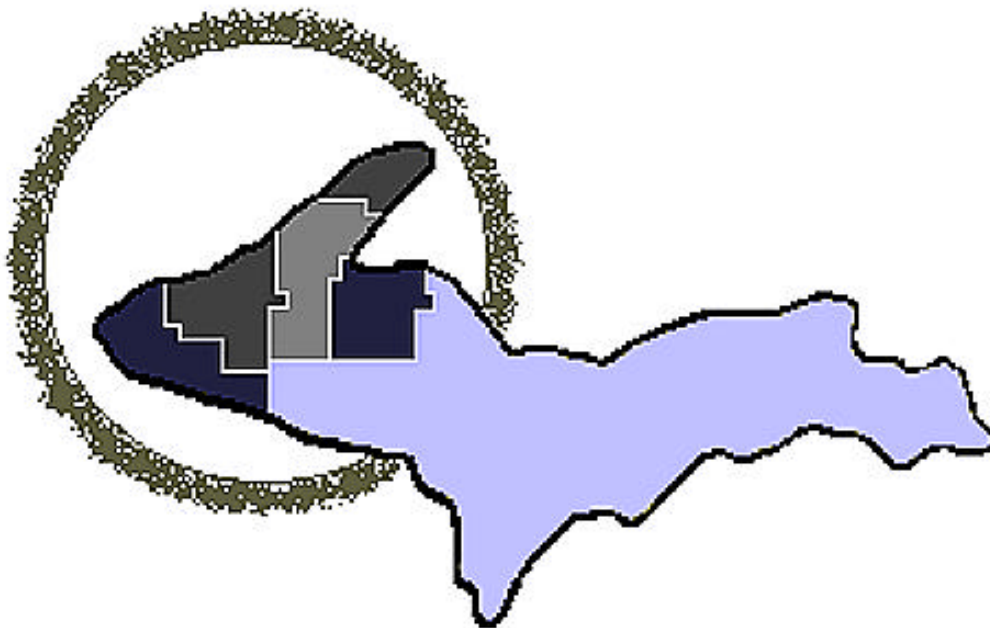


# Western Upper Peninsula Community Profile 2000

**A Data Book for Baraga, Gogebic, Houghton,  
Keweenaw and Ontonagon counties, Michigan**



**Copper Country Human Services Coordinating Body  
Gogebic-Ontonagon Human Services Coordinating Board  
Western Upper Peninsula District Health Department**

# Western Upper Peninsula Community Profile 2000

A publication of

**Copper Country Human Services Coordinating Body**

Paul Ollila, Chairperson  
Susan Donnelly, Ph.D., Coordinator

**Gogebic-Ontonagon Human Services Coordinating Board**

Graydon Blank, Chairperson  
Betsy Wesselhoft, Coordinator

**Western Upper Peninsula District Health Department**

M. Gail Shebuski, M.D., M.P.H., Medical Director  
Guy St. Germain, Administrator

**Author/Editor**

Ray Sharp, Community Health Assessment Specialist  
Western U.P. District Health Department

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## **PREFACE**

What characterizes the Western Upper Peninsula and its people? What is the state of their health, their educational system, their economic base, their social supports? What are their assets and their challenges? This Community Profile is intended to answer some of those questions.

But the real purpose in asking the questions in the first place is to start the process of community planning. By taking this first step, we set in motion the whole cycle of assessment-prioritization-

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## EXECUTIVE SUMMARY

The five counties of the Western Upper Peninsula of Michigan – Baraga, Gogebic, Houghton, Keweenaw and Ontonagon – are home to 71,000 residents. The population is older and less diverse than the state and national populations, with 18 percent of the residents over age 65 and 95 percent white. The population density of the five rural counties is 14 persons per square mile, compared with 173 per square mile statewide.

The current population of the region is about 1.4 percent smaller than it was in 1990, at least partially due to a lack of economic opportunity. The median household income of the Western U.P., at \$27,651, trails the Michigan average by 29 percent. The number of jobs in the region has grown by 14 percent since 1992, or a modest 1.4 percent per annum. Robust job growth in Baraga and Houghton counties has been offset by weak job growth in Gogebic County and a 25 percent decrease in the number of jobs in Ontonagon County – a loss of 925 jobs – in the past eight years.

Regional rates for most maternal and child health indicators compare favorably to Michigan rates, with the exception of rates of substance use during pregnancy. Western U.P. mothers are more likely than their peers statewide to smoke or drink alcohol while pregnant. Childhood immunization rates as reported in the Michigan Childhood Immunization Registry are extremely low, which indicates a weakness in the local system of preventive health care delivery. To what extent the 43 percent rate reflects incomplete reporting as opposed to under-vaccinated children is impossible to quantify.

Local crude death rates for heart disease, cancer, stroke and other diseases associated with aging are significantly higher than state and national rates due to the large cohort of elderly residents in the region, but the regional age-adjusted death rate is actually 8 percent lower than statewide. The regional infant-mortality rate for the years 1990-1999 averaged 6.0 per 1,000 live births, which is about 25 percent lower than the overall Michigan rate but roughly equal to the state rate for white babies. Communicable disease rates are low in the Western U.P., as would be expected for a relatively remote population.

Regional rates for heavy drinking, binge drinking, alcohol-induced deaths and car crashes where alcohol was a factor are higher than statewide. In recent surveys, over half of area 12<sup>th</sup> graders drank alcohol and smoked.

The 1997-99 violent crime rate for the Western U.P., at 114 offenses per 100,000 residents, is just one fifth of the Michigan rate. There were no homicides in the Western U.P. in 1999.

## COMMUNITY HEALTH STATUS INDICATORS

Indicator	Western U.P. Recent Year(s)	State, National, or Prior-Year Benchmark	Percent Change or Difference
1) Population	<b>70,973</b> – July 1999	<b>72,007</b> – 1990	<b>1.4%</b> <b>Decrease</b>
2) Median Household Income	<b>\$27,651</b> – 1997	<b>\$38,883</b> – Michigan, 1997	<b>29%</b> <b>Lower</b>
3) Total Jobs	<b>32,075</b> – 2000	<b>28,125</b> – 1992	<b>14%</b> <b>Increase</b>
4) Age-Adjusted Mortality Rate	<b>443/100,000</b> 1998	<b>483/100,000</b> – Michigan, 1998	<b>8.3%</b> <b>Lower</b>
5) Infant Mortality Rate	<b>6.0/1,000</b> – 1990-99 Average	<b>8.0/1,000</b> – Michigan, 1999	<b>25%</b> <b>Lower</b>
6) Immunization Rate (19-35 Months)	<b>43%</b>	<b>90%</b> – Healthy People 2000 Goal	<b>52%</b> <b>Lower</b>
7) HBD Car Crashes	<b>232/100,000</b> – 1997	<b>207/100,000</b> – Michigan, 1997	<b>12%</b> <b>Higher</b>
8) Teen Smoking Rate	<b>50%</b> – 1998	<b>34%</b> – National, 1998	<b>47%</b> <b>Higher</b>
9) Teen Alcohol Use Rate	<b>56.0%</b> – 1998	<b>50.8%</b> – National, 1998	<b>10%</b> <b>Higher</b>
10) Violent Crime Rate	<b>114/100,000</b> 1997-99	<b>576/100,000</b> – Michigan, 1997-99	<b>80%</b> <b>Lower</b>

### Notes:

- 1) July 1999 five-county population estimated by Office of State Demographer, Michigan Dept. of Management and Budget. 1990 figure from U.S. Census Bureau. (See page 5.)
- 2) Michigan Dept. of Management and Budget 1997 estimates. (Page 8)
- 3) Employment figures from Office of Labor Market Information, Michigan Dept. of Career Development, 1992 average of monthly figures and October 2000 year-to-date average. (9)
- 4) Michigan Department of Community Health age-adjusted death rates computed by direct method, using as a standard population the age distribution of the United States. (20)
- 5) Infant (under 1 year old) deaths per 1,000 live births. The Western U.P. figure is a 10-year average, due to the small number of events in any given year. (15)
- 6) The regional rate reflects the number of children age 19-35 months who have completed the infant vaccination series, as reported in the Michigan Childhood Immunization Registry. The rate is certainly based on incomplete data, but is used here to indicate a systems deficiency. The actual rate is unknown. The benchmark is a national target rate. (16)
- 7) Rates based on the number of car crashes per 100,000 residents where the driver had been drinking or under the influence of drugs. (32)
- 8) The percent of 12-graders that said they had smoked cigarettes in the past 30 days, 1998. The local rate is based on a survey of 621 students in various schools throughout 4 counties, adjusted to reflect the actual distribution of 12-graders in the region. (33)
- 9) The percent of 621 12-graders that consumed alcohol in the past 30-days, adjusted to reflect the actual regional population distribution. (33)
- 10) The average rate of murders, rapes, robberies and aggravated assaults per 100,000 residents, from offenses reported in the Michigan Uniform Crime Reports 1997-99. (46)

# Introduction

The five counties of the Western Upper Peninsula of Michigan – Baraga, Gogebic, Houghton, Keweenaw and Ontonagon – occupy 5,000 square miles and are home to 71,000 people. The average population density of the mostly rural region is a sparse 14 residents per square mile. From Gogebic County's Ironwood/Bessemer area in the region's southwest corner, it is a distance of 120 miles as the crow flies northeast to Copper Harbor and the tip of the Keweenaw Peninsula, and over 100 miles east to Baraga County's Huron Mountains. Gogebic County is Michigan's westernmost county; Keweenaw County is the northernmost. The region is bounded by Lake Superior on the north, from the beaches and cliffs of western Gogebic, Ontonagon, and Houghton counties north to the rocky shore of Keweenaw County, and south again to Baraga County's Keweenaw Bay. Marquette County lies to the east, while Iron County, Michigan and northern Wisconsin are situated to the south.

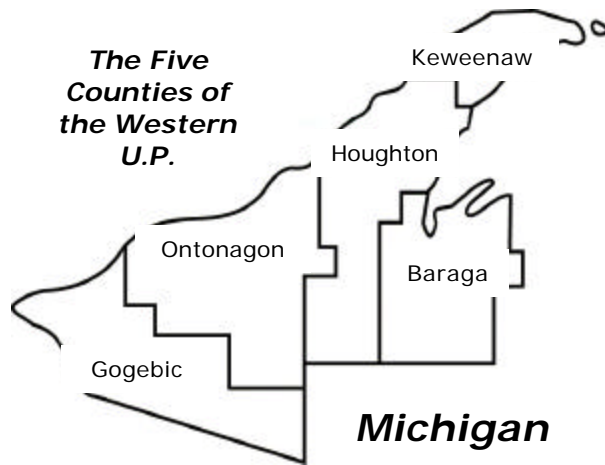
Native Americans have populated the Western U.P. for many centuries. Evidence of copper mining by indigenous peoples extends back 5,000 years. The region is currently home to many Ojibwa Indians, including members of tribal communities near Baraga (Keweenaw Bay) and Watersmeet (Lac Vieux Desert.) French voyageurs and Catholic missionaries were among the first Europeans to visit the

region. By the middle of the 19<sup>th</sup> Century, reports from Douglass Houghton and other explorers about the area's mineral wealth and plentiful timber brought American entrepreneurs and European immigrants seeking fortune. The copper boom led to rapid population growth and economic development. By the early 20<sup>th</sup> Century, upwards of 130,000 people lived in the Western U.P., and copper mining and its subsidiary industries generated jobs, wealth and prosperity.

At mid century, the natural resources upon which the region was built – the veins of pure copper – still lay beneath the ground in abundance, but mining was no longer economically viable. As

copper mining and related industries left the area, many people moved away in search of opportunity. Over the past few generations, one of the Western U.P.'s chief exports has been its people.

At the cusp of a new century, the region's unique resources may once again shape future economic and social trends. The world-class engineering and technology programs at Michigan Technological University provide crucial human and information resources for high-tech ventures. Meanwhile, the region's snow, shoreline and natural beauty have spurred growth in tourism and immigration by retirees. The development of high-tech and tourism industries likely will have important social and economic ramifications.



# Demographics

## demography

The study of the vital statistics of human populations, as size, growth, density and distribution.

