



Great Lakes Epicenter Epidemiology Project

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ABOUT THIS REPORT

This community report is a snapshot of the health of the American Indian/ Alaska Native people in the Great Lakes EpiCenter Project service area. The items chosen to report are not meant to be an exhaustive list of health indicators, but serve as a starting point. By tracking these indicators over time, a community can measure its progress toward a healthier community in the year 2000 and beyond. These indicators may also be useful in health program planning and resource allocation.

This report comes to you from the Great Lakes EpiCenter which is an epidemiology project funded through a grant from the Indian Health Service. The purpose of the project is to assist Tribes in the project area (Wisconsin, Michigan, and Minnesota) in the collection, interpretation, and analysis of health data.

Data sources for this Community Health Profile include: 1990 U.S. Census, state departments of public health, rural infant health projects, the Renal Network of the Upper Midwest, Tribal health centers, Indian Health Service, and WIC projects. Sources are documented after all tables.

The population data included in this report define American Indian/ Alaska Native people as those self-identifying as American Indian/ Alaska Natives. Inclusion in the American Indian/ Alaska Native population does not reflect Tribal affiliation. People may self-identify as American Indian/ Alaska Native and not be enrolled in a Tribe, they would still be included as American Indian/ Alaska Native in this report.

DEFINITIONS

| | |
|-----------------------------|---|
| AI/AN | Race self-identified as American Indian or Alaska Native; does not reflect Tribal affiliation. |
| Age-Adjusted Death Rate | Death rates were standardized using the 1940 population. Direct standardization was used to adjust for age distribution differences in the comparison populations. |
| All Races | Total population including all races in a defined area. |
| Anemia | Hemoglobin level below the 5 th percentile |
| Bemidji Area | Indian Health Service Area including American Indian/ Alaska Native people living in Michigan, Minnesota, and Wisconsin. Only those people living in counties containing a reservation or next to a reservation are included in the Bemidji Area American Indian/ Alaska Native population. |
| CHSDA | Contract Health Service Delivery Area. County or counties that include all or part of a reservation and any county or counties that have a common boundary with a reservation. In some cases other counties are designated as part of a Tribe's CHSDA. |
| Crude Birth Rate (CBR) | $\frac{\text{Number of resident live births}}{\text{Total resident population}} \times 1,000$ |
| High Birth Weight | Birth weight of at least 4,090 grams |
| Immunization | Complete series of immunizations appropriate for the child's age group. |
| IHS Total | Indian Health Service total American Indian/Alaska Native population living on or near reservations. |
| Infant Mortality Rate (IMR) | $\frac{\text{Number of resident infant deaths}}{\text{Total resident live births}} \times 1,000$ |
| Low Birth Weight (LBW) | Birth weight of less than 2,500 grams or about 5.5 pounds. |
| NA | Not available. Data either not currently collected or not yet available to the EpiCenter. |

| | |
|------------------|---|
| Obesity | Body Mass Index (BMI) greater than the 95 th percentile. |
| Project Area | EpiCenter project services area which includes AI/AN Tribes in Michigan, Minnesota, and Wisconsin. |
| Severe Injury | Injury resulting in fatality, admission to hospital, loss of consciousness, or broken bone. |
| WIC Participants | Those women, infants, and children who enrolled in the Women, Infants and Children (WIC) Program. Those eligible for WIC services include, pregnant or postpartum women, infants, and children up to age five. They must meet income guidelines, have state residency, and be determined to be at “nutritional risk” by a health professional. Income must be no more than 185% of poverty level. |
| YPLL | Years of Potential Life Lost. A measure of premature death defined as the number of years of life lost among persons who die before age 65 years. |

SECTION 1

DEMOGRAPHIC AND SOCIAL INDICATORS

Demographic and social indicators are important in understanding the health status of a community. These indicators are used to identify factors affecting morbidity and mortality. The indicators listed in this section include race, sex and age, education, employment income, and family characteristics with comparisons between Michigan, Minnesota, and Wisconsin, the total EpiCenter project area and the United States. Where appropriate, numbers and percentages are listed by American Indian/ Alaska Native (AI/AN) and All races (includes AI/AN). Racial information from 1990 U.S. Census data is based on self-reported responses. The Census data included in this section are 1990 numbers and not projections, (unless otherwise noted (as in later sections of this report). Census population projections for 1998 were used to calculate 1998 rates. Population projections are fictitious numbers calculated to reflect a projected change in the size of a population.

Number of American Indian/ Alaska Natives in Project Area:

| | |
|---------------------------|---------|
| 1990 Census | 148,166 |
| 1998 Estimated Population | 163,302 |

Please note that the document, "Trends in Indian Health" from the Indian Health Service, lists 1990 census numbers for Bemidji Area as being much lower than what is reported above. The "Trends..." document only includes American Indian/ Alaska Native people living within an IHS CHSDA. The numbers cited in this report include all American Indian/Alaska Native people with county of residence within the boundaries of Michigan, Minnesota, and Wisconsin, regardless of that county being in an IHS CHSDA.

Race

The following tables display racial distribution data for the individual three states and the project area. This information is provided for an overall picture of the racial composition of the Great Lakes project area. Table 1.1d shows that the project area racial composition is similar to that of the U.S. with AI/AN's comprising about 1% of the total population. Graphs 1.1a-d show a pictorial representation of the racial distribution described in the corresponding tables.

TABLE 1.1a
Race/ Ethnicity Distribution for Project Area and U.S., 1990

| RACE | Michigan | |
|--------------------------------|-----------|---------|
| | Number | Percent |
| White | 7,759,241 | 83 |
| African American | 1,289,012 | 14 |
| American Indian/ Alaska Native | 58,934 | 1 |
| Asian/ Pacific Islander | 102,869 | 1 |
| Other Race | 85,241 | 1 |
| Total | 9,295,297 | 100 |

Source: 1990 U.S Census

TABLE 1.1b
Race/ Ethnicity Distribution for Project Area and U.S., 1990

| RACE | Minnesota | |
|--------------------------------|-----------|---------|
| | Number | Percent |
| White | 4,122,189 | 94 |
| African American | 94,798 | 2 |
| American Indian/ Alaska Native | 49,507 | 1 |
| Asian/ Pacific Islander | 76,771 | 2 |
| Other Race | 20,834 | 0 (0.5) |
| Total | 4,375,099 | 100 |

Source: 1990 U.S. Census

TABLE 1.1c
Race/ Ethnicity Distribution for Project Area and U.S., 1990

| RACE | Wisconsin | |
|--------------------------------|-----------|---------|
| | Number | Percent |
| White | 4,514,325 | 92 |
| African American | 244,305 | 5 |
| American Indian/ Alaska Native | 39,725 | 1 |
| Asian/ Pacific Islander | 53,058 | 1 |
| Other Race | 40,366 | 1 |
| Total | 4,891,769 | 100 |

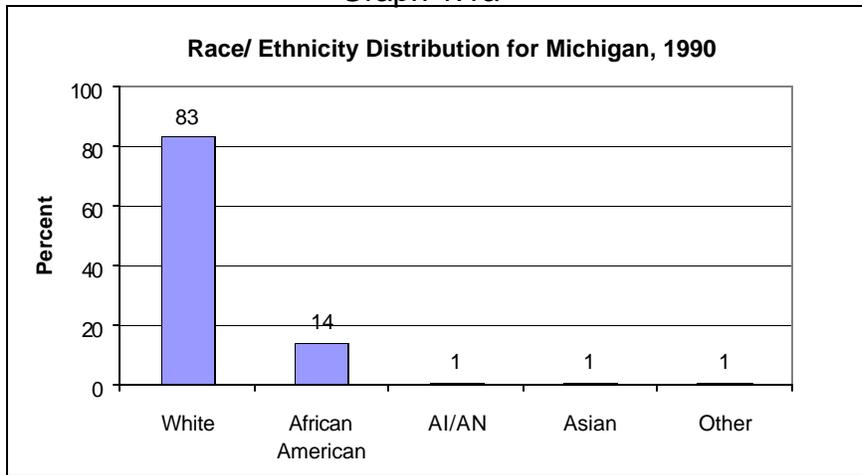
Source: 1990 U. S. Census

TABLE 1.1d
Race/ Ethnicity Distribution for Project Area and U.S., 1990

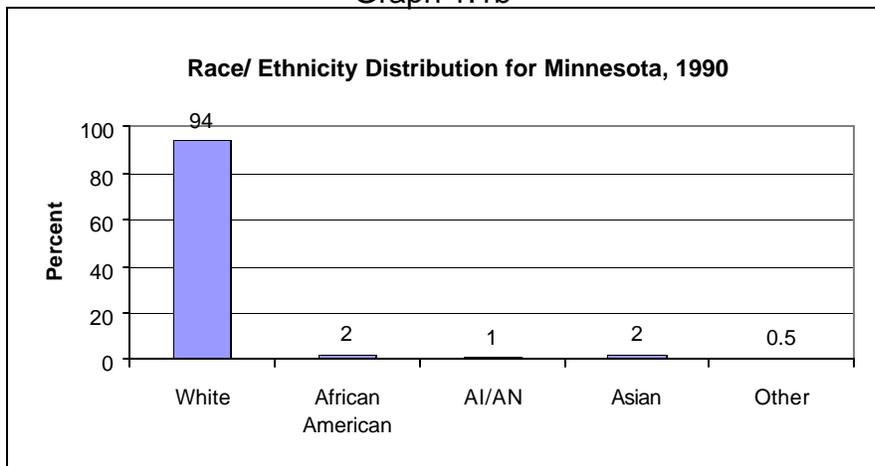
| RACE | Project Area | | U.S. |
|--------------------------------|--------------|---------|---------|
| | Number | Percent | Percent |
| White | 16,395,755 | 88 | 80 |
| African American | 1,628,115 | 9 | 12 |
| American Indian/ Alaska Native | 148,166 | 1 | 1 |
| Asian/ Pacific Islander | 232,698 | 1 | 3 |
| Other Race | 146,441 | 1 | 4 |
| Total | 18,562,165 | 100 | 100 |

Source: 1990 U. S. Census

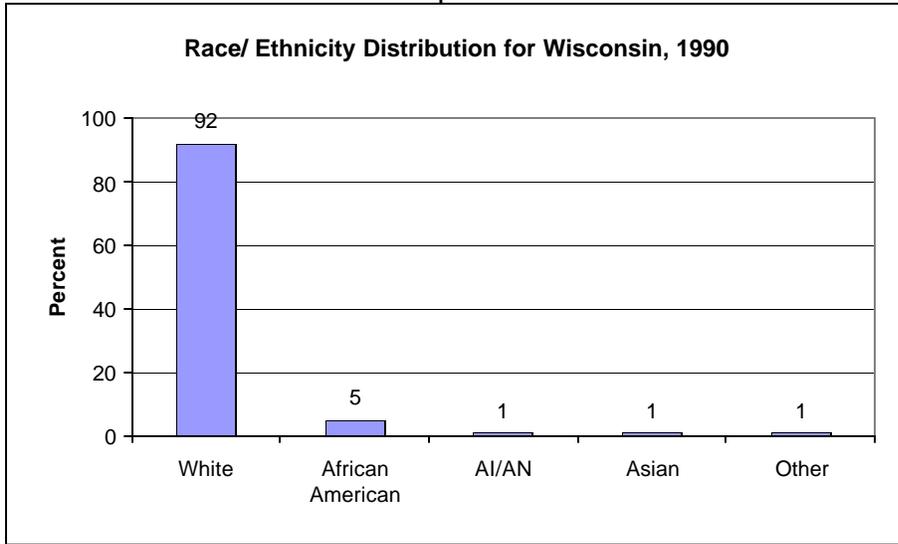
Graph 1.1a



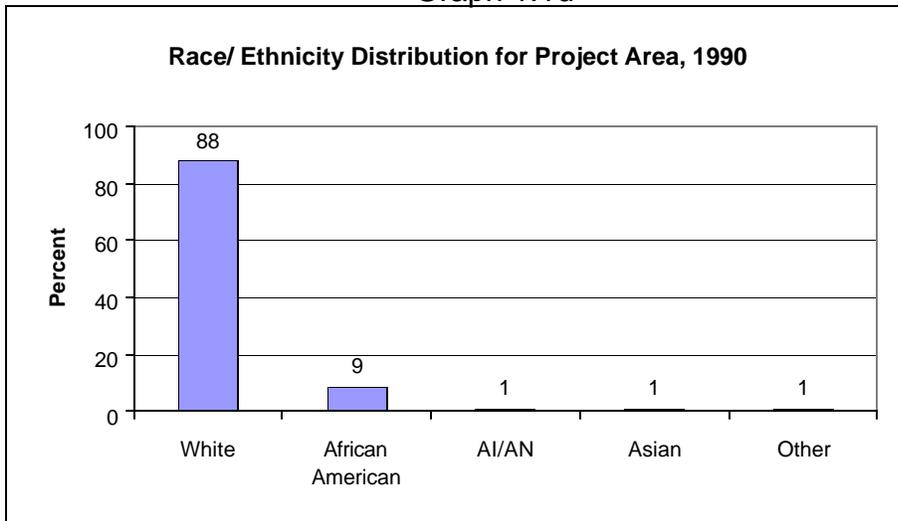
Graph 1.1b



Graph 1.1c



Graph 1.1d



Age and Sex

Both age and sex influence patterns of morbidity and mortality and utilization of health services. Therefore, the analysis of the age-sex distribution of the population is important in assessing the health of a community.

Age distribution is important for public health planning because age plays a role in disease and health of a community. See Appendix A for a listing of prevalent health problems associated with age. Age distribution also helps illustrate how many people will be in the older age groups in the future.

Gender also plays an important role in the health of a community. For many diseases, males and females have different morbidity and mortality rates. Disease conditions or injuries can affect one sex more dramatically than the other or can affect one sex exclusively. Average life expectancy also differs by gender.

TABLE 1.2a
Age and Sex Distribution for American Indian/ Alaska Natives and All Races, 1990

| AGE (years) | Michigan | | | | | |
|--------------|---------------|---------|-------|-------------------|---------|-------|
| | AI/AN Percent | | | All Races Percent | | |
| | Males | Females | Total | Males | Females | Total |
| <1 year | 0.8 | 0.7 | 1.5 | 0.7 | 0.7 | 1.4 |
| 1-14 | 13.2 | 12.4 | 25.6 | 10.6 | 10.1 | 20.8 |
| 15-24 | 9.8 | 9.0 | 18.8 | 7.5 | 7.5 | 15.0 |
| 25-44 | 16.5 | 17.6 | 34.1 | 15.8 | 16.4 | 32.2 |
| 45-64 | 7.4 | 7.7 | 15.1 | 9.1 | 9.7 | 18.8 |
| 65-74 | 1.5 | 1.9 | 3.4 | 3.1 | 4.0 | 7.1 |
| 75 and above | 0.6 | 0.8 | 1.4 | 1.7 | 3.1 | 4.8 |
| Total | 49.8 | 50.2 | 100 | 48.5 | 51.5 | 100 |

Source: 1990 U.S. Census

TABLE 1.2b
Age and Sex Distribution for American Indian/ Alaska Natives and All Races, 1990

| AGE (years) | Minnesota | | | | | |
|--------------|---------------|---------|-------|-------------------|---------|-------|
| | AI/AN Percent | | | All Races Percent | | |
| | Males | Females | Total | Males | Females | Total |
| <1 year | 1.2 | 1.1 | 2.3 | 0.7 | 0.7 | 1.4 |
| 1-14 | 16.4 | 15.9 | 32.3 | 10.9 | 10.4 | 21.4 |
| 15-24 | 9.1 | 9.2 | 18.2 | 7.0 | 6.9 | 13.9 |
| 25-44 | 15.0 | 16.5 | 31.5 | 16.8 | 16.5 | 33.2 |
| 45-64 | 5.8 | 5.9 | 11.7 | 8.7 | 9.0 | 17.7 |
| 65-74 | 1.1 | 1.3 | 2.4 | 3.0 | 3.7 | 6.8 |
| 75 and above | 0.7 | 0.8 | 1.5 | 2.0 | 3.7 | 5.7 |
| Total | 49.3 | 50.7 | 100 | 49.1 | 50.9 | 100 |

Source: 1990 U.S. Census

TABLE 1.2c

Age and Sex Distribution for American Indian/ Alaska Natives and All Races, 1990

| AGE (years) | Wisconsin | | | | | |
|--------------|---------------|---------|-------|-------------------|---------|-------|
| | AI/AN Percent | | | All Races Percent | | |
| | Males | Females | Total | Males | Females | Total |
| <1 year | 1.1 | 1.1 | 2.2 | 0.7 | 0.8 | 1.5 |
| 1-14 | 15.1 | 14.2 | 29.3 | 10.7 | 10.2 | 20.9 |
| 15-24 | 9.1 | 8.7 | 17.8 | 7.4 | 7.2 | 14.6 |
| 25-44 | 15.4 | 15.3 | 30.7 | 15.8 | 15.8 | 31.6 |
| 45-64 | 6.5 | 7.6 | 14.1 | 8.9 | 9.3 | 18.2 |
| 65-74 | 1.7 | 2.1 | 3.8 | 3.3 | 4.1 | 7.4 |
| 75 and above | 0.8 | 1.3 | 2.1 | 2.1 | 3.8 | 5.9 |
| Total | 49.7 | 50.3 | 100 | 49.0 | 51.0 | 100 |

Source: 1990 U.S. Census

TABLE 1.2d

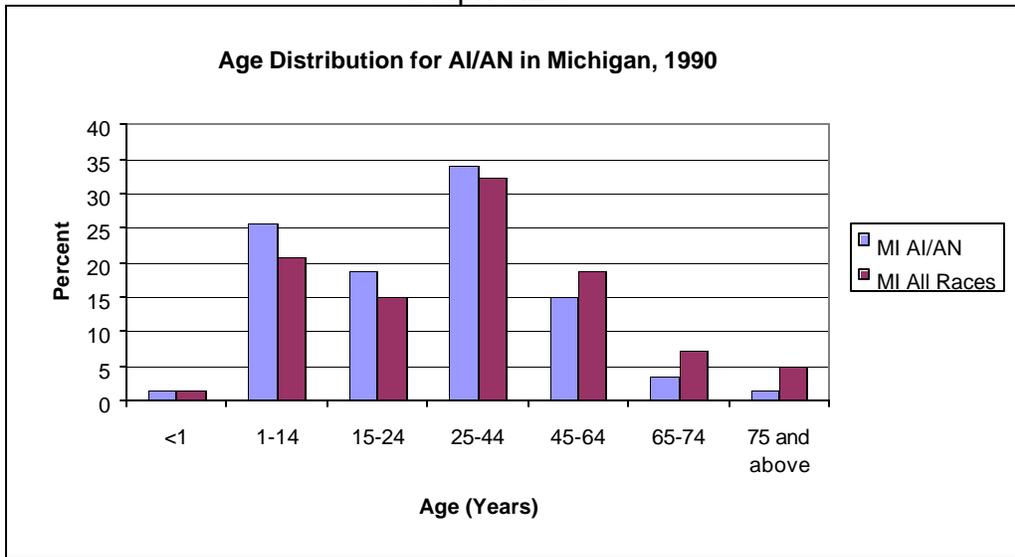
Age and Sex Distribution for American Indian/ Alaska Natives and All Races, 1990

| AGE (years) | Project Area | | | | | |
|--------------|---------------|---------|-------|-------------------|---------|-------|
| | AI/AN Percent | | | All Races Percent | | |
| | Males | Females | Total | Males | Females | Total |
| <1 year | 1.0 | 0.9 | 1.9 | 0.7 | 0.7 | 1.4 |
| 1-14 | 14.8 | 14.0 | 28.8 | 10.7 | 10.2 | 20.9 |
| 15-24 | 10.7 | 9.2 | 19.9 | 7.3 | 7.3 | 14.6 |
| 25-44 | 15.7 | 16.6 | 32.3 | 16.0 | 16.3 | 32.3 |
| 45-64 | 6.6 | 7.1 | 13.7 | 8.9 | 9.4 | 18.3 |
| 65-74 | 1.4 | 1.7 | 3.1 | 3.2 | 3.9 | 7.1 |
| 75 and above | 0.7 | 0.9 | 1.6 | 1.9 | 3.5 | 5.4 |
| Total | 50.9 | 50.4 | 101.3 | 48.7 | 51.3 | 100 |

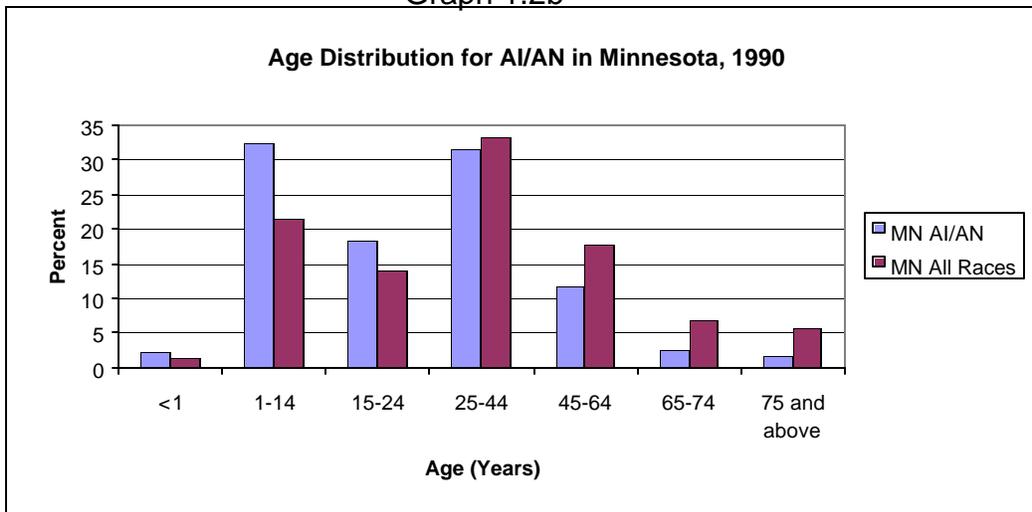
Source: 1990 U.S. Census

Table 1.2d displays the age and sex distribution for the project area. The AI/AN population in the project area is much younger than that of all races in the project area. Half of the project area population (50%) is under 25 years as compared to all races in the project area (36%). In addition, there is a large difference between AI/AN and all races for the 75 years and above age group, 1.6% and 5.4% respectively. This information is important because a younger population encounters different health issues than an older population. For example, injuries and infectious diseases tend to impact the health of younger groups as opposed to chronic diseases which primarily affect older age groups. The sex distribution between AI/AN and all races in the project area are similar.

