

Great Lakes EpiCenter Epidemiology Project

Community Health Profile Minnesota, Wisconsin & Michigan Tribal Communities 2001

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The Great Lakes EpiCenter

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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 becoming a healthier community. 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 and 2000 U.S. Census, state departments of public health, Women, Infants and Children (WIC) Program, Tribal Health Centers, and Indian Health Service (IHS). 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.

Technical Notes

Data included in the demographic section comes from the 1990 and 2000 U.S. Census' and the Bureau of Indian Affairs. Socioeconomic status indicator estimates for 1999 are not available therefore, for these indicators, the 1990 data was used.

The 1999 mortality rates in this report use 1999 U.S. census estimates as denominators and the number of deaths from death certificates as numerators. Age adjusted rates were standardized to the 2000 U.S. population. In some cases, the mortality data for Indian Health Services' total (AI/AN people throughout the U.S.) and the U.S. may be from years other than 1999. These are the most recently published statistics from IHS. Detailed notes under each table describe the data and sources.

The diabetes data for FY2000 is diabetes chart audit data aggregated by state and Bemidji Area. The IHS total data is from FY1999.

The sexually transmitted disease information only includes data for the AI/AN population across years to show changes over time, not comparison to other populations.

Data included in the maternal and child health section are from vital records and the WIC Program. All data are from 1999 unless otherwise noted.

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 estimated 2000 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.
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.
Mortality Rate	$\frac{\text{Number of resident deaths}}{\text{Total number of residents}} \times 100,000$

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 Great Lakes EpiCenter project area (which is the three state project area including Minnesota, Michigan, and Wisconsin) 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 the 1990 and 2000 U.S. Censuses contain self-reported responses.

U.S. Census data included in this section are from the 1990 U.S. Census, 1999 census estimates and the 2000 U.S. Census (where indicated). Population estimates are estimates, not real counts, calculated to reflect a projected change in the size of a population.

Number of American Indian/ Alaska Natives in the Project Area:

1990 U.S. Census	148,166
1999 Estimated Population	165,302
2000 U.S. Census	160,674

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 Indian Health Service Health Service Delivery Area (IHS HSDA). 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 HSDA.

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 EpiCenter project area. Table 1.1d displays U.S. Census population data from the 1990 Census, 1999 Census estimate, and the 2000 Census for the Great Lakes EpiCenter project area. The proportion of AI/AN people in the three state project area has remained about the same; 0.8% from the 1990 to the 2000 U.S. Census. This compares to the U.S. AI/AN population which comprised 0.9% of the total population (AI/AN alone selected for race on the census).

TABLE 1.1a
Race Distribution for Michigan

Race	1990		1999		2000	
	Michigan		Michigan		Michigan	
	#	%	#	%	#	%
White	7,756,086	83.4	8,216,251	83.3	7,966,053	80.2
African American	1,291,706	13.9	1,427,678	14.5	1,412,742	14.2
AI/AN	55,638	0.6	67,266	0.7	58,479	0.6
Asian	104,983	1.1	152,574	1.5	176,510	1.8
	86,884	0.9			132,244	1.3
2+Races					192,416	1.9
Total	9,295,297	100.0	9,863,769	100.0	9,938,444	100.0

Source: 1990 U.S. Census, 1999 estimates based on 1990 U.S. Census, and 2000 Census from the U.S. Census Bureau

Table 1.1b
Race Distribution for Minnesota

Race	1990		1999		2000	
	Minnesota		Minnesota		Minnesota	
	#	%	#	%	#	%
White	4,133,189	94.5	4,437,800	92.9	4,400,282	89.5
African American	94,798	2.2	148,596	3.1	171,731	3.5
AI/AN	49,507	1.1	58,575	1.2	54,967	1.1
Asian	76,771	1.8	130,537	2.7	141,968	2.9
Other	20,834	0.5			67,789	1.4
2+Races					82,742	1.7
Total	4,375,099	100	4,775,508	100	4,919,479	100

Source: 1990 U.S. Census, 1999 estimates based on 1990 U.S. Census, and 2000 Census from the U.S. Census Bureau

TABLE 1.1c
Race Distribution for Wisconsin

Race	1990		1999		2000	
	Wisconsin		Wisconsin		Wisconsin	
	#	%	#	%	#	%
White	451,4315	92.3	4,701,123	89.5	4,769,857	88.9
African American	244,305	5.0	293,367	5.6	304,460	5.7
AI/AN	39,725	0.8	46,830	0.9	47,228	0.9
Asian	53,058	1.1	83,265	1.6	88,763	1.7
Other	40,366	0.8			86,472	1.6
2+Races					66,895	1.2
Total	4,891,769	100	5,250,446	100	5,363,675	100

Source: 1990 U.S. Census, 1999 estimates based on 1990 U.S. Census, and 2000 Census from the U.S. Census Bureau

Table 1.1d
Race Distribution for Project Area

Race	1990		1999		2000	
	Project Area		Project Area		Project Area	
	#	%	#	%	#	%
White	16,406,745	88.4	17,487,174	87.9	17,136,192	84.7
African American	1,628,115	8.8	1,857,164	9.3	1,888,933	9.3
AI/AN	148,166	0.8	165,302	0.8	160,674	0.8
Asian	232,698	1.3	380,089	1.9	407,241	2.0
Other	146,441	0.8			286,505	1.4
2+Races					342,053	1.7
Total	18,562,165	100	19,889,729	100	20,221,598	100

Source: 1990 U.S. Census, 1999 estimates based on 1990 U.S. Census, and 2000 Census from the U.S. Census Bureau

Age and Sex

Both age and sex influence patterns of morbidity, 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 in Michigan, 1999

AGE (years)	Michigan											
	AI/AN						All Races					
	Males		Females		Total		Males		Females		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Less than 1	405	0.7	376	0.6	781	1.3	66,505	0.7	63,766	0.6	130,271	1.3
1-14	7,183	12.0	6,899	11.5	14,082	23.5	1,016,610	10.3	971,106	9.8	1,987,716	20.2
15-24	5,588	9.3	5,459	9.1	11,047	18.4	692,512	7.0	678,533	6.9	1,371,045	13.9
25-44	9,727	16.2	9,668	16.1	19,395	32.4	1,471,940	14.9	1,522,611	15.4	2,994,551	30.4
45-64	5,415	9.0	5,885	9.8	11,300	18.9	1,048,875	10.6	1,107,757	11.2	2,156,632	21.9
65-74	874	1.5	1,137	1.9	2,011	3.4	289,264	2.9	355,617	3.6	644,881	6.5
75 and above	457	0.8	824	1.4	1,281	2.1	214,206	2.2	364,473	3.7	578,679	5.9
Total	29,649	49.5	30,248	50.5	59,897	100	4,799,912	48.7	5,063,863	51.3	9,863,775	100

Source: 1999 U.S. Census estimates

TABLE 1.2b

Age and Sex Distribution for American Indian/ Alaska Natives and All Races in Minnesota, 1999

AGE (years)	Minnesota											
	AI/AN						All Races					
	Males		Females		Total		Males		Females		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Less than 1	609	1.0	642	1.1	1,251	2.1	32,560	0.7	31,371	0.7	63,931	1.3
1-14	9,761	16.7	9,348	16.0	19,109	32.6	500,600	10.5	477,589	10.0	978,189	20.5
15-24	5,703	9.7	5,286	9.0	10,989	18.8	346,977	7.3	336,754	7.1	683,731	14.3
25-44	8,331	14.2	8,601	14.7	16,932	28.9	724,811	15.2	717,789	15.0	1,442,600	30.2
45-64	3,816	6.5	4,171	7.1	7,987	13.6	505,444	10.6	516,219	10.8	1,021,663	21.4
65-74	576	1.0	792	1.4	1,368	2.3	133,307	2.8	157,249	3.3	290,556	6.1
75 and above	321	0.5	618	1.1	939	1.6	109,321	2.3	185,517	3.9	294,838	6.2
Total	29,117	49.7	29,458	50.3	58,575	100	2,353,020	49.3	2,422,488	50.7	4,775,508	100

Source: 1999 U.S. Census estimates

TABLE 1.2c

Age and Sex Distribution for American Indian/ Alaska Natives and All Races in Wisconsin, 1999

AGE (years)	Wisconsin											
	AI/AN						All Races					
	Males		Females		Total		Males		Females		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Less than 1	392	0.9	418	1.0	810	1.8	33,630	0.6	32,229	0.6	65,859	1.3
1-14	6,517	14.8	6,244	14.2	12,761	29.0	529,429	10.1	503,137	9.6	1,032,566	19.7
15-24	4,211	9.6	4,017	9.1	8,228	18.7	384,351	7.3	372,398	7.1	756,749	14.4
25-44	6,790	15.4	6,862	15.6	13,652	31.1	779,279	14.9	776,908	14.8	1,556,187	29.7
45-64	3,131	7.1	3,385	7.7	6,516	14.8	564,760	10.8	581,495	11.1	1,146,255	21.8
65-74	523	1.2	661	1.5	1,184	2.7	160,659	3.1	188,499	3.6	349,158	6.7
75 and above	310	0.7	511	1.2	821	1.9	126,624	2.4	215,627	4.1	342,251	6.5
Total	21,874	49.7	22,098	50.3	43,972	100	2,578,732	49.2	2,641,293	50.9	5,249,025	100

Source: 1999 U.S. Census estimates

TABLE 1.2d

Age and Sex Distribution for American Indian/ Alaska Natives and All Races in Project Area, 1999

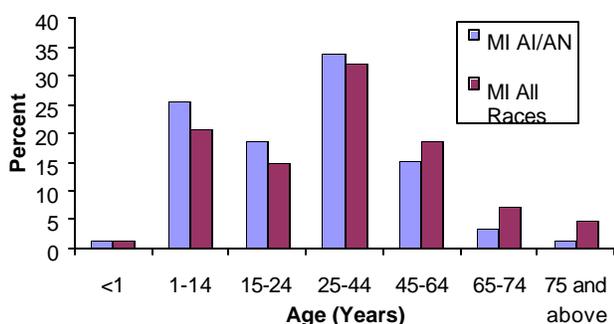
AGE (years)	Project Area											
	AI/AN						All Races					
	Males		Females		Total		Males		Females		Total	
	#	%	#	%	#	%	#	%	#	%	#	%
Less than 1	1406	0.9	1,436	0.9	2,842	1.7	132,695	0.7	12,7366	0.6	260,061	1.3
1-14	23,461	14.4	22,491	13.8	45,952	28.3	2,046,639	10.3	1,951,832	9.8	3,998,471	20.1
15-24	15,502	9.5	14,762	9.1	30,264	18.6	1,423,840	7.2	1,387,685	7.0	2,811,525	14.1
25-44	24,848	15.3	25,131	15.5	49,979	30.8	2,976,030	15.0	3,017,308	15.2	5,993,338	30.1
45-64	12,362	7.6	13,441	8.3	25,803	15.9	2,119,079	10.7	2,205,471	11.1	4,324,550	21.7

65-74	1,973	1.2	2,590	1.6	4,563	2.8	583,230	2.9	701,365	3.5	1,284,595	6.5
75 and above	1,088	0.7	1,953	1.2	3,041	1.9	450,151	2.3	765,617	3.8	1,215,768	6.1
Total	80,640	49.6	81,804	50.4	162,444	100	9,731,664	48.9	10,127,644	50.9	19,888,308	100

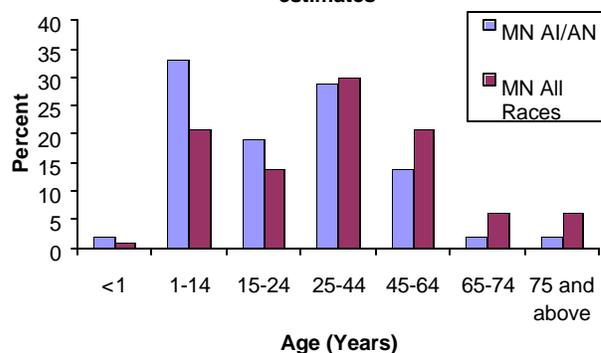
Source: 1999 U.S. Census estimates

Tables 1.2a-d show the age and sex distribution for each of the three states in the project area and the aggregate for the project area. The AI/AN population in the project area is much younger than that of all races in the project area. Almost half of the project area population (48.6%) is under 25 years as compared to all races in the project area (35.5%). In addition, there is a large difference between AI/AN and all races for the 75 years and above age group, 1.9% and 6.1% 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.

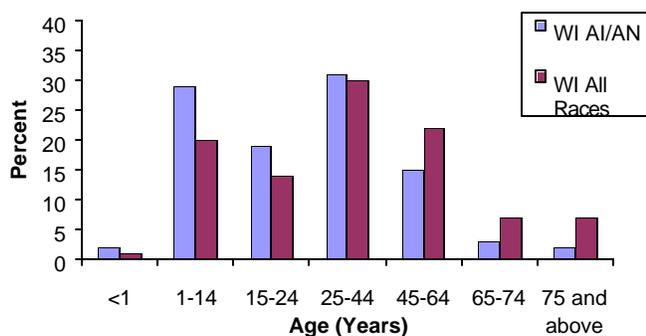
Graph 1.1a
Age Distribution for AI/AN in Michigan, 1999 estimates



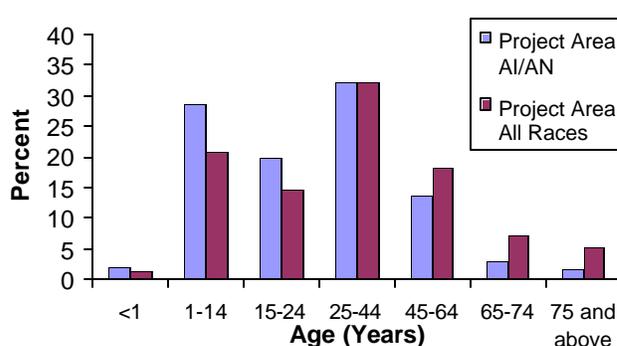
Graph 1.1b
Age Distribution for AI/AN in Minnesota, 1999 estimates



Graph 1.1c
Age Distribution for AI/AN in Wisconsin, 1999 estimates



Graph 1.1d
Age Distribution for AI/AN in Project Area, 1999 estimates



Graphs 1.1a-d depict the age distribution data from Tables 1.2a-d. These graphs make the differences in age distribution between AI/AN and all races in each state and the project area more apparent. Graph 1.1d shows that after age 44, the all races population has a higher proportion of people than the AI/AN population.

Socioeconomic Status

Differences in socioeconomic status account for much of the variation 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 the most current information on these indicators.

Education

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, lack of physical activity, and less appropriate medical care.

TABLE 1.3a
Educational Attainment for American Indian/ Alaska Natives and All Races in Michigan, 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 in Minnesota, 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 in Wisconsin, 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 in Project Area and U.S., 1990

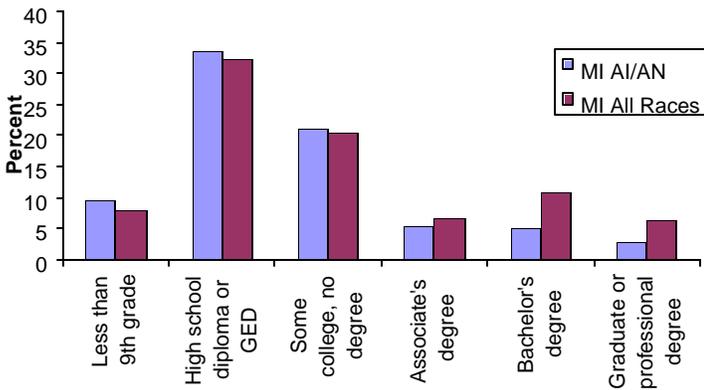
Educational Attainment	Project Area		U.S.	
	AI/AN Percent	All Races Percent	AI/AN Percent	All Races Percent
Less than 9 th grade	9.8	8.4	14.0	10.0
High school diploma or GED	33.8	33.7	29.1	30.0
Some college, no degree	20.7	25.3	20.8	19.0
Associate's degree	14.1	7.3	6.4	6.0
Bachelor's degree	4.7	12.3	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

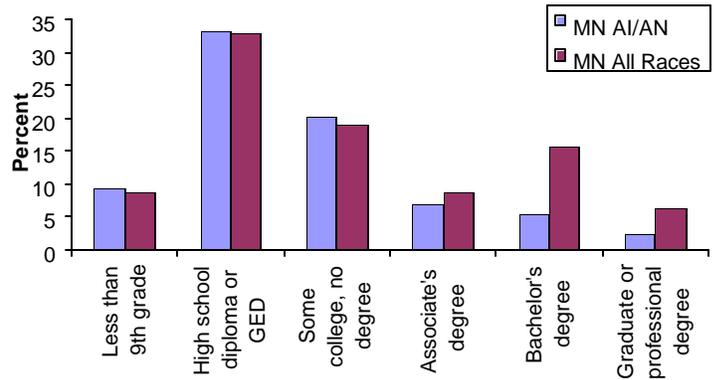
Source: 1990 U.S. Census

Tables 1.3a-d display data from the 1990 U.S. Census on education level of the AI/AN population and all races combined for each of the three states and the aggregate for the project area. The Project Area data show that high school completion or higher was lower in the AI/AN population (66.7%) than the all races population (78.6). For the bachelor's degree or higher level, the all races population in the project area had more than twice the completion level as the AI/AN population. Similar disparities were seen between the AI/AN and All Races U.S. populations. This information may show changes in the 2000 Census.