**D**emographics, the statistics of human populations, is the essential starting point for community assessment. Data concerning the size, rate of change, distribution, age, gender and other characteristics of a population are keys to understanding a region's human-services needs in the present and future.

The population of the Western Upper Peninsula has declined by about 7 percent since 1980, and by over 45 percent from its peak in the early 20<sup>th</sup> Century. Major factors in the decline include the closing of copper mines and related industries, and the general trend of migration away from rural areas of the northern and midwestern United States toward the cities and suburbs of the South and West, the so-called "Sun Belt."

In general, the Western Upper Peninsula's population is older and less diverse than the populations of Michigan and the United States. 19 percent of the region's population is age 65 or older, compared with 12.5 percent for all of Michigan. Over 95 percent of area residents are white, mostly of northern European descent, compared with 83 percent statewide.

### Regional Demographic Trends and Characteristics

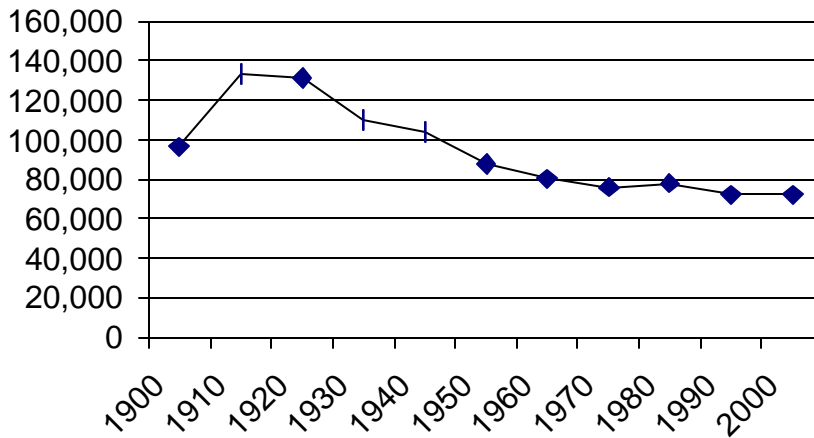
**Population:**  
*Declining Slowly*

**Diversity:**  
*Native Americans in Baraga County form the largest minority group.*

## Snapshot Indicator

### Population: Western Upper Peninsula

Source: U.S. Census (2000 estimated)



At the peak of the copper boom, from 1910 to 1920, the population of the five counties of the Western U.P. exceeded 130,000. The population of Houghton County in 1910 was over 88,000. The rate of decline lessened in the period from 1960 to the present.

# Population Changes

The rate of population decline in the Western U.P. has slowed in recent years, due to economic revitalization in Houghton County, an influx of retirees to Keweenaw County, and the addition of significant populations of prisoners housed in correctional facilities in Baraga, Gogebic and Houghton counties. Ontonagon and Gogebic counties account for most of the region's population losses in the 1990s.

## Population Change By Region, 1987-1997

County or Region	Population 1987	Population 1997	Net Change	Percent Change	Natural Increase	Net Migration
Michigan	9,187,484	9,773,892	+586,408	+6.4%	+605,386	-18,987
West. U.P.	73,838	71,892	-1,946	-2.7%	909	-2,855
Baraga	8,087	8,448	+361	+4.5%	-67	428
Gogebic	18,761	17,439	-1,322	-7.0%	896	-2,218
Houghton	36,035	35,810	-225	-0.6%	-74	-151
Keweenaw	1,895	2,078	+183	+9.7%	-149	+332
Ontonagon	9,060	8,117	-943	-10.4%	+303	-1,246

The above figures are Michigan Department of Community Health estimates for July 1, 1987 and July 1, 1997. "Natural increase" refers to the difference between births and deaths, while "net migration" refers to the number of people who move to and from the area. For instance, Keweenaw County had 149 more deaths than births over the 10-year period, for a natural *decrease* of 149, but 332 more people moved to the area than left the area, resulting in a net migration of 332. Subtracting 149 from 332 yields an overall Keweenaw County population change of positive 183. **Very preliminary estimates for the 2000 population, based on 1999 estimates released by Mich. Dept. of Management and Budget in Nov. 2000, are: Baraga, 8,672; Gogebic, 17,043; Houghton, 35,448; Keweenaw 2,142; Ontonagon, 7,668; Western U.P., 70,973.**

## Preliminary Population Projections to the Year 2020

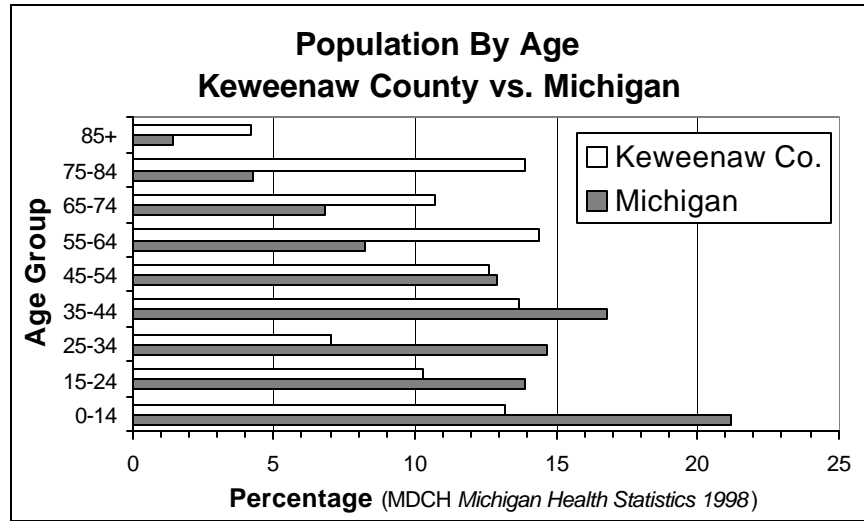
County or Region	Census 1970	Census 1980	Census 1990	Projected 2000	Projected 2010	Projected 2020
Michigan	8,881,862	9,262,044	9,295,277	9,786,700	10,121,300	10,454,700
West. U.P.	75,929	77,866	72,007	72,000	70,000	68,500
Baraga	7,789	8,484	7,954	8,400	8,100	7,900
Gogebic	20,676	19,686	18,052	16,900	14,900	13,300
Houghton	34,652	37,872	35,446	36,500	37,500	38,600
Keweenaw	2,264	1,963	1,701	1,900	1,800	1,700
Ontonagon	10,548	9,861	8,854	8,300	7,700	7,000

The above population projections come from the Michigan Department of Management and Budget, Office of the State Demographer, using the cohort-component method to prepare population projections based on 1990 census counts and projected natality (birth), mortality (death) and migration rates by age, sex and race. The cohort-component method analyzes populations in various age groups, by estimating how many people in each age group are likely to have babies, die or move away. In other words, these are educated guesses. The projections call for slow growth in the population of Houghton County, with declining populations elsewhere in the region. Note that Houghton County births were up nearly 14 percent, 416 versus 366, from 1998 to 1999, reversing a several-year trend. (See page 15.)

# Population By Age

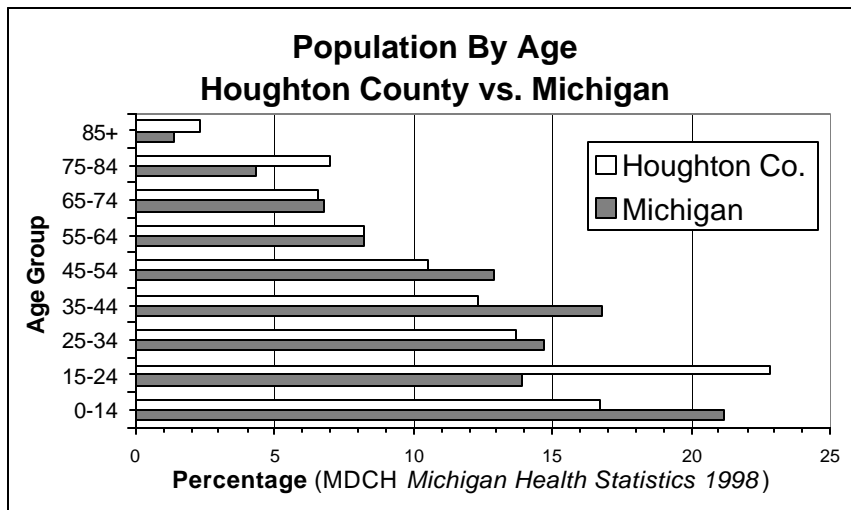
Age distribution is a critical consideration in human-services planning. The age distribution of a population is used to predict future fertility and death rates, and provides valuable insights into present and future needs in health care, education, social services and the labor market.

The population of the Western Upper Peninsula is older than the population of the state and nation. In the extreme case, 28.8 percent of Keweenaw County residents are age 65 or older, compared with 12.5 percent statewide, while only 7 percent of Keweenaw County residents are age 25-34, compared with 14.7 percent statewide. The median age in Keweenaw County is 49, compared with age 35 for the entire state.



In other words, half of the residents of Michigan's northernmost county are 49 or older.

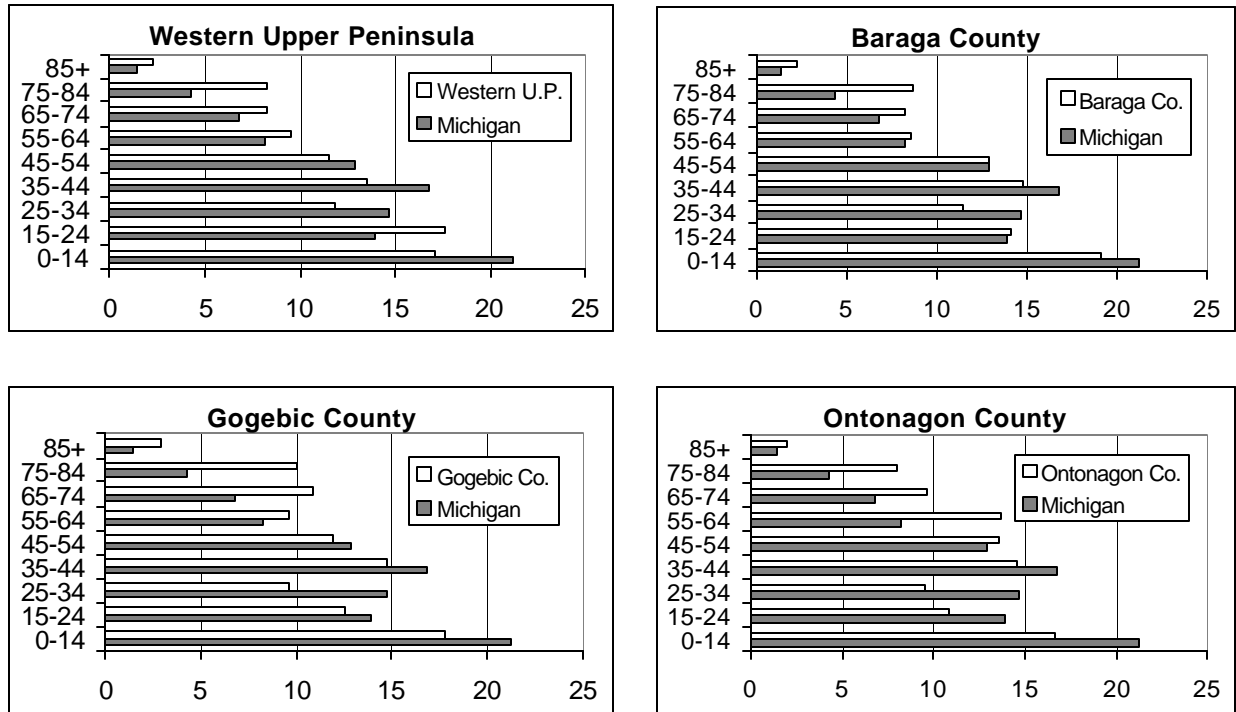
The populations of other counties in the region, especially Gogebic County, are also skewed toward the older age groups. Houghton County, with half the residents of the Western U.P., has a large elderly population,



but it also has a disproportionately large population of young adults due to the presence of Michigan Technological University and Finlandia University. A whopping 22.8 percent of Houghton County residents are age 15-24, compared with 13.9 percent statewide. Even though Houghton County has a large 15-24 population, it still has a

fairly small 0-14 population in proportion to the rest of the state. Children age 0-14 comprise only 17.1 percent of the population of the five counties of the Western U.P., compared with 21.2 percent statewide. In 1998 a total of 898 residents of the region died, compared with 702 live births to area residents. In Gogebic County, 245 people died while only 154 babies were born in that year. Many school districts are experiencing a period of declining enrollment, which is especially significant because education funding is determined by the district's pupil count.

