide for AK Natives and nationwide for the Indian Health System. Data on immunization coverage for non-natives is less comprehensive.

Geographical Definition: YKHC AN includes all patients residing in communities served by YKHC.

For more information: Go to the ANTHC Immunization Program at <http://www.anthc.org/cs/chs/>

Figure 42. Two-year old vaccination coverage, YKHC Alaska Natives, as of June 2006

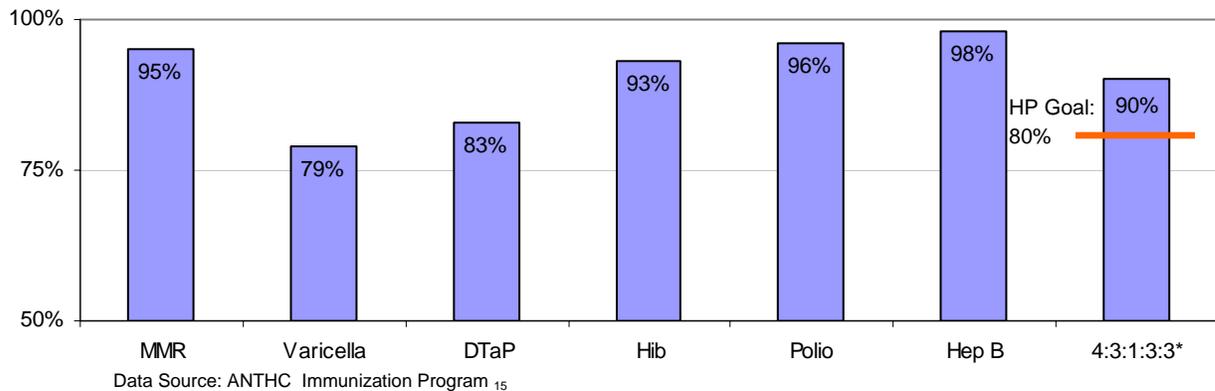
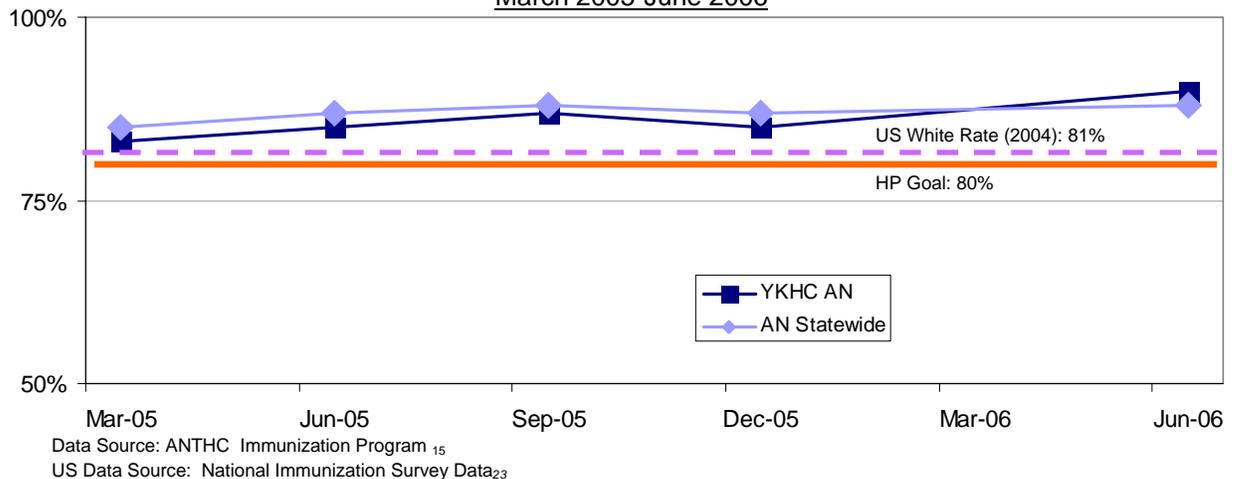


Figure 43. Two-year old rates of 4:3:1:3:3 Vaccination Coverage
March 2005-June 2006



Immunizations– Influenza and Pneumococcal Vaccine ages 65 and older

Definition: 1) Percent of adults aged 65 years and older who have received an influenza vaccine in the past year; 2) Percent of adults who have ever received a pneumococcal vaccine

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

Healthy Alaskans 2010, Objective 18.14: same definition and goal as above.

Summary:

- As of June 2006, 46% of YKHC users 65 years and older were vaccinated against influenza in the past year
- As of June 2006, 91% of YKHC users 65 years and older had received a pneumococcal vaccine ever.

Data Availability: Available by region (Tribal Health Organizations), statewide for AK Natives and nationwide for the Indian Health System. Data on immunization coverage for non-natives is less comprehensive.

Geographical Definition: YKHC includes all patients residing in communities served by YKHC.

For more information: Go to the ANTHC Immunization Program at <http://www.anthc.org/cs/chs/immunization/>

Table 20. Influenza and Pneumococcal Vaccination Rates by Tribal Region for Alaska Natives Adults 65 years and older with 2 clinic visits in the past 3 years, June 2006

Region	Influenza past yr Number %	Pneumovax ever Number %
Anchorage	726 51%	1,279 91%
Matsu	71 48%	122 82%
TCC	392 54%	656 90%
Sitka	152 63%	210 87%
Maniilaq	245 57%	418 97%
YKHC	624 46%	1,219 91%
BBAHC	198 42%	391 82%
North Slope	204 63%	266 82%
Juneau	180 57%	253 81%
KIC	77 43%	135 75%
Metlakatla	71 65%	83 76%

Data Source: ANTHC Immunization Program 15

Diabetes

Definition: Diabetes happens when sugars stays in the bloodstream rather than going into the muscle and fat cells. There are two types of diabetes, Type 1 and Type 2. Type 2 is the most common type of diabetes.

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

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

Summary:

- The rate of diabetes increased by 138% from 1990 to 2004 among Alaska Natives in the YKHC service area.
- As of 2004, 22 out of every 1,000 people in the YKHC service area had diabetes.