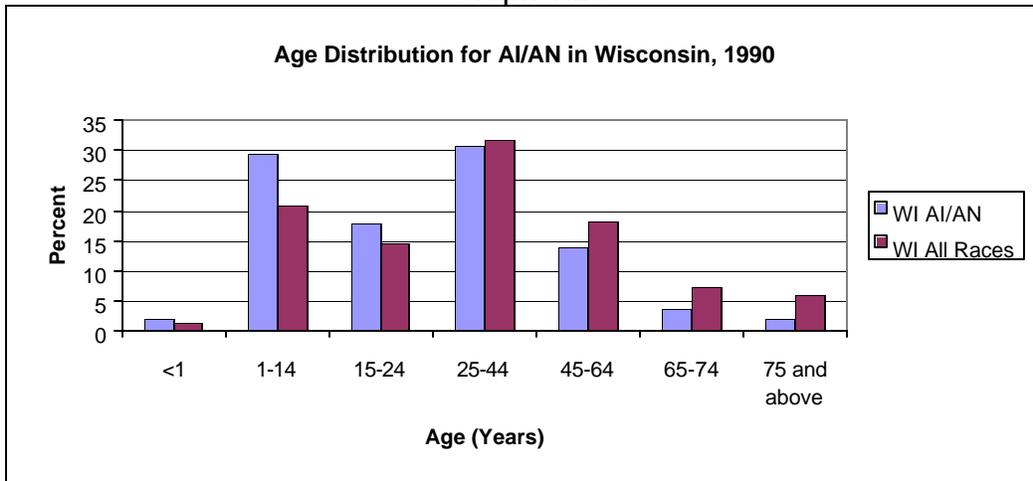
Graph 1.2a



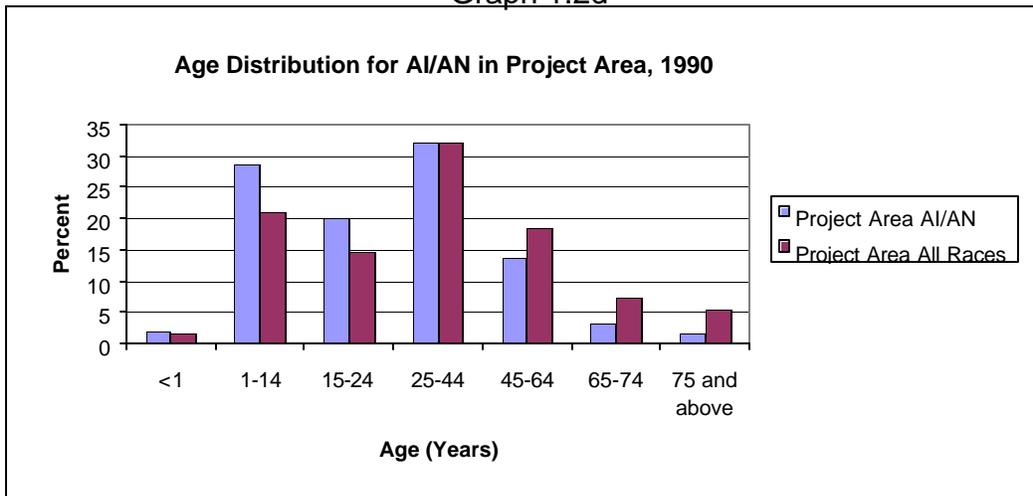
Graph 1.2b



Graph 1.2c



Graph 1.2d



Socioeconomic Status

Differences in socioeconomic status account for much of the differences in patterns of disease morbidity and mortality. Low socioeconomic status is related to social stressors such as poor access to medical care, poor quality medical care, unhealthy or unsafe living conditions, and low education levels. This report presents information on AI/AN educational attainment, income level, employment status, and family characteristics.

Please note that many changes have taken place in the American Indian/ Alaska Native populations within the project area since 1990. There have been economic changes on most reservations since 1990. These changes have most likely impacted income levels, employment status, and education levels. The 1990 census data has been used because it is real; it is the information collected from individuals. Whereas information contained in estimates are based on formulas, not real counts of people.

TABLE 1.3a
Educational Attainment for American Indian/ Alaska Natives and All Races, 1990

| Educational Attainment | Michigan | |
|---------------------------------|---------------|-------------------|
| | AI/AN Percent | All Races Percent |
| Less than 9 th grade | 9.5 | 7.8 |
| High school diploma or GED | 33.5 | 32.3 |
| Some college, no degree | 21.2 | 20.4 |
| Associate's degree | 5.5 | 6.7 |
| Bachelor's degree | 4.9 | 10.9 |
| Graduate or professional degree | 2.7 | 6.4 |
| High school diploma or higher | 67.8 | 76.8 |
| Bachelor's degree or higher | 7.6 | 17.4 |

Source: 1990 U.S. Census

TABLE 1.3b
Educational Attainment for American Indian/ Alaska Natives and All Races, 1990

| Educational Attainment | Minnesota | |
|---------------------------------|---------------|-------------------|
| | AI/AN Percent | All Races Percent |
| Less than 9 th grade | 9.3 | 8.6 |
| High school diploma or GED | 33.3 | 33.0 |
| Some college, no degree | 20.3 | 19.0 |
| Associate's degree | 6.9 | 8.6 |
| Bachelor's degree | 5.3 | 15.6 |
| Graduate or professional degree | 2.3 | 6.2 |
| High school diploma or higher | 68.2 | 82.4 |
| Bachelor's degree or higher | 7.7 | 21.8 |

Source: 1990 U.S. Census

TABLE 1.3c

Educational Attainment for American Indian/ Alaska Natives and All Races, 1990

| Educational Attainment | Wisconsin | |
|---------------------------------|---------------|-------------------|
| | AI/AN Percent | All Races Percent |
| Less than 9 th grade | 8.5 | 8.2 |
| High school diploma or GED | 27.8 | 31.9 |
| Some college, no degree | 16.2 | 14.3 |
| Associate's degree | 4.7 | 6.1 |
| Bachelor's degree | 3.0 | 10.4 |
| Graduate or professional degree | 4.8 | 2.1 |
| High school diploma or higher | 61.6 | 75.7 |
| Bachelor's degree or higher | 4.4 | 15.2 |

Source: 1990 U.S. Census

TABLE 1.3d

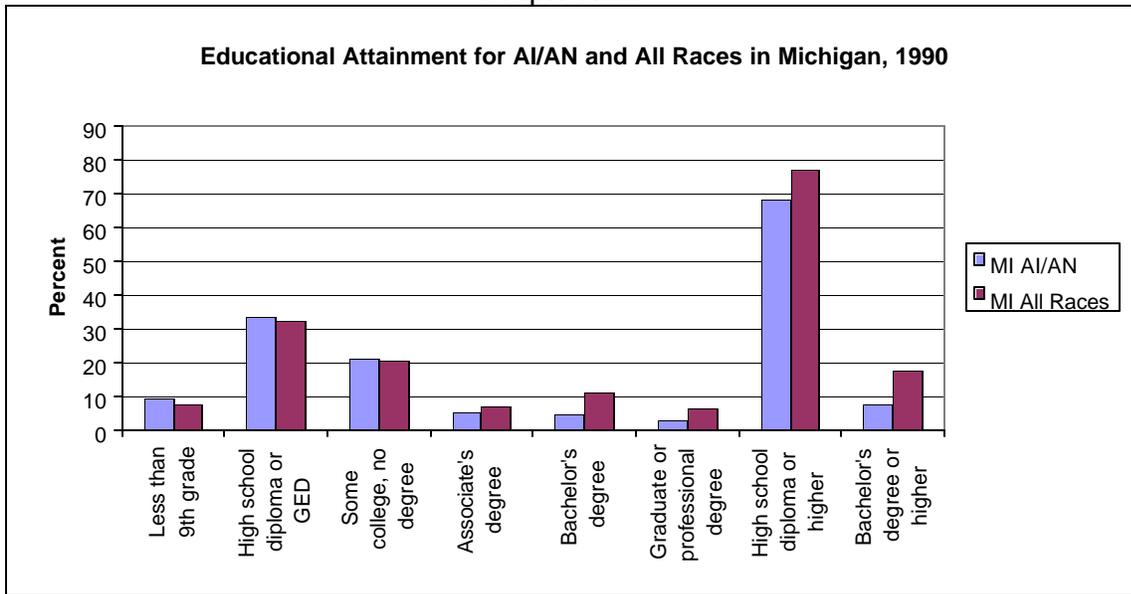
Educational Attainment for American Indian/ Alaska Natives and All Races, 1990

| Educational Attainment | Project Area | | U.S. | |
|---------------------------------|---------------|-------------------|---------------|-------------------|
| | AI/AN Percent | All Races Percent | AI/AN Percent | All Races Percent |
| Less than 9 th grade | 9.8 | 8.4 | 14.0 | 10.0 |
| High school diploma or GED | 33.8 | 33.7 | 29.1 | 30.0 |
| Some college, no degree | 20.7 | 25.3 | 20.8 | 19.0 |
| Associate's degree | 14.1 | 7.3 | 6.4 | 6.0 |
| Bachelor's degree | 4.7 | 12.3 | 6.1 | 13.0 |
| Graduate or professional degree | 2.4 | 6.2 | 3.2 | 7.0 |
| High school diploma or higher | 66.7 | 78.6 | 65.5 | 75.0 |
| Bachelor's degree or higher | 7.1 | 18.5 | 9.3 | 20.0 |

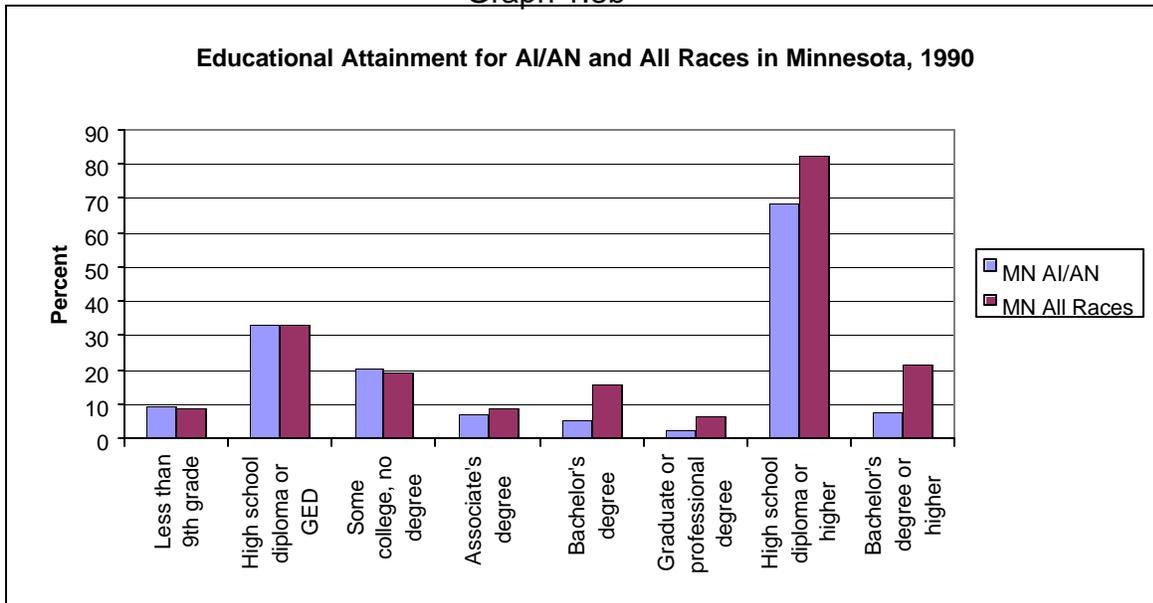
Source: 1990 U.S. Census

Education has been shown to positively correlate with health status. Low levels of education are risk factors for a number of diseases because of its association with tobacco use, poor dietary habits, and lack of physical activity, and less appropriate medical care. The AI/AN population and all races in the project area and the U.S. have about the same levels of high school or GED completion. The major differences between the AI/AN population and all races occurs at the Bachelor's degree level and higher. In both the project area and U.S., the all races population has two times the proportion of people with Bachelor's degree or higher.

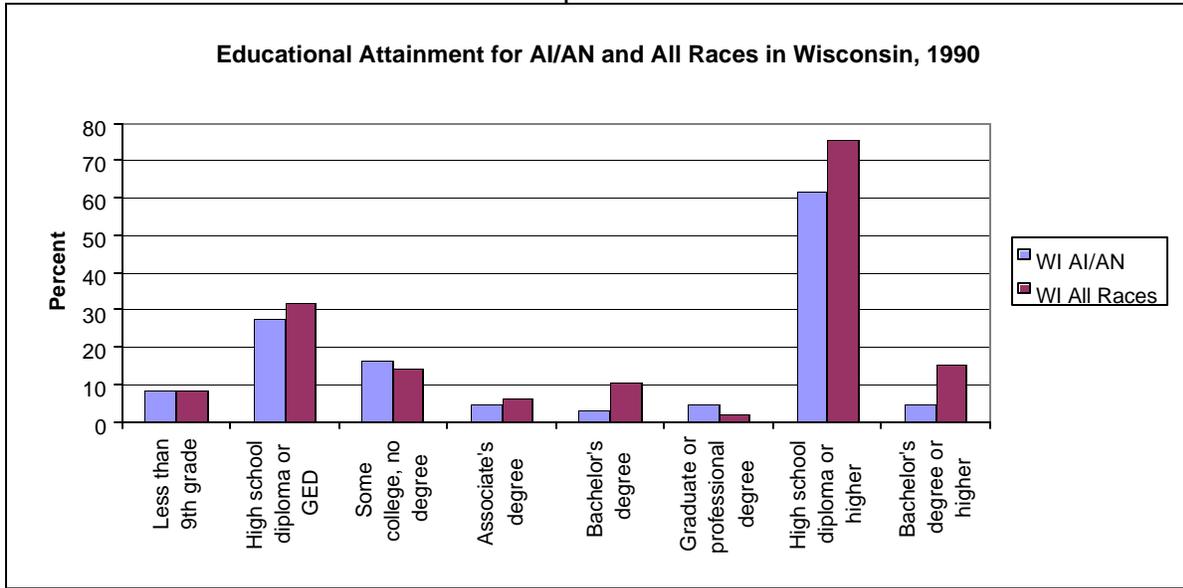
Graph 1.3a



Graph 1.3b



Graph 1.3c



Graph 1.3d

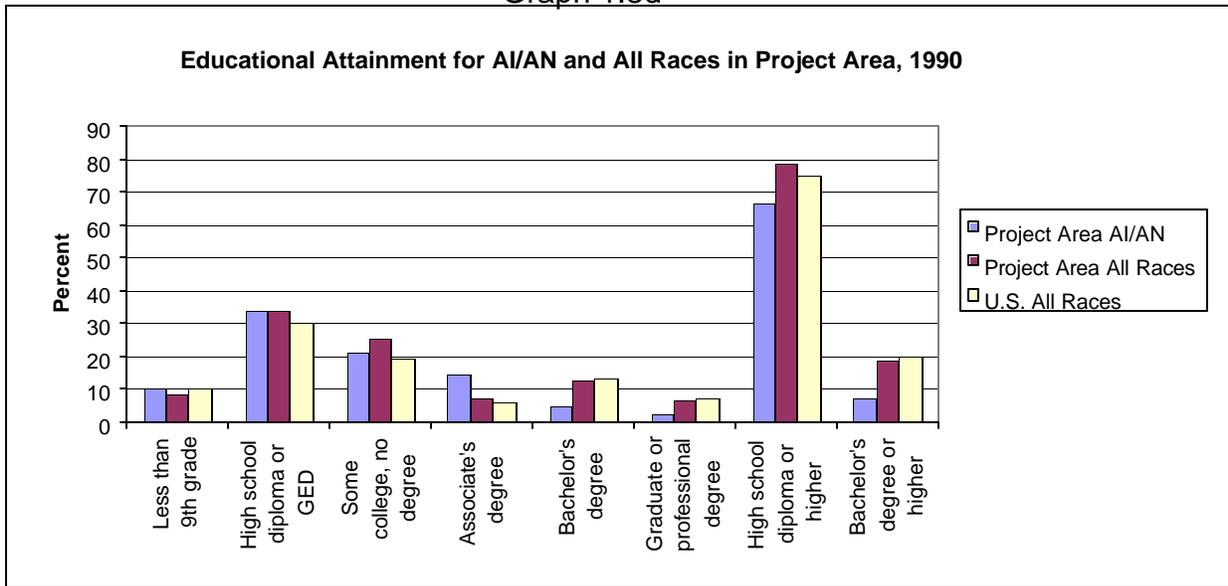


TABLE 1.4a

Household Income for American Indian/ Alaska Natives and All Races, 1990

| Income Level | Michigan | |
|--------------------|---------------|-------------------|
| | AI/AN Percent | All Races Percent |
| Less than \$5,000 | 10.4 | 5.9 |
| \$5,000-\$9,999 | 15.6 | 9.6 |
| \$10,000-\$14,999 | 10.0 | 8.6 |
| \$15,000-\$24,999 | 19.8 | 16.4 |
| \$25,000-\$34,999 | 15.7 | 15.3 |
| \$35,000-\$49,999 | 14.7 | 18.7 |
| \$50,000-\$74,999 | 10.1 | 16.3 |
| \$75,000 and above | 3.7 | 9.2 |

Source: 1990 U.S. Census

TABLE 1.4b

Household Income for American Indian/ Alaska Natives and All Races, 1990

| Income Level | Minnesota | |
|--------------------|---------------|-------------------|
| | AI/AN Percent | All Races Percent |
| Less than \$5,000 | 13.0 | 4.4 |
| \$5,000-\$9,999 | 22.8 | 9.5 |
| \$10,000-\$14,999 | 13.2 | 8.6 |
| \$15,000-\$24,999 | 19.0 | 17.5 |
| \$25,000-\$34,999 | 11.9 | 16.6 |
| \$35,000-\$49,999 | 11.5 | 19.7 |
| \$50,000-\$74,999 | 6.2 | 15.6 |
| \$75,000 and above | 2.4 | 8.1 |

Source: 1990 U.S. Census

TABLE 1.4c

Household Income for American Indian/ Alaska Natives and All Races, 1990

| Income Level | Wisconsin | |
|--------------------|---------------|-------------------|
| | AI/AN Percent | All Races Percent |
| Less than \$5,000 | 9.4 | 3.7 |
| \$5,000-\$9,999 | 20.2 | 10.3 |
| \$10,000-\$14,999 | 14.8 | 9.4 |
| \$15,000-\$24,999 | 21.7 | 18.7 |
| \$25,000-\$34,999 | 14.2 | 17.4 |
| \$35,000-\$49,999 | 11.2 | 20.2 |
| \$50,000-\$74,999 | 6.8 | 14.1 |
| \$75,000 and above | 1.7 | 6.2 |

Source: 1990 U.S. Census

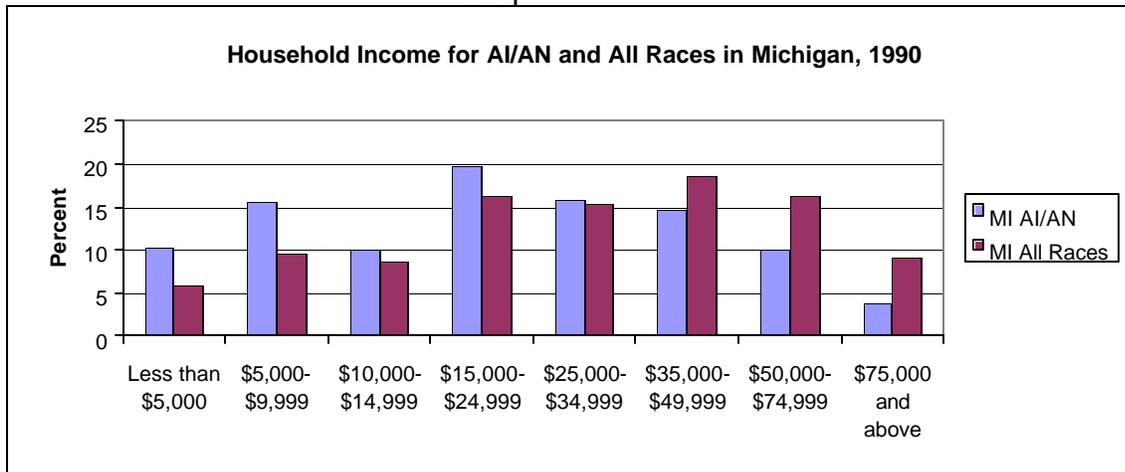
TABLE 1.4d
Household Income for American Indian/Alaska Natives and All Races, 1990

| Income Level | Project Area | | U.S. | |
|--------------------|---------------|-------------------|---------------|-------------------|
| | AI/AN Percent | All Races Percent | AI/AN Percent | All Races Percent |
| Less than \$5,000 | 11.0 | 5.0 | 12.5 | 6.0 |
| \$5,000-\$9,999 | 19.1 | 9.8 | 14.7 | 9.0 |
| \$10,000-\$14,999 | 12.3 | 8.8 | 12.1 | 9.0 |
| \$15,000-\$24,999 | 20.0 | 17.3 | 20.2 | 18.0 |
| \$25,000-\$34,999 | 14.1 | 16.2 | 14.6 | 16.0 |
| \$35,000-\$49,999 | 12.8 | 19.3 | 13.4 | 18.0 |
| \$50,000-\$74,999 | 8.0 | 15.5 | 8.8 | 15.0 |
| \$75,000 and above | 2.8 | 8.2 | 3.8 | 9.0 |

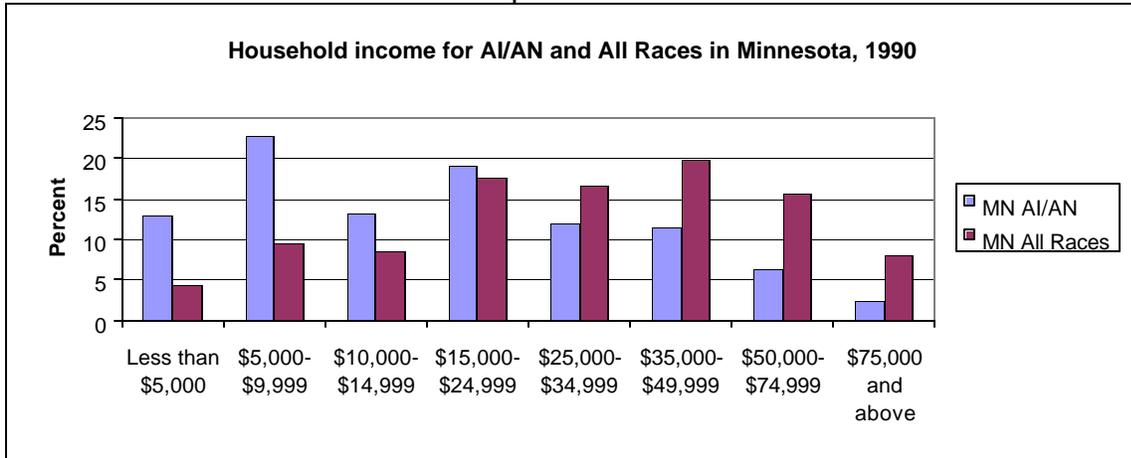
Source: 1990 U.S. Census

Low income is correlated with high rates of chronic disease. This association is related to problems of access to care, obstacles in obtaining and using health insurance, and higher levels of risk behaviors. Income levels for AI/AN's in the project area are lower than both AI/AN and all races in the U.S.. The majority of the AI/AN population has an income level below \$25,000 (62%) as compared to all races in the U.S. for which 42% of the population has an income below \$25,000.