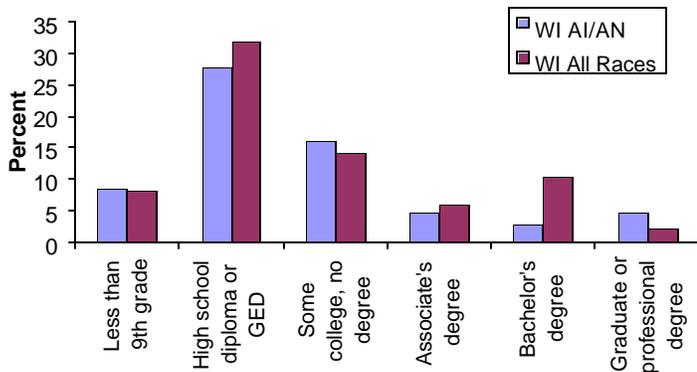
Graph 1.2a
Educational Attainment for AI/AN and All Races in Michigan, 1990



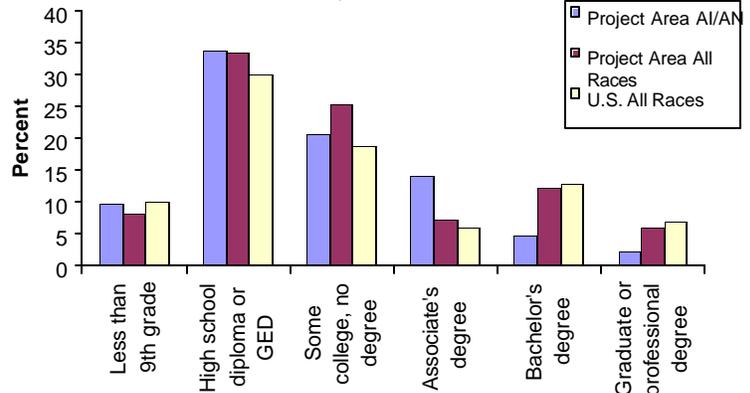
Graph 1.2b
Educational Attainment for AI/AN and All Races in Minnesota, 1990



Graph 1.2c
Educational Attainment for AI/AN and All Races in Wisconsin, 1990



Graph 1.2d
Educational Attainment for AI/AN and All Races in Project Area, 1990



Graphs 1.2a-d display data on education level for people from the 1990 U.S. Census. For the project area, the AI/AN population and the all races population had similar high school or GED completion rates (about 34%) compared to 30% for the U.S. all races rate. The project area AI/AN population had lower levels of Bachelor's degree (4.7%) and Graduate degree (2.4%) completion than the project area all races (12.3% and 6.2) and U.S. all races population (13% and 7%).

The project area all races population had about three times more Bachelor's degree and graduate degree completion than the AI/AN population. The disparity was slightly greater between the AI/AN project area population and the U.S. all races population.

Income

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.

TABLE 1.4a
Household Income for American Indian/ Alaska Natives and All Races Michigan, 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 Minnesota, 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 Wisconsin, 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

Income levels for the project area AI/AN population were lower than for the project area all races population. About twice as many AI/AN households had income under \$10,000 as did households of all races. 62% of AI/AN households had income under \$25,000 compared to 41% of the households of all races in the project area. The 2000 census will provide updated household income information, which will be included in the updated version of this report.

Graph 1.3a
Household Income for AI/AN and All Races in Michigan, 1990

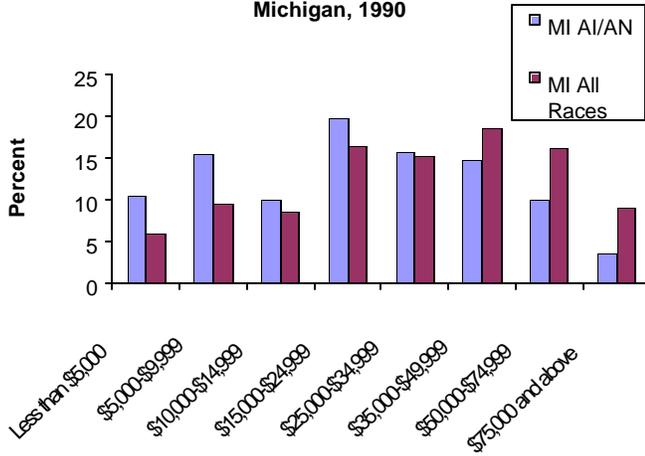
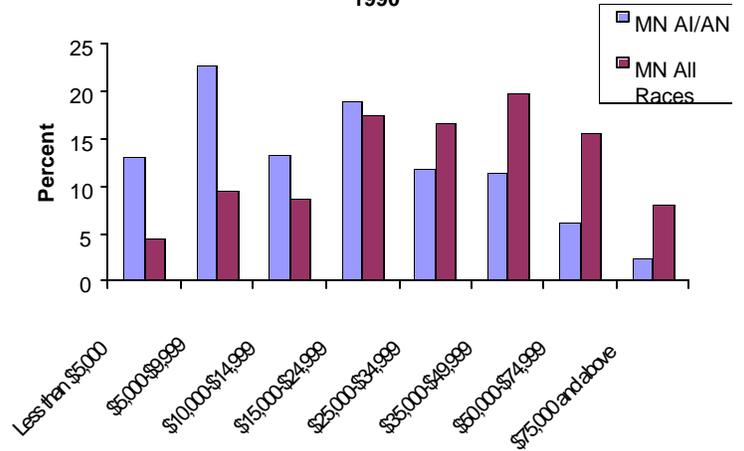
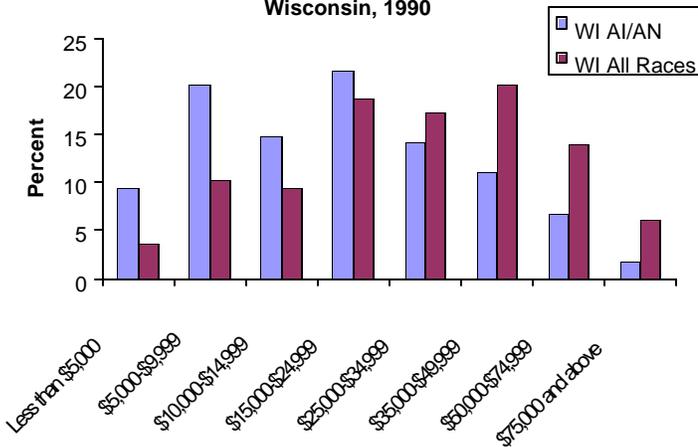


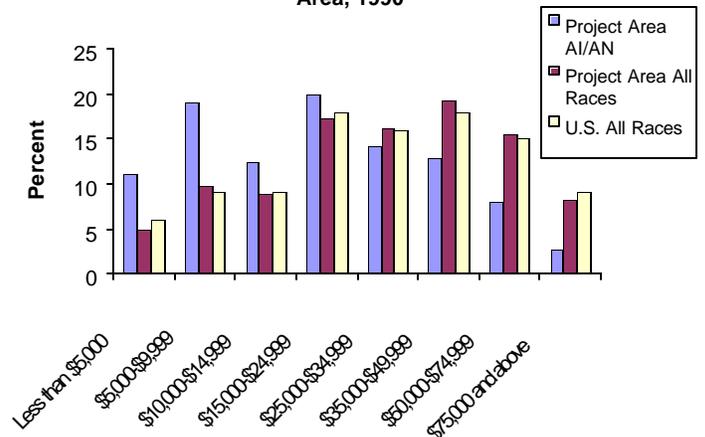
Figure 1.3b
Household Income for AI/AN and All Races in Minnesota, 1990



Graph 1.3c
Household Income for AI/AN and All Races in Wisconsin, 1990



Graph 1.3d
Household Income for AI/AN and All Races in Project Area, 1990



Graphs 1.3a-d illustrate the data from Tables 1.4a-d. These graphs show the disparities in income levels between the AI/AN population and all races in 1990.

Employment

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. Tables 1.5a-d display 1999 workforce data collected by the Bureau of Indian Affairs.

TABLE 1.5a

American Indian/ Alaska Native Employment for Michigan, the Midwest Region and the U.S., 1999

	Michigan	Midwest Region*	U.S.
Tribal Enrollment	50,838	79,526	1,698,483
Total Work Force	17,976	23,076	660,120
Employed	8,325	13,253	377,249
Not Employed	9,651	9,823	285,056
Unemployed as percent of Work force	54%	43%	43%
Employed but below poverty guidelines	2,048 (25%)	5,174(39%)	124,712(33%)

*The Midwest region does not include all tribes in Wisconsin, Michigan, and Minnesota

Source: 1999 Bureau of Indian Affairs Labor Force Report

TABLE 1.5b

American Indian/ Alaska Native Employment for Minnesota, the Midwest Region and the U.S., 1999

	Minnesota	Midwest Region*	U.S.
Tribal Enrollment	51,751	79,526	1,698,483
Total Work Force	16,594	23,076	660,120
Employed	10,221	13,253	377,249
Not Employed	6,373	9,823	285,056
Unemployed as percent of Work force	38%	43%	43%
Employed but below poverty guidelines	3,113 (30%)	5,174(39%)	124,712(33%)

*The Midwest region does not include all tribes in Wisconsin, Michigan, and Minnesota

Source: 1999 Bureau of Indian Affairs Labor Force Report

TABLE 1.5c

American Indian/ Alaska Native Employment for Wisconsin, the Midwest Region and the U.S., 1999

	Wisconsin	Midwest Region*	U.S.
Tribal Enrollment	50,853	79,526	1,698,483
Total Work Force	18,665	23,076	660,120
Employed	10,201	13,253	377,249
Not Employed	8,464	9,823	285,056
Unemployed as percent of Work force	45%	43%	43%
Employed but below poverty guidelines	4,136 (41%)	5,174(39%)	124,712(33%)

*The Midwest region does not include all tribes in Wisconsin, Michigan, and Minnesota

Source: 1999 Bureau of Indian Affairs Labor Force Report

TABLE 1.5d

American Indian/ Alaska Native Employment for Great Lakes Project Area, the Midwest Region and the U.S., 1999

	Project Area	Midwest Region*	U.S.
Tribal Enrollment	153,442	79,526	1,698,483
Total Work Force	53,235	23,076	660,120
Employed	28,747	13,253	377,249
Not Employed	24,488	9,823	285,056
Unemployed as percent of Work force	46%	43%	43%
Employed but below poverty guidelines	9,297 (32%)	5,174(39%)	124,712(33%)

*The Midwest region does not include all tribes in Wisconsin, Michigan, and Minnesota

Source: 1999 Bureau of Indian Affairs Labor Force Report

The unemployment rate as percent of the workforce is about the same among AI/AN people in the project area, Midwest Region, and the U.S. 46% of the AI/AN workforce in the project area were unemployed in 1999. 32% of those employed had income below the federal poverty level.

Female Headed Households

This information indicates possible health needs of families which may be headed by single parents with young children. An example of health needs would be adjusting clinic hours to include evening hours so that single parents who work can take their child to the clinic without having to take time off from work. Tables 1.6a-d display information on female headed households because most AI/AN single parent households in 1990 were headed by females.

TABLE 1.6a

American Indian/ Alaska Native Female Headed Households (no husband present) in Michigan, 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)
in Minnesota, 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),
In Wisconsin, 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

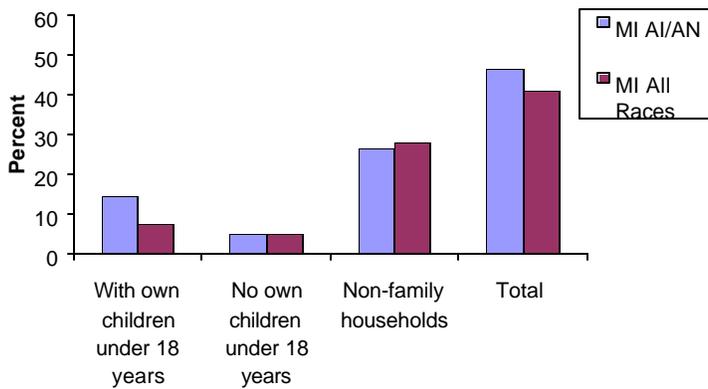
TABLE 1.6d
American Indian/ Alaska Native Female Headed Households (no husband present)
In Project Area, 1990

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

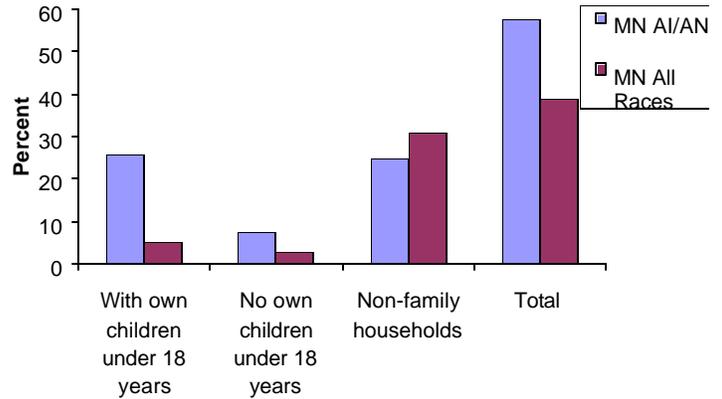
Source: 1990 U.S. Census

AI/AN women in the project area had 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%).

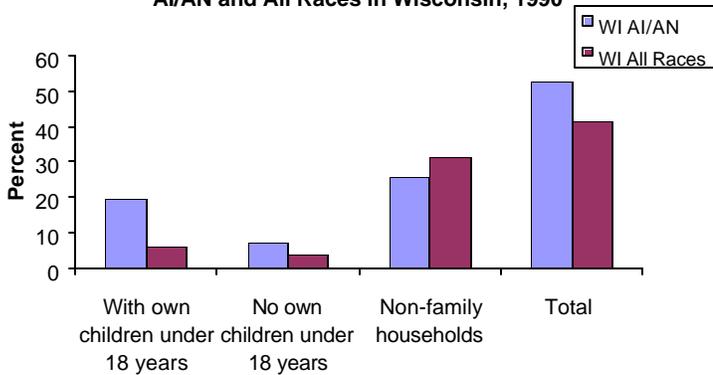
Graph 1.4a
Female Headed Households (no husband present) for
AI/AN and All Races in Michigan, 1990



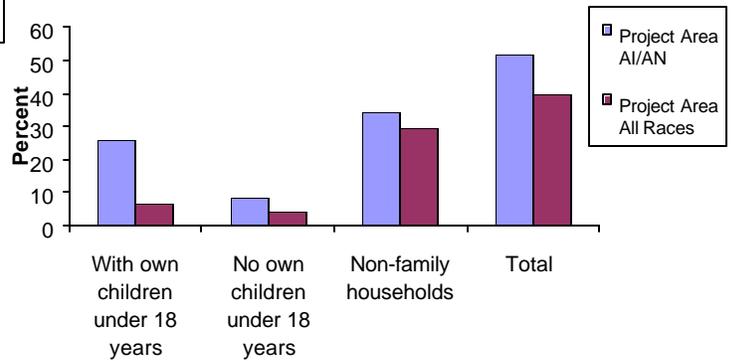
Graph 1.4b
Female Headed Households (no husband present) for
AI/AN and All Races in Minnesota, 1990



Graph 1.4c
Female Headed Households (no husband present) for
AI/AN and All Races in Wisconsin, 1990



Graph 1.4d
Female Headed Households (no husband present) for
AI/AN and All Races in Project Area, 1990



Graphs 1.5a-d depict female headed household data for the three states and the project area. Graph 1.5d shows that regardless of the presence of children there are more AI/AN female headed households than in the all races population. There are 4 times more AI/AN female headed households with children under 18 years of age than all races in the project area and all races in the U.S.

SECTION 2 MORTALITY

Section 2 contains mortality data for leading causes of death in 1999 and age adjusted mortality for selected causes of death for each of the three states and the project area. This section also contains graphs, which depict mortality trends over time. American Indian/Alaska Native data presented in this section are from death certificates. It is important to note that the underlying cause 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 and ICD-10 codes used for categorizing the underlying causes of death.