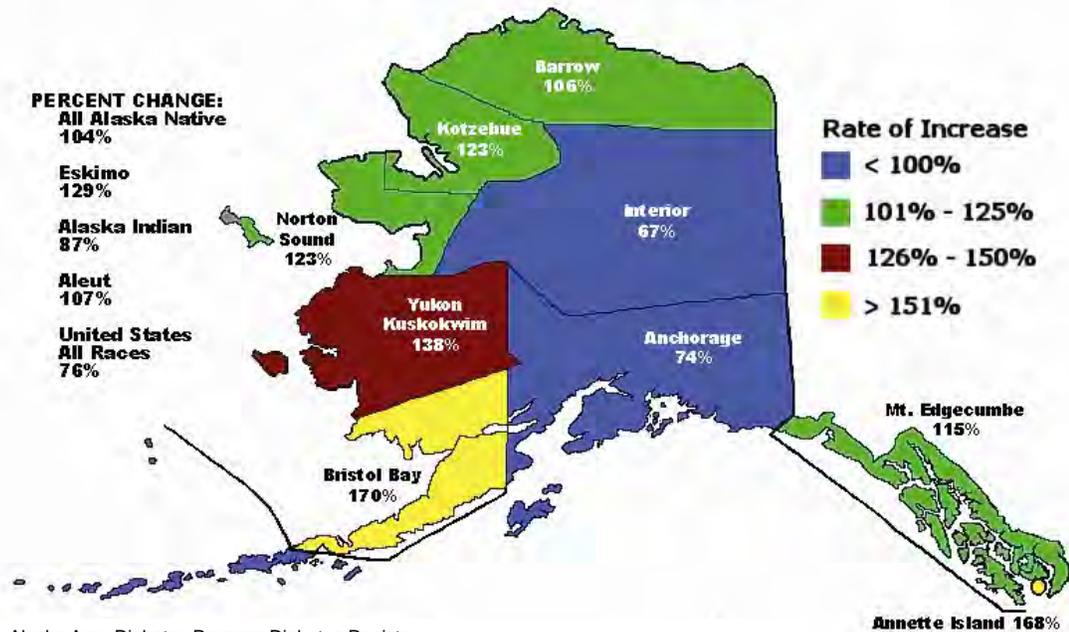
Data Availability: Available by region (Tribal Health Organizations), statewide for AK Natives and nationwide for the Indian Health System. Data on immunization coverage for non-natives is less comprehensive.

Geographical Definition: YKHC service area is defined as the Yukon-Kuskokwim Delta Service Unit.

For more information: Go to the ANTHC Diabetes Program at <http://www.anmc.org/services/diabetes/>

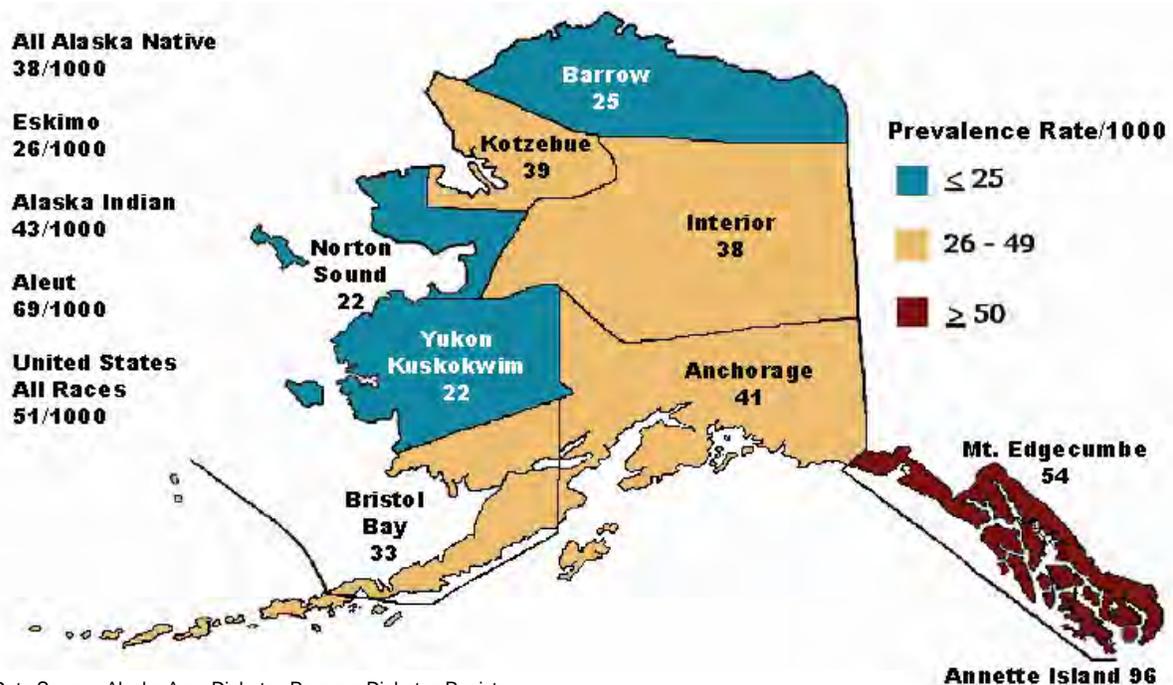
Note: Maps reprinted with permission from Alaska Area Diabetes Program

Figure 44. Percent Rate of Increase in Diabetes Prevalence Among Alaska Natives
1990 versus 2004
Prevalence per 1,000 Population, Age-Adjusted to U.S. 2000 Estimated Population



Data Source: Alaska Area Diabetes Program Diabetes Registry 16

Figure 45. 2004 Diabetes Prevalence among Alaska Natives
Prevalence per 1,000 Population, Age-Adjusted to U.S. 2000 Estimated Population
Regions by Previous I.H.S. Service Units



Data Source: Alaska Area Diabetes Program Diabetes Registry 16

Maternal, Infant and Child Health– Infant Mortality Rate

Definition: Infant deaths within 1 year of birth per 1,000 live births

Healthy People 2010, Objective 16-1c. Reduce infant death rate to 4.5/1,000 live births.