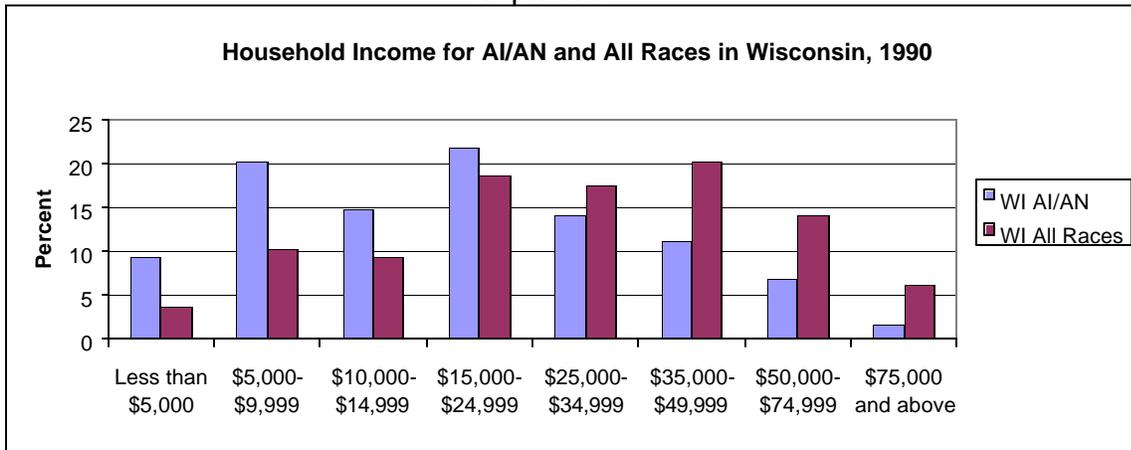
Graph 1.4a



Graph 1.4b



Graph 1.4c



Graph 1.4d

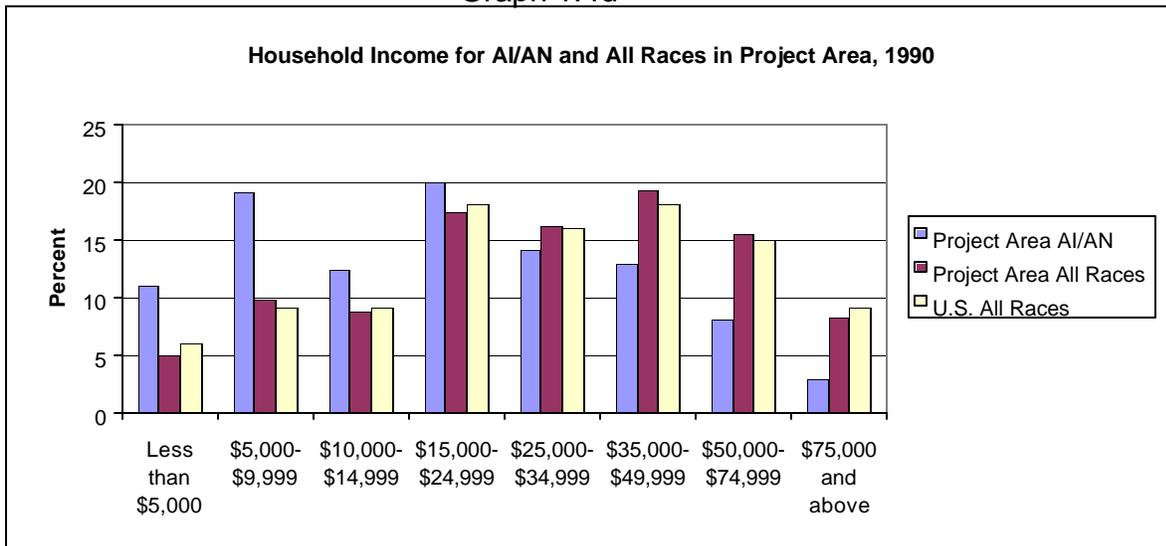


TABLE 1.5a
Employment Status for American Indian/ Alaska Natives 16 Years and Older, 1990

| Employment Status | Michigan | | | | | | | |
|--------------------|----------|------|---------|------|-----------|------|-----------|------|
| | AI/AN | | | | All Races | | | |
| | Males | | Females | | Males | | Females | |
| | # | % | # | % | # | % | # | % |
| Employed | 12,360 | 60.6 | 10,724 | 50.3 | 2,270,784 | 67.0 | 1,909,035 | 51.4 |
| Unemployed | 2,445 | 12.0 | 1,848 | 8.7 | 214,965 | 6.3 | 159,376 | 4.3 |
| Not in labor force | 5,578 | 27.4 | 8,762 | 41.1 | 902,967 | 26.5 | 1,644,893 | 44.3 |
| Total | 20,383 | 100 | 21,334 | 100 | 3,388,716 | 100 | 3,713,304 | 100 |

Source: 1990 U.S. Census

TABLE 1.5b
Employment Status for American Indian/ Alaska Natives 16 Years and Older, 1990

| Employment Status | Minnesota | | | | | | | |
|--------------------|-----------|------|---------|------|-----------|------|-----------|------|
| | AI/AN | | | | All Races | | | |
| | Males | | Females | | Males | | Females | |
| | # | % | # | % | # | % | # | % |
| Employed | 7,486 | 49.4 | 7,162 | 44.0 | 1,168,935 | 72.8 | 1,027,121 | 59.9 |
| Unemployed | 2,385 | 15.8 | 1,258 | 7.8 | 74,110 | 4.6 | 44,809 | 2.6 |
| Not in labor force | 5,268 | 34.8 | 7,854 | 48.2 | 362,657 | 22.6 | 643,783 | 37.5 |
| Total | 15,139 | 100 | 16,274 | 100 | 1,605,702 | 100 | 1,715,713 | 100 |

Source: 1990 U.S. Census

TABLE 1.5c
Employment Status for American Indian/ Alaska Natives 16 Years and Older, 1990

| Employment Status | Wisconsin | | | | | | | |
|--------------------|-----------|------|---------|------|-----------|------|-----------|------|
| | AI/AN | | | | All Races | | | |
| | Males | | Females | | Males | | Females | |
| | # | % | # | % | # | % | # | % |
| Employed | 7,104 | 55.4 | 6,950 | 50.7 | 1,280,407 | 71.4 | 1,106,032 | 57.2 |
| Unemployed | 1,690 | 13.2 | 1,207 | 8.8 | 74,702 | 4.2 | 56,097 | 2.9 |
| Not in labor force | 4,023 | 31.3 | 5,559 | 40.5 | 438,944 | 24.5 | 771,929 | 39.9 |
| Total | 12,817 | 100 | 13,716 | 100 | 1,794,053 | 100 | 1,934,058 | 100 |

Source: 1990 U.S. Census

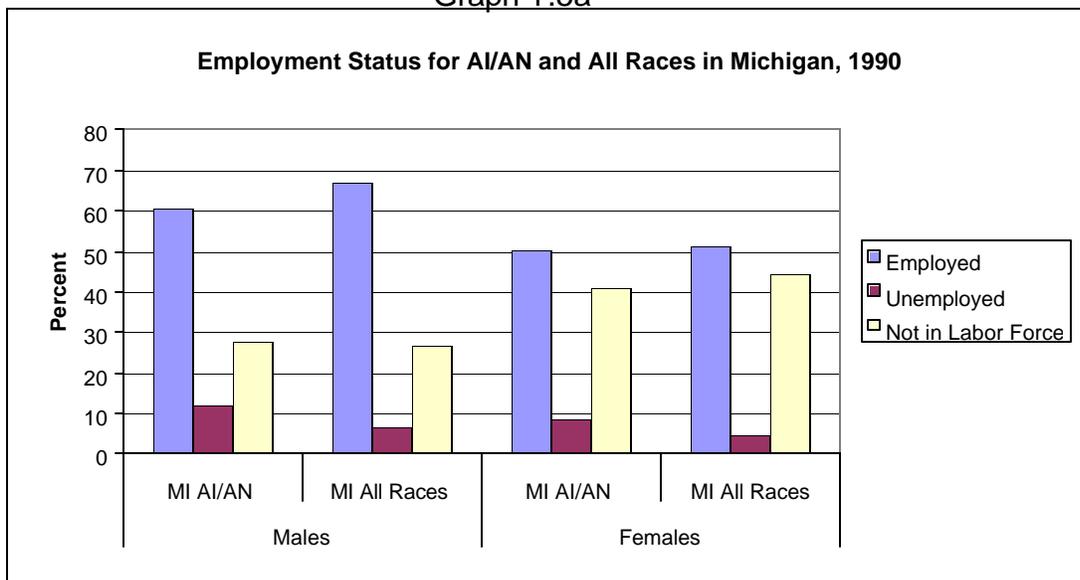
TABLE 1.5d
 Employment Status for American Indian/ Alaska Natives 16 Years and Older, 1990

| Employment Status | Project Area | | | | U.S. | | | |
|--------------------|--------------|--------|-----------|--------|-------|--------|-----------|--------|
| | AI/AN | | All Races | | AI/AN | | All Races | |
| | Male | Female | Male | Female | Male | Female | Male | Female |
| | % | % | % | % | % | % | % | % |
| Employed | 55.7 | 48.4 | 69.5 | 54.9 | NA | NA | NA | NA |
| Unemployed | 13.5 | 8.4 | 5.4 | 3.5 | 16.2 | 13.4 | 6.4 | 6.2 |
| Not in labor force | 30.8 | 43.2 | 25.1 | 41.6 | NA | NA | NA | NA |
| Total | 100 | 100 | 100 | 100 | NA | NA | NA | NA |

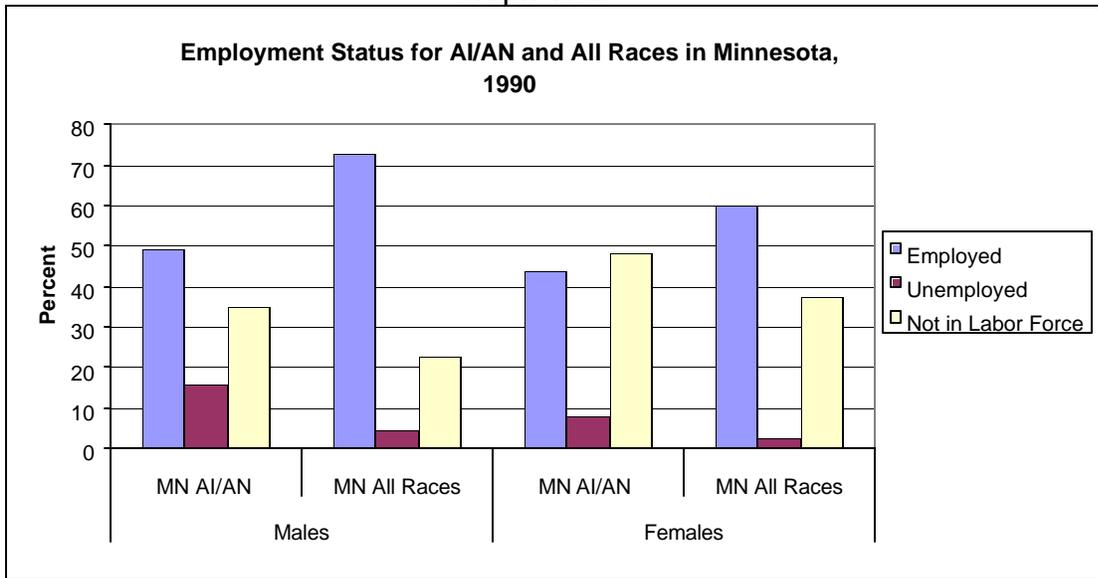
Source: 1990 U.S. Census

Employment status and occupation are important in that health care benefits are often tied to full-time employment. In addition, there is a general tendency for those with lower income to experience a lower health status than those with a higher income. In the project area, the all races population has a higher proportion of employed males (69.5%) and females (54.9%) than the AI/AN population (males 55.7% and females 48.4%).

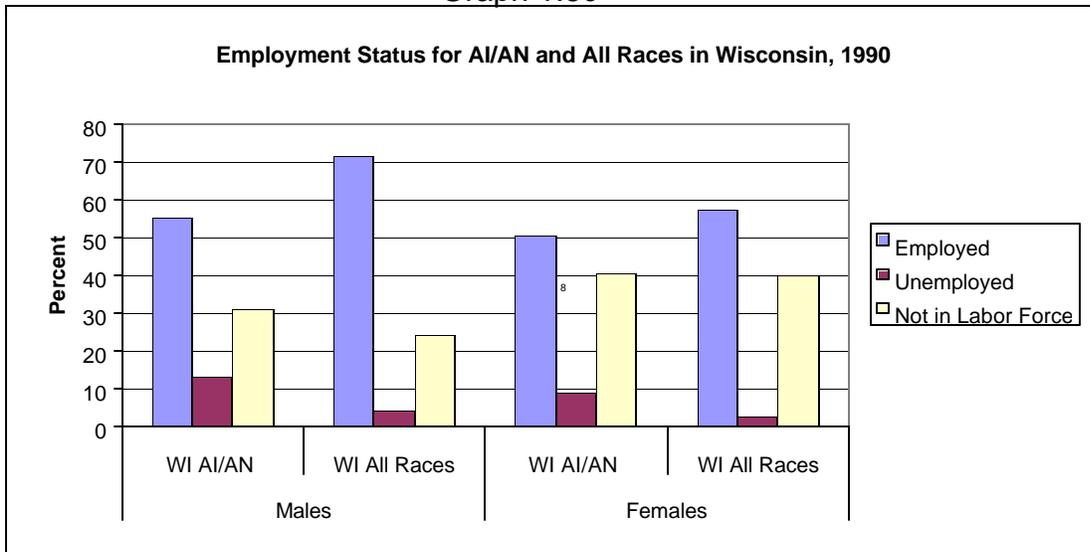
Graph 1.5a



Graph 1.5b



Graph 1.5c



Graph 1.5d

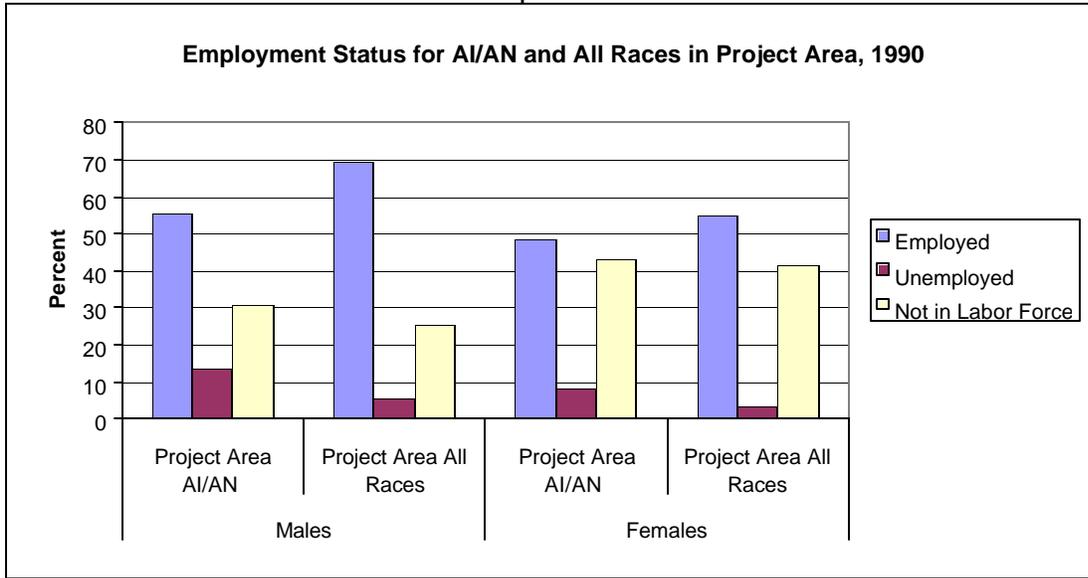


TABLE 1.6a
American Indian/ Alaska Native Female Headed Households (no husband present), 1990

| Household Characteristics | Michigan | | | |
|----------------------------------|----------|---------|-----------|---------|
| | AI/AN | | All Races | |
| | Number | Percent | Number | Percent |
| With own children under 18 years | 2,808 | 14.7 | 262,827 | 7.7 |
| No own children under 18 years | 1,003 | 5.2 | 170,639 | 5.0 |
| Non-family households | 5,061 | 26.4 | 965,641 | 28.2 |
| Total | 19,163 | 46.3 | 3,424,122 | 40.9 |

Source: 1990 U.S. Census

TABLE 1.6b
American Indian/ Alaska Native Female Headed Households (no husband present), 1990

| Household Characteristics | Minnesota | | | |
|----------------------------------|-----------|---------|-----------|---------|
| | AI/AN | | All Races | |
| | Number | Percent | Number | Percent |
| With own children under 18 years | 3,610 | 25.6 | 86,577 | 5.3 |
| No own children under 18 years | 1,069 | 7.6 | 48,575 | 2.9 |
| Non-family households | 3,492 | 24.7 | 510,244 | 30.9 |
| Total | 8,171 | 57.8 | 645,396 | 39.1 |

Source: 1990 U.S. Census

TABLE 1.6c
 American Indian/ Alaska Native Female Headed Households (no husband present),
 1990

| Household Characteristics | Wisconsin | | | |
|----------------------------------|-----------|---------|-----------|---------|
| | AI/AN | | All Races | |
| | Number | Percent | Number | Percent |
| With own children under 18 years | 2,294 | 19.5 | 106,230 | 6.2 |
| No own children under 18 years | 830 | 7.1 | 64,215 | 3.7 |
| Non-family households | 3,040 | 25.8 | 539,955 | 31.3 |
| Total | 6,164 | 52.4 | 710,400 | 41.2 |

Source: 1990 U.S. Census

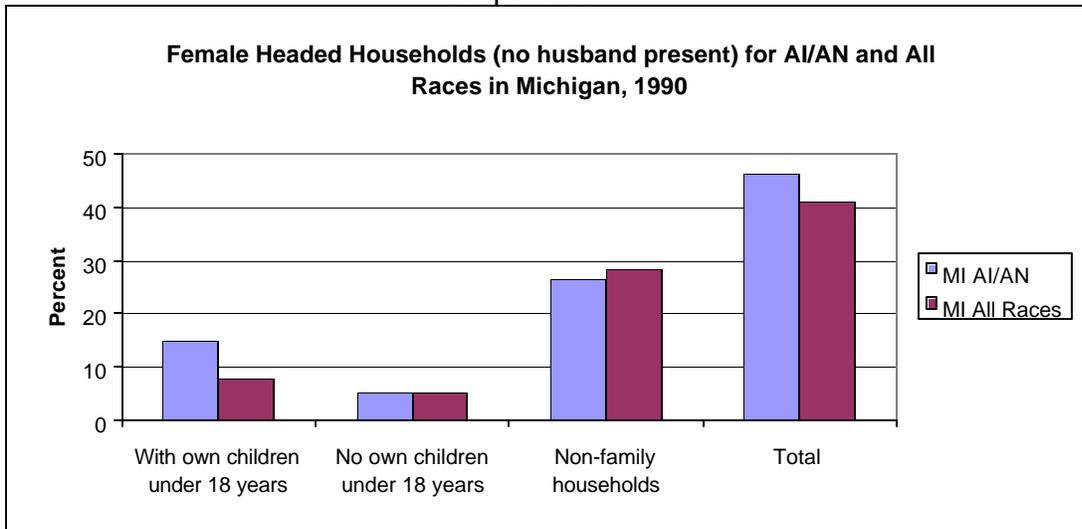
TABLE 1.6d
 American Indian/ Alaska Native Female Headed Households (no husband present),
 1990

| Household Characteristics | Project Area | | U.S. | |
|----------------------------------|--------------|-----------|---------|-----------|
| | AI/AN | All Races | AI/AN | All Races |
| | Percent | Percent | Percent | Percent |
| With own children under 18 years | 26.0 | 6.6 | 12.9 | 6.0 |
| No own children under 18 years | 8.7 | 4.1 | 6.5 | 5.0 |
| Non-family households | 34.6 | 29.2 | 25.8 | 29.0 |
| Total | 51.5 | 39.9 | 45.2 | 40.0 |

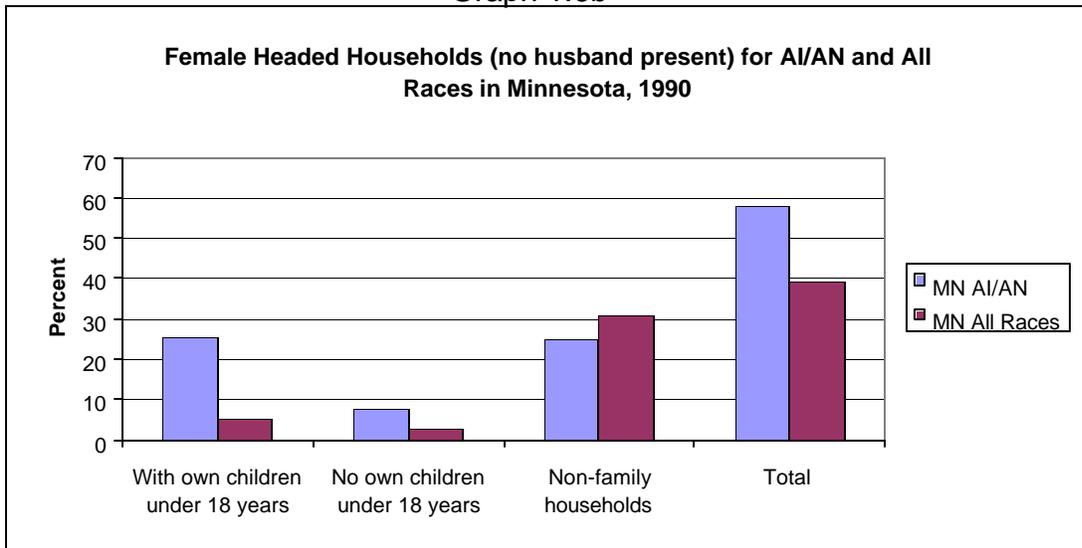
Source: 1990 U.S. Census

Female-headed households is an important indicator because it relates to household income level. Table 1.6d displays information on households headed by females and non-family households. AI/AN women in the project area have a higher percentage of female-headed households than any of the comparison groups listed in table 1.6d, at 34.7%. In addition, they have the highest proportion of female headed households with children under 18 years (26%), compared to AI/AN in all of the U.S.(12.9%) and all races in both the project area (6.6%) and the U.S. (6.0%).