TABLE 2.1a
Leading Causes of Death for American Indian/ Alaska Natives in Michigan 1997-1999

Cause of Death	Michigan		
	1999	1998	1997
	Number (Percent)	Number (Percent)	Number (Percent)
1. Heart Disease	107 (19.0)	102 (27.3)	105 (24.9)
<i>Ischemic Heart Disease</i>	87	69	72
<i>Hypertensive Heart Disease</i>	2	1	3
2. Cancer	93 (16.5)	80 (21.4)	102 (24.2)
<i>Lung Cancer</i>	39	32	41
<i>Breast Cancer</i>	9	4	3
3. Unintentional Injuries	33 (5.9)	26 (7.0)	25 (5.9)
<i>Motor Vehicle Accidents</i>	45	15	14
<i>Falls</i>	0	1	5
4. Chronic Obstructive Pulmonary Disorder	25 (4.5)	28 (8.1)	20 (5.8)
5. Diabetes	24 (4.3)	16 (4.6)	29 (8.4)
Sub-Total	282 (50.2)	252 (67.4)	281 (66.4)
Total	562 (100)	374 (100)	423 (100)

Source: 1997-1999 death files from Michigan Department of Community Health

TABLE 2.1b

Leading Causes of Death for American Indian/ Alaska Natives in Minnesota 1997-1999

Cause of Death	Minnesota		
	1999	1998	1997
	Number (Percent)	Number (Percent)	Number (Percent)
1. Cancer	55 (17.2)	67 (19.6)	59 (18.0)
<i>Lung Cancer</i>	19	32	18
<i>Breast Cancer</i>	5	3	2
2. Heart Disease	52 (16.3)	60 (17.5)	27 (8.2)
<i>Ischemic Heart Disease</i>	39	44	50
<i>Hypertensive Heart Disease</i>	5	0	2
3. Unintentional Injury	36 (11.3)	35 (10.2)	27 (8.2)
Motor Vehicle Accidents	18	17	18
Falls	2	4	3
4. Diabetes	23 (7.2)	20 (5.8)	29 (8.8)
5. Homicide	18 (5.6)	5 (1.5)	10 (3.0)
Sub-total	184 (57.5)	187 (54.7)	152 (46.3)
Total	320 (100)	342 (100)	328 (100)

Source: 1997-1999 death files from Minnesota Center for Health Statistics

TABLE 2.1c

Leading Causes of Death for American Indian/ Alaska Natives in Wisconsin 1997-1999

Cause of Death	Wisconsin		
	1999	1998	1997
	Number (Percent)	Number (Percent)	Number (Percent)
1. Heart Disease	55 (23.4)	50 (20.8)	61 (25.6)
<i>Ischemic Heart Disease</i>	38	41	46
<i>Hypertensive Heart Disease</i>	3	0	0
2. Cancer	35 (14.9)	48 (19.9)	48 (20.2)
<i>Lung Cancer</i>	10	11	21
<i>Breast Cancer</i>	4	4	0
3. Unintentional Injury	33 (14.0)	19 (7.9)	17 (7.1)
<i>Motor Vehicle Accidents</i>	20	11	9
<i>Falls</i>	3	1	4
4. Diabetes	21 (8.9)	13 (5.4)	5 (2.1)
5. Chronic Liver Disease	17 (7.2)	13 (5.4)	5 (2.1)
Sub-total	161 (68.5)	149 (61.8)	148 (62.2)
Total	235 (100)	241 (100)	238 (100)

Source: 1997-1999 death files from Wisconsin Bureau of Health Information

TABLE 2.1d

Leading Causes of Death for American Indian/ Alaska Natives in Project Area 1997-1999

Cause of Death	Project Area		
	1999	1998	1997
	Number (Percent)	Number (Percent)	Number (Percent)
1. Heart Disease	214 (19.2)	212 (22.2)	235 (23.8)
<i>Ischemic Heart Disease</i>	164	148	162
<i>Hypertensive Heart Disease</i>	10	1	5
2. Cancer	183 (16.4)	194 (20.3)	207 (21.0)
<i>Lung Cancer</i>	68	75	80
<i>Breast Cancer</i>	18	11	5
3. Unintentional injury	102 (9.1)	80 (8.4)	69 (7.0)
<i>Motor Vehicle Accidents</i>	83	43	41
<i>Falls</i>	5	6	12
4. Diabetes	68 (6.1)	55 (5.8)	75 (7.6)
5. Chronic Obstructive Pulmonary Disorder	49 (4.4)	48 (5.0)	41 (4.2)
Sub-total	616 (55.2)	589 (61.6)	627 (63.5)
Total	1,117 (100)	957 (100)	988 (100)

Source: 1997-1999 death files from Michigan Department of Community Health. 1997-1999 death files from Minnesota Center for Health Statistics. 1997-1999 death files from Wisconsin Bureau of Health Information.

In the project area, for 1999, four of the top five causes of death were due to chronic diseases. The proportion of deaths due to heart disease and cancer decreased from 1997-1999. The proportion of deaths from unintentional injuries, diabetes and chronic obstructive pulmonary disease increased at some time from 1997-1999.

Chronic Disease Mortality

The following tables display age adjusted mortality rates and show a comparison between populations for selected causes of death.

TABLE 2.2

Heart Disease (Ischemic Heart Disease) Age-adjusted Mortality Rates, 1999 (per 100,000)

AI/AN Michigan	381.7 (315.9)	All Races Michigan	287.5 (215.7)
AI/AN Minnesota	246.1 (184.4)	All Races Minnesota	194.0 (129.4)
AI/AN Wisconsin	312.7 (214.5)	All Races Wisconsin	244.9 (171.2)
AI/AN Project Area	322.1(247.6)	All Races U.S.	267.8
Bemidji Area*	287.0	HP2010	51
IHS Total*	156.0		

Note: The ischemic heart disease mortality rate per 100,000 is in parentheses. The HP 2010 is the 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: 1999 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; *Regional Differences in Indian Health 1998-1999* (1994-1996 data); NCHS.Health, *United States, 2001 with Urban and Rural Health Chartbook*. Hyattsville, MD:2001; *Healthy People 2010* from DHHS.

TABLE 2.4

Lung Cancer Age-adjusted Mortality Rates, 1999 (per 100,000)

AI/AN Michigan	119.7	All Races Michigan	56.0
AI/AN Minnesota	87.7	All Races Minnesota	47.7
AI/AN Wisconsin	45.6	All Races Wisconsin	49.1
AI/AN Project Area	90.2	All Races U.S.	56.0
Bemidji Area	78.4	HP2010	103
IHS Total	31.7		

Note: The HP 2010 is the Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin.

Data Sources: 1999 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; *Regional Differences in Indian Health 1998-1999* (1994-1996 data); NCHS.Health, *United States, 2001 with Urban and Rural Health Chartbook*. Hyattsville, MD:2001; *Healthy People 2010* from DHHS.

TABLE 2.5
All Other Cancer (excluding lung cancer) Age-adjusted Mortality Rates, 1999
(per 100,000)

AI/AN Michigan	182.9	All Races Michigan	147.4
AI/AN Minnesota	125.0	All Races Minnesota	141.1
AI/AN Wisconsin	118.6	All Races Wisconsin	148.1
AI/AN Project Area	147.6	All Races U.S.*	202.7
Bemidji Area*	216.2	HP2010	33.0
IHS Total*	116.6		

Note: The HP 2010 is the Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin.

*These rate are for all cancers including lung cancer.

Data Sources: 1999 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; *Regional Differences in Indian Health 1998-1999* (1994-1996 data); NCHS.Health, *United States, 2001 with Urban and Rural Health Chartbook*. Hyattsville, MD:2001; *Healthy People 2010* from DHHS.

TABLE 2.6
Stroke Age-adjusted Mortality Rates, 1999 (per 100,000)

AI/AN Michigan	82.8	All Races Michigan	63.0
AI/AN Minnesota	70.9	All Races Minnesota	59.8
AI/AN Wisconsin	18.4	All Races Wisconsin	66.9
AI/AN Project Area	61.5	All Races U.S.	61.8
Bemidji Area	53.5	HP2010	16
IHS Total	30.5		

Note: The HP 2010 is the Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin.

Data Sources: 1999 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; *Regional Differences in Indian Health 1998-1999* (1994-1996 data); NCHS.Health, *United States, 2001 with Urban and Rural Health Chartbook*. Hyattsville, MD:2001; *Healthy People 2010* from DHHS.

TABLE 2.7
Diabetes Mellitus Age-adjusted Mortality Rates, 1999 (per 100,000)

AI/AN Michigan	71.7	All Races Michigan	26.7
AI/AN Minnesota	99.3	All Races Minnesota	26.0
AI/AN Wisconsin	113.1	All Races Wisconsin	23.1
AI/AN Project Area	91.3	All Races U.S.	25.2
Bemidji Area	78.3	HP2010	12.0
IHS Total	46.4		

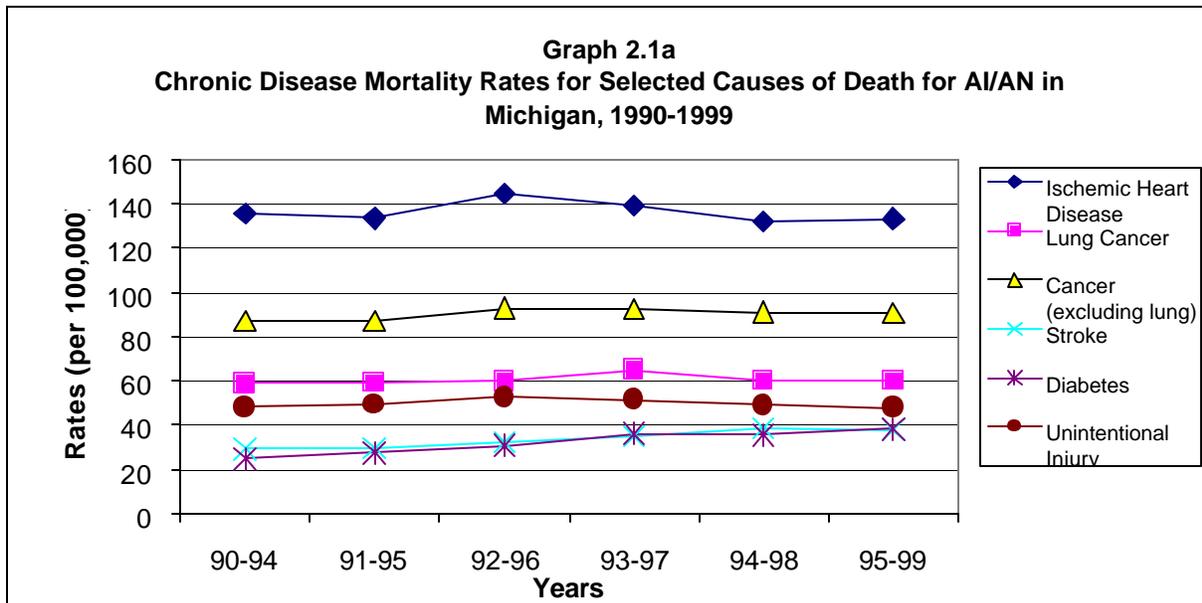
Note: The HP 2010 is the Healthy People 2010 goal. Bemidji Area includes Michigan, Minnesota, and Wisconsin.

Data Sources: 1999 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information; *Regional Differences in Indian Health 1998-1999* (1994-1996 data); NCHS.Health, *United States, 2001 with Urban and Rural Health Chartbook*. Hyattsville, MD:2001; *Healthy People 2010* from DHHS.

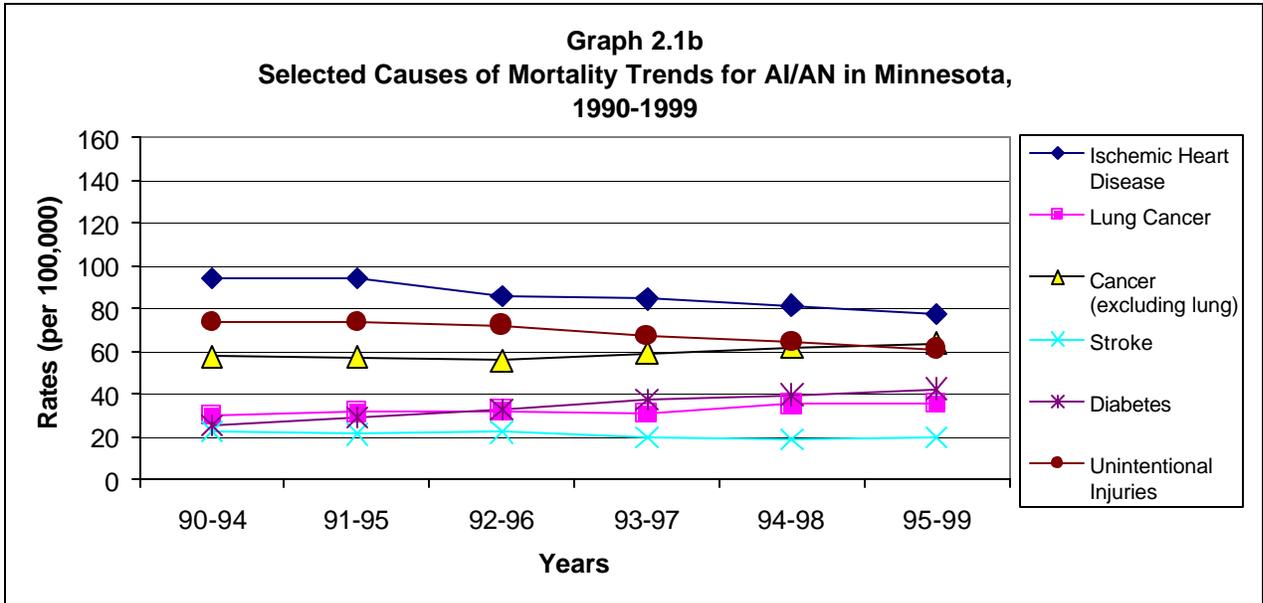
Heart disease mortality rates for 1999 are higher for the AI/AN in the project area than for AI/AN throughout the U.S. (IHS Total) and all races in the U.S. Additionally, lung cancer, stroke and diabetes all had higher death rates in the project area AI/AN population than for Ai/AN people across the U.S. and all races in the U.S.

Mortality Trends for Selected Causes of Death

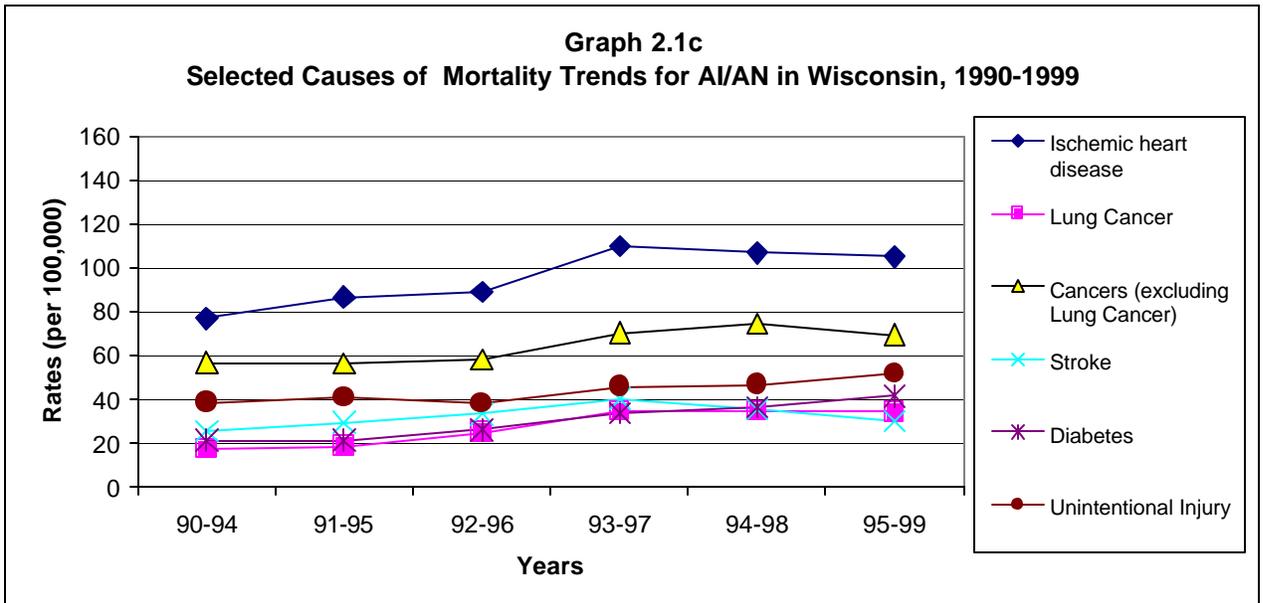
Graphs 2.1a-d display mortality rate trends for the AI/AN population for selected causes of death from 1990-1999. Following death rates over time allows one to track changes in death rates for a population. The selected causes of death included in graphs 2.1a-d are ischemic heart disease, lung cancer, other cancer (excluding lung cancer), stroke, diabetes, and unintentional injury. These causes of death were selected because they tend to be in the top five causes of death for the project area.