## Population By Age



The above age distribution graphs are based on 1997 estimates by the Michigan Department of Management and Budget.

## Selected Demographic Indicators

Indicator	Michigan	Western U.P.	Baraga	Gogebic	Houghton	Keweenaw	Ontonagon
Population Density	173 per sq. mile	14 per sq. mile	9 per sq. mile	16 per sq. mile	35 per sq. mile	4 per sq. mile	6 per sq. mile
Percent White	83.4%	95.4%	84.1%	96.3%	96.6%	99.3%	98.4%
Percent Black	14.5%	1.3%	4.0%	1.7%	0.8%	0.1%	0.1%
% Native American	0.7%	2.2%	11.7%	1.7%	0.5%	0.2%	1.4%
% Asian/Pacific Isl.	1.5%	1.2%	0.2%	0.2%	2.1%	0.4%	0.2%

The population of the Western Upper Peninsula is predominantly white, primarily Finnish-, English- or German-Americans or people of other northern European countries of origin. Native Americans represent the largest racial minority in the region. In 1998, 981 of the region's 1,517 American Indians lived in Baraga County. The population of Blacks in Baraga, Houghton and Gogebic counties has risen dramatically over the past 10 years, but most of those gains are actually among prisoners housed in state correctional facilities who came from elsewhere in Michigan. (U.S. Census Bureau 1997, MDCH 1998)

# Economic Indicators

## Personal Income Indicators, 1997 Estimates

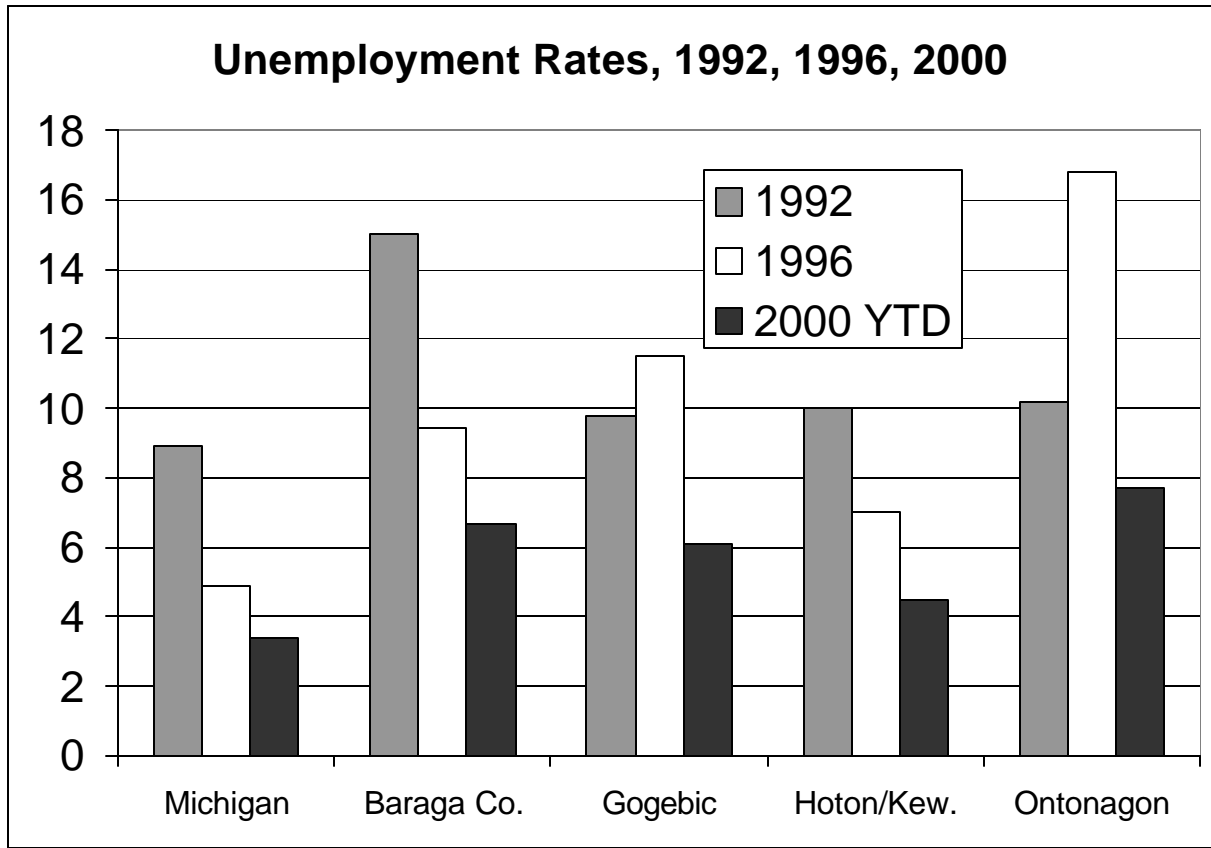
Indicator	Michigan	Western U.P.	Baraga	Gogebic	Houghton	Keweenaw	Ontonagon
% People in Poverty All Ages	11.5%	14.7%	13.3%	15.7%	15.0%	11.3%	13.6%
% People in Poverty Under 18	18.0%	21.1%	19.0%	24.8%	19.8%	16.5%	22.4%
Median Household Income	\$38,883	\$27,651	\$29,412	\$26,003	\$28,170	\$24,887	\$27,811

Personal income indicators, especially the percentages of people living in poverty, are useful in predicting how many people will be eligible for income-based services. Moreover, they form part of the picture of a region's economic vitality and progress, and document how many people are being left behind by that progress. These estimates for 1997 were released in November 2000 by the Michigan Department of Management and Budget. All Western U.P. counties except Keweenaw had higher percentages of people and children living in poverty than the Michigan rates. Paradoxically, Keweenaw County also has the *lowest* estimated median household income. In other words, there are not as many poor people in Keweenaw County, but there are also not as many earning moderate to high incomes. Remember that income is only one measure of economic status. Many retirees in Keweenaw County have low incomes but their total net worths may be higher than younger workers in other counties.

## Family Independence Agency Statistics, October 2000

County	FIP Cases (AFDC)	Food Stamp Cases	Medical Assistance Cases	Child Day Care Cases
Baraga	44	200	717	43
Gogebic	159	650	1,809	116
Houghton	145	1,091	2,878	179
Keweenaw	7	56	186	4
Ontonagon	41	240	796	38

Welfare reform, a series of policy changes that focus on the goal of moving able people from public assistance to the world of work, came to Michigan during a time of unprecedented economic expansion and low unemployment. At this time, several local counties have achieved or are nearing the Project Zero goal of placing all able welfare recipients in jobs. The Family Independence Program (FIP), formerly AFDC, provides cash assistance to poor families with children. In most cases, the families are earning at least some income. Medical Assistance cases represent low-income children under 21 and pregnant women, disabled or blind persons, and low-income people age 65 and over enrolled in Medicaid. Child Day Care cases are children whose parents receive subsidies for part or all of their child-care expenses. As more people get jobs and the FIP caseload drops, the Day Care program expands.



Unemployment data are tracked by the Michigan Department of Career Development Employment Service Agency, Office of Labor Market Information. The Year 2000 figures in the above graph represent yearly averages through October 2000. The figures for the other years are averages of monthly unemployment rates, not seasonally adjusted.

Michigan suffered economically in the 1980s and early 1990s as growth in the industrial sector stagnated and many manufacturing jobs were exported to overseas labor markets. By comparing unemployment rates over the past eight years, beginning with 1992 when the state and nation were in a mild recession, the expansion of the state labor market is evident. Since 1992, the number of civilian jobs has increased by 16 percent statewide, from 4,274,000 to 4,958,000. In the Western U.P., jobs have increased 14 percent from 28,125 in 1992 to 32,075 in 2000. The number of jobs increased by a robust 48 percent in Baraga County, from 2,800 to 4,150; increased by only 4.5 percent in Gogebic County from 7,175 jobs to 7,500; increased by a healthy 22 percent in Houghton/Keweenaw from 14,475 to 17,675; and *decreased* by 25 percent in Ontonagon County from 3,675 to 2,750. The closing of the White Pine Mine in 1996 had a devastating affect on the Ontonagon County economy, and the impact was felt to a lesser degree region-wide, especially in neighboring Gogebic County. The current lower unemployment rates in Gogebic and Ontonagon counties do not indicate growth in their labor markets so much as the fact that many job seekers have left the area. Yearly unemployment-rate averages also do not reflect the wide seasonal employment fluctuations experienced in the Upper Peninsula. Many townships experience double-digit unemployment rates during the winter and spring.

The Year 2000 United States Census will contain myriad individual, county, regional, state and national demographic and economic indicators. 2000 Census data should be available on-line in 2001.

# Health

*Health is a state of complete physical, mental and social well being, and not merely the absence of disease and infirmity.* – World Health Organization, 1948

Health statisticians tend to think of health in terms of natality, mortality and morbidity – birth, death and sickness. Most people experience a lot of healthy living between those statistical events. Much of health and human services planning focuses on improving health by preventing disease and disability. As an introduction to the health data section, traditional health status indicators are presented below. By looking at three-year averages for the region, sufficient events are present in most categories for fairly reliable comparisons. Regional rates are significantly lower than statewide for abortion, teen pregnancy, AIDS deaths and homicides, and higher for alcohol-induced deaths.

## Snapshot Indicators

Selected Health Statistics for Western U. P. and Michigan Residents,  
1996-1998 Three-Year Averages