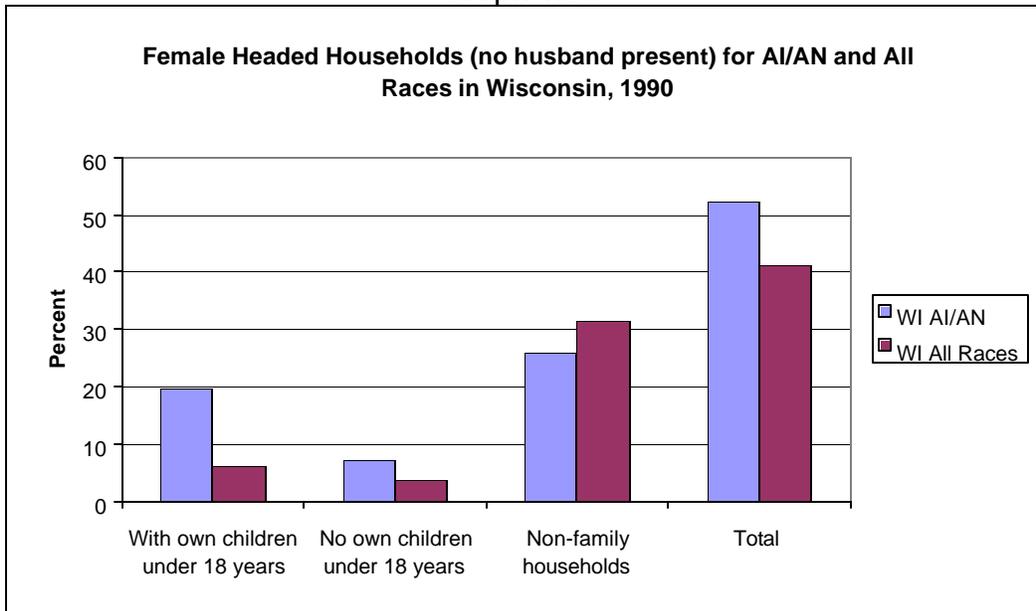
Graph 1.6a



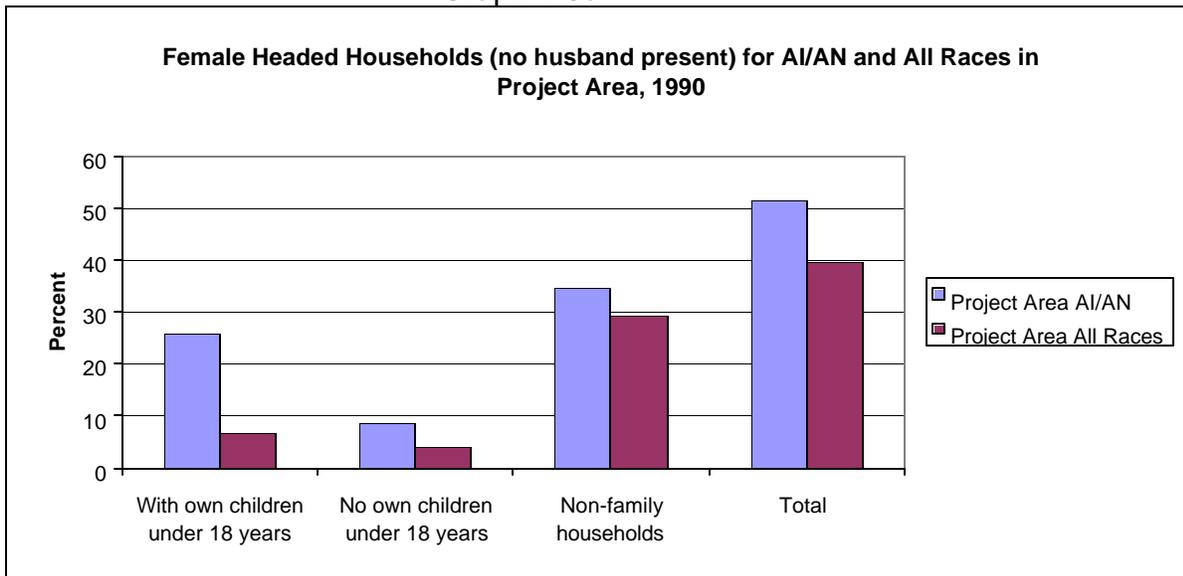
Graph 1.6b



Graph 1.6c



Graph 1.6d



SECTION 2 MORTALITY

Section 2 contains mortality or death data for leading causes of death for 1998 and major chronic disease death rates for 1998. American Indian/ Alaska Native data presented in this section are from death certificates. It is important to note that the underlying causes of death reported on a death certificate does not necessarily reflect all contributing factors affecting a death. However, death certificate information is an important source of data because it is routinely collected following guidelines and connects cause of death, race, and county of residence. Appendix B lists the ICD-9 codes used for categorizing the underlying causes of death.

TABLE 2.1a
Leading Causes of Death for American Indian/ Alaska Natives 1996, 1997, 1998

| Cause of Death | Michigan | | |
|--|---------------------|---------------------|---------------------|
| | 1998 | 1997 | 1996 |
| | Number (Percent) | Number (Percent) | Number (Percent) |
| 1. Ischemic Heart Disease | 69 (19.9) | 72 (20.7) | 100 (28.8) |
| 2. Other Cancer* | 44 (12.7) | 58 (16.7) | 47 (13.5) |
| 3. Other Heart Disease | 33 (9.5) | 33 (9.5) | 32 (9.2) |
| 4. Lung Cancer | 32 (9.2) | 41 (11.8) | 34 (9.8) |
| 5. Chronic Obstructive Pulmonary Disease | 28 (8.1) | 20 (5.8) | 18 (5.2) |
| 6. Unintentional Injury | 26 (7.5) | 26 (7.5) | 30 (8.6) |
| 7. Cerebrovascular Disease | 23 (6.6) | 23 (6.6) | 26 (7.5) |
| 8. Diabetes | 16 (4.6) | 29 (8.4) | 22 (6.3) |
| 9. Suicide | 13 (3.7) | 8 (2.3) | 10 (2.9) |
| 10. Pneumonia/Influenza | 10 (2.9) | 17 (4.9) | 18 (5.2) |
| Sub-Total | 294 (84.7) | 327 (94.2) | 337 (97.1) |
| Total Deaths | 374 (100) | 422 (100) | 423 (100) |

*Other cancer excludes lung and breast cancer

Source: 1996-1998 death files from Michigan Department of Community Health

TABLE 2.1b

Leading Causes of Death for American Indian/ Alaska Natives 1996, 1997, 1998

| Cause of Death | Minnesota | | |
|--|---------------------|---------------------|---------------------|
| | 1998 | 1997 | 1996 |
| | Number (Percent) | Number (Percent) | Number (Percent) |
| 1. Malignant Neoplasms | 67 (19.6) | 59 (18.0) | 57 (17.4) |
| 2. Ischemic Heart Disease | 44 (12.9) | 50 (15.2) | 44 (13.4) |
| 3. Injury | 41 (12.0) | 53 (16.2) | 57 (17.4) |
| 4. Lung Cancer | 32 (9.4) | 18 (5.5) | 17 (5.2) |
| 5. Respiratory Disease | 25 (7.3) | 0 | 7 (2.1) |
| 6. Diabetes Mellitus | 20 (5.8) | 29 (8.8) | 26 (7.9) |
| 7. Chronic Liver Disease | 19 (5.6) | 16 (4.9) | 16 (4.9) |
| 8. Other Heart Disease | 16 (4.7) | 19 (5.8) | 12 (3.7) |
| 9. Cerebrovascular Disease | 12 (3.5) | 7 (2.1) | 10 (3.1) |
| 10. Chronic Obstructive Pulmonary Disorder | 11 (3.2) | 7 (2.1) | 11 (3.4) |
| Sub-Total | 248 (72.5) | 258 (78.7) | 257 (78.4) |
| Total | 342 (100) | 328 (100) | 328 (100) |

Source: 1996-1998 death files from Minnesota Center for Health Statistics

TABLE 2.1c

Leading Causes of Death for American Indian/ Alaska Natives 1996, 1997, 1998

| Cause of Death | Wisconsin | | |
|---|---------------------|---------------------|---------------------|
| | 1998 | 1997 | 1996 |
| | Number (Percent) | Number (Percent) | Number (Percent) |
| 1. Ischemic Heart Disease | 35 (14.5) | 40 (16.8) | 39 (16.0) |
| 2. Other Cancer* | 33 (13.7) | 24 (10.1) | 31 (12.7) |
| 3. Diabetes | 19 (7.9) | 17 (7.1) | 18 (7.4) |
| 4. Other Heart Disease | 15 (6.2) | 21 (8.8) | 21 (8.8) |
| 5. Chronic Liver Disease | 13 (5.4) | 5 (2.1) | 9 (3.7) |
| 5. Cerebrovascular Disease | 13 (5.4) | 20 (8.4) | 16 (6.6) |
| 6. Motor Vehicle Accidents | 11 (4.6) | 9 (3.8) | 10 (4.1) |
| 6. Lung Cancer | 11 (4.6) | 21 (8.8) | 19 (7.8) |
| 7. Mental Disorders | 10 (4.1) | 3 (1.3) | 4 (1.6) |
| 8. Upper Respiratory Infections | 9 (3.7) | 5 (2.1) | -- |
| 8. Chronic Obstructive Pulmonary Disorder | 9 (3.7) | 14 (5.9) | 4 (1.6) |
| 9. Other Injuries | 8 (3.3) | 8 (3.4) | 9 (3.7) |
| 10. Genitourinary Disorders | 6 (2.5) | 5 (2.1) | 5 (2.0) |
| 10. Congenital Anomalies | 6 (2.5) | 5 (2.1) | 1 (0.4) |
| Sub-total | 192 (79.7) | 197 (82.8) | 186 (76.2) |
| Total Deaths | 241 | 238 | 244 |

*Other cancer excludes lung and breast cancer

Source: 1996-1998 death files from Wisconsin Bureau of Health Information

TABLE 2.1d

Leading Causes of Death for American Indian/ Alaska Natives 1996, 1997, 1998

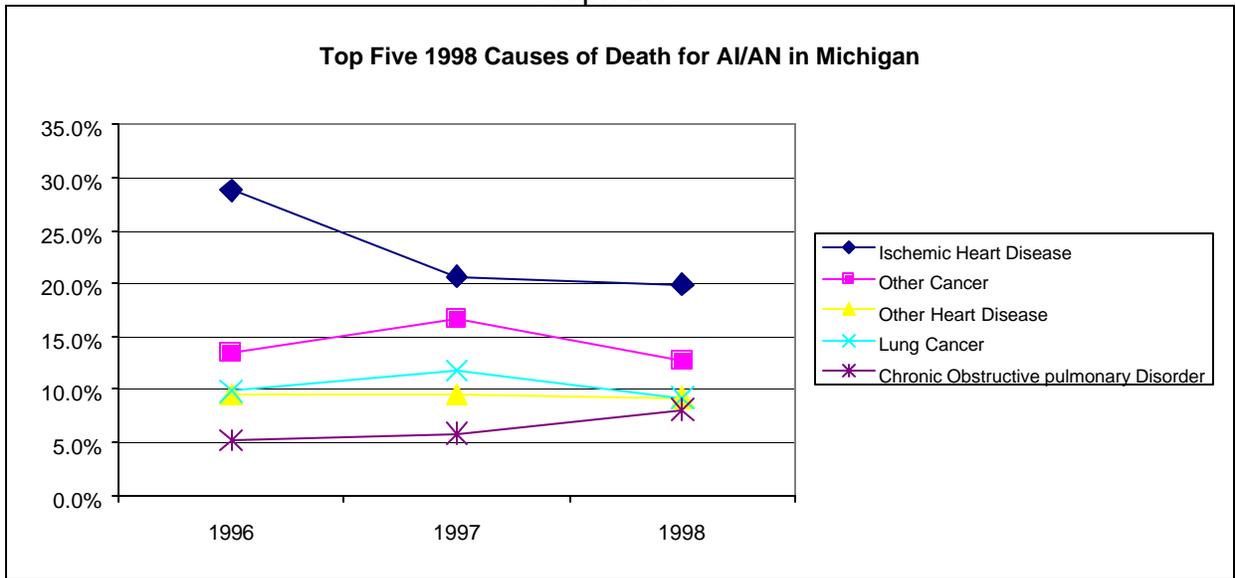
| Cause of Death | Project Area | | |
|---|---------------------|---------------------|---------------------|
| | 1998 | 1997 | 1996 |
| | Number (Percent) | Number (Percent) | Number (Percent) |
| 1. Ischemic Heart Disease | 148 (15.5) | 162 (16.4) | 183 (18.4) |
| 2. Other Cancer* | 144 (15.1) | 137 (13.9) | 131 (13.2) |
| 3. Lung Cancer | 75 (7.8) | 80 (8.1) | 70 (7.0) |
| 4. Other Heart Disease | 64 (6.7) | 73 (7.4) | 65 (6.5) |
| 5. Diabetes | 55 (5.8) | 75 (7.6) | 66 (6.6) |
| 6. Chronic Obstructive Pulmonary Disorder | 48 (5.0) | 41 (4.2) | 33 (3.3) |
| 6. Cerebrovascular Disease | 48 (5.0) | 50 (5.1) | 52 (5.2) |
| 7. Motor Vehicle Accident | 44 (4.6) | 41 (4.2) | 8 (0.8) |
| 8. Chronic Liver Disease | 41 (4.3) | 31 (3.1) | 36 (3.6) |
| 9. Upper Respiratory Diseases | 34 (3.6) | 5 (0.5) | 22 (2.2) |
| 10. Suicide | 24 (2.5) | 37(3.7) | 46 (4.6) |
| Sub-Total | 725 (75.8) | 732 (74.1) | 712 (71.6) |
| Total | 957 | 988 | 995 |

*Other cancer excludes lung and breast cancer

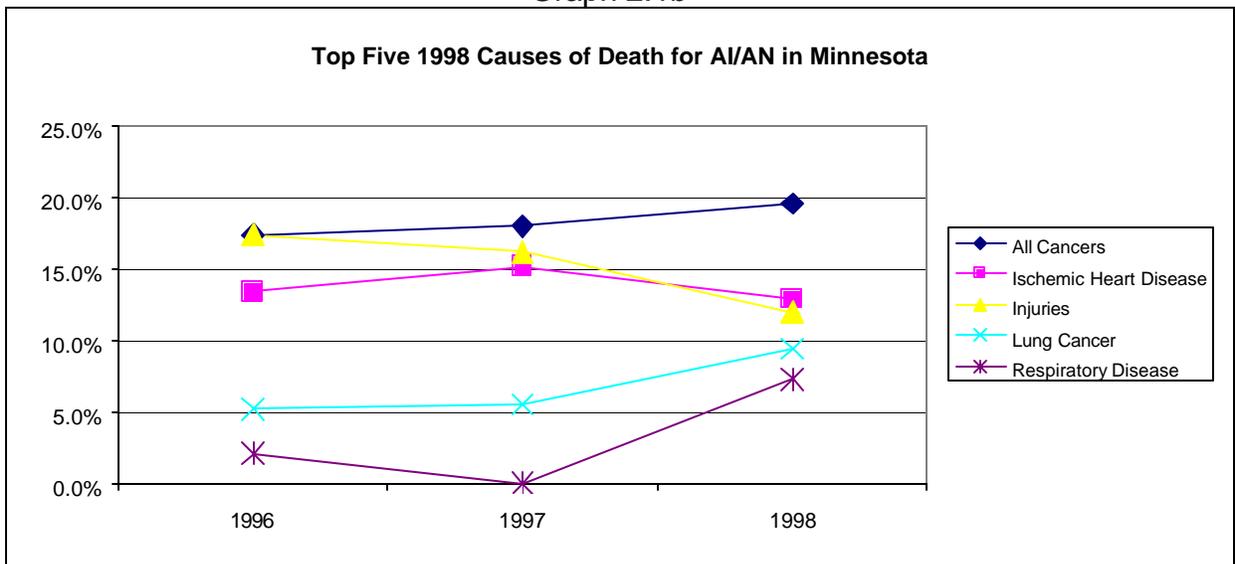
Source: 1996-1998 death files from Michigan Department of Community Health. 1996-1998 death files from Minnesota Center for Health Statistics. 1996-1998 death files from Wisconsin Bureau of Health Information.

Overall, in the project area, eight of the top ten causes of death for 1998 were due to chronic diseases. The top five leading causes of death, ischemic heart disease, other cancers, lung cancer, other heart disease, and diabetes account for 50.9% of all deaths for 1998. Of these top five, ischemic heart disease and diabetes have shown an overall decrease in percent of total deaths from 1996-1998. Other cancers, lung cancer, and other heart disease have shown an overall increase in percent of total deaths from 1996-1998. Graphs 2.1a-d show changes in percent of deaths for the top five causes of death from 1996-1998.