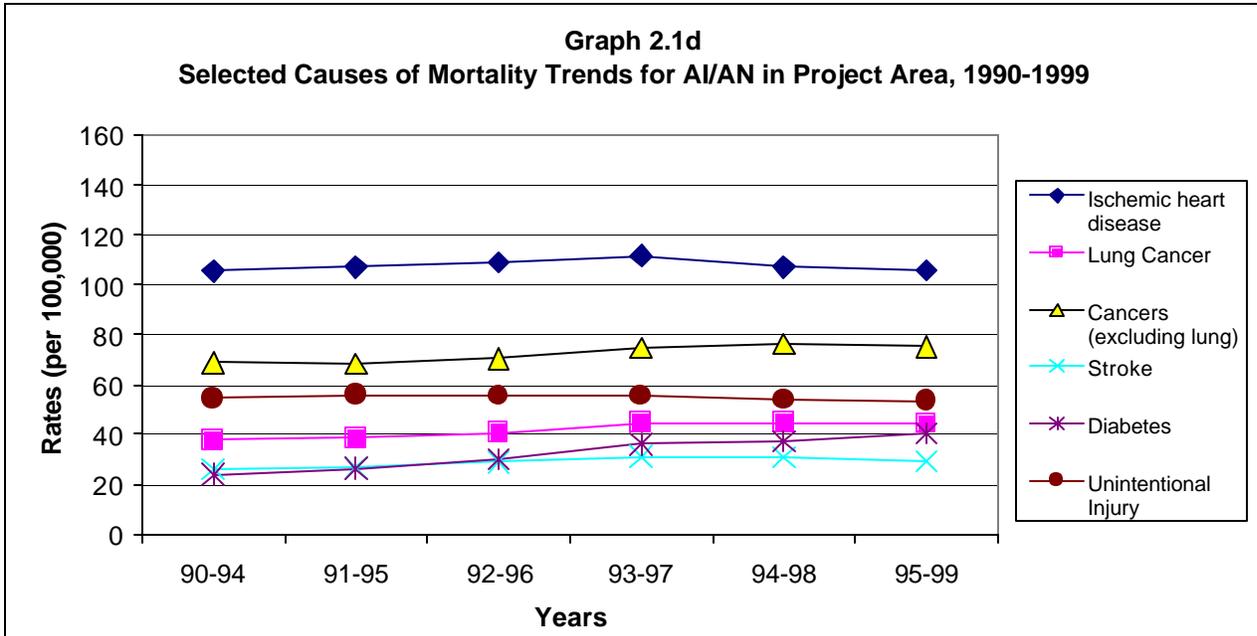
Source: 1990-1999 death files from Michigan Division for Vital Records and Health Statistics and U.S. Census population estimates.



Source: 1990-1999 death files from Minnesota Center for Health Statistics and U.S. Census population estimates.



Source: 1990-1999 death files from Wisconsin Bureau of Health Information and U.S. Census population estimates.



Source: 1990-1999 death files from Michigan Division for Vital Records, 1990-1999 death files from Minnesota Center for Health Statistics, 1990-1999 death files from Wisconsin Bureau of Health Information, and U.S. Census population estimates.

Graph 2.1d shows slight changes over time for all of the selected causes of death. Diabetes appears to have had the greatest rise in mortality rates from 24/100,000 in 90-94 to 41/100,000 in 95-99.

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 FY2000 and are therefore not included in the state data.

Graph 3.1 displays the percent of people who had at least one Hemoglobin A1c (HbA1c) test during FY2000 and the percent who had a HbA1c result of 9.5% or higher. These are two Health plan Employer Data and Information Set (HEDIS) measures. Most diabetes patients received at least one HbA1c test during the year and 21% had HbA1c values over 9.5% in the project area. A HbA1c value of greater than 9.5% would mean poorly controlled glucose levels.

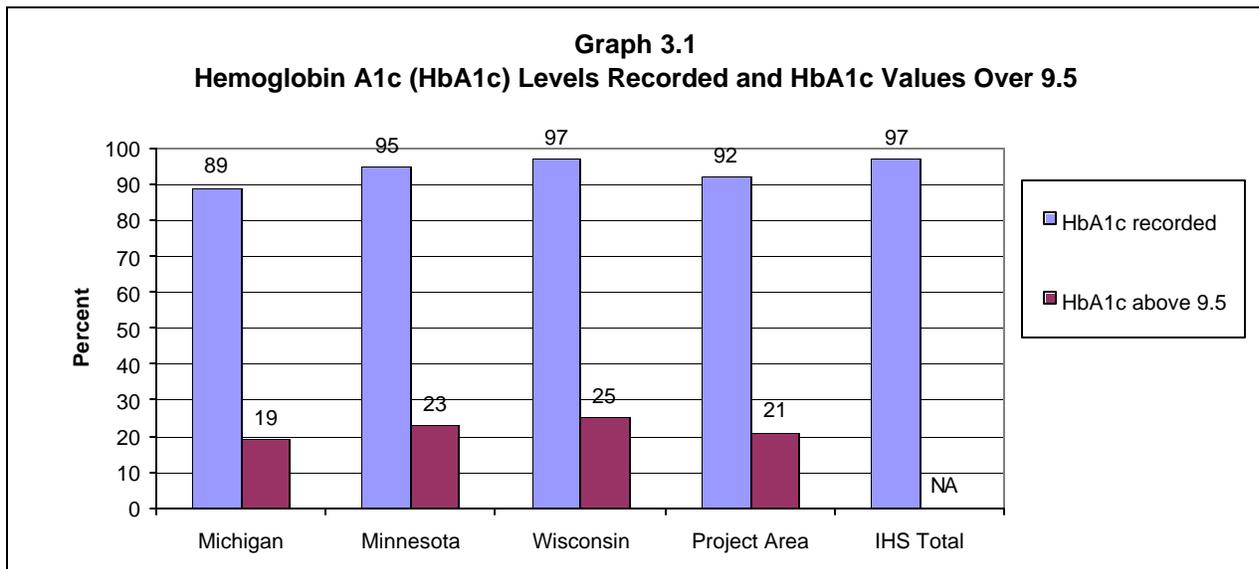


Table 3.1 displays diabetes chart audit data from each of the three states and compares it to Bemidji Area and IHS Total diabetes audit data. The age and sex distribution in the project area is comparable to that of the IHS total population. Completion of immunization levels (influenza, pneumonia, and tetanus) are slightly below the IHS total levels. There are twice as many diabetic smokers in the project area as in the IHS total population.

TABLE 3.1
 Selected Indicators from tribal Diabetes Chart Audits for Michigan, Minnesota,
 Wisconsin, Project Area, and IHS Total FY2000

Indicator	Michigan	Minnesota	Wisconsin	Project Area	IHS Total*
	Percent	Percent	Percent	Percent	Percent
Sex Distribution					
Male	42	40	44	41	39
Female	58	60	56	59	61
Age Distribution					
Less than 15 years	0	1	0	0	0
15-44 years	15	25	26	22	23
45-64 years	43	53	50	48	50
65 years and older	23	21	23	22	26
HbA1c Level recorded	89	95	97	92	97
HbA1c >9.5	19	23	25	21	NA
Annual Exams					
Diabetics receiving annual eye exam	51	51	52	51	54
Diabetics receiving annual foot exam	47	71	69	61	59
Diabetics receiving annual dental exam	13	28	44	25	30
Immunizations					
Influenza vaccination	45	53	40	48	54
Pneumonia vaccination	35	66	49	52	71
Tetanus vaccination	36	79	55	58	79
Total cholesterol tested in past year	62	78	76	71	72
Creatinine tested in past year	83	88	84	85	90
Diabetics who are obese	42	53	49	48	46
Diabetics with hypertension	28	69	64	60	NA
Diabetics currently smoking	30	42	37	37	18
Diabetes Education					
Diet instruction	42	64	62	55	57
Exercise instruction	23	51	69	42	28
Other diabetes related education	48	70	70	61	64
PPD status known	25	61	69	51	71

* IHS Total is from FY1999 and NA=Not available

Source: Tribal diabetes programs at Tribal health centers. Data was collected in FY 2000 diabetes chart audits from Michigan, Minnesota, and Wisconsin. The Project Area is the same as the Bemidji Area in this table the IHS Total data is weighted.

SECTION 4

COMMUNICABLE DISEASES

Section 4 contains data on sexually transmitted diseases (STDs). Please note that these data represent only cases reported by local health departments and that the degree and completeness of reporting by physicians, hospitals, and clinical laboratories to local health departments varies significantly. Racial non- and misclassification is also prevalent, so AI/AN cases may not be identified as such. It is likely that the number of cases reported under represents the true incidence of disease.

Some communicable diseases besides STDs are reported to health departments. These diseases are usually vaccine-preventable, highly infectious, and/or can cause severe conditions, including death. The attack rates of many of these diseases are very low and may occur in a cluster at a specific time in a specific place as opposed to it being an ongoing health problem. For example, the majority of salmonellosis cases in a given year could be from a single outbreak at one community dinner. Therefore, determining a trend over time would be extremely difficult and may not accurately reflect the general health of the AI/AN population in the three-state region.

See Appendix C for a listing of conditions reportable to local health departments in Minnesota, Michigan, and Wisconsin.

TABLE 4.2a

Numbers and Rates (per 100,000) for Selected Sexually Transmitted Diseases in American Indian/Alaska Natives in Michigan 1993-1999

Disease	1993	1994	1995	1996	1997	1998	1999
	# (rate)	# (rate)	# (rate)				
Chlamydia	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	19 (31.9)	12 (20.1)	34 (56.8)
Gonorrhea	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (10.1)	8 (13.4)	8 (13.4)
Herpes type 1 & 2	NA	NA	NA	NA	NA	NA	NA
Syphilis (primary and secondary)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

NA=Not available

Source: Michigan Department of Community Health

TABLE 4.2b

Numbers and Rates (per 100,000) for Selected Sexually Transmitted Diseases in American Indian/Alaska Natives in Minnesota 1993-1999

Disease	1993	1994	1995	1996	1997	1998	1999
	# (rate)						
Chlamydia	210 (452.4)	238 (437.8)	229 (414.6)	210 (374.6)	249 (441.3)	269 (471.6)	350 (608.5)
Gonorrhea	49 (91.6)	67 (123.2)	62 (112.3)	61 (108.8)	69 (122.3)	46 (80.6)	82 (142.6)
Herpes type 1 & 2	NA						
Syphilis (primary and secondary)	0 (0.0)	3 (5.5)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.8)	0 (0.0)

NA=Not available

Source: Minnesota Center for Health Statistics, sexually transmitted disease department

TABLE 4.2c

Numbers and Rates (per 100,000) for Selected Sexually Transmitted Diseases in American Indian/Alaska Natives in Wisconsin 1993-1999

Disease	1993	1994	1995	1996	1997	1998	1999
	# (rate)	# (rate)	# (rate)	# (rate)	# (rate)	# (rate)	# (rate)
Chlamydia	92 (228.4)	46 (112.1)	18 (43.2)	15 (35.4)	40 (93.3)	169 (323.3)	220 (505.4)
Gonorrhea	15 (37.2)	13 (31.7)	3 (7.2)	4 (9.4)	10 (23.3)	24 (55.8)	39 (89.6)
Herpes type 1 & 2	14 (34.8)	4 (9.8)	1 (2.4)	2 (4.7)	7 (16.3)	21 (48.8)	28 (64.3)
Syphilis (primary and secondary)	3 (7.4)	0 (0.0)	1 (2.4)	1 (2.4)	1 (2.3)	1 (2.3)	0 (0.0)

Source: Wisconsin Department of Health and Family Services, Bureau of Communicable Disease

TABLE 4.2d
Numbers and Rates (per 100,000) for Selected Sexually Transmitted Diseases in American Indian/Alaska Natives in Project Area 1993-1999

Disease	1993	1994	1995	1996	1997	1998	1999
	# (rate)						
Chlamydia	302 (198.5)	284 (184.5)	247 (158.3)	225 (142.4)	308 (193.8)	450 (281.7)	604 (375.3)
Gonorrhea	64 (42.1)	80 (52.0)	65 (41.7)	65 (41.1)	85 (53.5)	78 (48.8)	129 (80.1)
Herpes type 1 & 2	NA						
Syphilis (primary and secondary)	3 (2.0)	3 (1.9)	1 (0.6)	1 (0.6)	1 (0.6)	2 (1.3)	0 (0.0)

NA=Not available

Source: Michigan Department of Community Health, Minnesota Center for Health Statistics, sexually transmitted disease department, and Wisconsin Department of Health and Family Services, Bureau of Communicable Disease

Table 4.2d displays information on four sexually transmitted disease, chlamydia, gonorrhea, herpes type 1 & 2 and syphilis. The numbers and rates are highest for chlamydia in the project area with the next highest being gonorrhea. The numbers of cases vary greatly by year and it is not clear if this represents fluctuation in burden of disease or changes related to reporting. Both chlamydia and gonorrhea are preventable diseases.

SECTION 5

MATERNAL AND CHILD HEALTH

Section 5 contains information on AI/AN mothers and children in the project area. The data included is primarily from birth certificates but also includes information from the Women, Infants, and Children (WIC) program.

The infant mortality rate (IMR) is commonly used as an indicator of community health status. Children under one year of age are highly susceptible to disease. The infant mortality rate is the number deaths to children less than one year divided by the number of live births in a given year then multiplied by 1,000. Table 5.1 and graphs 5.1a-c compare infant mortality rates. Table 5.1 shows that the 1999 IMR for the project area was 6.9 deaths per 1,000 which was higher than that of the IHS Total population which had an IMR of 4.5 deaths per 1,000.

TABLE 5.1
Comparison of Infant Mortality Rates (per 1,000 live births), 1999

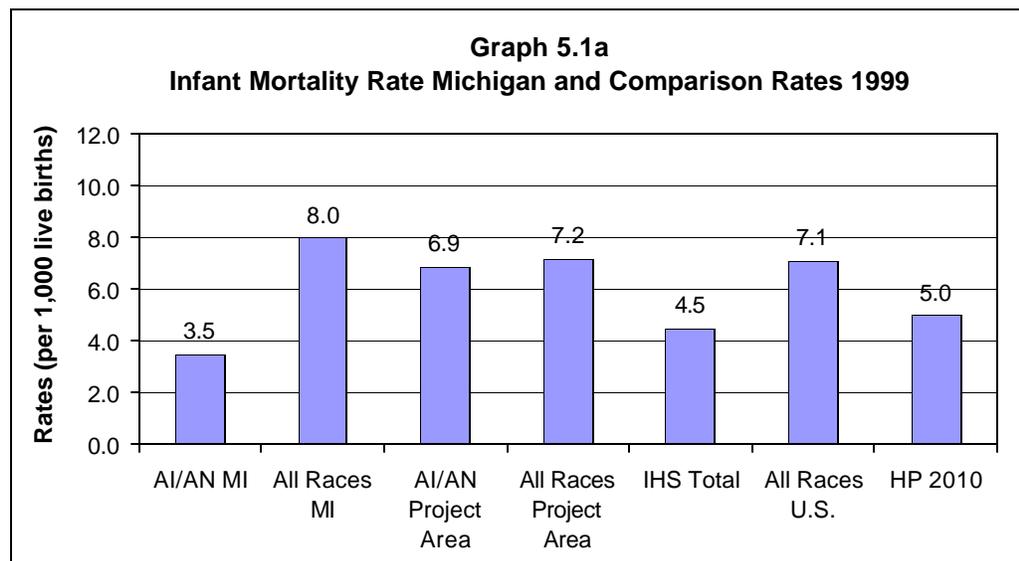
AI/AN Michigan	3.5	All Races Michigan	8.3
AI/AN Minnesota	10.2	All Races Minnesota	6.2
AI/AN Wisconsin	7.1	All Races Wisconsin	6.7
AI/AN Project Area	6.9	All Races Project Area	7.2
Bemidji Area*	4.8	All Races U.S.**	7.1
IHS Total*	4.5	HP 2010	5.0

* Data from Regional Differences in Indian Health 1998-1999 (1994-1996 data)

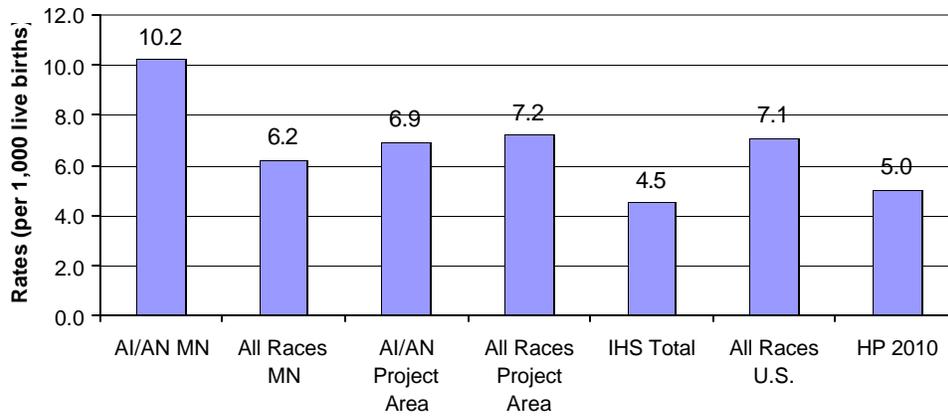
** NCHS.Health, *United States, 2001 with Urban and Rural Health Chartbook*. Hyattsville, MD:2001

Note: HP2010 refers to Healthy People 2010 goals, Healthy People 2010 from DHHS

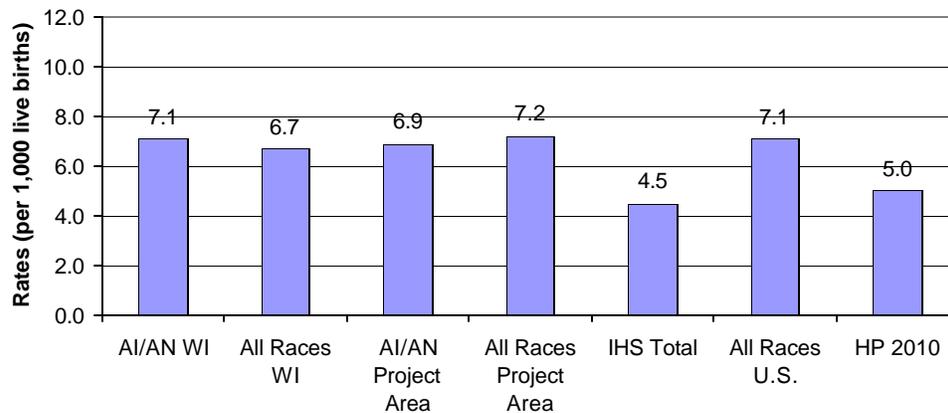
Data Sources: 1999 death files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information.