Healthy Alaskans 2010, Objective 16.2: Reduce infant death rate to 4.5/1,000 live births.

Summary:

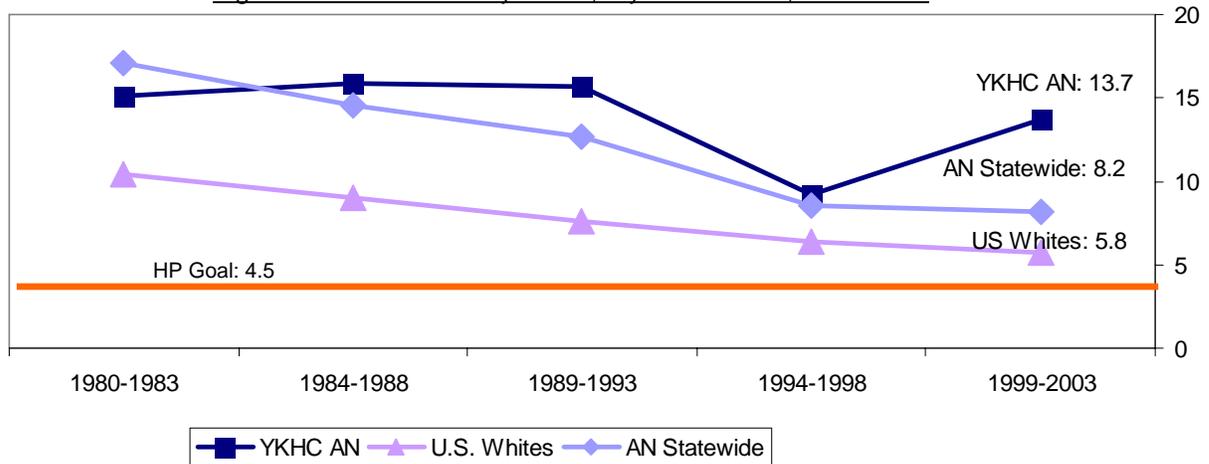
- There has been no significant decrease in infant mortality rates during 1980-2003 among YKHC Alaska Natives.
- The infant mortality rate among YKHC Alaska Natives is 2.3 times greater than for U.S. Whites. This is a significant difference.

Data availability: Mortality data is available by borough or census area, race, and statewide through 2004. Periodic Reports on Alaska Native Mortality are published by the Alaska Native Epidemiology Center, <http://www.anthc.org/cs/chs/epi/>

Geographical Definition: YKHC AN includes all residents of communities served by YKHC.

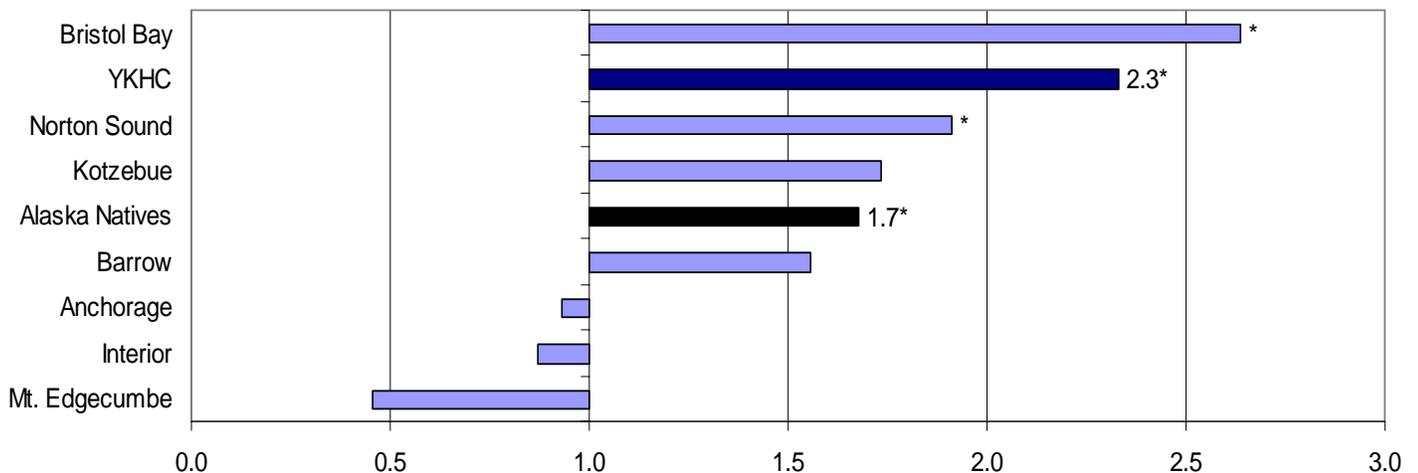
For more information: Visit the Alaska Bureau of Vital Statistics at <http://www.hss.state.ak.us/dph/bvs/>

Figure 46. Infant Mortality Rates, 5-year intervals, 1980-2003



* Significant decrease over time; Alaska Data Source: Alaska Bureau of Vital Statistics⁷; Analysis Conducted by: Alaska Native Epidemiology Center; U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program²⁰

Figure 47. Ratio of Infant Mortality Rates for Alaska Natives Compared to U.S. Whites for Service Regions, 1999-2003



* Alaska Native rate is significantly different from US White rate (P<.05); Alaska Data Source : Alaska Bureau of Vital Statistics⁷; Analysis Conducted by: Alaska Native Epidemiology Center; U.S. Data Source: Surveillance, Epidemiology, and End Results (SEER) Program²⁰

Maternal, Infant and Child Health– Low Birth Weight

Definition: Births less than 2500 grams as percent of live births

Healthy People 2010, Objective: 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%.