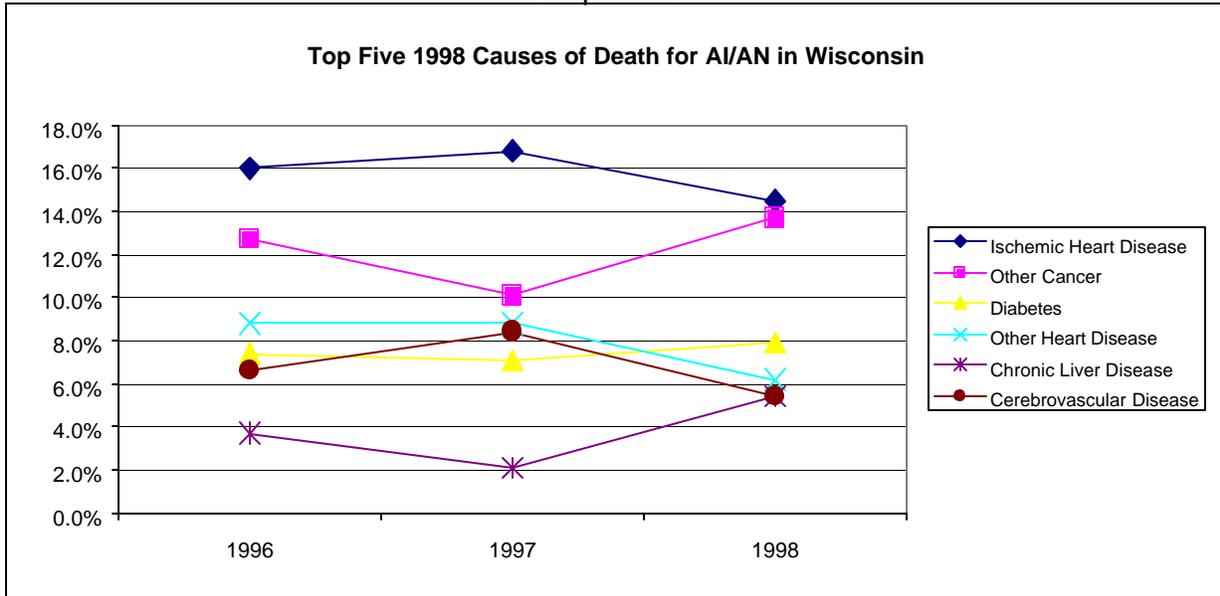
Graph 2.1a



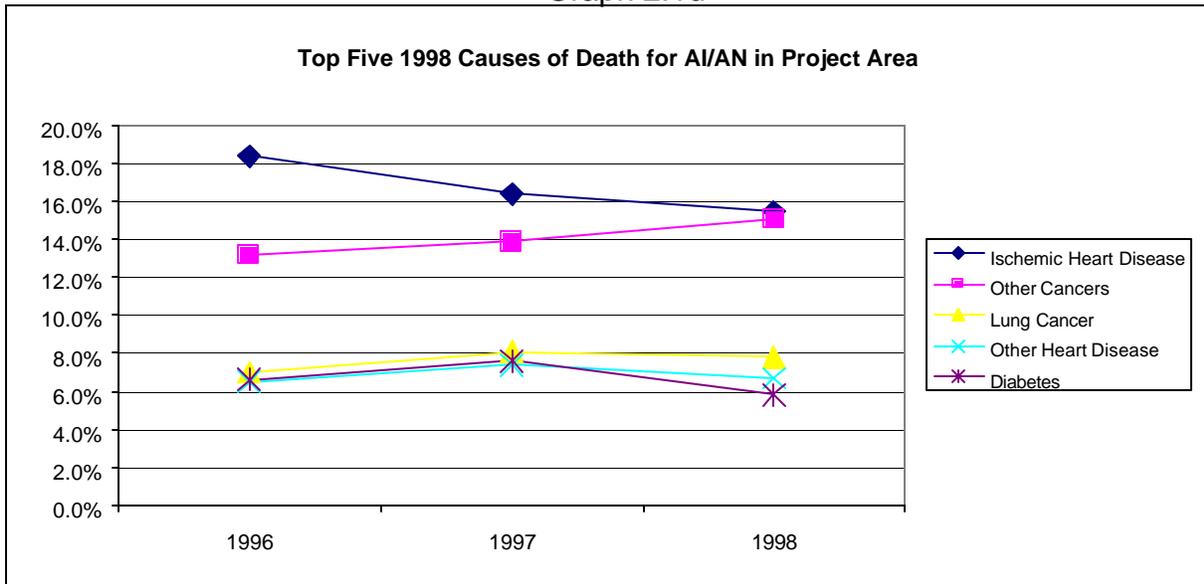
Graph 2.1b



Graph 2.1c



Graph 2.1d



Chronic Disease Mortality

TABLE 2.2

Ischemic Heart Disease Age-adjusted Rates, 1998 (per 100,000)

| | | | |
|--------------------|--------|---------------------|--------------|
| AI/AN Michigan | 130.2 | All Races Michigan | 137.9* |
| AI/AN Minnesota | 115.4 | All Races Minnesota | 125.4 |
| AI/AN Wisconsin | 110.3 | All Races Wisconsin | 257 |
| AI/AN Project Area | 121.5 | All Races U.S. | 138.3 (1995) |
| Bemidji Area | 235.0* | HP2010 | 51 |
| IHS Total | 132.4* | | |

*Heart Disease total

HP 2010 is Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin
The Indian Health Service Rates listed for the Bemidji Area and IHS Total represent diseases of the heart which includes the following ICD9 codes: 390-398, 402, 404-429.

Data Sources: 1998 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

TABLE 2.3

Other Heart Disease Age-adjusted Rates, 1998 (per 100,000)

| | | | |
|--------------------|--------|---------------------|---------------|
| AI/AN Michigan | 62.4 | All Races Michigan | 137.9* |
| AI/AN Minnesota | 41.1 | All Races Minnesota | 64.3 |
| AI/AN Wisconsin | 43.3 | All Races Wisconsin | 257 |
| AI/AN Project Area | 50.7 | All Races U.S. | 138.3 (1995)* |
| Bemidji Area | 235.0* | HP2010 | 51 |
| IHS Total | 132.4* | | |

*Heart Disease total

HP 2010 is Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin
The Indian Health Service Rates listed for the Bemidji Area and IHS Total represent diseases of the heart which includes the following ICD9 codes: 390-398, 402, 404-429.

Data Sources: 1998 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

TABLE 2.4

Malignant Neoplasms Age-adjusted Rates, 1998 (per 100,000)

| | | | |
|--------------------|-------|---------------------|-------|
| AI/AN Michigan | 168.5 | All Races Michigan | 125.3 |
| AI/AN Minnesota | 177.2 | All Races Minnesota | 186.0 |
| AI/AN Wisconsin | 144.9 | All Races Wisconsin | 195 |
| AI/AN Project Area | 160.3 | All Races U.S. | 129.9 |
| Bemidji Area | 184.7 | HP2010 | 103 |
| IHS Total | 102.1 | | |

HP 2010 is Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin

Data Sources: 1998 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

TABLE 2.5
Lung Cancer Age-adjusted Rates, 1998 (per 100,000)

| | | | |
|--------------------|------|---------------------|-------|
| AI/AN Michigan | 68.1 | All Races Michigan | 63.0* |
| AI/AN Minnesota | 90.9 | All Races Minnesota | NA |
| AI/AN Wisconsin | 30.9 | All Races Wisconsin | 53.3 |
| AI/AN Project Area | 65.5 | All Races U.S. | 38.3 |
| Bemidji Area | 62.5 | HP2010 | 33.0 |
| IHS Total | 26.2 | | |

*1997 rate

HP 2010 is Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin CHSDA's

Data Sources: 1998 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

TABLE 2.6
Cerebrovascular Disease Age-adjusted Rates, 1998 (per 100,000)

| | | | |
|--------------------|------|---------------------|------|
| AI/AN Michigan | 44.9 | All Races Michigan | 25.9 |
| AI/AN Minnesota | 30.7 | All Races Minnesota | 60.4 |
| AI/AN Wisconsin | 38.1 | All Races Wisconsin | 86 |
| AI/AN Project Area | 37.9 | All Races U.S. | 38.3 |
| Bemidji Area | 48.4 | HP2010 | 16 |
| IHS Total | 27.2 | | |

HP 2010 is Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin CHSDA's

Data Sources: 1998 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

TABLE 2.7
Diabetes Mellitus Age-adjusted Rates, 1998 (per 100,000)

| | | | |
|--------------------|----------------|---------------------|-------------|
| AI/AN Michigan | 34.0 | All Races Michigan | 43.7* |
| AI/AN Minnesota | 53.4 | All Races Minnesota | 23.2 |
| AI/AN Wisconsin | 58.5 | All Races Wisconsin | 25.0 |
| AI/AN Project Area | 46.7 | All Races U.S. | 13.3 (1995) |
| Bemidji Area | 62.8 (1994-96) | HP2010 | 12.0 |
| IHS Total | 39.4 (1994-96) | | |

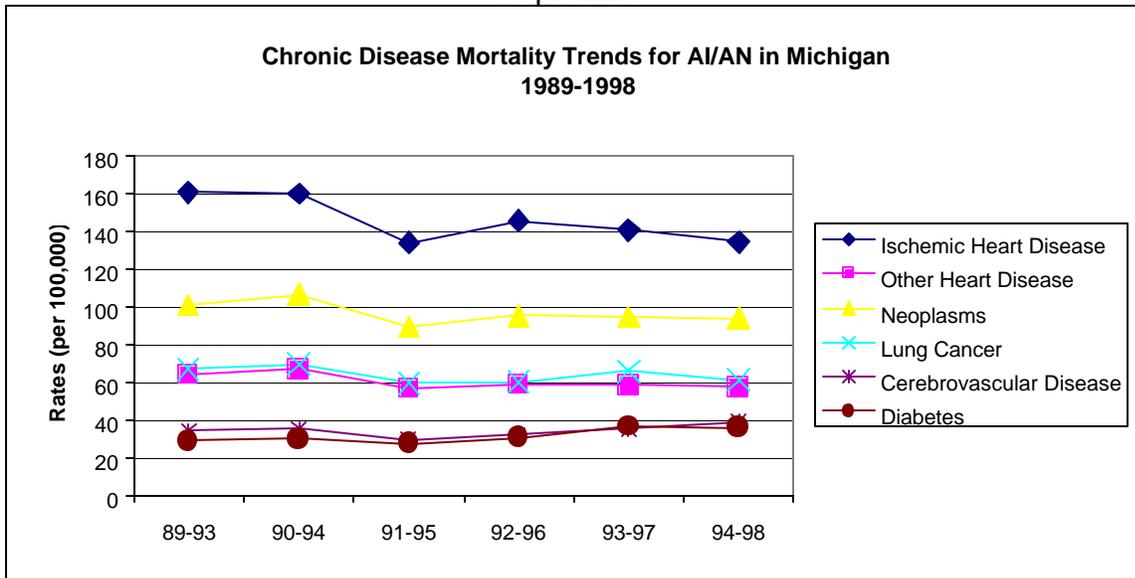
*Includes diabetes as underlying or contributing cause of death.

HP 2010 is Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin CHSDA's

Data Sources: 1998 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

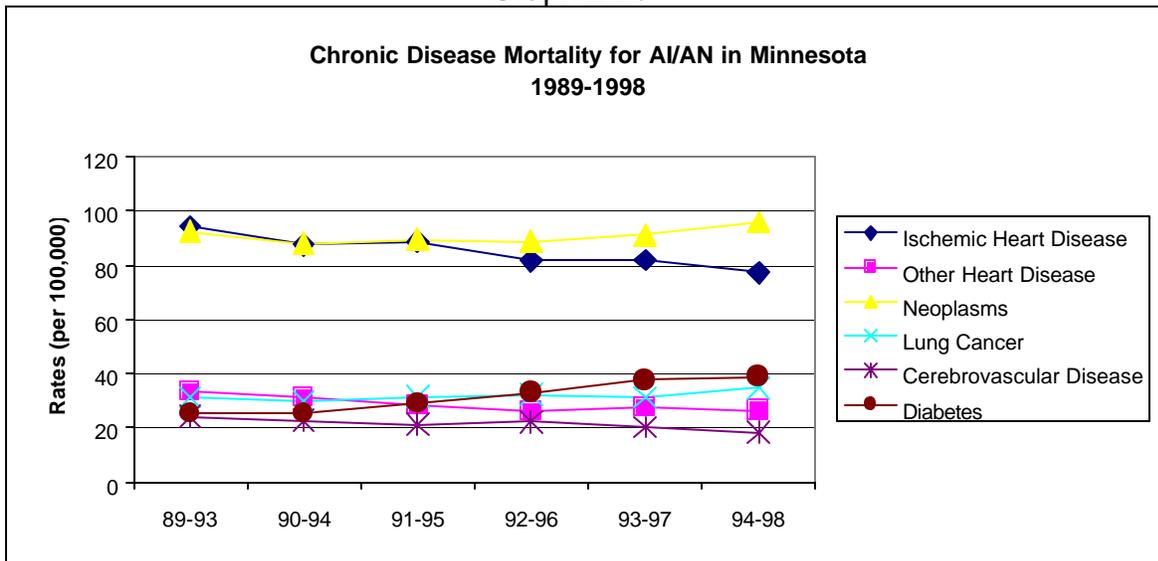
Graphs 2.2a-d display chronic disease mortality rates for the diseases listed in Tables 2.2 through 2.7. The rates are presented in six, five year overlapping time periods illustrating changes over time from 1989-1998.

Graph 2.2a



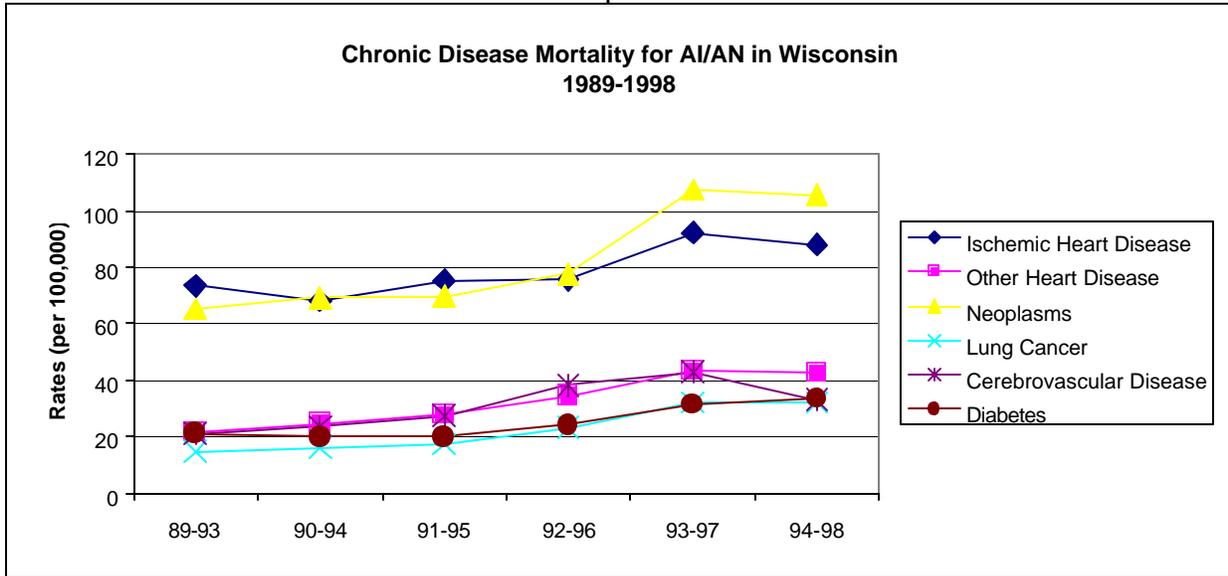
Source: 1989-1998 death files from Michigan Division for Vital Records and Health Statistics and U.S. Census population estimates.

Graph 2.2b



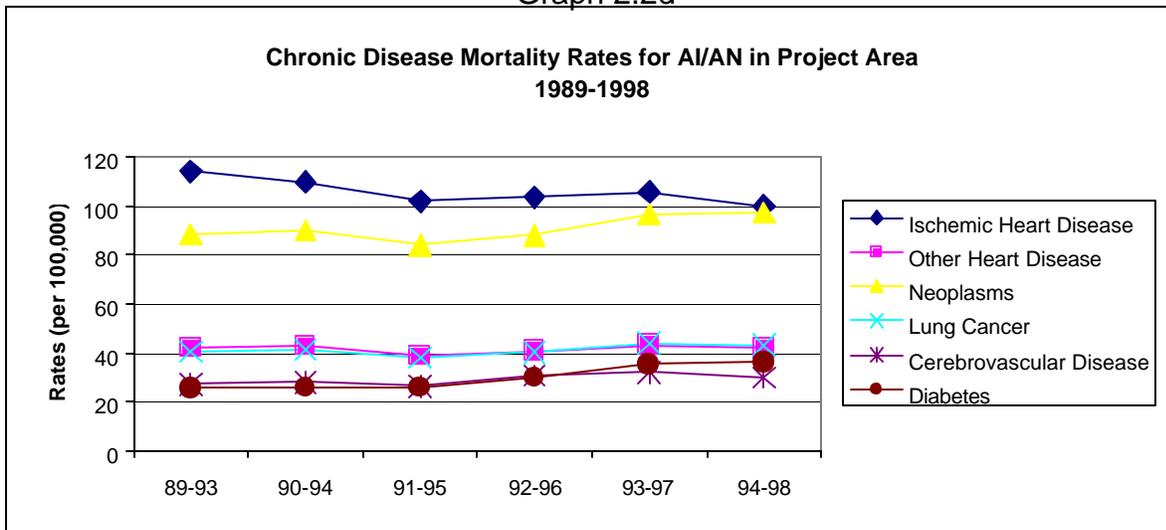
Source: 1989-1998 death files from Minnesota Center for Health Statistics and U.S. Census population estimates.

Graph 2.2c



Source: 1989-1998 death files from Wisconsin Bureau of Health Information and U.S. Census population estimates.

Graph 2.2d



Source: 1989-1998 death files from Michigan Division for Vital Records, 1989-1998 death files from Minnesota Center for Health Statistics, 1989-1998 death files from Wisconsin Bureau of Health Information, and U.S. Census population estimates.

Graph 2.2d displays chronic disease data for the Project Area. Malignant neoplasms (Cancers), lung cancer, other heart disease and diabetes rates appear to be increasing or remaining constant. This graph does not show the disparities between AI/AN in the Project Area and all races in the U.S. and IHS Total, but disparities do exist and are presented in tables 2.2 through 2.7.

SECTION 3 DIABETES

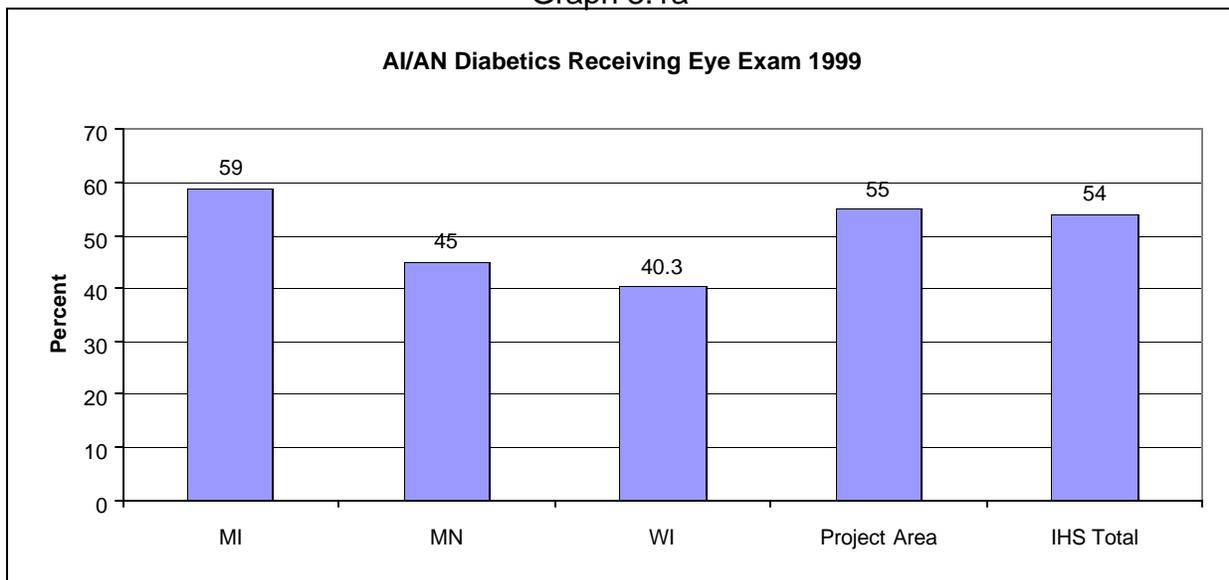
Section 3 contains diabetes information taken from diabetes audits at Tribal Health Centers. Comparisons between states may not be valid in that not all Tribal diabetes programs completed diabetes audits in 1999 and are therefore not included in the state data.

TABLE 3.1
Percentages for Diabetes Related Health Status Indicators for 1999

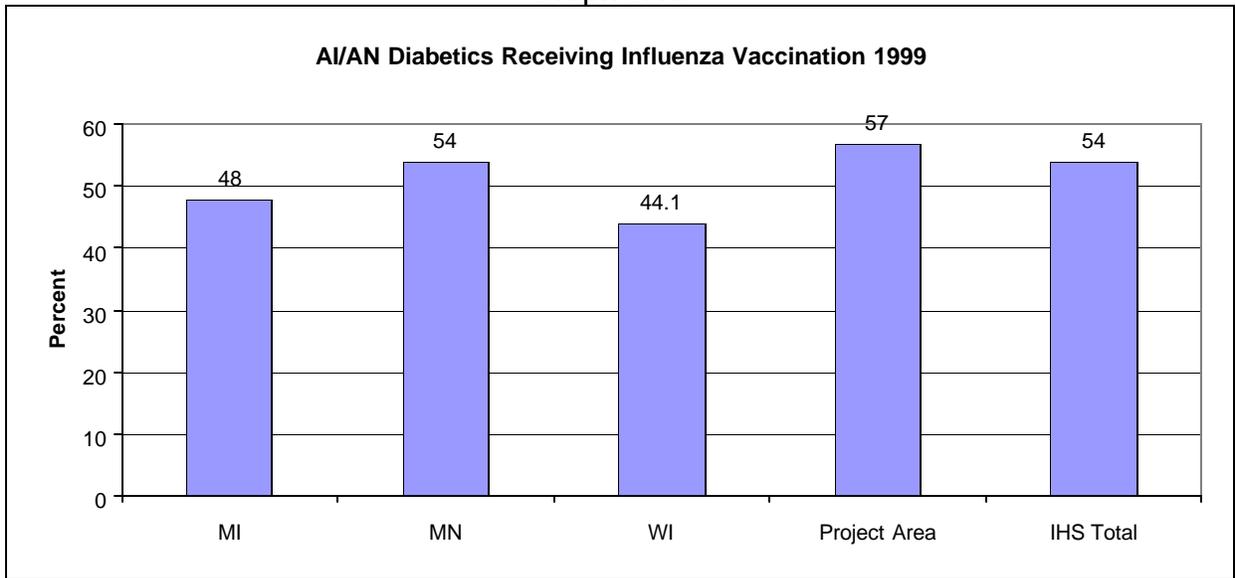
| Indicator | Michigan | Minnesota | Wisconsin | Project Area | IHS Total |
|---|----------|-----------|-----------|--------------|-----------|
| | Percent | Percent | Percent | Percent | Percent |
| Diabetics receiving annual eye exam | 59.0 | 45.0 | 40.3 | 55.0 | 54.0 |
| Diabetics receiving influenza vaccination | 48.0 | 54.0 | 44.1 | 57.0 | 54.0 |
| Diabetics receiving lipid profile | 60.0 | 76.0 | 73.0 | 80.0 | 72.0 |
| Diabetics screened for nephropathy | 50.0 | 64.0 | 78.9 | 85.0 | 90.0 |
| Diabetics who are obese | 23.0 | 48.0 | 52.5 | 50.0 | 46.0 |
| Diabetics with hypertension | 10.0 | 32.0 | 57.2 | 38.0 | 36.0 |
| Diabetics currently smoking | 29.0 | 40.0 | 45.3 | 35.0 | 18.0 |

Source: Tribal diabetes programs at Tribal health centers. Data was collected in 1999 diabetes chart audits from Michigan, Minnesota, and Wisconsin. The Project Area is the same as the Bemidji Area in this table and the Project Area and IHS Total data is weighted.