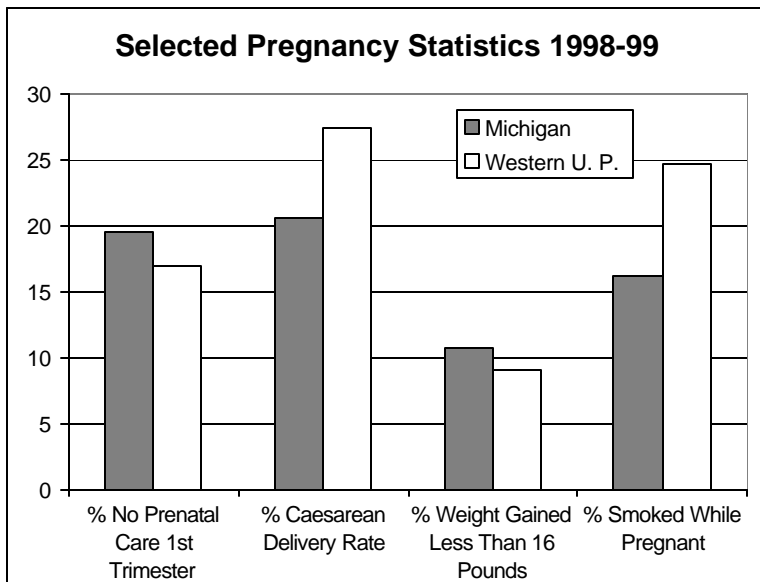
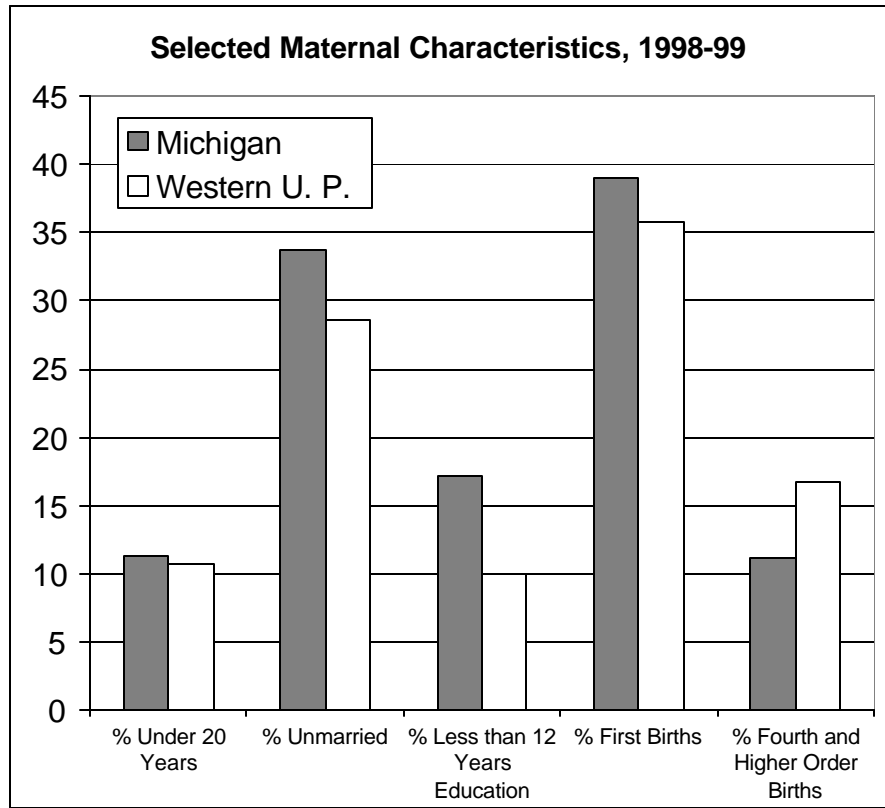
<b>Natality</b>	<b>Western U. P.</b>	<b>Michigan</b>
Abortion Rate	2.1±0.5	12.7±0.1
% Births with adequate prenatal care	77.3±1.8	75.4±0.1
Teen pregnancy rate	33.3±3.8	74.1±0.5
% Low weight births	5.5±1.0	7.7±0.1
<b>Mortality</b>	<b>Western U. P.</b>	<b>Michigan</b>
AIDS death rate	*	3.5±0.2
Alcohol-induced deaths	9.2±4.1	5.9±0.3
Infant mortality rate	9.3±4.0	8.1±0.3
Suicide death rate	12.6±5.0	9.7±0.4
Unintentional injury death rate	30.2±7.4	26.7±0.6
Cancer death rate	121.8±11.9	127.2±1.1
Chronic liver disease death rate	9.9±4.1	7.9±0.3
COPD death rate	15.6±3.6	20.4±0.4
Diabetes-related death rate	46.2±6.6	43.3±0.6
Heart disease death rate	137.1±11.2	140±1.0
Homicide death rate	*	8.6±0.4
Kidney disease death rate	4.0±2.3	5.1±0.2
Pneumonia & influenza death rate	13.4±3.1	13.0±0.3
Stroke death rate	28.7±4.8	26.2±0.4

**Notes:** **Abortion rates** are per 1,000 women age 15-44. **Adequate prenatal care** is as defined by the Kessner Index based on the month in which care began, number of prenatal visits and length of pregnancy. **Teen pregnancy rates** are per females 15-44. **Low weight births** are less than 2,500 grams (5.5 lbs.) **Infant mortality rates** are per 1,000 live births. **Death rates** are per 100,000 population age-adjusted. The \* symbol indicates that data do not meet the standards of precision or reliability. Adding or subtracting the number after the ± symbol creates the upper and lower bounds of the 95% confidence interval.

# Maternity and Natality

Health begins in the womb. There are many well-established links between maternal health and behavior and child health and developmental outcomes. The use of alcohol, tobacco or other drugs can have profoundly negative affects on fetal development, in some cases leading to lifelong impairments. There are also demonstrated correlations between child health, safety and academic success and the age, socioeconomic status and education level of the mother.

Western U.P. mothers are more likely to be high school graduates and slightly more apt to be over 19 years old than their counterparts statewide. In 1998-99, one ninth of the region's mothers were under age 20 and over one fourth were unmarried. In Baraga County in 1999, 18 percent of birth mothers were under age 20 and 49 percent were unmarried. In Houghton and Keweenaw counties, mothers with four or more children are considerably more common than statewide. In 1998-99, 169 out of 772, or 22 percent, of Houghton County births were fourth or higher order.



Participation in early prenatal care tends to be somewhat higher throughout the Western U.P. than in Michigan as a whole, and a higher percentage of local women gain at least 16 pounds during pregnancy. Caesarean delivery rates have generally been higher in all counties of the region than statewide or nationally for at least the last decade. A higher percentage of women in the region than statewide smoke while pregnant, which corresponds to overall adult tobacco-use data. Tobacco use by pregnant women is documented at the top of the next page.



# Infant Health

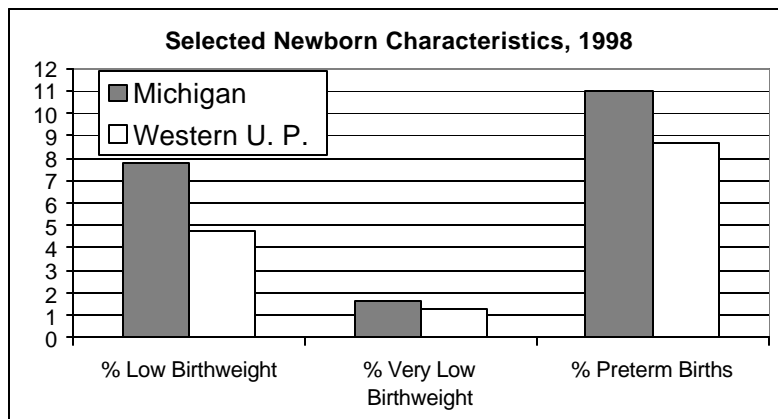
## Live Births By Age of Mother, 1998

	All Ages	<15	15-19	20-24	25-29	30-34	35-39	40-44	45+
Baraga	100	--	12	23	32	21	8	4	--
Gogebic	154	1	16	44	47	29	13	3	1
Houghton	366	--	36	91	108	74	38	17	2
Keweenaw	30	---	1	5	11	9	3	1	--
Ontonagon	52	--	4	18	17	4	7	2	--
<b>Total</b>	<b>702</b>	<b>1</b>	<b>69</b>	<b>181</b>	<b>215</b>	<b>137</b>	<b>69</b>	<b>27</b>	<b>3</b>

## Live Births By Age of Mother, 1999

	All Ages	<15	15-19	20-24	25-29	30-34	35-39	40-44	45+
Baraga	96	--	17	21	30	19	8	1	--
Gogebic	146	--	22	40	38	30	15	1	--
Houghton	416	--	39	129	100	88	46	14	--
Keweenaw	18	--	--	9	3	3	3	--	--
Ontonagon	71	--	8	15	24	14	7	3	--
<b>Total</b>	<b>747</b>	<b>0</b>	<b>86</b>	<b>214</b>	<b>168</b>	<b>154</b>	<b>79</b>	<b>19</b>	<b>0</b>

Of the 1,449 births over the two-year period, the race of the mother for 1,359 (93.8%) was white, the mother for 8 births was Black (0.5%), for 63 births (4.3%) the mother was American Indian, and for 17 births (1.2%) the mother was Asian or Pacific Islander.



In most recent years, the percentages of low birthweight and preterm babies have been lower in the Western U. P. than in the state of Michigan. In 1998, 4.8% of newborns were low birthweight (under 2,500 grams, or 5 lbs. 8 oz.), 1.3% were very low birthweight (under 1,500 grams, or about 3 lbs. 5 oz.), and 8.7% were preterm, or born prior to 37 completed weeks of gestation.

## Infant Mortality

Infant mortality rates are derived by dividing the number of deaths of children under age 1 by the total number of live births for a given year, and multiplying by 1,000. With the small sample sizes in Western U.P. counties, a couple of deaths in a year can result in a rate much higher than the current Michigan rate of 8 deaths per 1,000 births; however, the 1990-99 average Western U.P. rate is a low 6.0 infant deaths per 1,000 live births. The current four-year rates (1996-99) are Michigan, 8.1; Baraga County, 10.1; Gogebic County, 20; Houghton County, 7.4; Keweenaw County, 0; and Ontonagon County, 0. In Baraga County, there was one infant death in 1997 and one in 1998; in Gogebic County, there were four in 1997, three in 1998 and one in 1999; in Houghton County, three in 1996, two in 1997, three in 1998 and four in 1999; in Keweenaw County, no infant deaths since 1993; and in Ontonagon County, none since 1995.

# Child Health

Childhood immunizations are among the most important preventive health practices, but even at the end of the year 2000 it remains virtually impossible to assess with any degree of certainty how well communities are protecting their infants from vaccine-preventable diseases. The state has developed a computerized immunization database called the Michigan Childhood Immunization Registry (MCIR), but some private providers are not yet connected electronically to the registry and many child shot records entered in MCIR are still incomplete.

The standard measure of childhood immunization is the number of children age 19-35 months who have received the following vaccine doses: 4 doses DTP/DtAP (diphtheria, tetanus, pertussis), 3 doses polio, 1 dose MMR (measles, mumps, rubella), 3 doses Hib (Haemophilus influenza type b), and 3 doses hepatitis B. The Western U.P. District Health Department regularly generates reports on two populations from MCIR: children age 19-35 months who receive immunizations from the Health Department; and all children age 19-35 months entered in MCIR, including those who receive immunizations from physicians. The data are expressed as the percent having completed the recommended doses of each vaccine and for all vaccines combined (see below). The percentages of all children receiving the recommended 4:3:1:3:3 doses are abysmally low, but undoubtedly are based on incomplete reports. Perhaps someday, when MCIR is fully established, accurate immunization data will finally be available.

## Immunization Rates (19-35 months) By Percent, November 2000

Population	DTP/DtAP 4 doses	Polio 3 doses	Hib 3 doses	HepB 3 doses	MMR 1 dose	4:3:3:3:1
Baraga – Health Dept.	74%	79%	92%	87%	87%	67%
Baraga – All Children	43	48	57	52	53	38
Gogebic – Health Dpt.	70	90	95	89	78	65
Gogebic – All Children	40	47	53	47	44	35
Hoton-Kew. – H.D.	88	96	98	93	95	84
Hoton-Kew. – All	53	60	67	60	62	46
Ontonagon – H.D.	89	93	100	96	100	86
Ontonagon – All	61	70	74	64	71	53
Western U.P. – H.D.	83%	92%	97%	92%	94%	<b>79%</b>
Western U.P. – All	50%	55%	63%	56%	57%	<b>43%</b>

As can be seen in the above chart, the lowest individual-vaccine rates are for the four doses of DTP. Most children receive three doses of DTP before their first birthday, but many never get the fourth dose, which is traditionally administered at 15 months. The fourth DTP shot must not be given until the child is at least one year old and a minimum of six months have transpired since the third shot. Some children fall behind on their shots, and don't get their third DTP dose until age seven or eight months, instead of at the recommended six months. Consequently, they cannot get the fourth dose at their one-year well-child check up because of the required six-month interval. If their parents do not return at 15 months for the fourth dose, the children may remain under-protected until they receive boosters at the time of kindergarten enrollment. While it is unlikely that the regional childhood immunization rate is as low as the 43 percent cited above, it appears that the actual rate is well below the Centers for Disease Control goal of 90 percent by 2000. It is very important for all health providers to diligently review immunization records and not miss opportunities to administer vaccinations.

## WIC Data

The income-based Women, Infants and Children program (WIC) evaluates nutritional risks for over 100,000 Michigan children age 0-5 annually. In 1999, 13.3 percent of Michigan WIC children had abnormally low hemoglobin levels, compared with 7.0 percent in the five counties of the Western U.P. (134 out of 1,921.) Hemoglobin values below 11.0 through age 23 months, and below 11.1 from 2-5 years, are considered abnormal. In other data on WIC clients, 35.3 percent of Western U.P. mothers smoked and 9.2 percent drank during pregnancy in 1999, compared with 32.0 and 8.1 percent among state (1999) and 22.8 and 1.8 percent among national (1998) WIC clients.