Summary:

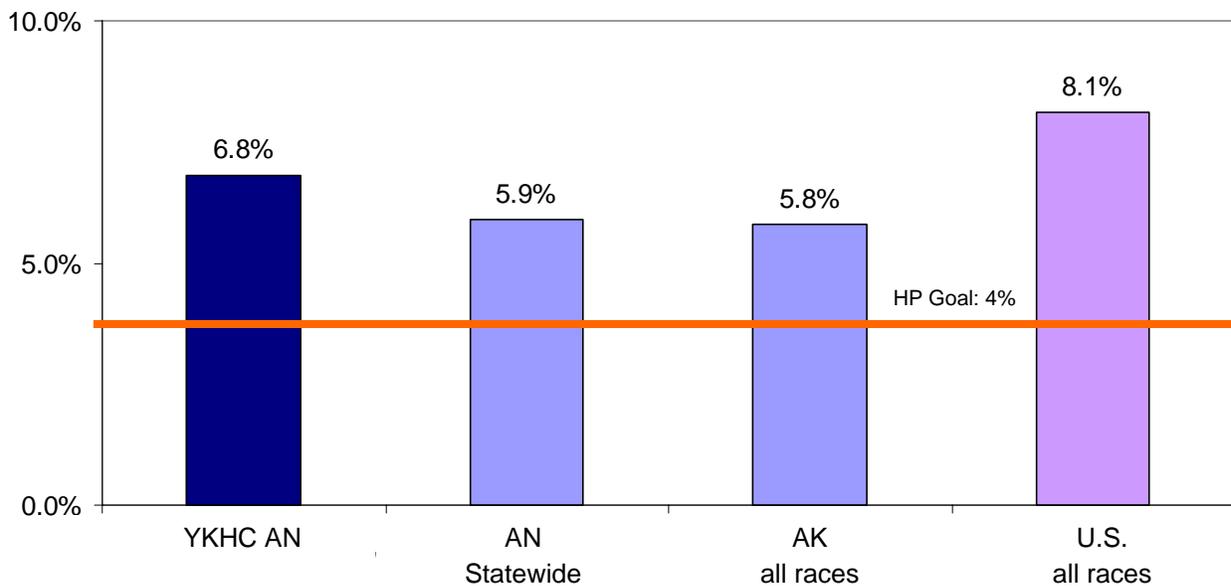
- A lower percentage of births among Alaska Natives in the YKHC service area are low birth weight compared to the U.S. (all races).

Data availability: Available by Census Area, by Race, Statewide through 2004

Geographical Definition: YKHC service area is defined as the Bethel and Wade-Hampton Census Areas combined.

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

Figure 48. Percentage of Live Births with Low Birth Weight, 2000-2004



Data Source: Alaska Bureau of Vital Statistics ¹⁷
US Data Source: National Center for Health Statistics ²⁴

Maternal, Infant and Child Health– Adequate Prenatal Care

Definition: The Adequate Prenatal Care Utilization Index (APCNU) combines the initiation of prenatal care and the number of prenatal visits. A ratio of actual to recommended visits is calculated. When the ratio is 110% or greater, care is considered “adequate plus” prenatal care. If the ratio is greater than 80% but less than 110%, care is considered “adequate”. A ratio between 50 and 79% is considered “intermediate” and a ratio of less than 50% is considered “inadequate” (Bureau of Vital Statistics, 2002). For this report, the categories “adequate” and “adequate plus” were combined to create the category “adequate or greater.”

Healthy People 2010, Objective 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 (APNCU Index greater than or equal to 80) to 90%.

Summary:

- Almost 26% of Alaska Native pregnant women in the YKHC service area were documented on the birth certificate as having received adequate or better prenatal care. This percent is less than half that of pregnant women statewide (65%).

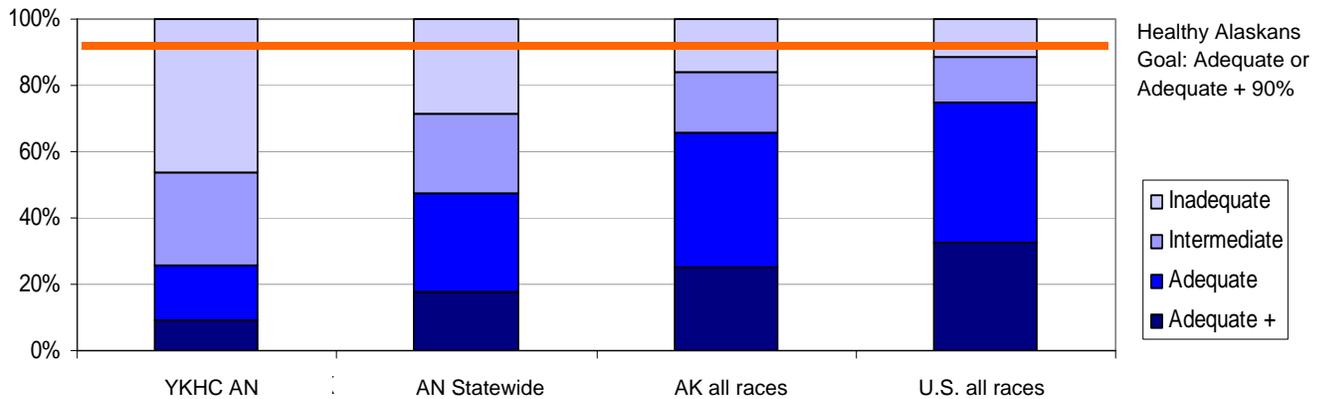
Data availability: Available by Census Area, by Race, Statewide

Geographical Definition: YKHC service area is defined as the Bethel and Wade-Hampton Census Areas combined.

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

Note: Differing methods in recording prenatal visits may lead to an under representation of adequate prenatal care; U.S. Rate is based on 41 states, the District of Columbia and New York City

Figure 49. Percentage of Births by Adequacy of Prenatal Care (APNCU), 2000-2004



	YKHC AN	AN Statewide	AK all races	U.S. all races.
Adequate plus	8.9%	17.5%	25.0%	32.6%
Adequate	16.9%	30.2%	40.5%	42.6%
Intermediate	27.7%	23.9%	18.3%	13.7%
Inadequate	46.4%	28.4%	16.2%	11.2%

Data Source for Figure and Table: Alaska Bureau of Vital Statistics 17

U.S. Data Source: National Center for Health Statistics 24

Maternal, Infant and Child Health– Smoking and Alcohol Consumption during Pregnancy

Definition: Percent of women who reported alcohol-use and smoking anytime during pregnancy.