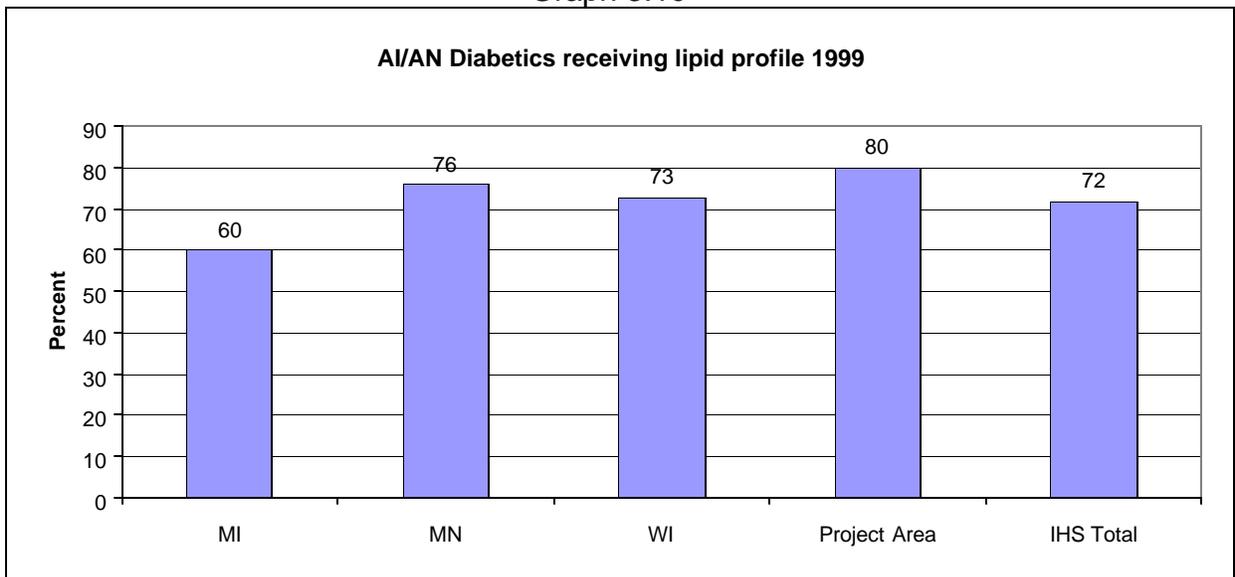
Graph 3.1a



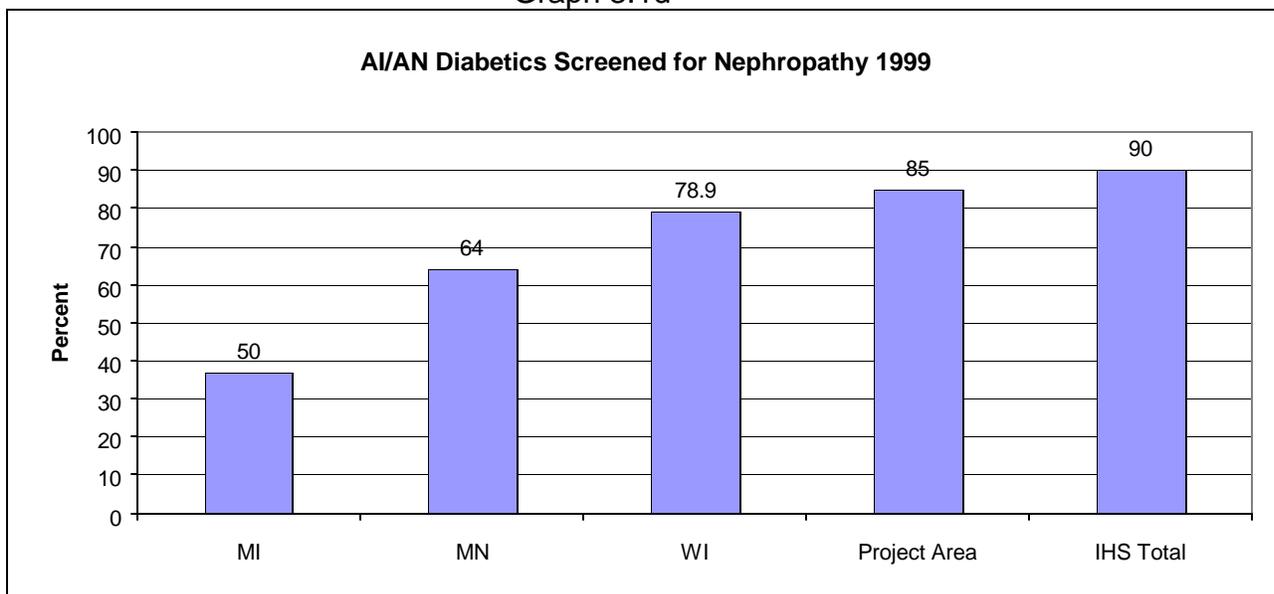
Graph 3.1b



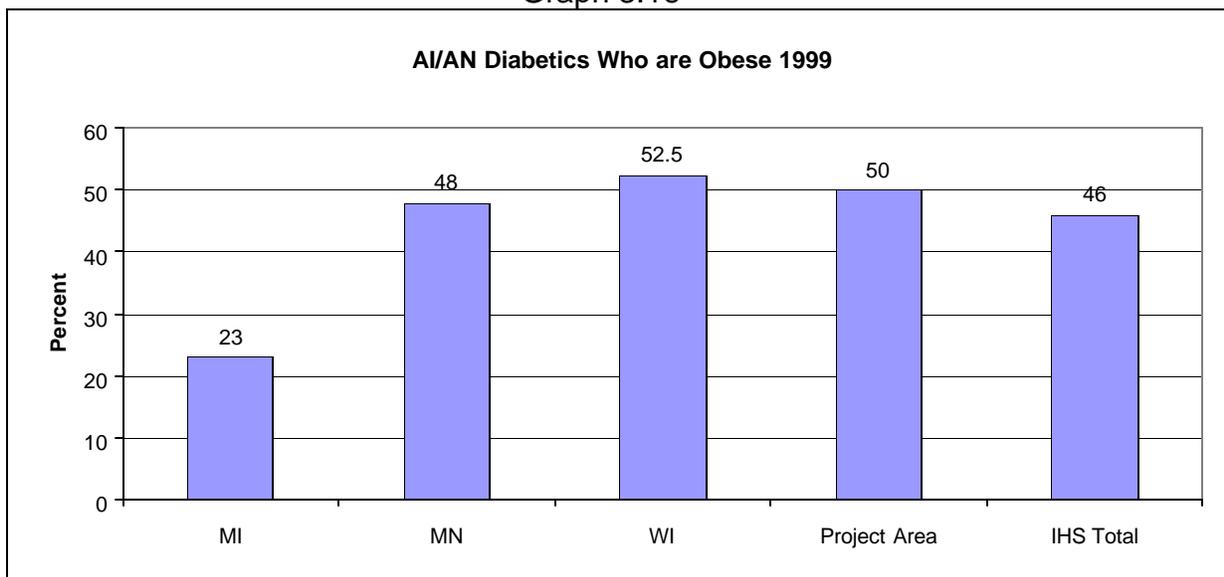
Graph 3.1c



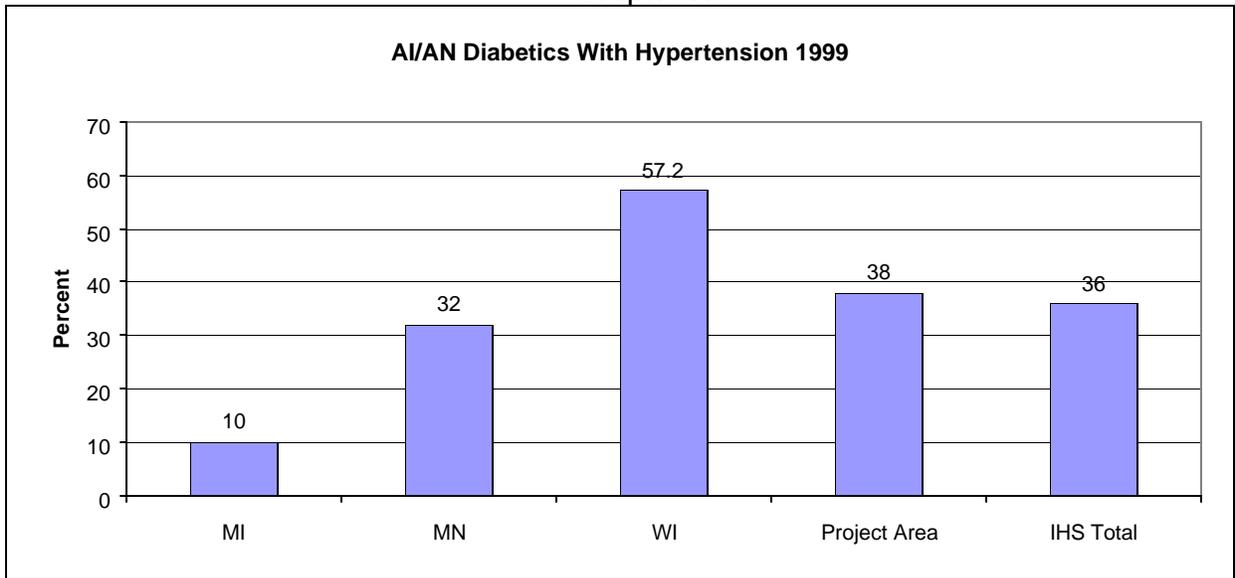
Graph 3.1d



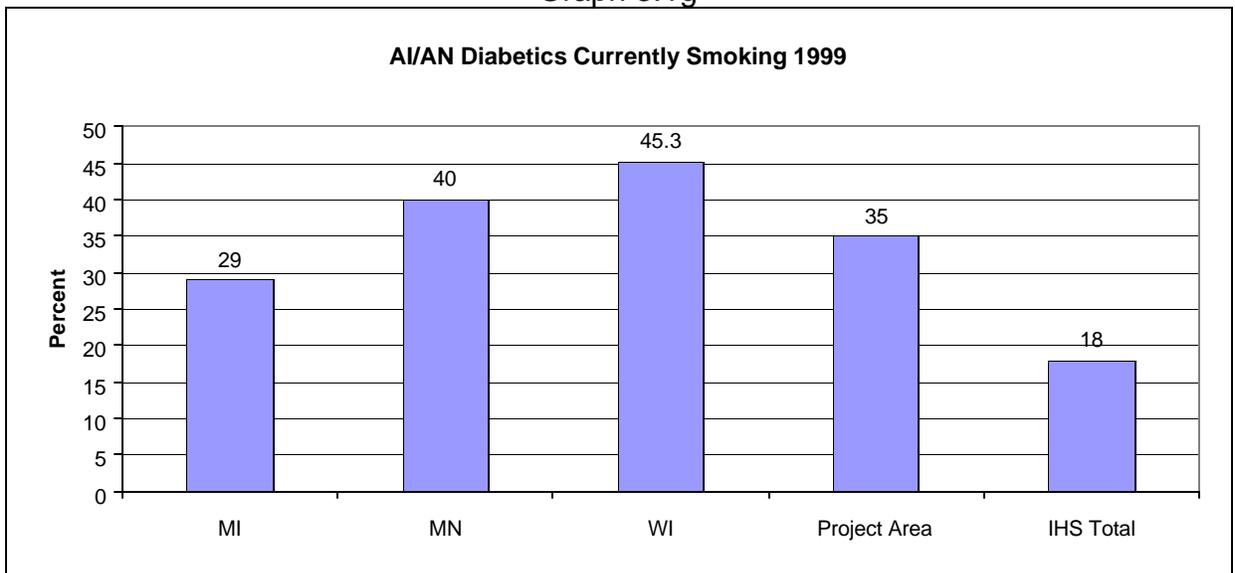
Graph 3.1e



Graph 3.1f



Graph 3.1g



Graphs 3.1a-g depict the data for each indicator from table 3.1. Comparisons between the Project Area and IHS Total shows that in most cases, the project Area has higher percents of compliance with indicators except for screening for nephropathy.

TABLE 3.2

Percentage of Major Primary Diagnostic Groups for American Indian/ Alaska Natives with End Stage Renal Disease, 1997-1999

| Diagnostic Group | Michigan | | | Minnesota | | | Wisconsin | | |
|---------------------------------------|----------|------|------|-----------|------|------|-----------|------|------|
| | 1997 | 1998 | 1999 | 1997 | 1998 | 1999 | 1997 | 1998 | 1999 |
| Diabetic Nephropathy | 59.6 | 58.3 | 62.5 | 68.6 | 70.3 | 70.3 | 64.4 | 64.2 | 62.5 |
| Glomerulonephritis | 14.0 | 11.1 | 13.9 | 12.4 | 11.7 | 10.8 | 14.4 | 14.7 | 15.0 |
| Nephroarteriosclerosis (hypertension) | 7.0 | 11.1 | 5.6 | 8.0 | 6.9 | 7.0 | 5.8 | 5.5 | 5.8 |
| Sub-Total | 80.7 | 80.6 | 81.9 | 89.1 | 89.0 | 88.0 | 84.6 | 84.4 | 83.3 |

Source: Renal Network of the Upper Midwest

The major primary diagnosis for people with end stage renal disease was diabetic nephropathy in all three states in the project area from 1997-1999. Diabetic nephropathy, as the name implies, is disease or death of kidney cells due to diabetes. Glomerulonephritis, inflammation of the kidney caused by lesions in the glomeruli (blood vessels), is the primary diagnosis for 11-15% of the end stage renal disease from 1997-1999 in the project area. Nephroarteriosclerosis (hypertension), thickening of the blood vessel walls within the kidney, was listed as the primary diagnosis for a range of about 5-11% of the end stage renal disease in the project area. These percentages are for all AI/AN people in the project area with End Stage Renal Disease, not for people with diabetes.

SECTION 4

COMMUNICABLE DISEASES

The data included in section 4 is the same as the 1999 Community Health Profile. The EpiCenter is working on acquiring the necessary data for the project area for the 2001 Community Health Profile.

TABLE 4.1
Leading Reportable Diseases in Wisconsin 1985-1996

| Reportable Diseases | On Set During 1985-1987 (% of total) | On Set During 1988-1990 (% of total) | On Set During 1991-1993 (% of total) | On Set During 1994-1996 (% of total) |
|----------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Shigellosis | 23.3 | 25.9 | 5.5 | 8.2 |
| Giardiasis | 17.3 | 16.5 | 9.8 | 7.7 |
| Hepatitis A | 15.3 | 7.6 | 50.8 | 29.7 |
| Campylobacter Infection | 12.7 | 11.2 | 8.7 | 10.8 |
| Salmonellosis | 10.0 | 22.4 | 12.6 | 7.2 |
| Acute Bacterial Meningitis | 8.0 | -- | -- | -- |
| Hepatitis B | -- | 4.7 | 3.8 | -- |
| Aseptic Meningitis | -- | -- | -- | 25.6 |
| Sub-Total | 86.6 | 88.3 | 91.2 | 89.2 |

Source: Wisconsin communicable disease data files

Table 4.1 ranks only communicable diseases that are mandatorily reported to WI and does include all communicable diseases that occurred in the state.

There has been a steady decrease in only Giardia over the four time periods. All the other leading reportable diseases show increases and decreases over the different time periods. Hepatitis A in 1991-1993 made up 50% of all reportable diseases in the three-year period of 1991-1993. The percentage of reportable diseases that were Hepatitis A did decrease from 1994-1996 but still remained higher than previous time periods. The increase was likely due to an outbreak of Hepatitis A that peaked during 1991-1993. Sawyer County accounted for 79 (42%) cases of Hepatitis A during 1985-1996. All but two of these 79 cases occurred in the time periods 1991-1993 (32) and 1994-1996 (45). As data for 1997-1999 becomes available to the EpiCenter, it will be added and compared to the information reported here.

TABLE 4.2
Selected Sexually Transmitted Diseases for American Indian/Alaska Natives in Wisconsin 1985-1998

| Disease | '85-'87 (%) | '88-'90 (%) | '91-'93 (%) | '94-'96 (%) | '97-'98 (%) |
|-------------------|-------------|-------------|-------------|-------------|-------------|
| Chlamydia | 60.2 | 61.9 | 67.9 | 68.7 | 73.2 |
| Gonorrhea | 33.0 | 23.9 | 13.5 | 17.4 | 12.4 |
| Herpes type 1 & 2 | 1.0 | 4.0 | 8.8 | 6.1 | 2.8 |
| Syphilis (all) | 1.6 | 0.8 | 1.6 | 1.7 | 2.0 |
| Sub-Total | 95.8 | 90.6 | 91.8 | 93.9 | 90.4 |

Source: Wisconsin Sexually Transmitted Disease data files

The number of Chlamydia and Gonorrhea cases decreased from 1985-1996. During the 1997-1998 period, both show an increase in number of cases.

TABLE 4.3
Sexually Transmitted Diseases by Age Group for American Indian/Alaska Natives in Wisconsin, 1985-1998

| Age Group (yr.) | '85-'87 | '88-'90 | '91-'93 | '94-'96 | '97-'98 |
|-----------------|------------|------------|------------|-----------|------------|
| | # (%) | # (%) | # (%) | # (%) | # (%) |
| <1 | 1 (0.2) | -- | -- | -- | -- |
| 1-14 | 11 (3.2) | 8 (2.9) | 7 (3.3) | 6 (4.7) | 11 (3.8) |
| 15-24 | 225 (66.0) | 205 (73.0) | 142 (67.6) | 78 (61.4) | 199 (68.4) |
| 25-44 | 102 (29.9) | 65 (23.1) | 59 (28.1) | 39 (30.7) | 68 (23.3) |
| 45-64 | 2 (0.5) | 3 (1.1) | 2 (1.0) | 3 (2.4) | 8 (2.7) |
| 65-74 | -- | -- | -- | 1 (0.8) | -- |
| 75 and over | -- | -- | -- | -- | 5 (1.7) |
| Total | 341 | 281 | 210 | 127 | 291 |

Source: Wisconsin Sexually Transmitted Disease data files

The age group 15-24 year olds consistently has the most cases of sexually transmitted diseases of all ages. Not only was there an increase in the number of sexually transmitted diseases to teens and young adults, but overall, there is an increase in the number of cases of STDs in 1997-1998. The rate of STDs (not in table) has increased in 1997-1998, from 95.2/100,000 in 1994-1996 to 315.5/100,000 in 1997-1998. It is important to note however, that the estimated or projected populations used to calculate these rates are a theoretical population approximation, which affects the resulting rates.

SECTION 5

MATERNAL AND CHILD HEALTH

The CDC Pediatric and Pregnancy Nutrition Surveillance Survey contains very useful information on women, infants and children (WIC) participants. Birth certificates also provide valuable information on both newborns and mothers. The following tables display data from birth certificates and Pediatric Nutrition Surveillance Survey. Health information from the Pediatric Nutrition Surveillance Survey only includes clients seen in WIC clinics.