## Lead Poisoning Prevention

Lead poisoning is one of most widespread preventable children's health maladies. Exposure to toxic lead, usually through ingestion of lead dust, lead-paint chips or lead-contaminated soil, can cause permanent disabilities in young children. The most common source of lead poisoning is from lead-based paint in older homes. Therefore, children living in homes built before 1950, or homes built before 1978 where remodeling has recently occurred, should be tested for elevated blood-lead levels at ages 1 and 2, or once before age 6 if not previously tested.

The counties of the Western U.P., especially Gogebic, Houghton and Keweenaw counties, have some of the highest percentages of occupied pre-1950 built housing in the nation. Therefore, childhood blood-lead screening would be indicated for many children, however, very few children have been tested in recent years. Since August 1999, concerted efforts have been made, especially in Baraga, Houghton and Keweenaw counties, to test more children. So far, these tests have turned up far fewer children with blood-lead levels above 10 micrograms per deciliter (>10 ug/dL) than would be predicted by the preponderance of old homes.

### Blood-Lead Screening Data, 1998-99

County	Percent Pre-1950 Housing	Number Children Under 5	Number Children Tested 1998	Percent Tested 1998	Number/Percent >10 ug/dL	Number Children Tested 1999	Percent Tested 1999	Number/Percent >10 ug/dL
Baraga	43%	572	8	1.3%	0/0%	90	15.7%	0/0%
Gogebic	60%	1,041	44	4.2%	5/11%	77	7.4%	1/1%
Houghton	62%	2,307	78	3.4%	2/3%	341	14.8%	6/2%
Keweenaw	61%	111	6	5.4%	2/33%	25	22.5%	1/4%
Ontonagon	43%	511	10	2.0%	3/30%	30	5.9%	2/15%
Michigan	32%	792,969	73,643	9.3%	7,144/10%	77,434	9.8%	5,467/7%

The low numbers of children testing positive for lead poisoning are heartening, even though these results are thus far inexplicable given the number of pre-1950 homes in the region. Further study may determine whether the region's older homes actually contain lead-based paint, or whether some protective factor exists in the environment. The above figures are from mandatory reports to the MDCH Childhood Lead Poisoning Prevention Project.

# Communicable Diseases

Public health came into existence for the purpose of controlling the spread of disease, and disease control has remained one of that profession's prime directives. Vaccination has led to the worldwide eradication of smallpox, and polio may soon disappear completely. Vaccine-preventable diseases such as measles, mumps, rubella and pertussis are increasingly rare, although these serious diseases still afflict unprotected Michigan children every year.

## Selected Reportable Diseases, Western U.P. 1993-1997

Disease	1993	1994	1995	1996	1997	Total
Tuberculosis	1	2	1	2	1	7
Measles	--	--	--	--	--	0
Rubella	--	--	--	--	--	0
Mumps	--	--	--	--	--	0
Viral Meningitis	1	--	--	--	--	1
H Influenzae	--	--	--	--	--	0
Salmonellosis	5	3	5	--	--	13
Shigellosis	--	--	--	--	--	0
Hepatitis A	--	--	--	--	--	0
Hepatitis B	1	--	--	--	--	1
Chickenpox	202	353	208	93	235	1,091
Influenza-like	2,670	3,171	1,809	2,410	1,137	11,197

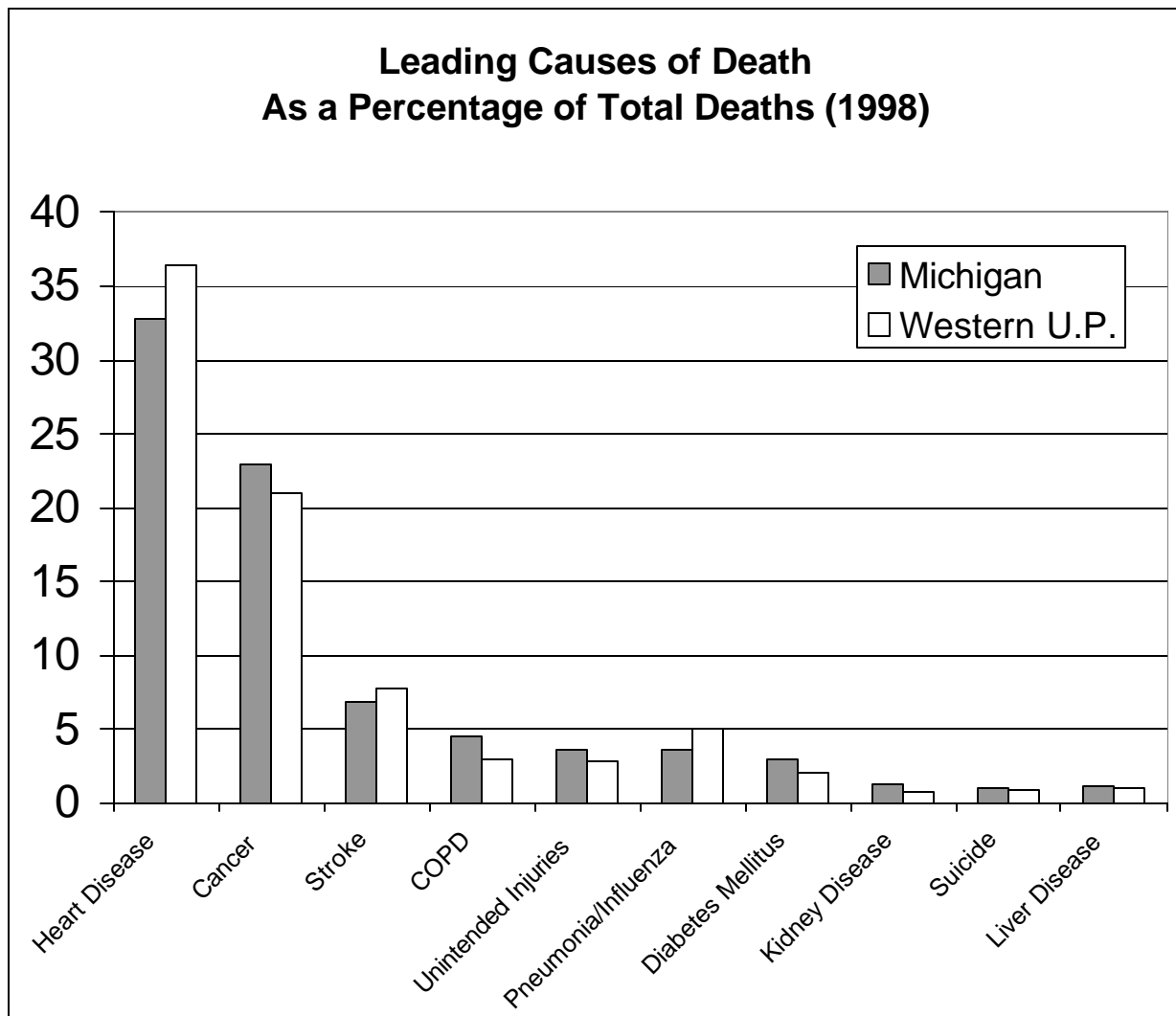
Commonplace diseases such as chickenpox and influenza are under-reported. Chickenpox prevalence is in sharp decline as a result of the new Varicella vaccine, and future reports will reflect this.

## Selected Sexually Transmitted Diseases, Western U.P. 1993-1999

Gender	1993	1994	1995	1996	1997	1998	1999
<b>Number of Cases of Chlamydia</b>							
Male	--	9	2	13	5	6	12
Female	1	11	5	32	17	29	17
Total	1	20	7	45	22	35	29
<b>Number of Cases of Gonorrhea</b>							
Male	--	1	--	1	--	1	4
Female	--	2	--	--	--	--	5
Total	--	3	--	1	--	1	9
<b>Number of Cases of Syphilis</b>							
Male	1	2	1	--	--	--	--
Female	1	--	--	1	--	1	--
Total	2	2	1	1	--	1	--

Chlamydia is fairly commonly diagnosed among young, sexually active women, and is likely under-reported among their male partners. The gonorrhea infection rate has been on the rise in the past two years in the Western U.P. Infection rates for blood-borne viruses such as hepatitis B and HIV are low relative to other regions of the state.

# Mortality



This chart compares the leading causes of death in the five counties of the Western Upper Peninsula with Michigan rates for the year 1998, as tabulated by the Michigan Department of Community Health. (COPD is short for Chronic Obstructive Pulmonary Diseases, such as emphysema or bronchitis.) The percentages represent the ratio of deaths in a particular category to the total deaths for the population over the 12-month interval. For instance, of the region's 898 deaths, 327, or 36.4 percent, were caused by diseases of the heart. The relative frequency of various causes of death provides evidence of the prevalence of serious and chronic illnesses among a population, and the relative risks individuals face.

There is a strong correlation between the age distribution of a population and the leading causes of death. The Western U.P., with a relatively old population, has both higher crude death rates and higher percentages of deaths caused by heart disease, stroke and pneumonia, typical killers of old people, and relatively lower percentages of deaths attributable to cancer, accidents and several other chronic diseases.

# Mortality

## Number of Deaths by Age and Sex, Western U. P., 1998

Age in Years	Total	Male	Female
Under 1	7	1	6
1-14	2	2	---
15-24	3	2	1
25-34	9	6	3
35-44	17	12	5
45-54	33	25	8
55-64	75	53	22
65-74	141	85	56
75-84	308	163	145
85 and over	303	110	193
All Ages	898	459	439

Of the 898 deaths in the region in 1998, roughly half were male and half female. Note that male deaths outnumber female deaths in most age groups, with far more females living to age 85 or older. Michigan and national statistics are similar, with higher death rates for men through about age 70, roughly equal gender distribution of deaths from age 75-84, and far more women surviving, and hence dying, beyond age 85.

## Death Rates By Age and Sex, 1998

The **crude death rates** at right are based on age-specific rates per 100,000 population. **Age-adjusted rates** are computed by the direct method, using as the standard population the age distribution of the total U.S. population. The asterisk (\*) indicates that data do not meet standards of reliability and precision, due to small numbers of events.

Age in Years	Total	Male	Female	Total	Male	Female
	Western U. P.			Michigan		
All Ages Crude Rate	1,261.5	1,246.0	1,278.2	864.9	876.6	853.7
Under 1	*	*	*	811.3	857.6	759.7
1-14	*	*	*	26.0	32.8	18.9
15-24	*	*	*	77.0	114.9	37.7
25-34	115.0	139.9	*	101.9	140.2	64.3
35-44	175.6	230.3	*	199.4	253.8	146.9
45-54	386.8	572.5	192.3	436.9	540.4	336.9
55-64	1,241.7	1,747.4	731.1	1,043.2	1,279.1	823.2
65-74	1,981.5	2,552.6	1,479.5	2,636.2	3,337.0	2,070.7
75-85	4,898.2	6,150.9	3,986.8	5,876.0	7,577.5	4,842.5
85+	18,253.0	23,060.8	16,314.5	15,254.3	17,747.9	14,302.5
Age-Adjusted Rate	<b>443.0</b>	<b>573.1</b>	<b>326.8</b>	<b>483.1</b>	<b>607.3</b>	<b>382.9</b>

Crude death rates for the Western U.P. are much higher than statewide and national rates because the regional population is skewed dramatically toward the older age groups, which die at higher rates. However, when age-adjusted rates are used, the regional death rates are actually lower than statewide rates, due in part to lower rates of infant death, homicide and AIDS death than in southeastern Michigan. As always, care should be taken in drawing inferences from rates based on small numbers of events or a small population base. Regional death rates for particular age and gender groups exhibit considerable annual fluctuation, which may negate their usefulness for comparative purposes.

## Mortality

Crude and age-adjusted death rates are not the only types of mortality statistics. Years of Potential Life Lost tables provide a different picture of the relative impacts of leading causes of death. The table below emphasizes mortality among people under age 75. The number of years of potential life lost represents the number of years between the age of death and 75 years of age for persons dying before their 75<sup>th</sup> year. The data source is the Michigan Department of Community Health, Division for Vital Records and Health Statistics.