Healthy People 2010, Objective 16-17a. Increase the reported abstinence in past month from alcohol use by pregnant women to 94%; **Objective 16-17c.** Increase in reported abstinence in past month from cigarette smoking by pregnant women to 99%.

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

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

Summary:

- Among Alaska Native mothers in the YKHC service area, 94% report abstaining from alcohol use during pregnancy compared to 98% percent of mothers state-wide.
- Among Alaska Native mothers in the YKHC service area, 78% report abstaining from smoking cigarettes during pregnancy, 11% higher than Alaska Natives state-wide.

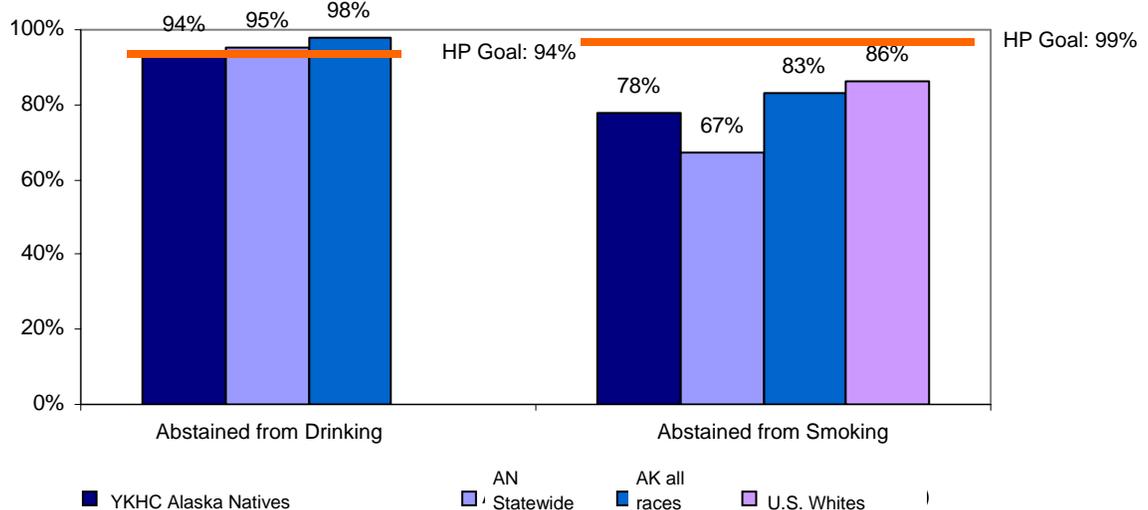
Data availability: Available by Census Area, by Race, Statewide

Geographical Definition: YKHC service area is defined as the Bethel and Wade-Hampton Census Areas combined.

For more information: Statewide birth statistics are available at <http://www.hss.state.ak.us/DPH/bvs/data/default.htm>. National birth statistics available at <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/prelimbirths04/prelimbirths04health.htm>

Note: Vital Statistics data reported here is data from birth certificates which refers to smoking and alcohol use at any time during pregnancy.

Figure 50. Percent of women reporting Abstaining from Alcohol Use and Smoking During Pregnancy 2000-2004



Data Source: Alaska Bureau of Vital Statistics 17

U.S. Data Source: National Center for Health Statistics 24

Family Planning– Teen Birth Rate

Definition: Live births per 1,000 females age 15-19 years.

Healthy People 2010, Objective 16.2. Reduce pregnancies among adolescent females aged 15 to 17 years to 43 per 1,000 live births.

Healthy Alaskans 2010, Objective 17.2. Reduce young teen births 15 to 17 years to 18 per 1,000 live births.

Summary:

- The teen birth rate for the YKHC service area is slightly higher than the rate for Alaska Natives statewide but is more than double the teen birth rate statewide.

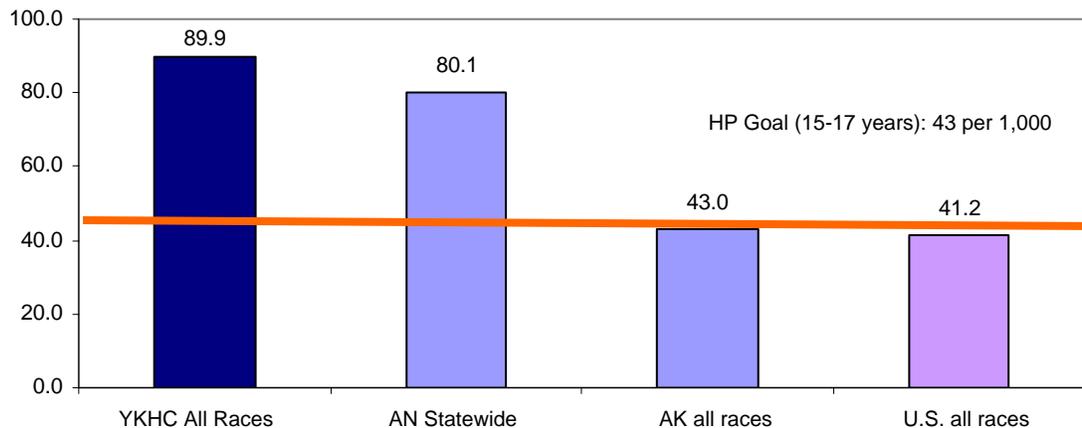
Data availability: Available by Census Area, by Race, Statewide

Geographical Definition: YKHC service area is defined as the Bethel and Wade-Hampton Census Areas combined.

For more information: Statewide birth statistics are available at <http://www.hss.state.ak.us/DPH/bvs/data/default.htm>. National birth statistics available at <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/prelimbirths04/prelimbirths04health.htm>

Note: Data presented are for teen births age 15-19 years. Healthy Alaskans 2010 and Healthy People 2010 Objectives are to reduce young teen births ages 15-17 years.