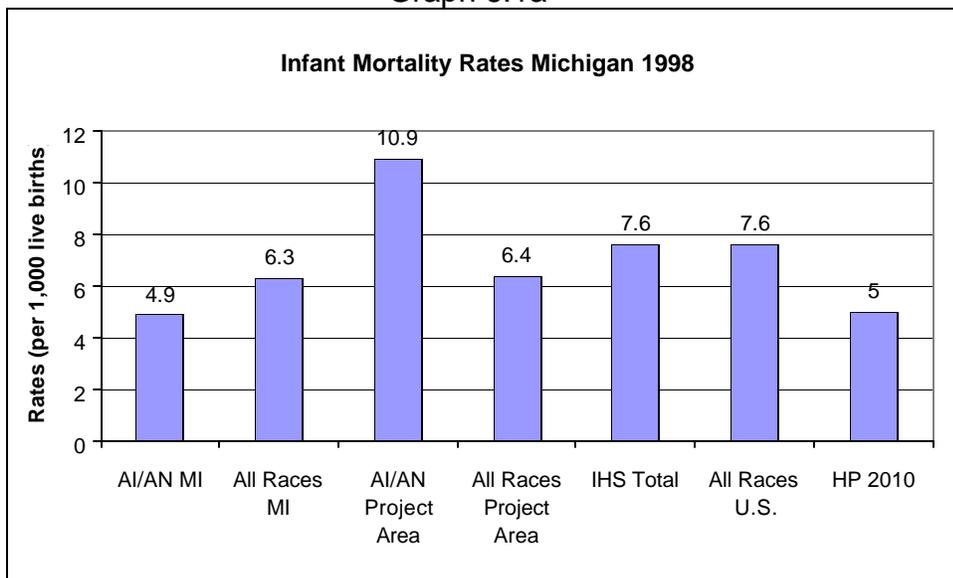
TABLE 6.1
Comparison of Infant Mortality Rates (per 1,000 live births), 1998

| | | | |
|--------------------|------|------------------------|-----|
| AI/AN Michigan | 4.9 | All Races Michigan | 6.3 |
| AI/AN Minnesota | 16.6 | All Races Minnesota | 5.9 |
| AI/AN Wisconsin | 13.1 | All Races Wisconsin | 7.2 |
| AI/AN Project Area | 10.9 | All Races Project Area | 6.4 |
| Bemidji Area | 9.0 | All Races U.S. | 7.6 |
| IHS Total | 7.6 | HP 2010 | 5.0 |

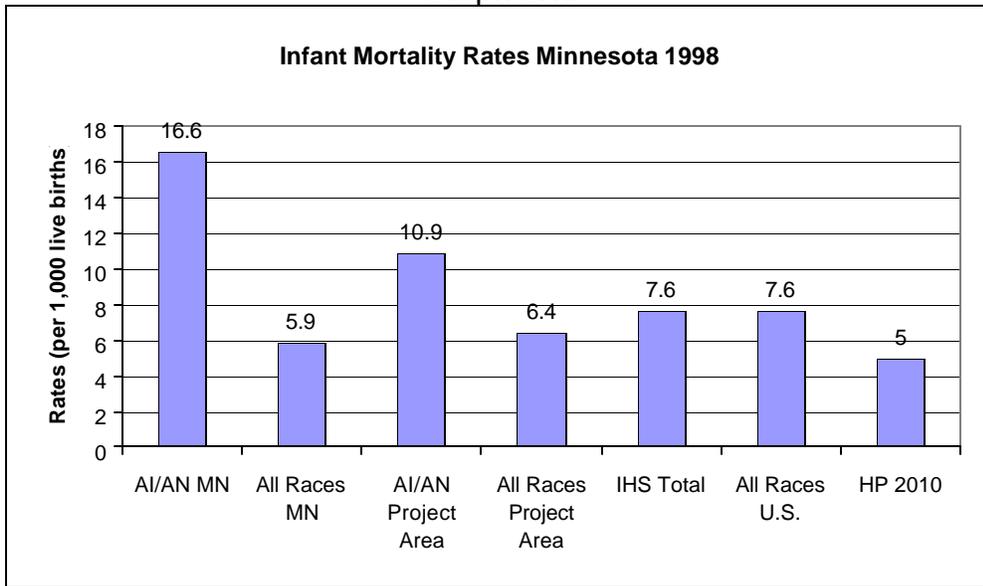
HP2010 refers to Healthy People 2010 goals

Data Sources: 1998 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

Graph 6.1a



Graph 6.1b



Graph 6.1c

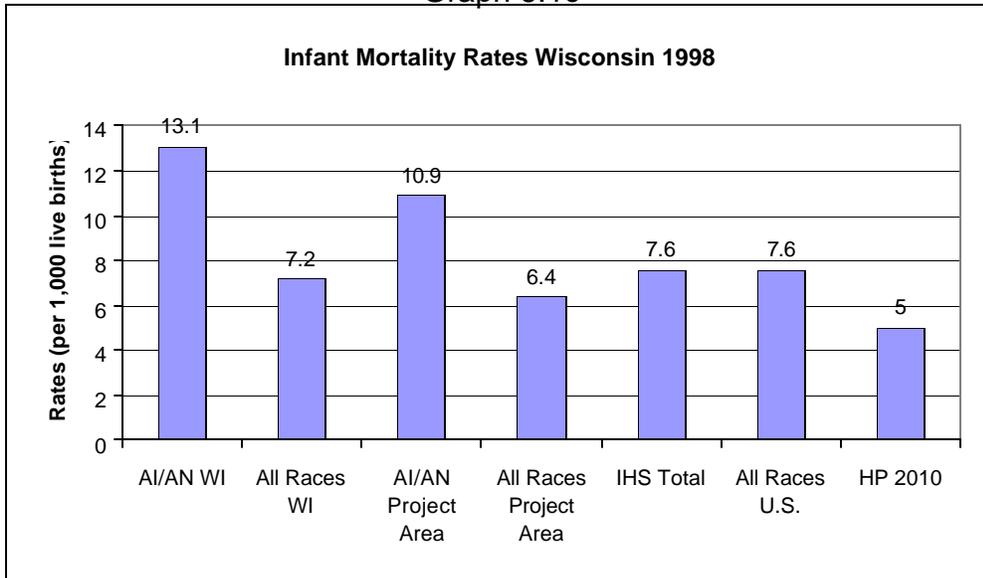


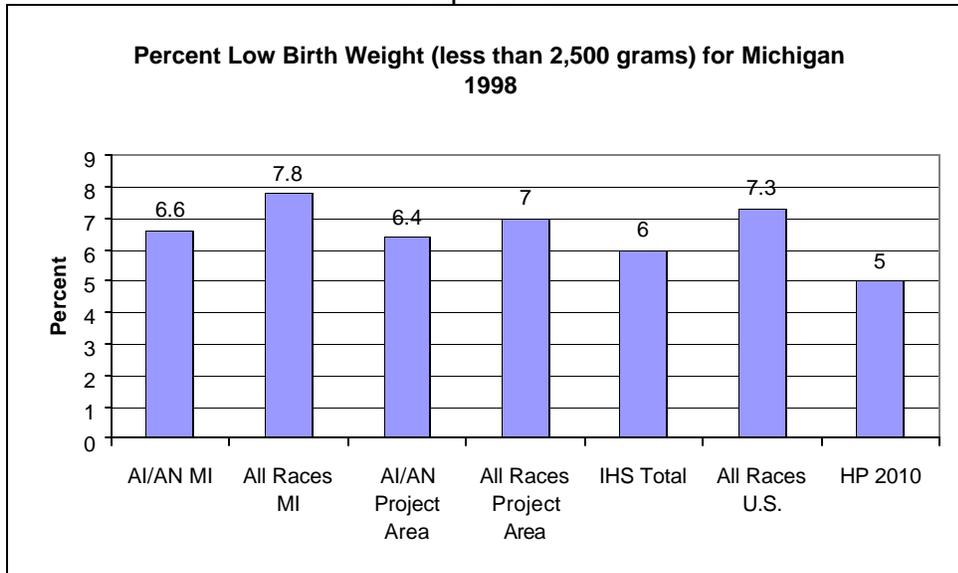
TABLE 6.2
Percent Low Birth Weight Births (less than 2500 grams), 1998

| | | | |
|--------------------|-----|------------------------|-----|
| AI/AN Michigan | 6.6 | All Races Michigan | 7.8 |
| AI/AN Minnesota | 6.1 | All Races Minnesota | 4.9 |
| AI/AN Wisconsin | 7.0 | All Races Wisconsin | 6.5 |
| AI/AN Project Area | 6.4 | All Races Project Area | 7.0 |
| Bemidji Area | 5.1 | All Races U.S. | 7.3 |
| IHS Total | 6.0 | HP 2010 | 5.0 |

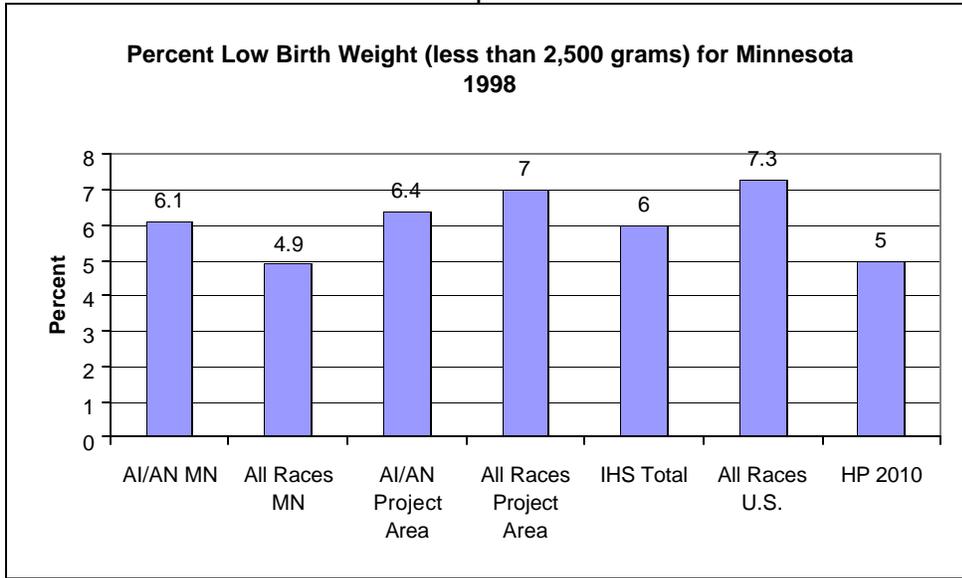
HP2010 refers to the Healthy People 2010 goals.

Data Sources: 1998 birth files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

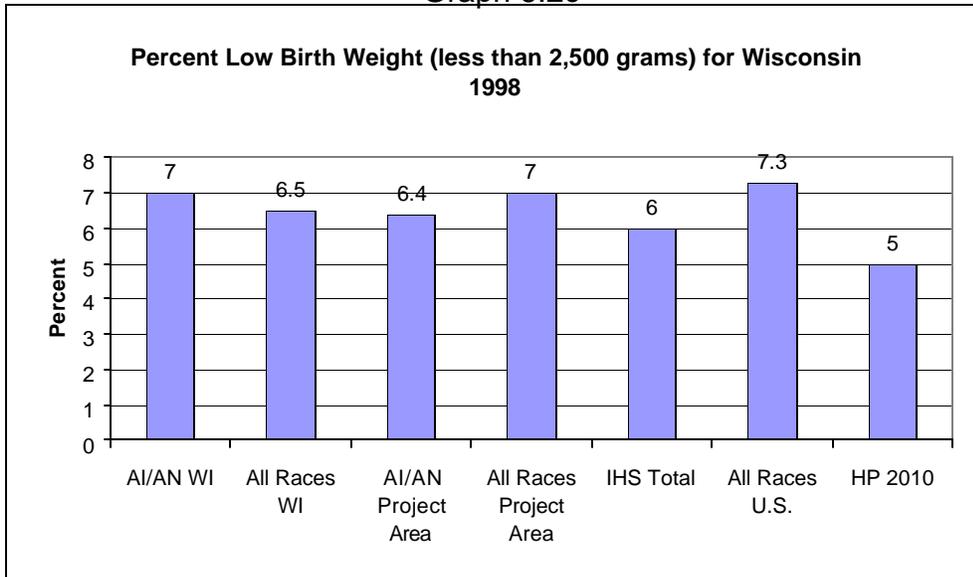
Graph 6.2a



Graph 6.2b



Graph 6.2c



Low birth weight (less than 2500 grams) tends not to be a major problem for AI/AN in the project area. Within the project area, the percentage of low birth weight babies was less for AI/AN than for all races as displayed in Table 6.2. The percent of AI/AN low birth weight births is the lowest for Minnesota. In Minnesota, the percent of low birth weight births has almost reached the Healthy People 2010 goal.

TABLE 6.3

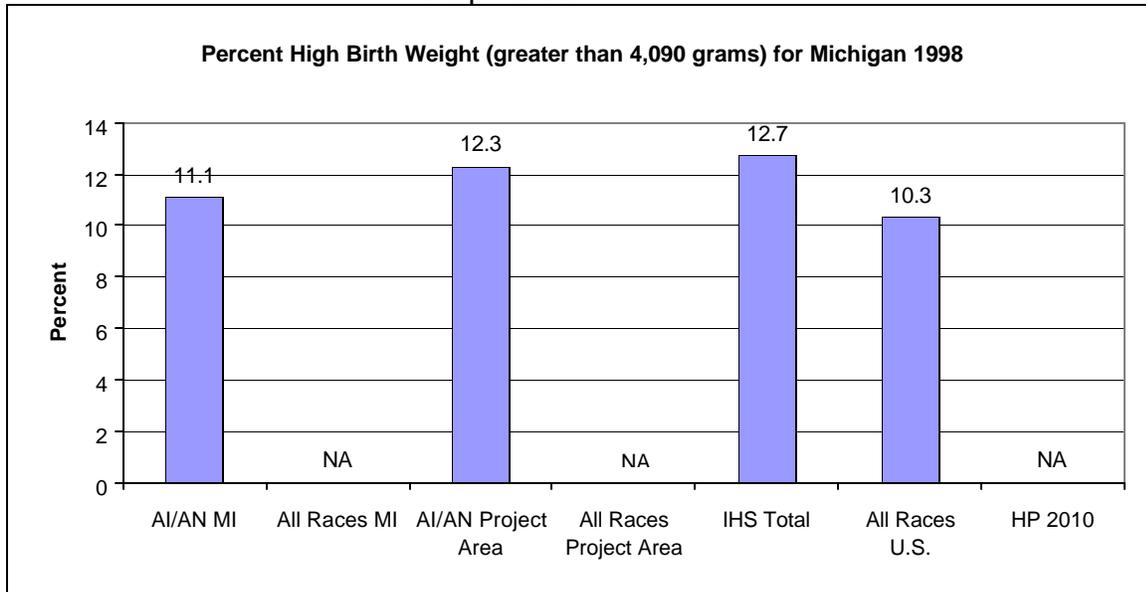
Percent of Births with High Birth Weight (greater than 4,090 grams), 1998

| | | | |
|--------------------|------|------------------------|------|
| AI/AN Michigan | 11.1 | All Races Michigan | NA |
| AI/AN Minnesota | 11.8 | All Races Minnesota | NA |
| AI/AN Wisconsin | 15.6 | All Races Wisconsin | NA |
| AI/AN Project Area | 12.3 | All Races Project Area | NA |
| Bemidji Area | 16.8 | All Races U.S. | 10.3 |
| IHS Total | 12.7 | HP 2010 | NA |

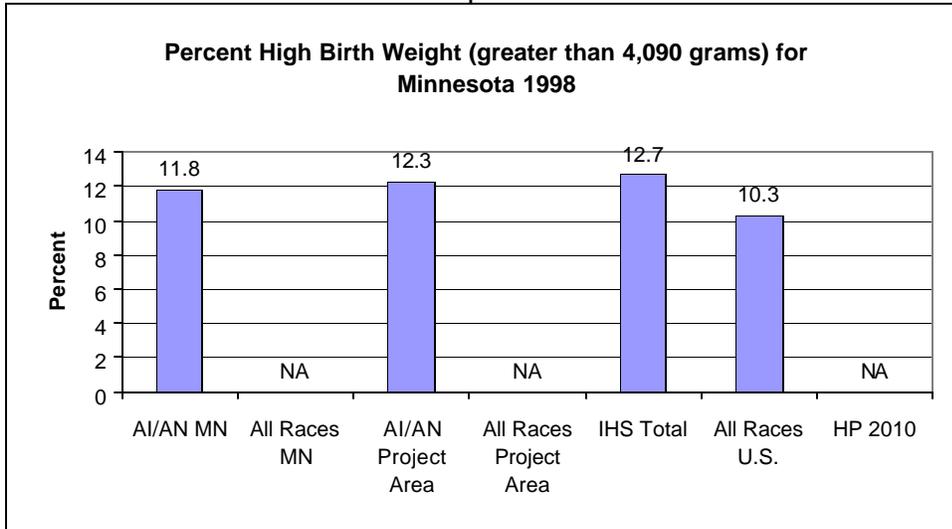
HP2010 refers to the Healthy People 2010 goals.

Data Sources: 1998 birth files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

Graph 6.3a



Graph 6.3b



Graph 6.3c

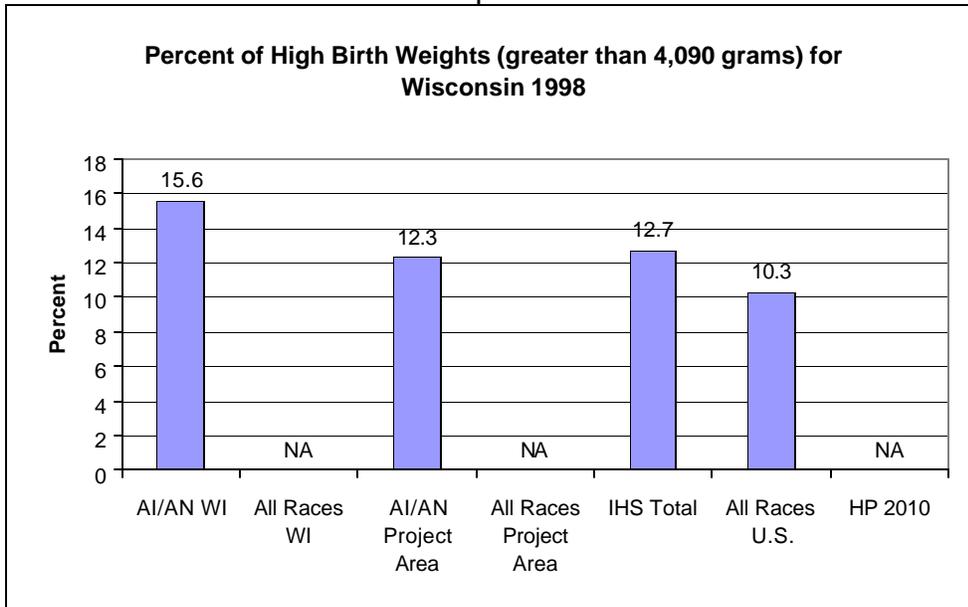


Table 6.3 and graphs 6.3a-c show that the percent of high birth weight babies (over 4,090 grams) is twice that of low birth weight babies for AI/AN births. High birth weight is an important indicators because babies with high birth weights may have increased risk of developing diabetes in their lifetime, may be at risk for metabolic problems, and are at risk for obesity throughout their lifetime.

TABLE 6.4

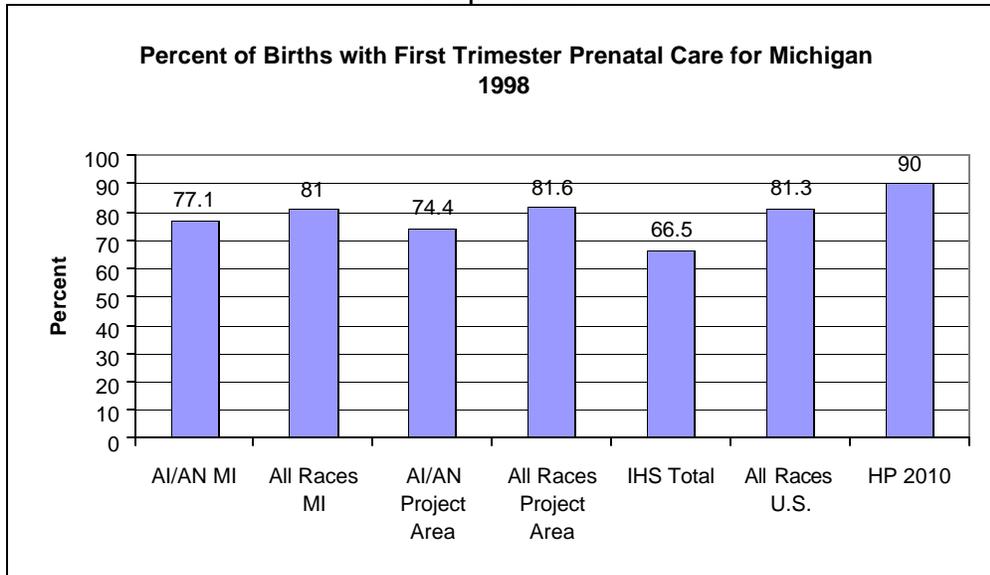
Percent of Births with First Trimester Prenatal Care, 1998

| | | | |
|--------------------|------|------------------------|------|
| AI/AN Michigan | 77.1 | All Races Michigan | 81.0 |
| AI/AN Minnesota | 56.2 | All Races Minnesota | 79.8 |
| AI/AN Wisconsin | 69.3 | All Races Wisconsin | 84.0 |
| AI/AN Project Area | 74.4 | All Races Project Area | 81.6 |
| Bemidji Area | 68.3 | All Races U.S. | 81.3 |
| IHS Total | 66.5 | HP 2010 | 90.0 |

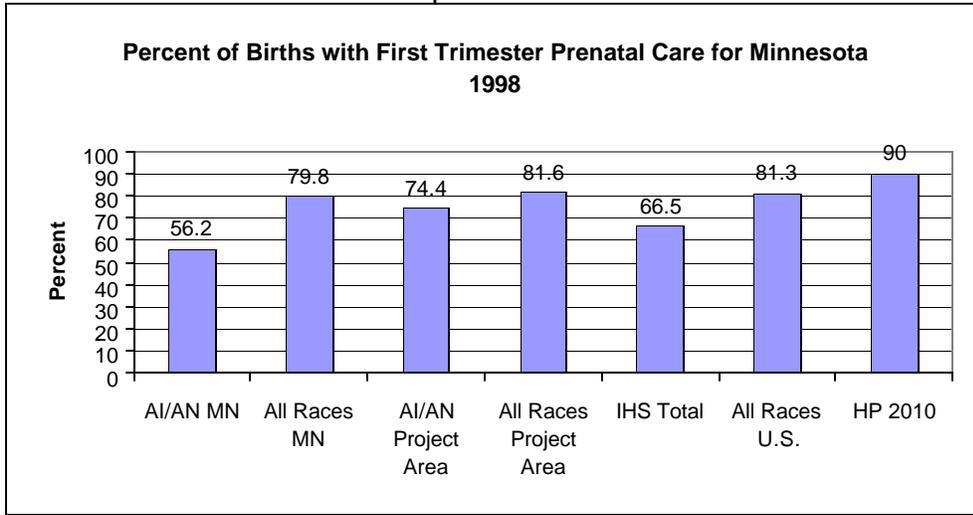
HP2010 refers to the Healthy People 2010 goals.