Graph 5.1b
Infant Mortality Rate for Minnesota and Comparison Rates, 1999



Graph 5.1c
Infant Mortality Rate for Wisconsin and Comparison Rates, 1999



Birth Weight

Birth weight is a valuable indicator of health for both infant and mother. Low birth weight babies are at higher risk of death within the first year of life. They may be more susceptible to illness due to lack of physical development (prematurity). Table 5.2 and graphs 5.2a-c display the percentages of low birth weight babies in different populations.

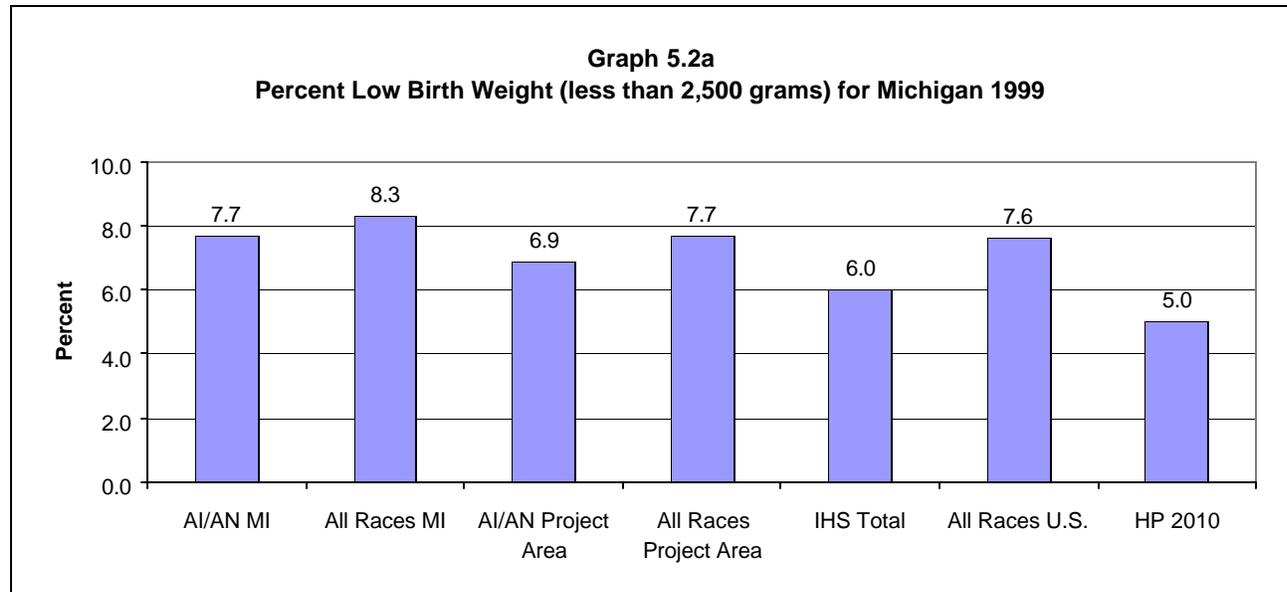
TABLE 5.2
Percent Low Birth Weight Births (less than 2500 grams), 1999

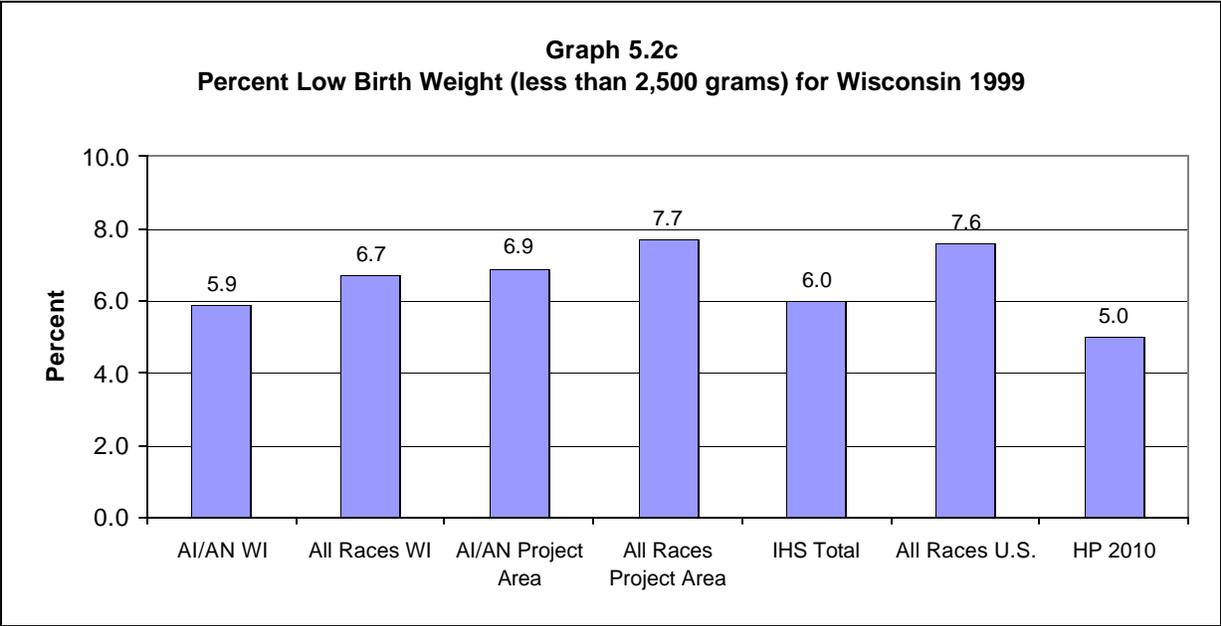
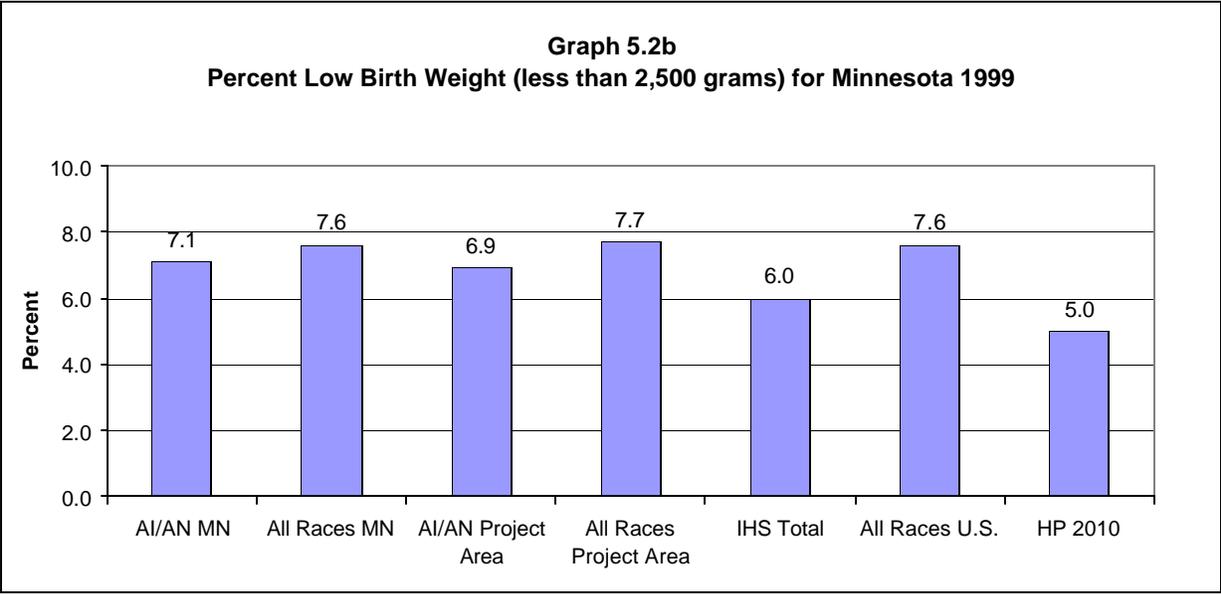
AI/AN Michigan	7.7	All Races Michigan	8.3
AI/AN Minnesota	7.1	All Races Minnesota	7.6
AI/AN Wisconsin	5.9	All Races Wisconsin	6.7
AI/AN Project Area	6.9	All Races Project Area	7.7
Bemidji Area*	5.1	All Races U.S.**	7.6
IHS Total*	6.0	HP 2010	5.0

Note: HP2010 refers to the Healthy People 2010 goals from *Healthy People 2010* from DHHS
 Data Sources: 1999 birth files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information

**Regional Differences in Indian Health 1998-1999* (1994-1996 data);

** NCHS.Health, *United States, 2001 with Urban and Rural Health Chartbook*. Hyattsville, MD:2001





The low birth weight rates were lower for AI/AN babies (6.9%) in the project area than for all races in the project area (7.7%). Both AI/AN and all races low birth weight rates failed to reach the HP2010 goal of 5%.

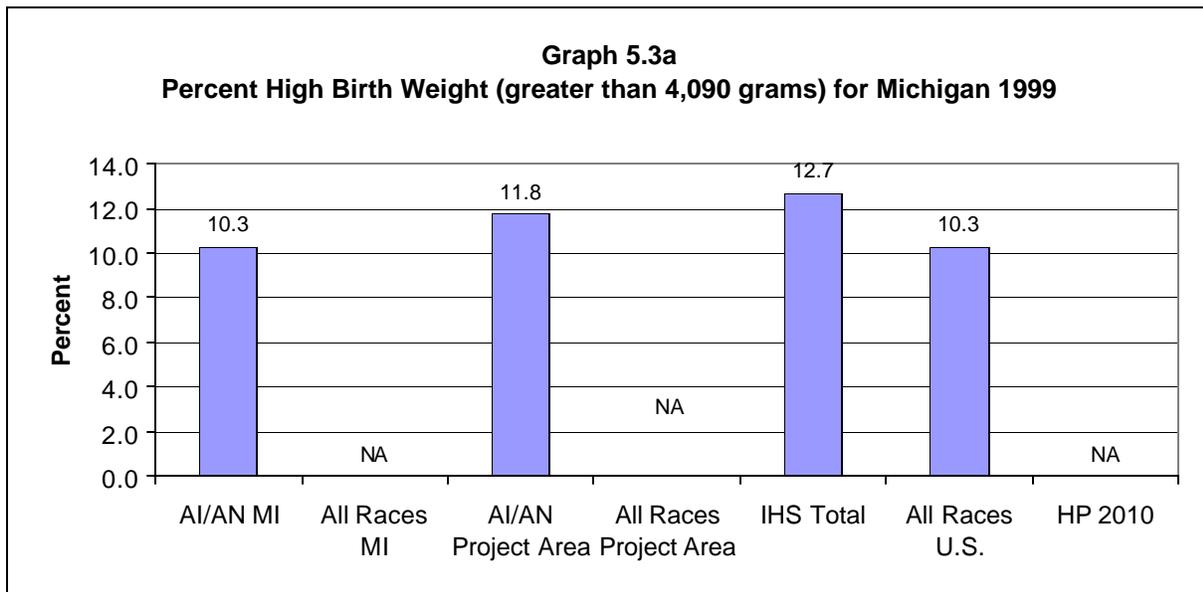
High birth weight babies are also at risk for health problems. For these babies, metabolic problems such as diabetes can be serious and life threatening. High birth weight of a baby can also cause problems for mothers. Difficulties during birth can occur when delivering high birth weight babies and a high birth weight baby can be an

indicator that the mother may have diabetes or other metabolic problems. Table 5.3 and Graphs 5.3a-c display percentages of high birth weight babies for different populations.

TABLE 5.3
Percent of Births with High Birth Weight (greater than 4,090 grams), 1999

AI/AN Michigan	10.3	All Races Michigan	NA
AI/AN Minnesota	12.2	All Races Minnesota	9.9
AI/AN Wisconsin	12.8	All Races Wisconsin	12.3
AI/AN Project Area	11.8	All Races Project Area	NA
Bemidji Area*	16.8	All Races U.S. (1995)*	10.3
IHS Total*	12.7	HP 2010	NA

Note: HP2010 refers to the Healthy People 2010 goals from *Healthy People 2010* from DHHS
 Data Sources: 1999 birth files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information
 *Regional Differences in Indian Health 1998-1999 (1994-1996 data);



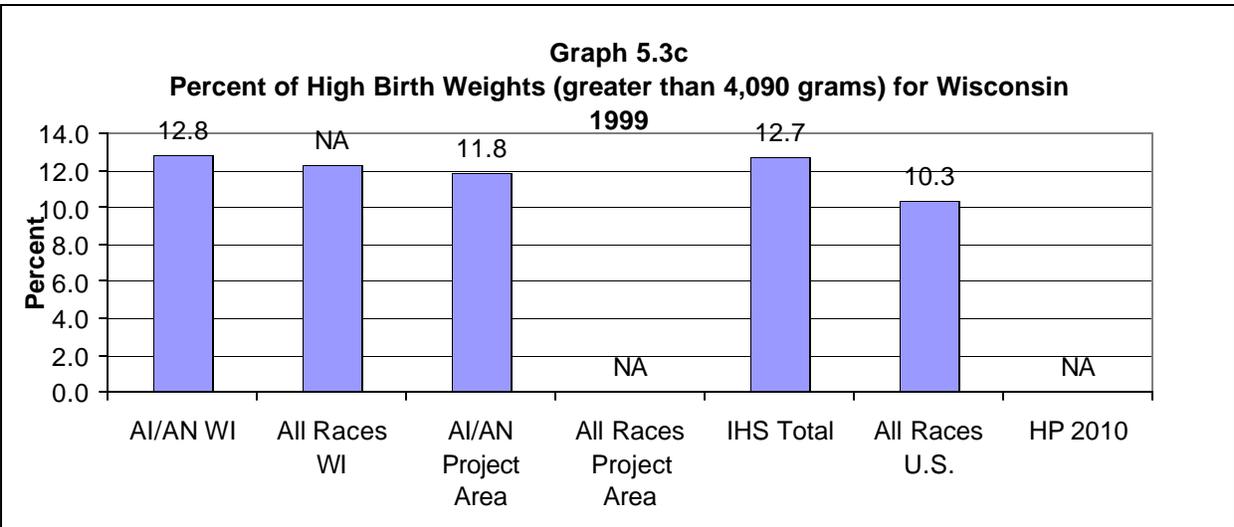
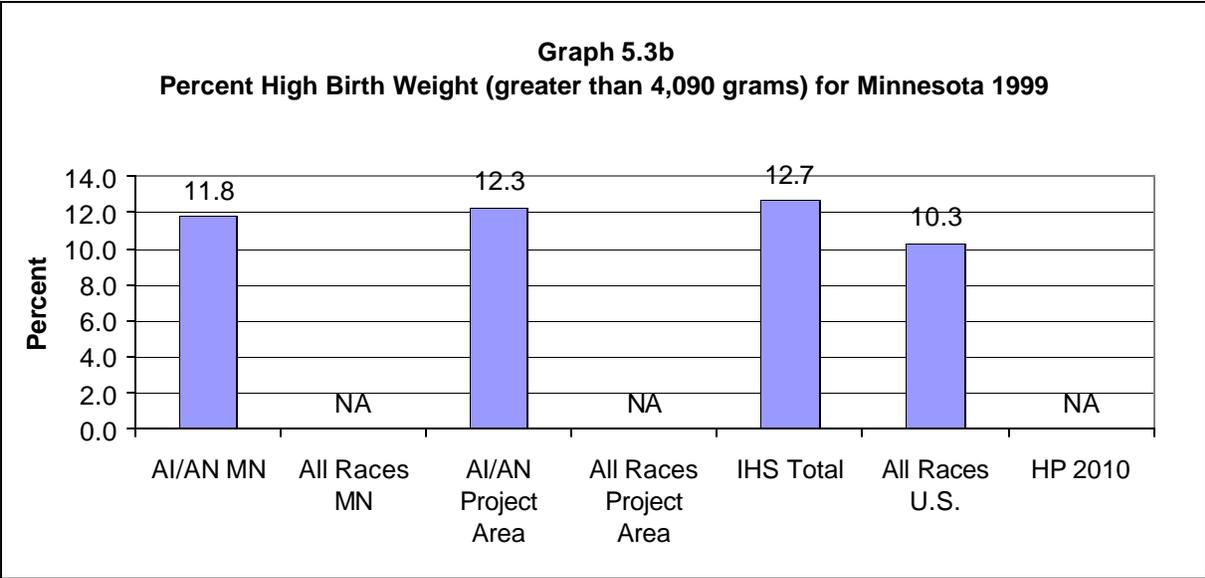


Table 6.3 and graphs 6.3a-c show that the percent of high birth weight babies (over 4,090 grams) was 12.8% for AI/AN in the project area compared to 10.3 for all races in the U.S. (although, this data this U.S. data is from 1995 and there may have been an increase in high birth weight among all race babies in 1999). High birth weight is an important indicator 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.