Figure 51. Teen Birth Rate (15-19 yrs) per 1,000 Live Births, 2000-2004



Data Source: Alaska Bureau of Vital Statistics ¹⁸

U.S. Data Source: National Center for Health Statistics ²⁴

Responsible Sexual Behavior– Adolescents

Definition: Percent of high school students who never had sexual intercourse or who had intercourse in past 30 days and used a condom at last intercourse.

Healthy People 2010, Objective 25.11: Increase the proportion of adolescents who abstain from sexual intercourse or use condoms if currently sexually active to 95%

Healthy Alaskans 2010, Objective 19.14 & 19.15: Increase the proportion of adolescents who abstain from sexual intercourse to 65%; Increase the proportion of sexually active adolescents who use condoms

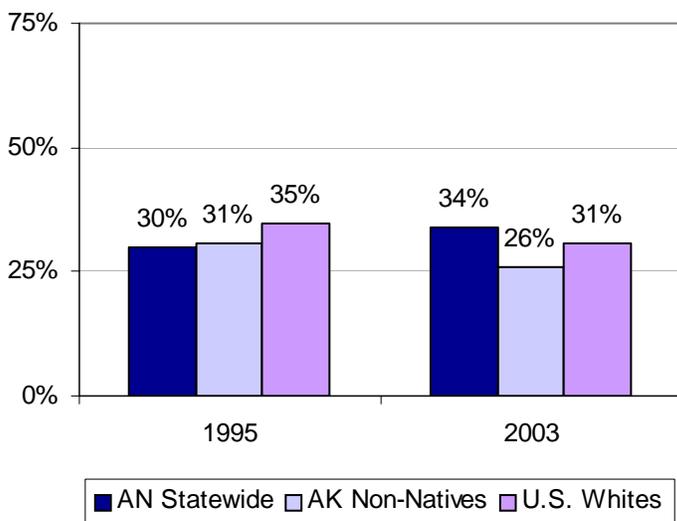
Summary:

- One-third of Alaska Native high school students are sexually active. Of those students, 68% used a condom at last intercourse.

Data availability: available by race, statewide. Sample size is not large enough to be broken down to the regional level. Due to a small sample size from 2005, no data was able to be analyzed.

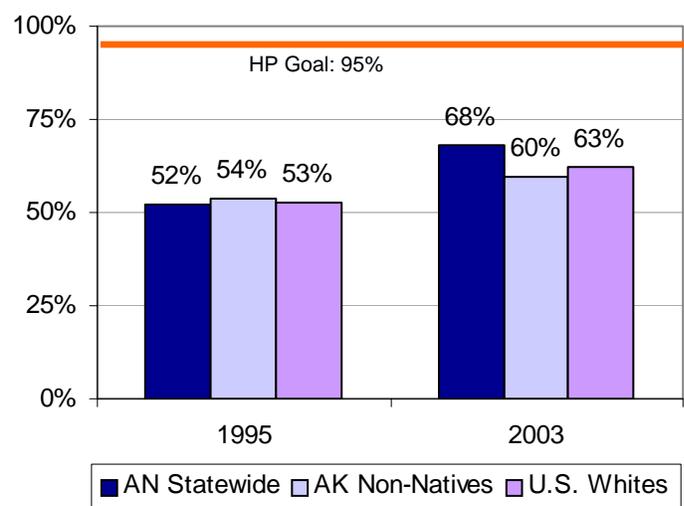
For more information: For Alaska Youth Risk Behavior Survey Reports (YRBS), go to <http://www.hss.state.ak.us/dph/chronic/school/YRBS.htm>
For state and national level data, visit CDC Youth Risk Behavior Surveillance System website at <http://apps.nccd.cdc.gov/yrbss/>

Figure 52. Percent of high school students who had sex during the last three months, 1995 and 2003 (weighted, n=7236)



Data Source: Alaska Youth Risk Behavior Survey 10
US Data Source: Youth Risk Behavior Survey 22

Figure 53. Percent of sexually active high school students who used a condom during last sexual intercourse, 1995 and 2003 (weighted, n=2360)



Data Source: Alaska Youth Risk Behavior Survey 10
US Data Source: Youth Risk Behavior Survey 22

Sexually Transmitted Infections (STI) Gonorrhea and Chlamydia

Definition: Chlamydia is a common STD caused by Chlamydia trachomatis, a bacterium, which can damage a woman's reproductive organs. Gonorrhea is an STI caused by the bacterium neisseria gonorrhea.

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 (per 100,000 population) to 304; Reduce gonorrhea rate to 19 (per 100,000).

Summary:

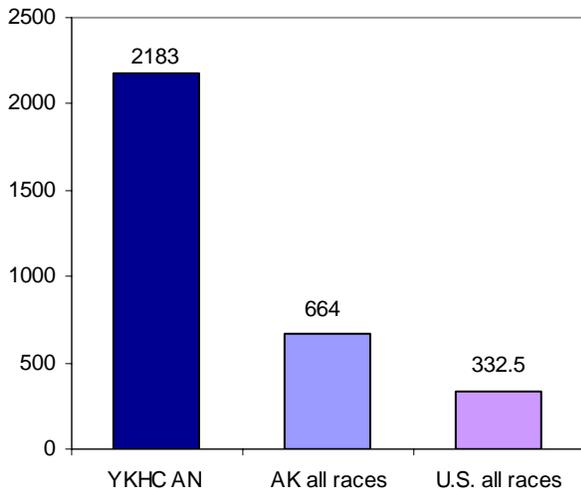
- The Chlamydia rate for Alaska Natives living in the YKHC service area (2183 per 100,000) is more than 3 times that for all Alaskans, and more than 6 times that of U.S. all races.
- The YKHC Gonorrhea rate of 116 per 100,000 is higher than for all Alaskans but nearly the same as the rate for U.S. all races.

Data availability: Available by Region, by Race, Statewide

Geographical Definition: YKHC AN includes all residents living in communities served by YKHC.