### Years of Potential Life Lost Below Age 75, Due to Selected Causes of Death Western U. P. and Michigan Residents, 1998

Michigan Rank	Cause of Death	Total	Male	Female	Total	Male	Female	1996 US Rank
		Western U. P.			Michigan			
1	Cancer	1,060	540	520	153,580	78,792	74,789	1
2	Heart Disease	1,055	770	285	128,856	87,180	41,676	2
3	Unintentional Injuries	452	432	20	86,236	60,958	25,278	3
4	Homicide	25	---	25	32,590	24,757	7,778	6
5	Suicide	210	210	---	29,601	24,655	4,946	5
6	Stroke	165	110	55	21,426	11,461	9,965	7
7	Diabetes Mellitus	60	35	25	16,182	8,305	7,877	9
8	Liver Disease	155	155	---	16,404	11,690	4,715	10
9	C.O.P.D.	70	45	25	16,878	8,600	8,278	8
10	Pneumonia & Flu	60	30	30	10,896	6,785	4,111	11
11	AIDS	45	---	45	8,931	7,261	1,670	4
12	Kidney Disease	5	---	5	4,253	2,329	1,924	---

Several interesting patterns emerge from the statistics. Although heart disease is the nation's number one killer, cancer deaths result in more years of potential life lost, because cancer strikes younger people than heart disease does. Stroke is the third leading cause of death, but in terms of potential years lost, stroke ranks 5<sup>th</sup> in the Western U.P., 6<sup>th</sup> in Michigan and 7<sup>th</sup> nationally, again because it affects mainly elderly people. Unintentional injuries (accidents) are a leading killer of young people, and therefore account for the 3<sup>rd</sup> highest number of years lost.

The top six causes of potential years lost in the Western U.P. are cancer, diseases of the heart, unintentional injuries, suicide, stroke, and chronic liver disease and cirrhosis. Homicide, ranked 4<sup>th</sup> in Michigan and 6<sup>th</sup> nationally, is not among the top 10 locally.

The numbers for males and females indicate gender differences in prevalence and age of death for various causes. For most causes of death, men total many more years of potential life lost because men tend to die younger than women, and in fact well over half of all women will live beyond age 75. Young men are much more likely than women to die by in accidents, by suicide or by homicide. In Michigan and in the Western U.P., more men than women are HIV positive, but local AIDS deaths are too rare to be statistically significant.

# Cancer Data

Cancer is the second leading cause of death after heart disease, and the leading cause of potential years of life lost. In a typical week, 7-8 Western U.P. residents will be newly diagnosed with an invasive malignancy, and 3-4 residents will die from cancer. Crude cancer rates in the Western U.P. are higher than state and national rates due to the larger-than-average proportion of elderly people, but age-adjusted rates tell a different story. When adjusting for age by computing rates based on a standard population distribution, regional rates of cancer incidence and death are somewhat lower than state and national rates.

## Cancer Incidence and Mortality Trends, Western U.P. 1985-1998

Year of Diagnosis or Death	Cases Diagnosed				Deaths			
	Number	Age-Adjusted Rate	Michigan Rate	National Rate	Number	Age-Adjusted Rate	Michigan Rate	National Rate
1985	342	30.1±3.3	37.5	37.3	217	16.8±2.3	17.6	17.1
1986	357	30.9±3.4	37.5	37.5	217	17.2±2.4	17.4	17.2
1987	410	35.5±3.6	38.7	38.8	212	17.4±2.4	17.6	17.2
1988	351	30.2±3.3	38.8	38.5	211	17.2±2.4	17.5	17.2
1989	466	40.8±3.9	41.5	38.8	169	13.9±2.2	17.7	17.3
1990	432	38.0±3.8	42.6	40.0	217	18.3±2.6	17.6	17.3
1991	424	36.9±3.7	45.3	41.7	213	16.8±2.4	18.0	17.3
1992	488	42.3±4.0	45.5	42.6	221	17.0±2.4	17.7	17.2
1993	493	43.1±4.0	44.5	41.2	204	15.9±2.3	17.4	17.2
1994	394	32.1±3.4	42.7	40.4	185	14.3±2.2	17.3	17.1
1995	444	38.9±3.9	41.6	39.5	218	16.2±2.3	17.0	19.9
1996	408	35.2±3.6	41.2	38.9	229	17.4±2.4	16.9	16.7
1997	434	30.7±3.5	41.4	---	207	15.7±2.3	16.6	---
1998	---	---	---	---	189	14.6±2.3	16.3	---

**Source of regional and Michigan Cases Diagnosed:** Michigan Resident Cancer Incidence File, MDCH.

**Source of regional and Michigan Death Data:** Michigan Resident Death Files, MDCH.

**Source of national data:** Surveillance, Epidemiology and End Result Program, National Cancer Institute.

**Age-adjusted rates** are per 10,000 population, computed by direct method, using the age distribution of the U.S. in 1970 as the standard.

Several trends emerge in the analysis of regional cancer rates over the period from 1985 to 1998. While local annual data fluctuate more than state and national rates due to the smaller population size, comparisons can be made using multi-year averages. The average age-adjusted incidence rate, 1985-1997, was 35.75 per 10,000 in the Western U.P., compared with 41.45 statewide. The average age-adjusted death rate, 1985-1998, was 16.34 per 10,000 in the Western U.P., compared with 17.34 statewide. Therefore, after adjusting for age, local residents were 13.8 percent less likely to be diagnosed with cancer and 5.8 percent less likely to die from cancer.

Cancer death rates have been in decline since a peak in the early 1990's, due to earlier detection and more successful treatment options. This trend is observed at the regional, state and national levels. It is not clear whether local rates are lower than Michigan rates due to hereditary, environmental, dietary or lifestyle factors; differences in reporting or medical care; or some combination of factors.

## Cancer Incidence Trends

A popular misperception, based on anecdotes and mass media reports, is that the United States is in the midst of a “cancer epidemic,” or that the local cancer incidence rate “must be much higher than average.” Health statisticians say that actually a larger percentage of deaths than in the past are caused by cancer, cardiovascular diseases and other conditions associated with aging, principally because people are living longer and are less likely to die as infants, during childbirth, from vaccine-preventable diseases, or from infections treatable by antibiotics.

The four most prevalent types of cancer – prostate, breast, lung and colorectal – represent one third to one half of all cancer cases. Age-adjusted cancer incidence rates climbed steadily in the 1970’s and 1980’s, but have declined slightly since the early 1990’s. One reason for the increases in cancer incidence rates through the middle of the last decade was improved awareness, screening and detection, especially for prostate cancer. Early detection has led to higher survival rates for many cancers that are isolated to a single site in their early stages, such as breast and prostate cancers. Therefore, paradoxically, it is possible for a rise in the reported incidence of a particular cancer to coincide with a decline in the death rate for that cancer. Other cancers, such as lung cancer, metastasize (spread) quickly, and consequently treatments are less likely to be successful.

Given the small populations in Western U.P. counties, single-county or single-year comparisons for specific cancers are virtually meaningless. Below are regional and state cancer-incidence trends using multi-year averages. Note the doubling of prostate gland cancer-incidence rates from the 1980’s to 1990’s, coincident with the development of the PSA screening test. (Age-adjusted rates are per 10,000 population.)

### Cancer Incidence Trends, Western U.P. Residents 1985-1997

Primary Site	1985-1989		1990-1994		1995-1997	
	Average Number	Age-Adjusted Rate	Average Number	Age-Adjusted Rate	Average Number	Age-Adjusted Rate
Prostate Gland	42.6	2.9 ± 0.4	77.6	6.0 ± 0.6	61.3	5.0 ± 0.8
Breast	56.4	5.3 ± 0.7	61.2	5.7 ± 0.7	52.3	5.1 ± 0.9
Lung	53.4	4.7 ± 0.6	61.8	5.4 ± 0.6	63.0	5.4 ± 0.8
Colon/Rectum	56.4	4.6 ± 0.6	56.6	4.5 ± 0.6	49.3	3.9 ± 0.7
All Other Sites	176.4	15.9 ± 1.1	189.0	16.8 ± 1.2	172.3	15.5 ± 1.4
Total	385.2	33.5 ± 1.6	446.2	38.4 ± 1.7	398.3	34.9 ± 2.1

### Cancer Incidence Trends, Michigan Residents 1985-1997

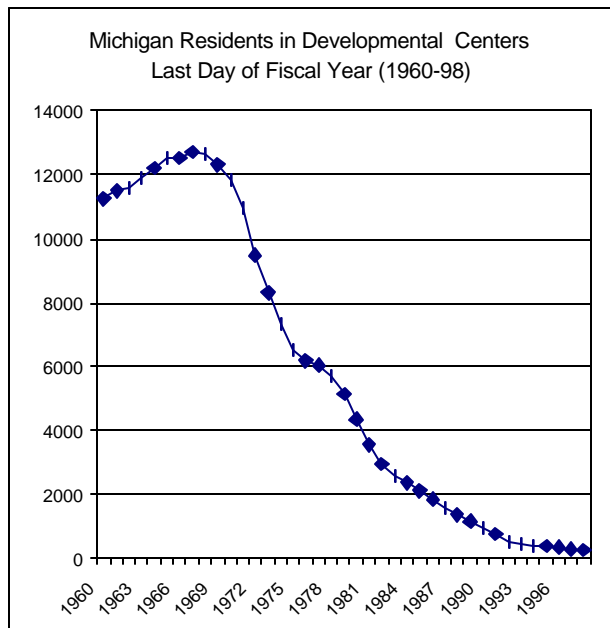
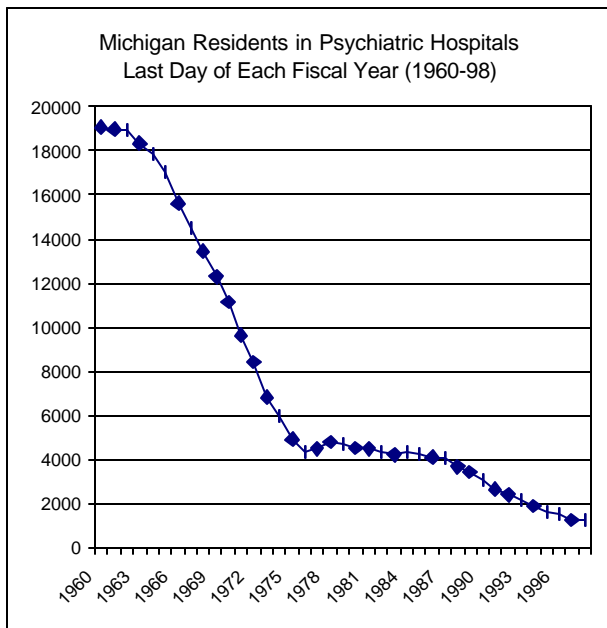
Primary Site	1985-1989		1990-1994		1995-1997	
	Average Number	Age-Adjusted Rate	Average Number	Age-Adjusted Rate	Average Number	Age-Adjusted Rate
Prostate Gland	4,287.6	4.1 ± 0.1	8,262.6	7.6 ± 0.1	7,152.0	6.6 ± 0.1
Breast	5,795.2	5.9 ± 0.1	6,571.4	6.3 ± 0.1	6,690.7	6.0 ± 0.1
Lung	6,123.0	6.3 ± 0.1	7,091.2	6.8 ± 0.1	7,105.7	6.5 ± 0.1
Colon/Rectum	5,248.2	5.2 ± 0.1	5,393.2	4.9 ± 0.1	5,230.3	4.5 ± 0.1
All Other Sites	17,187.6	17.3 ± 0.1	19,575.2	18.5 ± 0.1	19,857.0	17.8 ± 0.1
Total	38641.6	38.8 ± 0.2	46893.6	44.1 ± 0.2	46035.7	41.4 ± 0.2

# Mental Health

Over the past three decades, Michigan's mental health system has changed dramatically. At one time, state hospitals and centers were the principal resources for treatment of serious mental illness and for care of people who were developmentally disabled. By the early 1960s, professionals, community groups, advocacy organizations and policy makers began to move away from this reliance on institutions. Evidence demonstrated that most people could receive more effective care in local settings, closer to home. The "least-restrictive alternative" became the benchmark for a new standard of treatment. Subsequently, each of Michigan's 83 counties established a community mental health board or joined with neighboring counties to form a board.