Prenatal Care

The trimester prenatal care began has traditionally been used as an indicator of birth outcomes. Receiving prenatal care in the first trimester could assist with the detection of potential health problems early in a pregnancy. Additionally, early care during pregnancy allows for early education and consultation about nutrition, exercise and basic care during pregnancy and birth for parents.

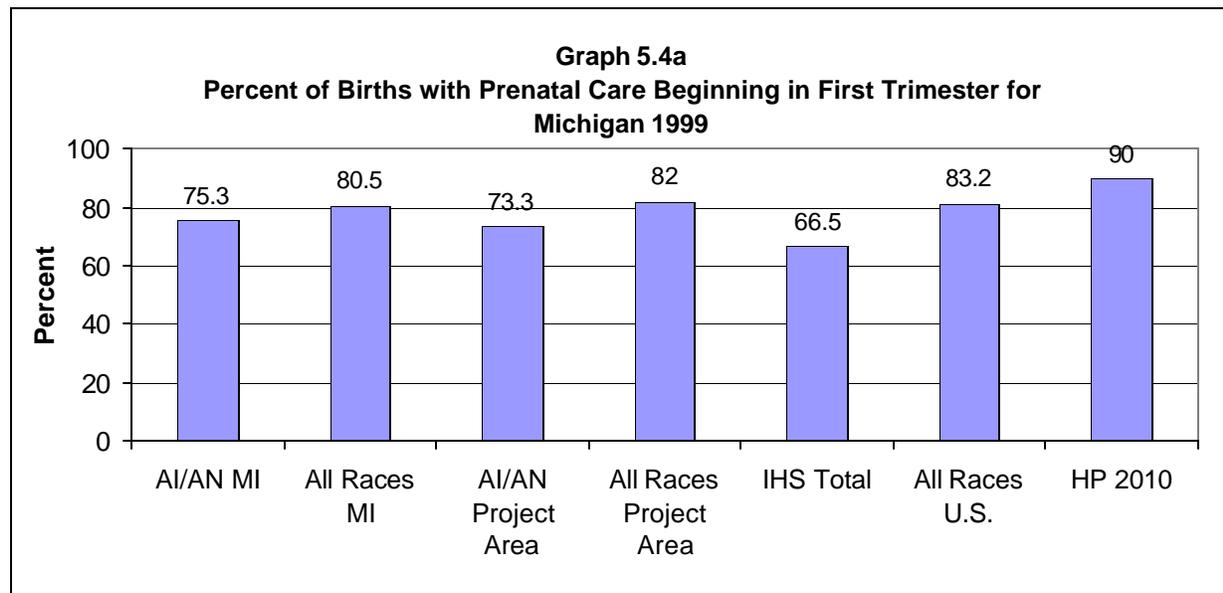
TABLE 5.4
Percent of Births with Prenatal Care Beginning in the First Trimester, 1999

AI/AN Michigan	75.3	All Races Michigan	80.5
AI/AN Minnesota	69.5	All Races Minnesota	83.2
AI/AN Wisconsin	75.1	All Races Wisconsin	83.9
AI/AN Project Area	73.3	All Races Project Area	82.0
Bemidji Area*	68.3	All Races U.S.**	83.2
IHS Total*	66.5	HP 2010	90.0

HP2010 refers to the Healthy People 2010 goals from *Healthy People 2010* from DHHS
Data Sources: 1999 birth files from Michigan Department of Community Health; Minnesota Center for Health Statistics; and Wisconsin Bureau of Health Information;

**Regional Differences in Indian Health 1998-1999* (1994-1996 data), Indian Health Service;;

**NCHS.Health, *United States, 2001 with Urban and Rural Health Chartbook*. Hyattsville, MD:2001



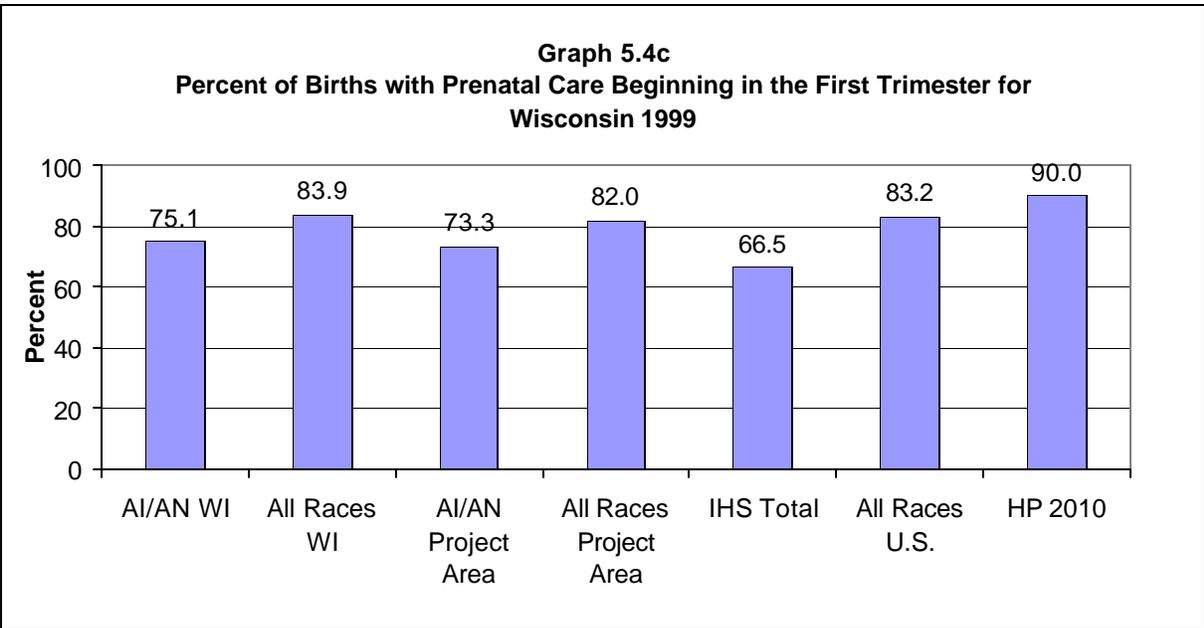
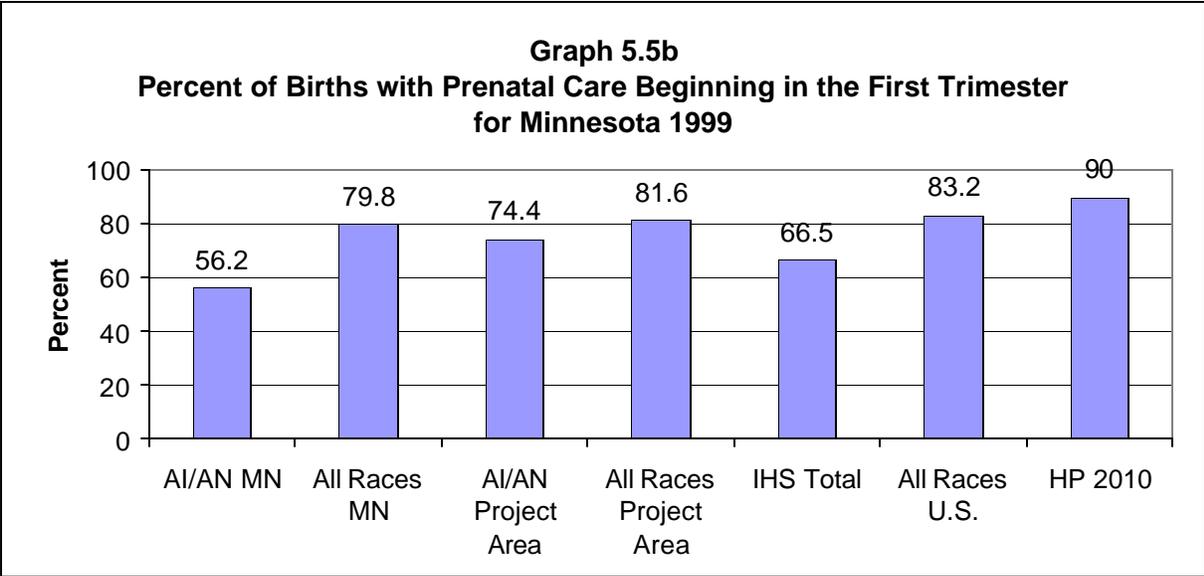


Table 5.4 and Graphs 5.4a-c display information on the percentage of births in which the mother began prenatal care in the first trimester. 73.3% of AI/AN births in the project area began prenatal care in the first trimester compared to 66.5% of AI/AN in HIS total and 81.3% in all races in the U.S. The AI/AN rate remains below the HP2010 goal of 90%.

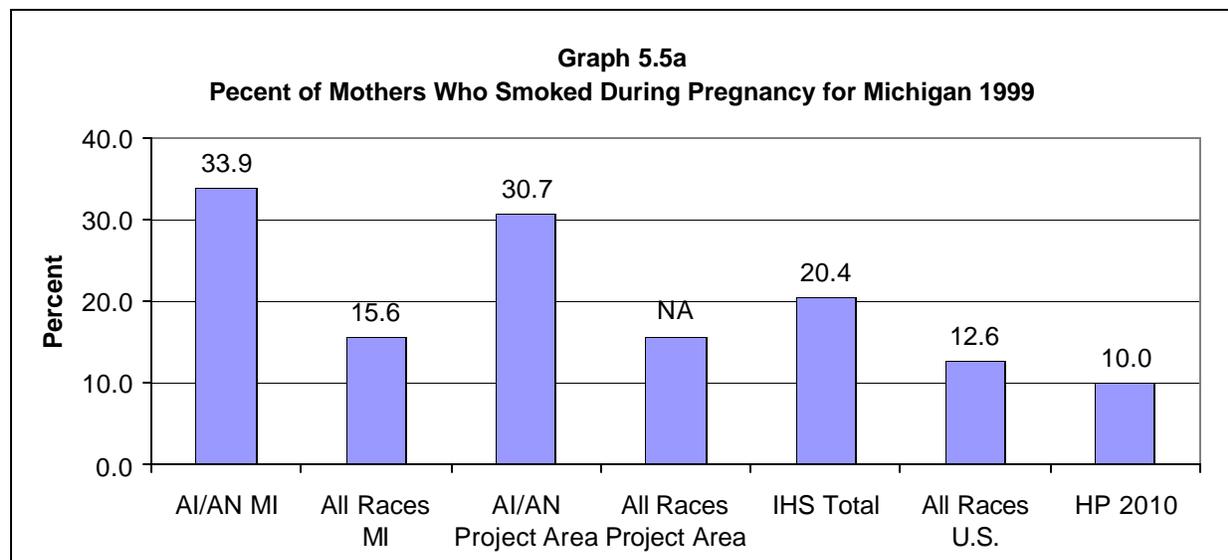
Smoking During Pregnancy

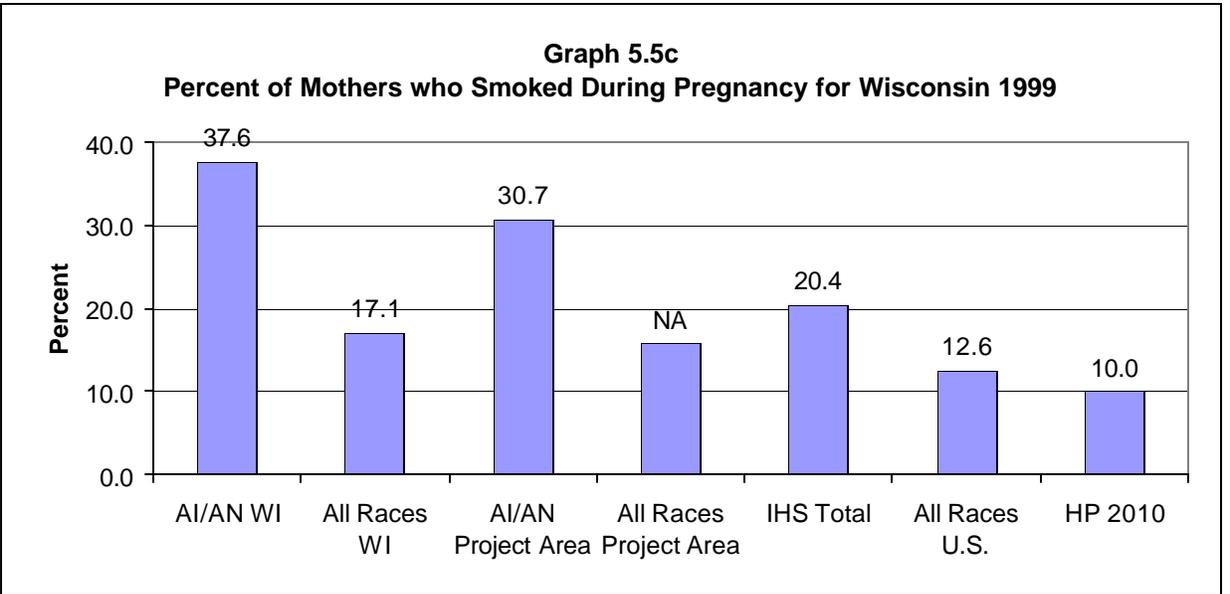
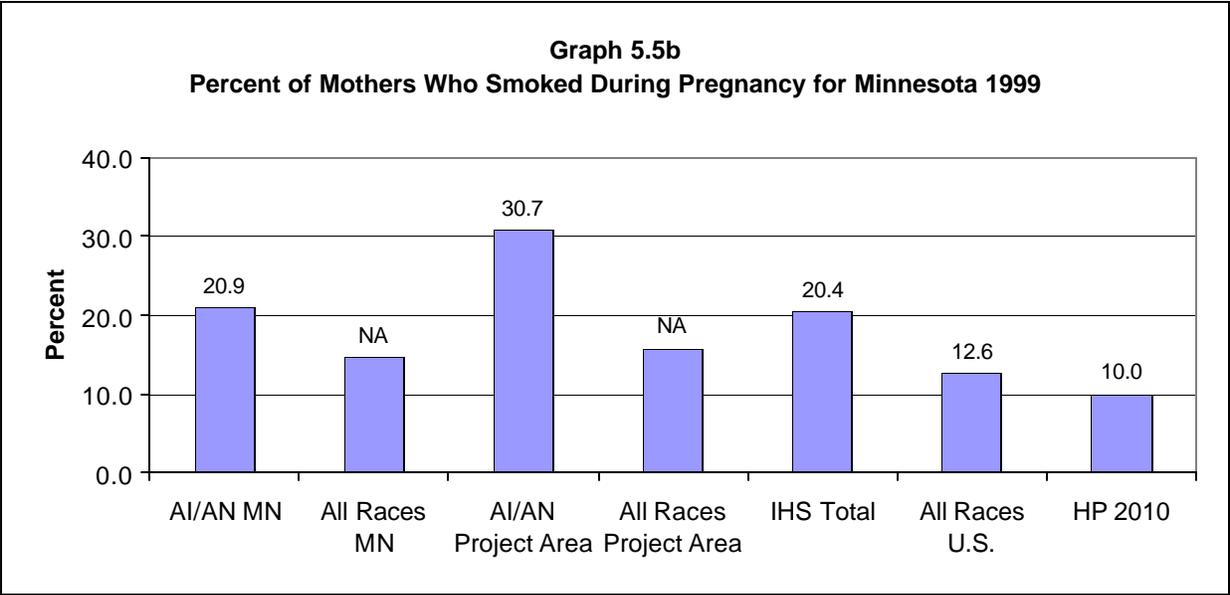
Smoking during pregnancy is an important indicator of both child and maternal health outcomes. Mothers who smoke during pregnancy are at risk themselves for smoking related illness and their babies are at risk as infants and children for a host of problems. Smoking during pregnancy has been linked to prematurity, low birth weight in infants and asthma and chronic ear infections in children. Table 5.5 and Graphs 5.5a-c show the percent of babies with mothers who smoked during their pregnancy.