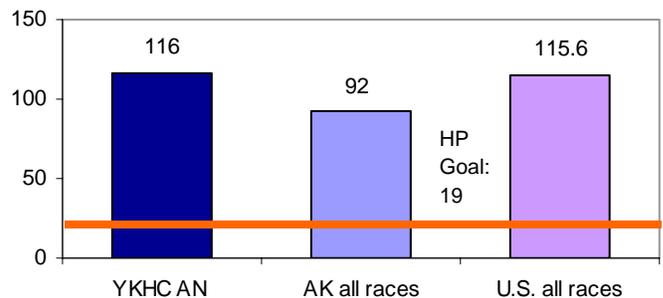
For more information: Statewide birth statistics are available at <http://www.hss.state.ak.us/DPH/bvs/data/default.htm>. National birth statistics available at <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/prelimbirths04/prelimbirths04health.htm>

Figure 54. Chlamydia Rate per 100,000 population, 2005



Data Source: State of AK Epidemiology, AN Epidemiology Center
U.S. Data Source: CDC Division of STD Prevention

Figure 55. Gonorrhea Rate per 100,000 population, 2005



Data Source: State of AK Epidemiology, AN Epidemiology Center
U.S. Data Source: CDC Division of STD Prevention

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Service Region	Percent	1999-2003	1994-1998	1989-1993	1984-1988	1980-1983
	Change	Rate per 1,000				
Anchorage	57%?	5.5	8.0	9.1	12.2	12.8
Barrow	69%?	9.2	8.3	12.5	22.3	30.1
Bristol Bay	NS	15.6	5.9	9.1	16.5	10.4
Interior	73%?	5.1	9.7	15.0	13.4	19.0
Kotzebue	63%?	10.2	10.5	17.4	18.9	27.4
Mt. Edgecumbe	85%?	2.7	7.9	10.6	12.4	18.3
Norton Sound	52%?	11.3	8.9	18.4	16.2	23.3
YKHC AN	NS	13.7	9.2	15.7	15.9	15.1
U.S. Whites ^a	43%?	5.8	6.4	7.6	9.0	10.4
Alaska Natives ^b	52%?	8.2	8.5	12.7	14.6	17.1
? Significant Mantel Haenszel Chi-Square for Trend Test						
^a U.S. White rates are from SEER data						
based their denominator largely on mother's race. Our denominator includes all infants born to either a Native mother or father.						

Table 22. Infant Mortality Rates for Alaska Natives by Service Region for Five Time Periods 1980-1983^c, 1984-1988, 1989-1993, 1994-1998, 1999-2003

Service Unit Name	Anchorage	Barrow	Bristol Bay	Interior	Kotzebue	Mt. Edgecumbe	Norton Sound	YKHC
Births 99-03 ^a	4918	544	514	1365	879	1488	886	2982
Deaths ^b	27	5	8	7	9	4	10	41
Rate per 1,000	5.5	9.2	15.6	5.1	10.2	2.7	11.3	13.7
Births 94-98 ^a	4508	482	680	1240	855	1521	894	2947
Deaths ^b	36	4	4	12	9	12	8	27
Rate per 1,000	8.0	8.3	5.9	9.7	10.5	7.9	8.9	9.2
Births 89-93 ^a	4949	638	549	1535	1091	1894	1087	3185
Deaths ^b	45	8	5	23	19	20	20	50
Rate per 1,000	9.1	12.5	9.1	15.0	17.4	10.6	18.4	15.7
Births 84-88 ^a	4191	629	727	1497	1057	2022	1114	2833
Deaths ^b	51	14	12	20	20	25	18	45
Rate per 1,000	12.2	22.3	16.5	13.4	18.9	12.4	16.2	15.9
Births 80-83 ^a	2980	399	480	1105	657	1478	687	1852
Deaths ^b	38	12	5	21	18	27	16	28
Rate per 1,000	12.8	30.1	10.4	19.0	27.4	18.3	23.3	15.1

^a All births in which either the mother or father is listed as Native for race. Births from 1996-2003 are from BVS Birth Database. Births before 1996 are from Alaska Native Births and Infant Deaths, 1980-1997, ANTHC, Alaska Area Office, Division of Planning, Evaluation, and Health Statistics, 2001.

^b All deaths for Alaska Natives under 1 year of age. Data comes from BVS Mortality Database.

^c The earliest time period comprises four years instead of five.

Table 23. Ratio of Infant Mortality Rates for Alaska Natives Compared to U.S. Whites for Service Regions, 1999-2003					
		95% Confidence Intervals			
	Rate Ratio	Lower Limit	Upper Limit		
Mt. Edgecumbe	0.5	0.17	1.21		
Interior	0.9	0.41	1.82		
Anchorage	0.9	0.64	1.35		
Barrow	1.6	0.65	3.71		
Alaska Natives	1.7	1.39	2		
Kotzebue	1.7	0.9	3.3		
Norton Sound	1.9	1.02	3.51		
YKHC	2.3	1.7	3.13		
Bristol Bay	2.6	1.31	5.18		

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Appendix C. References and Data Sources

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Appendix C. References and Data Sources

Alaska Data

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Appendix D. Description of Selected Data Sources

Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing national telephone-based survey supported by the Centers for Disease Control and Prevention (CDC). Alaska began participating in the BRFSS in 1990. The CDC now provides funding and technical assistance to all 50 states, Washington DC, and 3 territories to conduct the survey annually. The survey includes questions about health status and perceptions, preventive health practices, and risky behaviors that influence the prevalence of chronic disease, injury, and preventable infectious diseases.

The BRFSS is a standardized telephone interview conducted with a computer-assisted script. There is a fixed core of questions asked by all states every year and a rotating core asked by all states in alternating years. In addition, there are a number of optional modules that states may or may not choose to use and states may add questions on their own. The entire interview takes less than 30 minutes to complete. Interviews are conducted during every month of the year. Approximately 200 adults are interviewed each month in Alaska.

Respondents are adults 18 years and older living in households. Individuals living in military barracks, dormitories, nursing homes, and other group living situations are excluded. Apart from that exclusion, each state's sample is designed to be representative of the state's population. Respondents are contacted by telephone using a selection process based on area codes and prefixes that are highly likely to be associated with residential listings. Alaska uses an additional sampling procedure to take into account differences in telephone coverage by geographic and economic factors. It is estimated that 97% of the households in the state as a whole have telephones (U.S. Census 2000 Summary File 3), but the percentage is substantially lower in some geographic areas and among groups of lower socioeconomic status.