There are currently 49 community mental health boards in Michigan. Copper Country Mental Health serves Baraga, Houghton, Keweenaw and Ontonagon counties, while Gogebic County has a single-county board. For the 1998-99 fiscal year, the legislature appropriated \$1.4 billion for the direct operation of Michigan's 49 community mental health services programs. In total, these boards served 214,000 persons last year, including 172,697 persons with mental illness and 26,435 with developmental disabilities.

Since the 1960s, the number of persons institutionalized for serious mental illnesses or developmental disabilities has declined dramatically. Now, for most mental illness patients, the community is considered the appropriate setting for treatment. In 1960, over 0.24% (24 out of 10,000) of Michigan's 7,800,000 residents were housed in psychiatric institutions. During the ensuing four decades, the number hospitalized for mental illness declined by 87%, from 19,058 to 1,244. The number of patients in psychiatric hospitals declined every year from 1960 to 1976, plateaued in the low 4,000's through 1987, and has declined steadily for the last decade. The number of persons statewide institutionalized for developmental disabilities has also declined dramatically since the 1960s.



## Mental Health Client Demographics

A total of 2,529 Western U.P. residents received state-funded Community Mental Health services in Fiscal Year 1999, according to Michigan Department of Community Health statistics released in September 2000. Additional persons received mental-health services from private providers, paid for largely by insurance. The majority of persons with mental illness or developmental disabilities who receive services from Community Mental Health service providers live in private homes with relatives or in their own homes or apartments. In the two tables below, Copper Country residents are from Baraga, Houghton, Keweenaw and Ontonagon counties.

**Number of Persons Receiving Community Mental Health Services  
By Residence and Category, Fiscal Year 1999 (10-1-98 to 9-30-99)**

Type of Residence	Copper Country Residents, Mental Illnesses	Gogebic County Residents, Mental Illnesses	Copper Country Residents, Developmental Disabilities	Gogebic County Residents, Developmental Disabilities	Copper Country Residents, Unknown Disability*	Gogebic County Residents, Unknown Disability*	TOTALS
Homeless/Shelter	13	6	1	1	0	0	21
Private – With Relatives	696	392	74	33	24	0	1,219
Private – No Relatives	120	211	0	5	6	0	342
Foster Family	8	18	2	13	0	0	41
Specialized Residential	23	7	76	32	0	0	138
General Residential	41	3	22	0	1	0	67
Prison/Jail/Juvenile Detention	6	8	0	2	0	0	16
Nursing Care Facility	180	56	14	2	0	0	252
Institutional Setting	0	0	0	0	0	0	0
Own Home/ Apartment	381	0	25	0	12	0	418
Supported Independence Program	3	0	1	0	0	0	4
Residential Arrangement Unreported	4	6	0	0	0	1	11
<b>TOTAL</b>	<b>1,475</b>	<b>707</b>	<b>215</b>	<b>88</b>	<b>43</b>	<b>1</b>	<b>2,529</b>

**Number of Persons Receiving Community Mental Health Services  
By Age and Category, Fiscal Year 1999 (10-1-98 to 9-30-99)**

Age	Copper Country Residents, Mental Illnesses	Gogebic County Residents, Mental Illnesses	Copper Country Residents, Developmental Disabilities	Gogebic County Residents, Developmental Disabilities	Copper Country Residents, Unknown Disability*	Gogebic County Residents, Unknown Disability*	TOTAL
0-3	3	3	0	0	0	0	6
4-12	212	103	16	1	4	0	336
13-18	165	88	12	3	3	0	271
19-26	125	85	21	10	4	0	245
27-64	708	311	136	62	28	1	1,246
65+	254	114	30	12	4	0	414
Unreported	8	3	0	0	0	0	11
<b>TOTAL</b>	<b>1,474</b>	<b>707</b>	<b>215</b>	<b>88</b>	<b>43</b>	<b>1</b>	<b>2,529</b>

\*A small percentage of the service recipients are designated “unknown disability” because their primary disability had not been determined during the reporting period.

# Health Resources

All or part of four Western U.P. counties are medically under-served, according to established norms for the number of primary care physicians and other demographic indicators. Houghton and Keweenaw counties are designated primary medical care Health Professional Shortage Areas (HPSA) by the Michigan Department of Community Health. Portions of Gogebic and Ontonagon counties also carry the HPSA designation. HPSA status is calculated based on the area's population to physician ratio and certain health and income statistics.

## Ratio Population to Primary Care\* Physicians, April 2000

County	Residents 1999	Physicians 2000	Ratio
Baraga	8,672	7	1,239:1
Gogebic	17,043	9	1,894:1
Houghton/Kew.	37,590	20	1,880:1
Ontonagon	7,668	7	1,095:1
Western U.P.	70,973	43	1,651:1

\*Includes Family Practitioners, Pediatricians, Gynecologists, Internal Medicine Physicians. Does not include surgeons and other specialists.

## Nursing Care

Nursing home occupancy rates in the Western U.P are extremely high, with three county occupancy rates at 97.9 percent or higher in the most recent reporting year, compared with the Michigan rate of 87.9 percent. Most facilities report long waiting lists.

### Nursing Care Utilization, Licensed Beds and Bed Rates, 1998

Indicator	Baraga Co.	Gogebic Co.	Houghton	Ontonagon
Licensed Bed Days	31,755	80,665	129,575	40,150
Licensed Beds	87	221	355	110
Average Daily Census	80.8	216.3	353.5	108.9
Occupancy Rate	92.9	97.9	99.6	99.0
Bed Rate 65 and Over	53.5	51.3	51.6	69.0
Bed Rate 85 and Over	491.5	412.3	462.2	833.3

**Occupancy Rate** is a percent calculated by dividing the actual number of patient days by licensed bed days and multiplying by 100.

**Average Daily Census** is the average number of patient days during the year.

**Bed Rates** are the number of licensed beds per 1,000 residents for each age specific population.

### Nursing Care Facilities Patient Census, Western U.P., Dec. 31, 1998

Age of Patient	Total	Male	Female
All Ages	755	213	542
Under 65	40	19	21
65 and Older	715	194	521
65-74	56	15	41
75-84	290	102	188
85 and Older	369	77	292

# Hospital Data

There are five hospitals in the Western U.P. – Baraga County Memorial Hospital, Grand View Hospital, Keweenaw Memorial Medical Center, Ontonagon Memorial Hospital, and Portage Health System. The *Michigan Hospital Report*, published annually by the Michigan Health and Hospital Association (MHA), provides many measures of the quality and efficiency of care in Michigan hospitals. The performance data of individual hospitals do not lend themselves to direct comparison because no two hospitals have the same patient populations. Some facilities serve patients who are more severely ill than at other hospitals, and consequently their patients may stay longer and their mortality rates may be higher. Therefore, each facility in the report is judged against defined ranges for length of stay and mortality based on its patient census.

In a 1999 *Michigan Hospital Report* survey of selected medical and surgical conditions, 1994-97, all hospitals in the region had “as expected” or “lower than expected” length of stays, and “as expected” mortality rates. In other words, they all delivered normal outcomes with average to above-average efficiency. For more information on local hospitals, visit the MHA on the Internet at [www.mha.org/mhr4](http://www.mha.org/mhr4).

## Hospital Emergency Room Visits, Adult and Pediatric, 1998

Category	Baraga	Grand View	Keweenaw	Ontonagon	Portage
Adult Trauma	*	63	173	37	*
A. Cardiac	*	300	158	163	*
A. Obstetric	*	32	51	17	*
A. Drug	*	1	7	3	*
A. Alcohol	*	7	61	25	*
A. Poisoning	*	62	21	2	*
A. Psychiatric	*	79	106	14	*
A. Asthma/Allergy	*	104	225	33	*
A. Upper Respiratory	*	314	166	47	*
A. Medical/Other	*	5,137	4,297	1,814	*
Adult Total	*	6,099	5,265	2,155	*
Pediatric Trauma	*	6	34	3	*
P. Cardiac	*	1	0	1	*
P. Obstetric	*	0	0	0	*
P. Drug	*	0	1	3	*
P. Alcohol	*	1	0	0	*
P. Poisoning	*	15	3	1	*
P. Psychiatric	*	4	9	0	*
P. Asthma/Allergy	*	39	67	7	*
P. Upper Respiratory	*	175	31	57	*
P. Medical/Other	*	1,366	1,406	279	*
Pediatric Total	*	1,607	1,551	351	*
Grand Total	4,461	7,706	6,816	2,506	8,739

\*Categorical figures for Baraga County Memorial Hospital and Portage Health System were not available through the MDCH 1998 *Annual Hospital Statistical Questionnaire*, but total emergency room visits were reported.

## State Funded Public Health Spending

Below are Fiscal Year 1999 Michigan Department of Community Health expenditures by county in broad categories. The county-by-county expenditures, although expressed as exact dollar amounts, do not necessarily equal actual spending. Expenditures by local agencies that serve multiple counties, such as the Health Department or Community Mental Health, have been prorated based on population. The largest spending category is Medical Services, which includes Medicaid payments to health providers.

### FY99 Department of Community Health Expenditures (Percentages)

Region	Medical Services	Mental Health Services	Public Health/ Children, Families	Aging	Drug Control	Crime Victims	Total
Baraga	\$5,137,526 (63.7%)	\$2,079,794 (25.8%)	\$535,242 (6.6%)	\$199,564 (2.5%)	\$0 (0%)	\$109,302 (1.4%)	\$8,061,428 (100%)
Gogebic	17,986,881 (74.1)	4,872,261 (20.0)	955,390 (3.9)	329,699 (1.4)	44,782 (0.2)	91,402 (0.4)	24,280,415 (100)
Houghton	34,723,853 (73.2)	9,979,779 (21.0)	2,123,298 (4.5)	432,926 (0.9)	117,409 (0.3)	64,902 (0.1)	47,442,172 (100)
Keweenaw	1,252,804 (57.7)	659,550 (30.4)	115,766 (5.3)	142,900 (6.6)	0 (0)	0 (0)	2,171,021 (100)
Ontonagon	6,188,603 (67.5)	2,284,211 (24.9)	439,387 (4.8)	228,240 (2.5)	18,883 (0.2)	4,529 (0.05)	9,163,802 (100)
Western U.P.	65,289,667 (71.6)	19,875,595 (21.8)	4,169,083 (4.6)	1,333,329 (1.5)	181,074 (0.2)	270,135 (0.3)	91,118,838 (100)
Michigan	4,656,205,487 (64.1)	1,957,826,512 (27.0)	521,044,691 (7.2)	81,262,741 (1.1)	28,154,950 (0.4)	14,695,867 (0.2)	7,259,190,248 (100)

# Substance Abuse

Substance abuse exacts a tremendous toll on individuals, families and communities in terms of human suffering and economic burden. More deaths, illnesses and disabilities are attributable to substance abuse than to any other preventable condition (when tobacco use is included.) In addition to mortality and morbidity, substance abuse can lead to family violence, criminal activity, and lost work time and productivity. The economic costs to society include productivity losses caused by early deaths and injuries, costs relating to arresting and jailing substance abusers, the expense of treating substance abusers, and the cost of health care. Studies indicate that these and other problems associated with alcohol, tobacco and other drugs cost each American in excess of \$800 a year – a total of nearly \$200 billion.

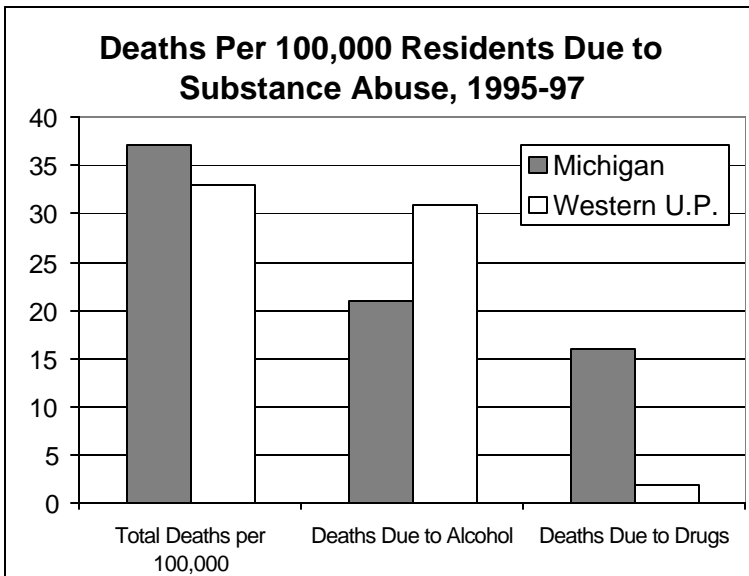
**Regional Substance Abuse Trends**

**Drug of Choice: *Alcohol***

**Youth Use Rates: *High***

It is difficult to accurately measure the extent of substance use and abuse. Hospital discharge data may be under-reported. Arrest data for drug- and alcohol-related offenses can reflect changes in patrol time and enforcement efforts. Therefore, it is necessary to consider many indicators when assessing the extent of the region’s substance-abuse problems. Available statistics suggest that the Western U.P. has a disproportionately high number of “problem drinkers” – heavy drinkers, binge drinkers and drunken drivers. Alcohol, tobacco and drug use rates are high among local adolescents, according to surveys conducted in schools.