TABLE 5.5
Percent Births to Mothers who Smoked During Pregnancy, 1999

AI/AN Michigan	33.9	All Races Michigan	15.6
AI/AN Minnesota	20.9	All Races Minnesota	14.6
AI/AN Wisconsin	37.6	All Races Wisconsin	17.1
AI/AN Project Area	30.7	All Races Project Area	15.7
Bemidji Area*	41.1	All Races U.S. **	12.6
IHS Total*	20.4	HP 2010	10.0

Note: HP2010 refers to the Healthy People 2010 goals from *Healthy People 2010* from DHHS
 Data Sources: 1999 birth files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information
 *Regional Differences in Indian Health 1998-1999 (1994-1996 data);
 **NCHS.Health, *United States, 2001 with Urban and Rural Health Chartbook*. Hyattsville, MD:2001





The AI/AN population in the project area had a smoking during pregnancy rate of 30.7% compared to 15.7% for all races in the project area. Smoking during pregnancy for AI/AN births in the project area was also higher than that for the IHS total and U.S. all races.

Childhood Obesity

Childhood obesity data is important because obesity during childhood can be a risk factor for later chronic health problems. Table 6.6 displays data from the WIC Program on childhood obesity. These data only include children who qualify and receive services from the WIC Program.

TABLE 6.7
Percent of Obesity* in American Indian/ Alaska Native and All Race Children by Age, Based on WIC Enrollment for Calendar Year 1999

Age (months)	Michigan		Minnesota		Wisconsin	
	AI/AN	All Races	AI/AN	All Races	AI/AN	All Races
Under 12	8.6	8.7	12.2	9.4	9.9	6.6
12-23	17.0	12.5	26.8	14.1	18.5	13.2
24-35	11.3	7.1	17.9	8.1	13.2	6.7
36-59	17.3	9.1	19.5	10.3	16.1	8.8

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

Source: Pediatric Nutrition Surveillance, Table 10, 1999 Annual Summary for Michigan, Minnesota, and Wisconsin

Obesity levels for AI/AN children in all three states within the project area are higher than for all races. The differences between the AI/AN children and all races children increase with increasing age.

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 the most complete data available for socioeconomic factors until census 2000 data is fully released. Census 2000 data is used in this report where possible.

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 for 1999 are: 1) heart disease, 2) cancers, 3) unintentional injury, 4) diabetes, and 5) chronic obstructive pulmonary disorder. 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 for Tribes in Minnesota and Wisconsin. Youth Tobacco Surveys at the state and tribal level will also serve as a source of information about youth tobacco use. 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 FY2000 IHS Diabetes Audits are displayed in this section. Some indicators are more difficult to track than others, especially when the services are not provided directly by Tribal Health facilities.

Data in the communicable disease section of this report show that of all the sexually transmitted diseases that occurred, Chlamydia had the highest rates. 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 remains at about 31% but for some Tribal communities, as many as half the women having babies in 1999 smoked during their pregnancy. This high percentage becomes even more dramatic when compared to all races. For example, in Wisconsin, 37.6% of AI/AN smoked during pregnancy in 1999 while only 17.1% of women of all races smoked during pregnancy. In Michigan, 33.9% of AI/AN women smoked during pregnancy compared to 15.6% for all races. And in Minnesota, the disparity is less with 20.9% of AI/AN women smoking during pregnancy compared to 14.6% of women of 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 ICD-9 and ICD-10 Codes

Cause of Death	ICD-9 Codes	ICD-10 Codes
Cancer	140-208	C00-C97
Chronic Liver Disease	571	K70-K73-K74
Chronic Obstructive Pulmonary Disorder	490-494, 496	J40-J47
Diabetes	250	E10-E14
Heart Disease	390-398, 402, 404-429	I00-I09, I11, I13, I20-I51
Homicide	E960-E969	X85-Y09, Y87.1
Kidney Disease	580-589	N00-N07, N17-N19, N25-N27
Pneumonia and Influenza	480-487	J10-J18
Stroke	430-434, 436-438	I60-I69
Suicide	E950-E959	X60-X84, Y87.0
Unintentional Injury	E800-E869, E880-E929	V01-X59, Y85-Y86

ICD-9 is International Classification of Diseases, 9th Edition

ICD-10 is International Classification of Diseases, 10th Edition

APPENDIX C

Communicable Disease Reporting Requirements for Minnesota, Michigan and Wisconsin

Minnesota Department of Health, Communicable Diseases - Chapter 4605

4605.7000 DEFINITIONS.

Subpart 1. **Case.** "Case" means a person infected with a particular infectious agent or having a particular disease diagnosed by a physician.

Subpart 2. **Carrier.** "Carrier" means a person identified as harboring a specific infectious agent and who serves as a potential source of infection.

Subp. 3. **Commissioner.** "Commissioner" means the state commissioner of health or authorized officers, employees, or agents of the Minnesota Department of Health (MDH).

Subp. 4. **Infection control practitioner.** "Infection control practitioner" means any person designated by a hospital, nursing home, medical clinic, or other health care facility as having responsibility for prevention, detection, reporting, and control of infections within the facility.

Subp. 5. **Isolation.** "Isolation" means the separation, for the period of communicability, of an infected person from others in places and under the condition as to prevent or limit the direct or indirect transmission of the infectious agent to those who are susceptible or may spread the agent to others.

Subp. 6. **Board of health.** "Board of health" means authorized administrators, officers, agents, or employees of the county, multi-county, or city board of health organized under Minnesota Statutes, sections 149A.09 to 145A.14.

Subp. 7. **Medical laboratory.** "Medical laboratory" means any facility that receives, forwards, or analyzes specimens of original material from the human body, or referred cultures of specimens obtained from the human body, and reports the results to physicians who use the data for purposes of patient care.

Subp. 8. **Physician.** "Physician" means any person who is licensed by the Minnesota Board of Medical Examiners to practice medicine.

Subp. 9. **Suspected case.** "Suspected case" means a person having a condition or illness in which the signs and symptoms resemble those of a recognized disease.

Subp. 10. **Veterinarian.** "Veterinarian" means any person who is licensed by the Minnesota Board of Veterinary Medicine to practice veterinary medicine.

Subp. 11. **Public health hazard.** "Public health hazard" means the presence of an infectious agent or condition in the environment which endangers the health of a specified population.

4605.7010 PURPOSE.

This chapter establishes a process and assigns responsibility for reporting, investigating, and controlling disease.

4605.7020 APPLICABILITY.

This chapter applies to cases, suspected cases, and deaths from communicable diseases and syndromes, reporting of disease, and disease control.

4605.7030 PERSONS REQUIRED TO REPORT DISEASE.

Subp. 1. **Physicians.** When attending a case, suspected case, or death from any of the diseases in part 4605.7040, the physician shall report within one working day to the commissioner, unless previously reported, the information outlined in part 4605.7090.

Subp. 2. **Health care facilities.** Hospitals, nursing homes, medical clinics, or other health care facilities must designate that all individual physicians report as specified in subpart 1; or the health care facility must designate an infection control practitioner or other person as responsible to report to the commissioner, within one working day of knowledge of a case, suspected case, carrier, or death from any of the diseases and syndromes in part 4605.7040, and the information specified in part 4605.7090.

Subp. 3. **Medical laboratories.** All medical laboratories must provide to the commissioner, within one working day of completion, the results of microbiologic cultures, examinations, immunologic assays for the presence of antigens and antibodies, and any other laboratory tests, which are indicative of the presence of any of the diseases in part 4605.7040 and the information specified in part 4605.7040 as is known.

The medical laboratory must forward to the Minnesota Department of Health, public health laboratory all isolates specified in part 4605.7040.

Subp. 4. **Comprehensive reports.** Any institution, facility, or clinic, staffed by physicians and having medical laboratories which are required to report, as in subparts 1, 2, and 3, may, upon written notification of the commissioner, designate a single person or group of persons to report cases, suspected cases, carriers, deaths, or results of medical laboratory cultures, examinations, and assays for any of the diseases listed in part 4605.7040 to the commissioner.

Subp. 5. **Veterinarians and veterinary medical laboratories.** The commissioner of health shall, under the following circumstances, request certain reports of clinical diagnosis of disease in animals and reports of laboratory tests on animals: A. The disease is common to both animals and humans. B. The disease may be transmitted directly or indirectly to and between humans and animals. C. The persons who are afflicted with the disease are likely to suffer complications, disability, or death as a result. D. Investigation based veterinarian and veterinary medical laboratory reports will assist in the prevention and control of disease among humans.

Subp. 6. **Others.** Unless previously reported, it shall be the duty of every other licensed health care provider who provides care to any patient who has or is suspected of having any of the diseases listed in part 4605.7040 to report within one working day to the commissioner as much of the information outlined in part 4605.7090 as is known.

4605.7040 DISEASE AND REPORTS; ISOLATE SUBMISSIONS.

Cases, suspect cases, carriers, and deaths due to the following diseases and infectious agents shall be reported. The diseases followed by an asterisk shall be reported immediately by telephone to the commissioner.

- A. Amebiasis (*Entamoeba histolytica*)
- B. Anthrax* (*Bacillus anthracis*)
- C. Babesiosis (*Babesia* sp.)
- D. Blastomycosis (*Blastomyces dermatitidis*)
- E. Botulism* (*Clostridium botulinum*)
- F. Brucellosis (*Brucella* sp.)
- G. Campylobacteriosis (*Campylobacter* sp.) Submit isolates to the MDH, Public Health Laboratory
- H. Cat Scratch disease (infection caused by *Bartonella* species)
- I. Chancroid* (*Haemophilus ducreyi*)
- J. *Chlamydia trachomatis* infections
- K. Cholera* (*Vibrio cholerae*) Submit isolates to the MDH, Public Health Lab
- L. Cryptosporidiosis (*Cryptosporidium parvum*)
- M. Dengue virus infection
- N. Diphtheria (*Corynebacterium diphtheriae*) Submit isolates to the MDH, Public Health Lab
- O. *Diphyllobothrium latum* infection
- P. Ehrlichiosis (*Ehrlichia* sp.)
- Q. Encephalitis (caused by viral agents)
- R. Enteric *Escherichia coli* infection (*E. coli* O157:H7, other enterohemorrhagic *E. coli*, enteropathogenic *E. coli*, enteroinvasive *E. coli*) Submit isolates to the MDH, Public Health Lab
- S. Giardiasis (*Giardia lamblia*)
- T. Gonorrhea (*Neisseria gonorrhoea* infections)
- U. *Haemophilus influenzae* disease (all invasive disease) Submit isolates to the MDH, Public Health Lab
- V. Hantavirus infection
- W. Hemolytic uremic syndrome
- X. Hepatitis (all primary viral types including A, B, C, D, and E)
- Y. Histoplasmosis (*Histoplasma capsulatum*)
- Z. Human Immunodeficiency Virus (HIV) infection, including Acquired Immunodeficiency Syndrome (AIDS)
- AA. Influenza (unusual case incidence or laboratory confirmed cases)
- BB. Kawasaki disease
- CC. Legionellosis (*Legionella* sp.)
- DD. Leprosy (*Mycobacterium leprae*)
- EE. Leptospirosis (*Leptospira interrogans*)
- FF. Listeriosis (*Listeria monocytogenes*) Submit isolates to the MDH, Public Health Lab

- GG. Lyme Disease (*Borellia burgdorferi*)
- HH. Malaria (*Plasmodium* species)
- II. Measles* (Rubeola)
- JJ. Meningitis (caused by *Haemophilus influenzae*, *Neisseria meningitidis*, or *Streptococcus pneumoniae*, viral agents) Submit bacterial isolates to the MDH, Public Health Lab
- KK. Meningococemia (*Neisseria meningitidis*) Submit isolates to the MDH, Public Health Lab
- LL. Mumps*
- MM. Pertussis* (*Bordetella pertussis*) Submit isolates to the MDH, Public Health Lab
- NN. Plague (*Yersinia pestis*)
- OO. Poliomyelitis*
- PP. Psittacosis (*Chlamydia psittaci*)
- QQ. Q Fever (*Coxiella burnetii*)
- RR. Rabies* (animal and human cases and suspects)
- SS. Retrovirus infections (other than HIV)
- TT. Reye's Syndrome
- UU. Rheumatic Fever (cases meeting the Jones Criteria only)
- VV. Rubella and Congenital Rubella Syndrome
- WW. Rocky Mountain Spotted Fever (*Rickettsia rickettsii*, *R. canada*)
- XX. Salmonellosis, including typhoid (*Salmonella* sp.) Submit isolates to the MDH, Public Health Lab
- YY. Shigellosis (*Shigella* sp.) Submit isolates to the MDH, Public Health Lab
- ZZ. Streptococcal disease (all invasive disease caused by Groups A and B streptococci and *S. pneumoniae*) Submit isolates to the MDH, Public Health Lab
- AAA. Syphilis* (*Treponema pallidum*)
- BBB. Tetanus (*Clostridium tetani*)
- CCC. Toxic Shock Syndrome Submit isolates to the MDH, Public Health Lab
- DDD. Toxoplasmosis
- EEE. Trichinosis (*Trichinella spiralis*)
- FFF. Tuberculosis (*Mycobacterium tuberculosis* and *Mycobacterium bovis*) Submit isolates to the MDH, Public Health Lab
- GGG. Tularemia (*Francisella tularensis*)
- HHH. Typhus (*Rickettsia* species)
- III. Yellow Fever
- JJJ. Yersiniosis (*Yersinia* sp.) Submit isolates to the MDH, Public Health Lab

Note: Since this rule was passed in 1997 the following diseases have been added to the above list by the commissioner through public notice in the State Register.

Staphylococcus aureus infection (only deaths or serious disease due to community-acquired methicillin-resistant *S. aureus*) Submit isolates to the MDH, Public Health Lab

4605.7050 UNUSUAL CASE INCIDENCE.

Any pattern of cases, suspected cases, or increased incidence of any illness beyond the expected number of cases in a given period, which may indicate a newly recognized infectious agent, an outbreak, epidemic, or related public health hazard, including suspected or confirmed outbreaks of food or waterborne disease, epidemic viral gastroenteritis, and any disease known or presumed to be transmitted by transfusion of blood or blood products, must be reported immediately by telephone, by the person having knowledge, to the commissioner.

Any unexplained death which may be caused by an infectious agent must be reported by the attending physician, medical examiner or coroner, or by the person having knowledge about the death to the commissioner within one day.

4605.7060 CASES, SUSPECTED CASES, CARRIERS, AND DEATHS DUE TO DISEASE ACQUIRED OUTSIDE THE STATE.

Cases, suspected cases, and deaths due to any infectious disease that a physician determines have been acquired outside the state, and which are considered rare or unusual in Minnesota, or a public health problem in the geographic area of presumed acquisition, must be reported to the commissioner.

4605.7070 OTHER REPORTS.

It shall be the duty of any person in charge of any institution, school, child care facility or camp, or any other person having knowledge of any disease which may threaten the public health, to report immediately the name and address of any persons suspected of having disease to the commissioner.

4605.7075 TUBERCULOSIS; SPECIAL REPORTING

A physician must immediately report to the commissioner of health the name, address, and essential facts of the case if the physician has reason to believe that a person with active pulmonary tuberculosis:

- A. refuses treatment for tuberculosis; or
- B. has not complied with prescribed therapy for tuberculosis.

4605.7080 NEW DISEASES AND SYNDROMES.

The commissioner shall, by public notice, request reporting of newly recognized or emerging diseases and describe a specific, planned mechanism for surveillance of the disease or syndrome including the submission of infectious agents isolated from cases to the Minnesota Department of Health, Public Health Laboratory.

4605.7090 DISEASE REPORT INFORMATION.

Reports that are required in parts 4605.7030 and 4605.7050 shall contain as much of the following information as is known:

- A. disease (whether a case, suspected case, carrier, or death);
- B. date of first symptoms;
- C. primary signs and symptoms;
- D. patient;

- (1) name;
- (2) birthdate;
- (3) ethnic or racial origin;
- (4) residence address, city, county, and zip code;
- (5) phone number; and
- (6) place of work, school, or child care;

- E. date of report;
- F. physician name, address, and phone number;
- G. name of hospital (if any);
- H. name of person reporting (if not physician);
- I. diagnostic laboratory findings and dates of test;
- J. name and locating information of contacts (if any); and
- K. other information pertinent to the case.