The analysis of BRFSS data requires complex statistical procedures to take into account the fact that not every adult resident of the state has an equal chance of being contacted for an interview. The analysis assigns a probability to each respondent which reflects their likelihood of being contacted. In addition, each person interviewed is treated as a representative for other, similar persons. The probability factor and assumption of representativeness are used to calculate a statistical weighting factor to be used in analysis to draw inferences about the overall population.

Cautionary Note:

For this report, the results of respondents from the YKHC service area were analyzed in order to give an estimate of several behavioral measures on a regional level. Although these estimates can be useful for planning or evaluation purposes, the number of respondents from the region is relatively small therefore readers should use caution in the interpretation of these estimates. Confidence intervals were also not calculated for these estimates. For this reason, differences in estimates between populations, age groups, gender, and over time in this report cannot determine statistical significance.

BRFSS data has not been age-adjusted to account for the different age distributions between populations. Since Alaska's population as a whole is younger than the U.S. Population as a whole, comparisons between these populations should be interpreted with caution.

Appendix D. Description of Selected Data Sources

Youth Risk Behavior Survey

(Description from <http://www.hss.state.ak.us/dph/chronic/school/YRBS.htm>)

The Youth Risk Behavior Survey (YRBS) is part of an epidemiological surveillance system that was established in 1988 by the [Centers for Disease Control and Prevention \(CDC\)](#). 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 and 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 diseases (STD's) and unintended pregnancies
- dietary behaviors
- physical activity

The YRBS has been administered in Alaska five times, 1995, 1999, 2001, 2003 and 2005. Weighted (representative) data were collected in 1995 and 1999, and 2003, resulting in published reports.

Alaska Trauma Registry

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

The Alaska Trauma Registry 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 trauma registry 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, and for who contact occurred within 30 days of the injury. Injuries include trauma, poisoning, suffocation, and the effects of reduced temperature.

Trauma Registry data is confidential and protected under Alaska Statute 18.23.010-070 All trauma registry personnel and those requesting trauma registry data are required to sign a confidentiality statement. The trauma registry does not include patient, physician, hospital, clinic, or ambulance service identifiers.

IPEMS provides quality improvement and administrative reports to hospital and ambulance service officials. Trauma registry information is also used by a variety of agencies and individuals in the planning and evaluation of injury prevention programs, for research and public education, for EMS training, and in developing public policy.

Appendix D. Description of Selected Data Sources

Government Performance and Results Act (GPRA)

The Government Performance and Results Act requires each agency within the Department of Health and Human Services to develop a performance-based budget, including performance measures to demonstrate its effectiveness in meeting its mission. GPRA performance measures for the Indian Health Service assess the agency's progress toward improving quality and access to health care and reducing health disparities for the more than 1.4 million Alaska Native/American Indian (AN/AI) people receiving care through I.H.S./Tribal/Urban facilities. In Fiscal Year (FY) 2006, there were a total of 34 annual GPRA clinical and non-clinical measures.

For this report, an on-site Yukon-Kuskokwim Delta Regional Hospital (YKDRH) report for several GPRA clinical measures was run for AN/AI patients who were considered active clinical users during the calendar year 2006. Active clinical users are defined as having had 2 visits to one of YKHC's medical clinics or hospital in the 3 years prior to the end of calendar year 2006. Patients included must also reside in one of the communities served by the Yukon-Kuskokwim Health Corporation (YKHC) and must have been alive on the last day of calendar year 2006.

Appendix E. I.H.S. Service Units, And Corresponding Tribal Health Organizations, Villages And Census Area/Boroughs

I.H.S. Service Unit	Tribal Health Corporation/Village	Census Area/Borough
Anchorage	Alaska Native Tribal Health Consortium, Southcentral Foundation	Anchorage Municipality, Matanuska-Susitna Borough, Kenai Peninsula Borough, Kodiak Island Borough, Valdez-Cordova, Aleutians East Borough, Aleutians West Borough
	Aleutian Pribilof Islands Association	Aleutians East Borough, Aleutians West Borough
	Chickaloon	Matanuska-Susitna Borough
	Chitna	
	Chugachmuit	Kenai Peninsula Borough, Valdez/Cordova
	Copper River Native Association	Denali Borough, Southeast Fairbanks, Valdez/Cordova
	Eastern Aleutian Tribes	Aleutians East Borough
	Native Village of Eklutna	Anchorage Municipality
	Kenaitze Indian Tribe	Kenai Peninsula Borough
	Knik Tribal Council	Matanuska-Susitna Borough
	Kodiak Area Native Association	Kodiak Island Borough
	Mt. Sanford Tribal Consortium	Valdez/Cordova
	Southcentral Foundation	Anchorage Municipality, Matanuska-Susitna Borough
	St. George Island	
Seldovia Village Tribe	Kenai Peninsula Borough	
Native Village of Tyonek	Kenai Peninsula Borough	
Ninilchik Village Traditional Council	Kenai Peninsula Borough	
Annette Island	Metlakatla Indian Community	Prince of Wales/Outer Ketchikan
Barrow	Arctic Slope Native Association	North Slope Borough
Bristol Bay	Bristol Bay Area Health Corporation	Dillingham, Lake and Peninsula Borough, Bristol Bay Borough

I.H.S. Service Unit	Tribal Health Corporation/Village	Census Area/Borough
Interior	Tanana Chiefs Conference Council of Athabascan Tribal Governments Tanana Tribal Council	Denali Borough, Fairbanks North Star Borough, Southeast Fairbanks, Yukon-Koyukuk
Kotzebue	Maniilaq Association	Northwest Arctic Borough
Mt. Edgecumbe Ketchikan	Southeast Alaska Regional Health Consortium Ketchikan Indian Community Hoonah 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
Norton Sound	Norton Sound Health Corporation	Nome
Yukon-Kuskokwim Delta	Yukon-Kuskokwim Health Corporation	Bethel, Wade-Hampton