Data Sources: 1998 birth files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

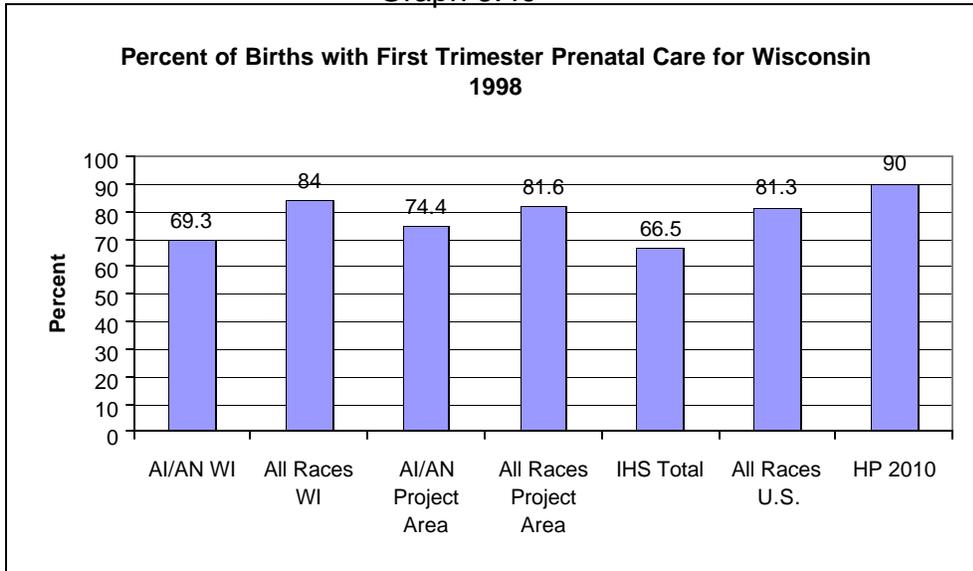
Graph 6.4a



Graph 6.4b



Graph 6.4c



The percent of births with first trimester prenatal care for AI/AN in the project area is 74.4% as compared to 81.6% for all races in the project area. Throughout the project area, there is a need to continue to work on ways to assist women with receiving prenatal care during the first trimester of pregnancy.

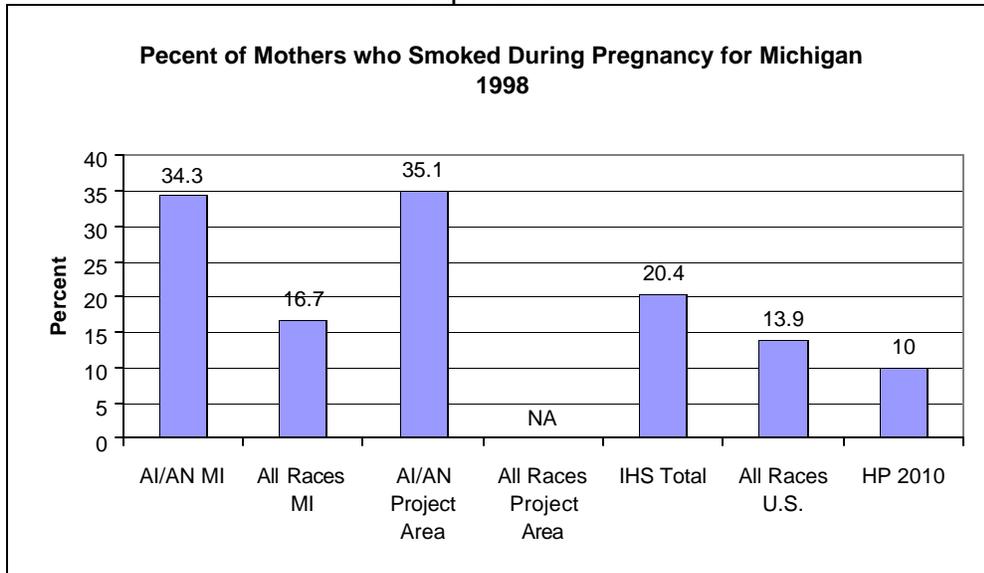
TABLE 6.5
Percent Births to Mothers who Smoked During Pregnancy, 1998

| | | | |
|--------------------|------|------------------------|------|
| AI/AN Michigan | 34.3 | All Races Michigan | 16.7 |
| AI/AN Minnesota | 33.5 | All Races Minnesota | NA |
| AI/AN Wisconsin | 40.4 | All Races Wisconsin | 18 |
| AI/AN Project Area | 35.1 | All Races Project Area | NA |
| Bemidji Area | 41.1 | All Races U.S. | 13.9 |
| IHS Total | 20.4 | HP 2010 | 10.0 |

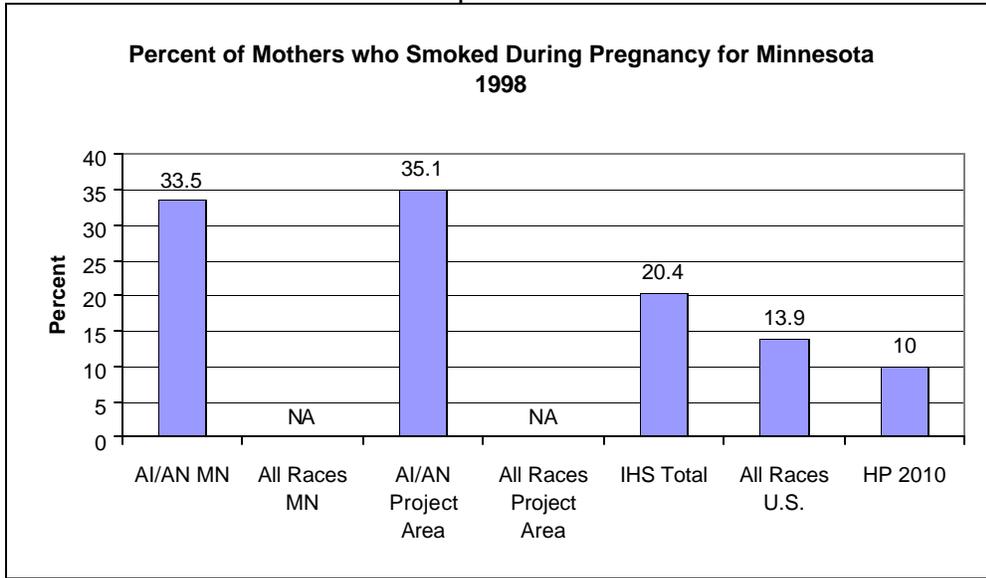
HP2010 refers to the Healthy People 2010 goals.

Data Sources: 1998 birth files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; [Regional Differences in Indian Health 1998](#) (1993-1995 data); [Healthy People 2010](#) from DHHS

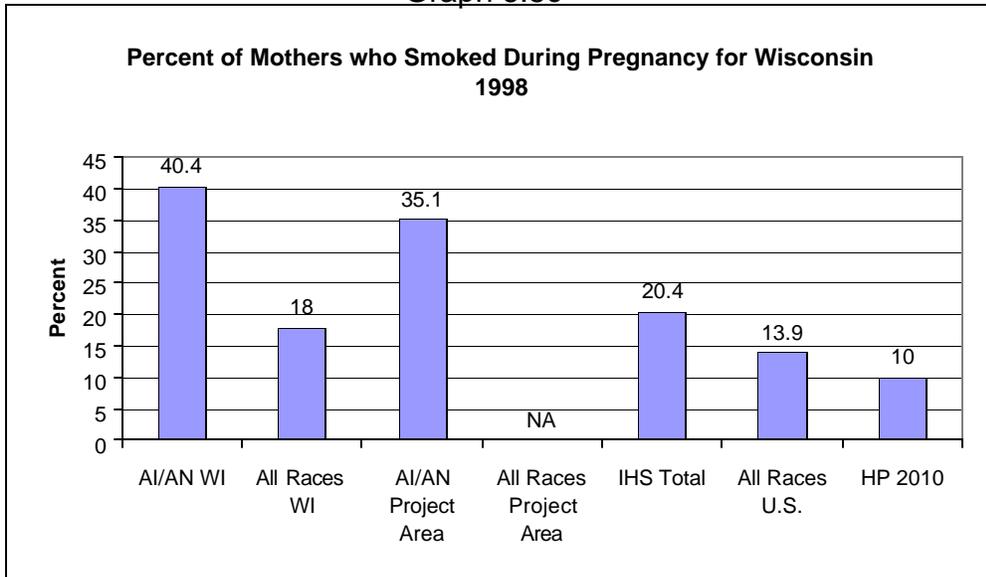
Graph 6.5a



Graph 6.5b



Graph 6.5c



Another important indicator of infant and child health is maternal smoking. In 1998, 35.1% of AI/AN mothers smoked during pregnancy as compared to 20.4% for all of IHS and 13.9% for all races in the U.S. Smoking during pregnancy is serious problem for AI/AN women and children. In some communities, half the pregnant women in a given year smoke while pregnant. This is an issue for the entire Project Area as reflected in the 35.1% of women who smoked during pregnancy.

TABLE 6.7

Percent of Obesity* in American Indian/ Alaska Native and All Race Children by Age, Based on WIC Enrollment for Calendar Year 1998

| Age (months) | Michigan | | Minnesota | | Wisconsin | |
|--------------|----------|-----------|-----------|-----------|-----------|-----------|
| | AI/AN | All Races | AI/AN | All Races | AI/AN | All Races |
| Under 12 | 10.9 | 8.5 | 11.3 | 8.1 | 11.8 | 6.5 |
| 12-23 | 17.8 | 11.8 | 22.6 | 12.4 | 22.7 | 12.8 |
| 24-35 | 10.3 | 6.3 | 14.7 | 6.7 | 12.3 | 6.3 |
| 36-59 | 13.7 | 8.4 | 17.6 | 9.6 | 15.8 | 8.5 |

*Obesity is defined as weight for height greater than the 95th percentile

Source: Pediatric Nutrition Surveillance, Table 10, 1998 Annual Summary

Obesity levels for AI/AN children in all three states in the project area are higher than for all races. In Minnesota and Wisconsin, the AI/AN percentages are almost double that of all races.

TABLE 6.8

Percent of Anemia* in American Indian/ Alaska Native and All Race Children by Age, Based on WIC Enrollment for Calendar Year 1998

| Age (months) | Michigan | | Minnesota | | Wisconsin | |
|--------------|----------|-----------|-----------|-----------|-----------|-----------|
| | AI/AN | All Races | AI/AN | All Races | AI/AN | All Races |
| Under 12 | 16.3 | 16.8 | 22.0 | 20.3 | 16.8 | 17.9 |
| 12-23 | 15.5 | 17.4 | 16.2 | 15.8 | 13.8 | 18.4 |
| 24-35 | 17.5 | 18.5 | 12.2 | 15.9 | 13.7 | 19.0 |
| 36-59 | 9.9 | 15.2 | 7.8 | 10.7 | 9.0 | 14.9 |

*Anemia is defined as hemoglobin below the 5th percentile

Source: Pediatric Nutrition Surveillance, Table 10, 1998 Annual Summary

Levels of low hemoglobin, defined here as anemia, occurs less often in AI/AN children than in all races in the project area, except in Minnesota for the younger age groups.

It is important to note that the data included in Table 6.7 and 6.8 only includes children participating in the WIC program. It is estimated that for most Tribes, at least 80% of the children are enrolled in WIC, but it may be of value to assess the obesity and anemia levels among all children.

CONCLUSION

The data included in this report comes from a variety of local, state, and national sources. Although limited, the health information in this report shows some areas of accomplishment as well as areas needing improvement. The following conclusion discusses some of the health indicators from different sections of this report. Appendix C contains resources for additional information.

The demographic and social indicators section of this report mainly presents information from the 1990 census. The EpiCenter staff realize that this is outdated information and a lot of changes have taken place in the American Indian/ Alaska Native populations within the project area since 1990. We have continued to use the 1990 census data because it is real; it is the information collected from individuals. Whereas information contained in estimates are based on formulas, not real counts of people. Future community health profiles will include census 2000 demographic data and provide a more current picture of American Indian/ Alaska Native demographics.

The mortality section displays information on death by ranking the causes of death and comparing death rates between different populations. Ranking by American Indian/ Alaska Native number of deaths shows that the top five causes of death in the project area are: 1) ischemic heart disease, 2) other cancers (not including breast and lung), 3) lung cancer, 4) other heart disease (not including ischemic heart disease), and 5) diabetes. The 1998 ranking is similar to 1997 except that diabetes and other heart disease have switched positions in 1998. Chronic disease mortality information is also presented in the mortality section of this report. Health information on risk factors associated with chronic disease and the top causes of AI/AN mortality such as smoking, obesity, level of exercise, drug and alcohol use, and hypertension, among others, is not yet available to the EpiCenter on a state or Bemidji Area level. However, some small projects have provided information that provides some insight as to the levels of risk factors for AI/AN people. One in particular, The Inter-Tribal Heart Project, was a comprehensive assessment of cardiovascular disease risk factors.

The Inter-Tribal Heart Project (CDC, Menominee, Red Lake, and White Earth, 1996) involved three Tribes and measured some risk factors for cardiovascular disease. The risk factors for cardiovascular diseases are similar to those for other chronic diseases like diabetes and lung cancer. A few of the risk factors examined by the study were hypertension prevalence (32%), elevated cholesterol prevalence (22%), tobacco use prevalence (57%), and prevalence of obesity (35%). Determination of risk factor prevalence is extremely important for AI/AN communities because many of the top causes of death and chronic disease directly result from risk factors which can be modified or prevented through a targeted approach to programming for community health.

The diabetes section in this report contains locally collected information. Tribal diabetes programs throughout the nation are reporting required diabetes data to IHS. Indicators from the 1999 IHS Diabetes Audit are displayed in this section. Some indicators are

more difficult to track than others, especially the services not provided directly by Tribal Health facilities.

Data in the communicable disease section of this report show that of the sexually transmitted diseases that occurred from 1985-1998 in Wisconsin. Most of the cases were Chlamydia, and most of the cases occurred in 15-24 year olds. This information can provide a basis or start for further investigation of sexually transmitted diseases among young people. The information helps target the group most affected by preventable diseases like STDs.

Severe injury data is not included in this report because there is no longer a reliable IHS database for severe injury. The Bemidji Area office is working with project area Tribes to develop local severe injury databases.

One of the most alarming indicators reported here is in the maternal and child health section. For the Project Area, the average rate of smoking is about 35% but for some Tribal communities, as many as half the women having babies in 1998 smoked during their pregnancy. This high percentage becomes even more dramatic when compared to all races. For example, in Wisconsin, 40.4% of AI/AN smoked during pregnancy in 1998 while only 18.0% of women of all races smoked during pregnancy. In Michigan, 34.3% of AI/AN women smoked during pregnancy compared to 16.7% for all races. Smoking can cause many health problems for both the mothers and their babies. This may be an issue that can be addressed by increasing prevention efforts of already existing prenatal programs. Tribal health centers may want to more closely examine this issue within their own communities.

Appendix A

Age relates directly to patterns of morbidity and mortality. The following table lists the most prevalent health problems associated with each age group.

| Age group | Health Problem Associations | Examples of Illnesses and Injuries |
|--------------------|---|---|
| Infants | Prematurity, Injury, and Infectious Disease | birth defects, pneumonia, sudden infant death syndrome, poisonings, burns, and falls |
| Childhood | Injury, Infectious Disease, and Abuse | poisonings, burns, falls, vehicle crashes, influenza, ear/nose/throat (ENT) infections, bone fractures, and skin abrasions |
| Adolescence | Risk-taking Behaviors, Injury, Infectious Disease, and Sexual Behaviors | burns, bone fractures, spinal injury, poisonings, firearm and automobile-related trauma, abuse of chemicals, use of tobacco products, sexually-transmitted diseases, ENT infections, influenza, and unplanned pregnancy |
| Adulthood 24-44 | Risk-taking Behaviors, Injury, and Infectious Disease | bone fractures, lacerations, spinal injury, firearm-related trauma, abuse of chemicals, use of tobacco products, influenza, and asthma |
| Adulthood 45-64 | Chronic Disease and Risk-taking Behavior | cancer, heart disease, hypertensive disease, dental disease, arthritis, consumption of tobacco products, abuse of chemicals, and improper dietary practices |
| Adulthood 65+ | Acute Disease, Injury, and Chronic Disease | influenza and pneumonia, falls, burns, suicides, cancer, heart disease, and cerebrovascular disease |

Source: J.A. Rice. *Community Assessment: The First Step in Community Health Planning*. Chicago, Illinois: American Hospital Association, 1993.

APPENDIX B

Underlying Cause of Death (UCOD)- Groupings of ICD-9 Codes (Based on APEXPH Categorizations)

| Code | Group (APEXPH Category) | ICD-9 Codes |
|------|---|-----------------------------|
| 01 | Infectious and parasitic disease <i>(Not including HIV infection)</i> | 001-041, 045-139 |
| 02 | AIDS, HIV infection | 042-044 |
| 03 | Other cancer <i>(Not including lung cancer, breast cancer, carcinoma in situ, or neoplasms of uncertain behavior/ unspecified nature)</i> | 140-162.1, 163-173, 176-208 |
| 04 | Lung cancer | 162.2-162.9 |
| 05 | Breast cancer | 174-175 |
| 06 | Neoplasms, uncertain <i>(Includes benign neoplasms, carcinoma in situ, neoplasms of uncertain behavior, and neoplasms of unspecified nature)</i> | 210-239 |
| 07 | Nondiabetic endocrine diseases <i>(Includes disorders of the thyroid gland, other disorders of pancreatic internal secretion, nutritional deficiencies, and other metabolic and immunity disorders)</i> | 240-246, 251-279 |
| 08 | Diabetes | 250 |
| 09 | Blood-related diseases <i>(Includes diseases of the blood and blood-forming organs)</i> | 280-289 |
| 10 | Mental disorders <i>(Includes organic psychotic conditions, other psychoses, neurotic disorders, personality disorders, and other nonpsychotic mental disorders-alcohol and drug dependence, and mental retardation)</i> | 290-319 |
| 11 | Neurologic diseases <i>(Includes diseases of the nervous system and sense organs)</i> | 320-389 |
| 12 | Ischemic heart disease | 410-414 |
| 13 | Hypertensive diseases | 401-405 |
| 14 | Other heart diseases <i>(Includes acute rheumatic fever, chronic rheumatic heart disease, diseases of pulmonary circulation, other forms of heart disease)</i> | 390-398, 415-429 |
| 15 | Cerebrovascular diseases | 430-438 |

| | | |
|----|--|------------------|
| 16 | Other vessel diseases <i>(Includes diseases of the arteries, arterioles, and capillaries, and diseases of veins and lymphatics, and other diseases of circulatory system- Not cerebrovascular disease)</i> | 440-459 |
| 17 | Upper respiratory-tract diseases <i>(Includes acute respiratory infections and other diseases of the upper respiratory tract)</i> | 460-478 |
| 18 | Pneumonia/ influenza | 480-487 |
| 19 | Chronic obstructive pulmonary disease | 490-496 |
| 20 | Other pulmonary diseases <i>(Includes pneumoconioses and other lung disease due to external agents, other diseases of respiratory system)</i> | 500-508, 510-519 |
| 21 | Conditions related to digestive tract <i>(Includes diseases of oral cavity, salivary glands, and jaws, diseases of esophagus, stomach, and duodenum, appendicitis, hernia of abdominal cavity, noninfection enteritis and colitis, and other diseases of intestines and peritoneum)</i> | 520-569 |
| 22 | Chronic liver disease <i>(Includes chronic liver disease and cirrhosis-alcohol and non-alcohol related liver diseases)</i> | 571 |
| 23 | Other liver disease <i>(Includes all other diseases of the digestive system except chronic liver disease and cirrhosis)</i> | 570, 572-579 |
| 24 | Genitourinary diseases | 580-629 |
| 25 | Complications of pregnancy/ birth <i>(Includes complications of pregnancy, childbirth, and the puerperium)</i> | 630-676 |
| 26 | Skin diseases <i>(Includes diseases of the skin and subcutaneous tissue)</i> | 680-709 |
| 27 | Muscle/Skeletal/Connective tissue diseases <i>(Includes arthropathies and related disorders, dorsopathies, rheumatism-excluding the back, osteopathies, chondopathies, and acquired musculoskeletal deformities)</i> | 710-739 |
| 28 | Congenital anomalies | 740-759 |
| 29 | Complications- newborn | 761-763, 767-768 |

(Includes fetus or newborn affected by maternal complications of pregnancy, fetus or newborn affected by complications of placenta, cord, and membranes, fetus or newborn affected by other complications of labor and delivery, birth trauma, intrauterine hypoxia and birth asphyxia)

| | | |
|----|---|----------------------|
| 30 | Prematurity/ respiratory distress <i>(Includes slow fetal growth and fetal malnutrition, disorders relating to short gestation and unspecified low birthweight, respiratory distress syndrome)</i> | 764, 765, 769 |
| 31 | Other perinatal respiratory conditions | 770 |
| 32 | Other perinatal conditions <i>(Includes fetus or newborn affected by maternal conditions which may be related to present pregnancy, disorders relating to long gestation and high birthweight)</i> | 760, 766 |
| 33 | Perinatal infections | 771 |
| 34 | Miscellaneous perinatal conditions <i>(Includes fetal and neonatal hemorrhage, hemolytic disease of fetus or newborn due to isoimmunization, other perinatal jaundice, endocrine and metabolic disturbances specific to the fetus and newborn, hematological disorders of fetus and newborn, perinatal disorders of digestive system, conditions involving the integument and temperature regulation of fetus and newborn, other and ill-defined conditions originating in the perinatal period)</i> | 772-779 |
| 35 | SIDS | 798.0 |
| 36 | Motor vehicle injury <i>(Includes motor vehicle traffic accidents, motor vehicle nontraffic accidents)</i> | E810-E825 |
| 37 | Other injuries <i>(Includes all other injury except motor vehicle related, suicide, homicide, or undetermined injury)</i> | E800-E807, E826-E949 |
| 38 | Suicide | E950-E959 |
| 39 | Homicide | E960-E969 |
| 40 | Undetermined injury <i>(Includes injury undetermined whether accidentally or purposely inflicted)</i> | E980-E989 |
| 41 | Ill-defined <i>(Includes all except sudden death-cause unknown)</i> | 780-797, 799 |
| 42 | All others | All remaining codes |

APPENDIX C

RESOURCES

Great Lakes Inter-Tribal Council, Inc.
Great Lakes EpiCenter
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