4605.7100 REPORTS TO STATE AND LOCAL BOARDS OF HEALTH.

Upon receipt of information or other knowledge of a case, suspected case, or death or any disease or report required in part 4605.7030, the board of health as defined in Minnesota Statutes, section 145A.02, subdivision 2, shall immediately forward same to the commissioner.

4605.7200 RECORDS OF DISEASE.

The commissioner shall maintain records of reports of cases, suspected cases, carriers, and deaths for the disease reports required in this section and shall prepare statewide summary information which shall be made available for each board of health as defined in Minnesota Statutes, section 145A.02, subdivision 2, on request.

4605.7300 COPIES OF DISEASE REPORTS.

Local boards of health operating under agreements in part 4735.0110, subpart 2, shall be forwarded copies of all disease reports and information received by the commissioner which pertain to the jurisdiction and biennial agreement between the commissioner and the board of health as defined in Minnesota Statutes, section 145A.02, subdivision 2.

4605.7400 PREVENTION OF DISEASE SPREAD.

Subpart 1. **Isolation.** The physician attending a case, suspected case, or carrier (or in the absence of a physician, the commissioner) shall make certain that isolation precautions are taken to prevent spread of disease to others.

Subp. 2. **Report of noncompliance.** Physicians shall report immediately to the commissioner the name, address, and other pertinent information for all cases, suspected cases, and carriers who refuse to comply with prescribed isolation precautions. The commissioner shall then seek injunctive relief under Minnesota Statutes, section 145.075, if the person represents a public health hazard.

4605.7500 DISEASE INVESTIGATIONS.

The commissioner shall investigate the occurrence of cases, suspected cases, or carriers of reportable diseases or unusual disease occurrences in a public or private place for the purpose of verification of the existence of disease, ascertaining the source of the disease causing agent, identifying unreported cases, locating contacts of cases, identifying those at risk of disease, determining necessary control measures, and informing the public if necessary.

SEXUALLY TRANSMITTED DISEASE CONTROL

4605.7700 SEXUALLY TRANSMITTED DISEASE; SPECIAL REPORTS.

The following special reports must be given by physicians to the commissioner:

A. Notwithstanding any previous report, physicians who have reason to believe that a person having *Chlamydia trachomatis*, syphilis, gonorrhea, or chancroid has not completed therapy must notify the commissioner immediately of that person's name, address, and other pertinent information.

B. Notwithstanding any previous report, physicians who treat persons infected with *Chlamydia trachomatis*, syphilis, gonorrhea, or chancroid must ensure that sexual contacts are treated or provide the names and addresses of sexual contacts who may also be infected to the commissioner. If known, persons named as sexual contacts or needle-sharing contacts to a person with HIV infection must be reported to the commissioner.

C. Notwithstanding any previous report, physicians must immediately report to the commissioner the name, address, and essential facts of the case for any person known or suspected of being infected with *Chlamydia trachomatis*, syphilis, gonorrhea, or chancroid who refuses treatment.

D. If resources are available, the commissioner may authorize specific outpatient or inpatient facilities to report cases of specific sexually transmitted diseases and clinical syndromes in addition to those specified in part 4605.7040. The diseases and clinical syndromes to be reported shall include urethritis in males, pelvic inflammatory disease, genital herpes simplex infection, ectopic pregnancy, and other sexually transmitted disease as requested by the commissioner.

4605.7800 HEALTH EDUCATION.

Health care providers working with patients having *Chlamydia trachomatis*, syphilis, gonorrhea, or chancroid must tell the patients how to prevent the spread of the sexually transmitted disease, inform them of the importance of complying with treatment instructions, and the need to have all relevant sexual contacts promptly treated for the specific sexually transmitted disease.

Michigan Department of Community Health
PHYSICIAN - DISEASE REPORTING

All Michigan physicians and health care providers are required¹ to report patients with the following conditions to the local health department. To assist health care providers in meeting their obligations to report, the Michigan Department of Community of Health has prepared the list presented below. Lab-confirmed and clinical diagnosis are reportable in the time intervals listed. Reporting allows for appropriate public health follow-up for your patients and assists us in identifying outbreaks not always evident to a sole provider.

IMMEDIATELY

Any unusual occurrence, outbreak, or epidemic of any disease, condition, and/or nosocomial infection.

WITHIN 24 HOURS

AIDS	Hepatitis B in a pregnant woman	Poliomyelitis
Anthrax	Lymphogranuloma venereum	Rabies (human)
Botulism	Measles	Syphilis
Chancroid	Meningococcal disease (meningitis or meningococemia)	Tuberculosis
Cholera	Pertussis	Viral hemorrhagic fevers
Diphtheria	Plague	Yellow fever
Gonorrhea		
Granuloma inguinale		
<i>H. influenzae</i> (meningitis or epiglottitis)		

WITHIN THREE WORKING DAYS

Amebiasis	Hepatitis	Rubella
Blastomycosis	Histoplasmosis	Salmonellosis
Bruceellosis	Kawasaki disease	Shigellosis
<i>Campylobacter</i> enteritis	Legionellosis	Staphylococcal disease, (first 28 days post-partum mother or child)
Chlamydia (genital)	Leprosy	Streptococcal, invasive Group A (normally sterile sites)
Coccidioidomycosis	Leptospirosis	Tetanus
Cryptococcosis	Listeriosis	Toxic shock syndrome
Cryptosporidiosis	Lyme disease	Trachoma
Cyclosporiasis	Malaria	Trichinosis
Dengue fever	Meningitis (bacterial & viral)	Tularemia
<i>E. coli</i> disease (only shiga toxin producers)	Mumps	Typhoid fever
Ehrlichiosis	Psittacosis	Typhus
Encephalitis, viral	Q fever	<i>Yersinia</i> enteritis
Giardiasis	Reye's syndrome	
Guillain-Barré syndrome	Rheumatic fever	
Hantavirus pulmonary syndrome	Rocky Mountain spotted fever	
Hemolytic-uremic syndrome	Rubella (congenital syndrome)	

WITHIN ONE WEEK

HIV Infection	Chicken pox (aggregate numbers)	Influenza (aggregate numbers)
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HOW TO REPORT

Call, mail or fax your local health department
Provide patient demographics, diagnosis and onset date

MICHIGAN DEPARTMENT OF COMMUNITY HEALTH LABORATORY - DISEASE REPORTING

All Michigan laboratories are required to report patients with the following conditions to the local health department. To assist health care providers in meeting their obligations to report, the Michigan Department of Community of Health has prepared the list presented below. Reporting allows for appropriate public health follow-up for your patients and assists us in identifying outbreaks not always evident to a sole provider.

IMMEDIATELY

Any unusual occurrence, outbreak, or epidemic of any disease, condition, and/or nosocomial infection.

WITHIN 24 HOURS

<i>Bacillus anthracis</i>	<i>Mycobacterium tuberculosis</i>
<i>Bordetella pertussis</i>	<i>Neisseria gonorrhoeae</i>
<i>Calymmatobacterium granulomatis</i>	<i>Neisseria meningitidis</i> (sterile sites)
<i>Clostridium botulinum</i>	Poliovirus
<i>Corynebacterium diphtheriae</i>	Rabies virus
<i>Haemophilus ducreyi</i>	<i>Treponema pallidum</i>
<i>Haemophilus influenzae</i> type b (sterile sites)	<i>Vibrio cholerae</i> , serovar 01
Hemorrhagic fever viruses	Yellow fever virus
Hepatitis B surface antigen	<i>Yersinia pestis</i>
Measles (Rubeola) virus	

WITHIN THREE WORKING DAYS

Arboviruses	Influenza virus
<i>Borrelia burgdorferi</i>	<i>Legionella</i> species
<i>Brucella</i> species	<i>Listeria monocytogenes</i>
<i>Campylobacter jejuni</i>	Mumps virus
<i>Chlamydia</i> species	<i>Plasmodium</i> species
<i>Cryptosporidium</i> species	Rubella virus
<i>Cyclospora</i> species	<i>Salmonella</i> species
<i>Entamoeba histolytica</i>	Shiga toxin producing <i>E. coli</i> disease
<i>Francisella tularensis</i>	<i>Shigella</i> species
<i>Giardia lamblia</i>	<i>Trichinella spiralis</i>
Hantavirus	<i>Yersinia enterocolitica</i>
Hepatitis A (anti-HAV IgM)	

HOW TO REPORT

Call, mail or fax your local health department
Provide patient demographics, diagnosis and onset date

Information for Completing
ACUTE AND COMMUNICABLE DISEASE CASE REPORT

WISCONSIN STATUTE CHAPTER 252.05 AND ADMINISTRATIVE RULE CHAPTER HFS 145 REQUIRE REPORTING OF COMMUNICABLE DISEASES.

Persons required to report include any person licensed under ch. 441 and 448, Wis. Stats., or any other person having knowledge that a person has a communicable disease such as:

- ? A person in charge of infection control at a health care facility
- ? School nurses, principals of schools and day care center directors
- ? Laboratory directors

For further information see Wisconsin Administrative Rule HFS 145.

Diseases listed under categories I, II are to be reported to the local city or county health officer located in the local public health department of the patient's place of residence. The category III disease must be reported directly to the state epidemiologist. Complete Demographic and Morbidity Data for diseases in categories I, II, and III. For diseases preceded by an asterisk (*), give vaccination history. Follow-up epidemiologic information may be requested by local or state public health officials. Complete "Reporting Source" for ALL categories. Send copy "A" and copy "B" to the local health officer. Copy "C" may be retained with the patient's record.

REPORT THE FOLLOWING DISEASES TO YOUR LOCAL HEALTH AGENCY

CATEGORY I:

The following diseases are of urgent health importance and shall be reported **IMMEDIATELY BY TELEPHONE** to the patient's local health officer upon identification of a case or suspected case. Complete and mail an Acute and Communicable Disease Case Report (DPH 4151) to the local health officer within 24 hours. Public health intervention is expected as indicated. See s. HFS 145.04 (3) (a).

Anthrax ^{1,4,5}	<i>*Haemophilus influenzae</i>	Plague ^{1,4,5}
Botulism ^{1,4}	invasive disease, (including	<i>*Poliomyelitis</i> ^{1,4,5}
Botulism, infant ^{1,2,4,5}	epiglottitis) ^{1,2,3,5}	Rabies (human) ^{1,4,5}
Cholera ^{1,3,4,5}	<i>*Hepatitis A</i> ^{1,2,3,4,5}	Ricin toxin ^{4,5}
<i>*Diphtheria</i> ^{1,3,4,5}	Hantavirus ^{1,2,4,5}	<i>*Rubella</i> ^{1,2,4,5}
Foodborne or waterborne	<i>*Measles</i> ^{1,2,3,4,5}	Rubella (congenital
outbreaks ^{1,2,3,4}	Meningococcal disease ^{1,2,3,4,5}	syndrome) ^{1,2,5}
	Pertussis (whooping	Smallpox ^{1,4,5}
	cough) ^{1,2,3,4,5}	Tuberculosis ^{1,2,3,4,5}
		Yellow Fever

CATEGORY II:

The following diseases shall be reported to the local health officer on an Acute and Communicable Disease Case Report (DPH 4151) or by other means within 72 hours of the identification of a case or suspect case. Public health intervention is expected as indicated. See s. HFS 145.04 (3) (b).

Amebiasis ^{1,3,4}	Giardiasis ^{3,4}	Meningitis, viral (other than
Arboviral infection	Hemolytic uremic	arboviral)
(encephalitis/meningitis) ^{1,2,4}	syndrome ^{1,2,4}	<i>*Mumps</i> ^{1,2,4,5}
Babesiosis ^{4,5}	<i>*Hepatitis B</i> ^{1,2,3,4,5}	Mycobacterial disease
Blastomycosis ⁵	Hepatitis C ^{1,2}	(nontuberculous)
Brucellosis ⁴	Hepatitis non-A, non-B, (acute) ^{1,2}	Psittacosis ^{1,2,4}
Campylobacter ^{3,4}	Hepatitis D ^{2,3,4,5}	Q fever ^{4,5}
Cat Scratch Disease (Bartonella	Hepatitis E ^{3,4}	Reye syndrome ²
species) ⁵	Histoplasmosis ⁵	Rheumatic fever (newly diagnosed and
Cryptosporidiosis ^{1,2,3,4}	Kawasaki disease ²	meeting the Jones criteria) ⁵
Cyclosporiasis ^{1,4,5}	Legionellosis ^{1,2,4}	Rocky Mountain
<i>E. coli</i> 0157:H7 ^{1,2,3,4}	Leprosy ^{1,2,3,4,5}	spotted fever ^{1,2,4,5}
and other enterohemorrhagic <i>E. coli</i> ,	Leptospirosis ⁴	Salmonellosis ^{1,3,4}
enteropathogenic <i>E. coli</i> , enteroinvasive	Listeriosis ^{2,4}	Sexually transmitted diseases:
<i>E. coli</i>	Lyme disease ^{1,2}	Chancroid ^{1,2,4,5}
enterotoxigenic <i>E. coli</i> ^{1,2,3,4}	Malaria ^{1,2,4}	Chlamydia trachomatis
Encephalitis, viral (other	Meningitis, bacterial (other than	infection ^{1,2,4,5}
than arboviral)	<i>Haemophilus influenzae</i> or	Genital herpes infection
Ehrlichiosis ^{1,5}	meningococcal) ^{2,5}	(1 st episode identified by health
		provider) ²

Gonorrhea ^{1,2,4,5}
Pelvic inflammatory disease^{2,5}
Syphilis ^{1,2,5}
Shigellosis ^{1,3,4}
Streptococcus group A invasive disease ^{1,5}
Streptococcus group B invasive disease ^{1,5}

Streptococcus pneumoniae (pneumococcus) invasive disease ²
*Tetanus ^{1,2}
Toxic shock syndrome ^{1,2}
Toxic substance related diseases:
 Infant methemoglobinemia
 Lead intoxication (specify Pb levels)
 Other metal and pesticide

poisonings
Toxoplasmosis
Trichinosis ^{1,2,4}
Tularemia ^{1,4}
Typhoid fever ^{1,2,3,4}
Typhus fever ^{4,5}
Varicella (chickenpox) – report by number of cases only
Yersiniosis ^{3,4}

For diseases preceded by an asterisk (*), give vaccination history.

Also report any suspected outbreaks of other acute or occupationally-related diseases

CATEGORY III:

The following diseases shall be reported to the state epidemiologist on an AIDS case report (DPH 4264) or a Wisconsin Human Immunodeficiency Virus (HIV) Infection Confidential Case Report (DPH 4338) or by other means within 72 hours after identification of a case or suspected case. See s. 252.15 (7) (b), Stats., and s. HFS 145.04 (3) (b).

Acquired Immune Deficiency Syndrome (AIDS) ^{1,2,4}
Human immunodeficiency virus (HIV) infection ^{2,4}
CD4+ T-lymphocyte <200/uL, or CD4+ T-lymphocyte percentage of total lymphocytes <14

KEY:

- ¹ Infectious diseases designated as notifiable at the national level.
- ² Wisconsin or CDC follow-up form is required. Local health departments have templates of these forms in the EpiNet manual.
- ³ High-risk assessment by local health department is needed to determine if patient or member of patient's household is employed in food handling, day care or health care.
- ⁴ Source investigation by local health department is needed.
- ⁵ Immediate treatment is recommended, i.e., antibiotic or biologic for the patient or contact or both.

APPENDIX D

RESOURCES

Great Lakes Inter-Tribal Council, Inc.
Great Lakes EpiCenter
Nancy Miller-Korth, Project Coordinator
Dawn McCusker, Epidemiologist
Stephen Everett, Epidemiologist
Dina George, Data Management System
Educator
Holly Clifton, Epidemiologist Consultant
P.O. Box 9
Lac du Flambeau, WI 54538
(715) 588-3324

Bemidji Area Office
Indian Health Service
Federal Building
522 Minnesota Ave.
Bemidji, MN 56601
(218) 759-3440

Rhineland Field Office
Indian Health Service
9A S. Brown St.
Rhineland, WI 54501
(715)365-5106

Epidemiology Branch
Indian Health Service
5300 Homestead Dr., NE
Albuquerque, NM 87110
(505)248-4226

Wisconsin Department of Health and
Family Services
Bureau of Health Information
1 West Wilson St.
P.O. Box 309
Madison, WI 53701-0309
(608)266-7568

Michigan Department of Community
Health
Lewis Cass Building
320 South Walnut St.
Lansing, MI 48913
(517)373-3740

Minnesota Division of Community
Health Services
Metro Square Building, Suite 460
121 E. Seventh Place, P.O. Box
64975
St. Paul, MN 55164-0975
(612)297-1232

Websites

Centers for Disease Control and Prevention
National Center for Health Statistics
U.S. Census Bureau
Indian Health Service
Great Lakes Inter-Tribal Council
Michigan Dept. of Community Health
Wisconsin Dept. of Health and Family Services
Minnesota Dept. of Health

www.cdc.gov
www.cdc.gov/nchs/
www.census.gov
www.ihs.gov
www.glitc.org
www.mdch.state.mi.us
www.dhfs.state.wi.us
www.health.state.mn.us