## Snapshot Indicator



The Michigan Department of Community Health gathers data on deaths due to substance abuse, including those caused by alcohol psychoses, alcohol-induced diseases, toxic effects of alcohol, accidental alcohol poisoning, drug psychoses, and suicide or accidental poisoning by drugs. Substance-related deaths are under-tallied because they do not include traumatic injuries where alcohol or drugs was a factor. Note that the Western U.P. death rate due to drugs was much lower than statewide, while local deaths due to alcohol, at a rate of 31 deaths per 100,000 residents, were 50 percent more prevalent than statewide.

# Substance Abuse Indicators

No single indicator gives a complete and accurate picture of substance-abuse trends. Prevalence indicators, derived from systematic sampling of populations, are used to make approximations of use and abuse patterns. Measures of mortality, morbidity, criminal activity and treatment expenditures – all consequences of substance abuse – are categories of secondary, or indirect, indicators.

In 1997, an estimated 111 million Americans over age 12 used alcohol during the previous month, 64 million smoked cigarettes, and 14 million used illegal drugs, according to a national telephone survey by the federal Substance Abuse and Mental Health Services Administration. A 1995 national co-morbidity study found that 51 percent of persons 15-54 years old reported using illegal drugs at some time in their lives, with 7.5 percent dependent on these drugs.

Several recent prevalence studies shed light on state and regional use rates. Four primary sources of prevalence data are cited here. By extrapolating findings of these prevalence surveys, estimates can be made of substance-use rates in various populations. The first source is the 1995 Michigan Drug and Alcohol Population Survey (MDAPS) of 7,000 state residents, conducted by the Gallup Organization for the MDCH Division of Substance Abuse Quality and Planning. The second is the 1994 MDCH Michigan Behavioral Risk Factor Survey of adults 18 and over. The third is the 1998 Western Michigan University Michigan Alcohol and Other Drugs School Survey. The final source of local prevalence data is the Michigan Technological University 1999 Core Drug and Alcohol Survey of 780 college students. Taken together, their findings can be used to describe in broad terms the extent of regional substance-abuse trends.

Results from the MDAPS demonstrate that 9.9 percent of the Michigan adult population (688,000 adults) either are dependent on or abusers of one or more substances – primarily alcohol. The determination of dependence or abuse is based on the number and duration of symptoms, with dependence generally involving a greater number of symptoms than abuse. Applying the same 9.9 percent to the adult population of the five counties of the Western U.P. predicts that more than 5,500 adults in the region have substance-dependence or substance-abuse problems. Of these, roughly 2,420 would be of the more serious dependence category. The chart below gives some indication of the ratios of prevalence of various addictions by primary substance of abuse, based on treatment admissions to state and federally funded programs.

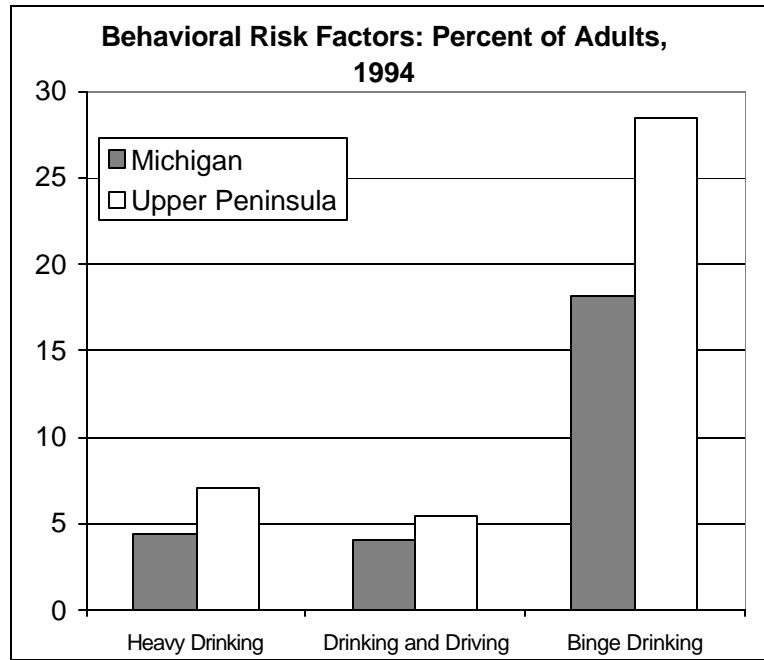
## Number of Treatment Admissions by County of Residence and Primary Substance of Abuse, State and Federally Funded Programs, 1998

County	Alcohol	Marijuana/ Hashish	Cocaine/ Crack	Heroin	All Other	Total Admissions
Baraga	201	17	2	0	9	229
Gogebic	133	11	3	1	9	157
Houghton	216	32	7	1	33	289
Keweenaw	9	0	0	0	3	12
Ontonagon	37	10	3	2	6	58
Western U.P.	596	70	15	4	60	745
Percent of Total	80.0%	9.4%	2.0%	0.5%	8.1%	100%

# Alcohol Abuse

Each year in the United States, alcohol abuse causes approximately 105,000 deaths and 10 million illnesses and injuries. In 1998, alcohol-related motor-vehicle crashes killed 15,935 people and injured 305,000. Prevalence data derived from surveys, and secondary indicators, such as alcohol-related automobile crashes, document the extent of regional alcohol abuse and some of its societal impacts (no pun intended.)

Data from the 1994 Michigan Behavioral Risk Factors Survey were aggregated to obtain estimates for 12 regions, with the entire Upper Peninsula regarded as one region. The survey found that Upper Peninsula adults were more likely to abuse alcohol than were all adults statewide. In fact, for each of the three indicators, the U.P. had far and away the highest percentage of alcohol abusers. For “heavy drinking,” defined as consuming more than 60 drinks per month, the U.P. rate was 7.1 percent of the adult population, compared with 4.4 percent statewide. For “binge drinking,” defined as consuming five or more



drinks at a sitting within the last two weeks, the U.P. rate was 28.4 percent, compared with 18.2 percent for all Michigan adults. And for “drinking and driving,” determined by a positive response to the question “Do you ever drive after you’ve had too much to drink?,” the U.P. rate was 5.4 percent compared with 4.0 percent statewide. It is likely that the true figures would be even higher, since surveys rely on self-reporting.

## HBD (Had been drinking and/or using drugs) Vehicle Crashes, 1997

County	Baraga	Gogebic	Houghton	Keweenaw	Ontonagon	Western U.P.
Number Of Crashes	21	37	68	8	31	165

With 165 HBD crashes, the Western U.P. had a rate of 232 such crashes per 100,000 residents in 1997, compared with a rate of 207 per 100,000 statewide. To some extent, the paucity of drivers per road mile in the region makes vehicle crashes less likely. On the other hand, Western U.P. drunken drivers may drive more miles on average, due to the low population density and subsequent longer distances home from bars, restaurants and parties. As with most secondary indicators for substance abuse, this data set sheds light on regional trends but is less than conclusive. Two sources for more data on the effects of drunken driving are the Office of Highway Safety Planning, Michigan Department of State Police and the Western Upper Peninsula Substance Abuse Services Coordinating Agency.

# Youth Substance Abuse

Studies indicate that most substance abusers establish lifelong use patterns well before the age of 21. Substance abuse by adolescents and young adults has broad public-health implications in terms of lifelong addictions, chronic disease, susceptibility to automobile accidents, and prenatal and infant health. Surveys of local high school and college students indicate above average use levels of tobacco, alcohol and illicit drugs.

Below are results of the two most recent area-wide Western Michigan University surveys of alcohol and other drug use by public high school seniors.

## Past-Month Use of Various Drugs Among 12<sup>th</sup> Graders (Entries Represent the Percent Using the Drug in the Past 30 Days)

Indicator	Nat. Avg. 1998	Baraga Co. 1995	Baraga Co. 1998	Gogebic Co. 1995	Gogebic Co. 1998	Houghton Co. 1995	Houghton Co. 1998	Ontonagon 1995	Ontonagon 1998
Number Surveyed	14,333	64	92	326	218	112	221	98	90
Alcohol	50.8%	62.5	<b>67.4*</b>	55.4	<b>62.8</b>	66.4	49.1	67.3	<b>62.2</b>
Cigarettes	34.0	53.1	<b>66.3</b>	44.0	<b>44.7</b>	40.2	<b>48.4</b>	34.7	<b>51.1</b>
Smokeless Tobacco	9.8	32.8	<b>21.7</b>	24.2	<b>27.2</b>	33.9	<b>23.3</b>	36.7	<b>21.1</b>
Any Illicit Drug Use	24.6	32.8	<b>40.2</b>	22.1	21.3	13.5	<b>25.8</b>	27.2	23.3
Illicit Use Other Than Marijuana	9.5	12.5	<b>13.2</b>	8.0	9.7	10.8	9.2	12.4	7.8
Marijuana	21.9	29.7	<b>39.1</b>	19.0	19.4	8.1	<b>24.1</b>	21.6	<b>23.3</b>
Crack Cocaine	1.0	3.1	<b>1.1</b>	0.6	<b>1.9</b>	0	<b>2.3</b>	1.0	0
Other Cocaine	1.6	3.1	1.1	0.9	<b>1.9</b>	0	<b>3.7</b>	2.1	0
Hallucinogens (LSD, PCP, etc.)	3.5	0	2.2	1.5	1.9	1.8	2.8	3.1	2.2
Inhalants	2.5	4.8	<b>3.3</b>	4.3	1.9	3.6	<b>2.8</b>	5.3	<b>3.3</b>
Heroin	0.5	3.2	0	0.3	0.5	0	<b>1.4</b>	1.12	0
Tranquilizers	2.0	4.8	1.1	0.9	1.9	1.8	1.4	2.1	<b>2.2</b>
Sedatives (Barbiturates)	2.1	4.8	<b>2.2</b>	3.7	1.9	3.6	<b>4.2</b>	3.2	1.1
Stimulants (Amphetamines)	4.1	6.3	3.3	4.0	<b>7.9</b>	9.0	<b>6.1</b>	7.3	<b>6.7</b>
Narcotics Other Than Heroin	2.0	4.8	<b>6.7</b>	3.4	<b>3.3</b>	2.7	<b>4.7</b>	2.1	<b>2.2</b>
Steroids	0.7	3.2	0	1.2	<b>2.3</b>	0	<b>0.9</b>	1.1	<b>1.1</b>

\*1998 figures in **bold type** were higher than the national rate.

1998 county rates were higher than national rates in 39 of 64 possible categories. In the categories with single-digit percentages, a few users (or a few students claiming to have used the particular substance in the past 30 days) make a big difference in the data. For instance, every respondent in Ontonagon County in 1998 represents 1.1% of the total. Still, the data from both years indicate that alcohol and tobacco use is alarmingly high among area high school seniors, and that most categories of illicit drugs are available to, and used by, many area students.

## College-Age Substance Use

In 1999, 780 Michigan Technological University students participated in a U.S. Department of Education survey, called the Core Drug and Alcohol Survey, of alcohol and other drug usage on college campuses. Of those 780 students, 96 percent were undergraduates, 87 percent were age 18-22, 52 percent lived off campus, and 68 percent were males.

The Core study found that 84 percent of students consumed alcohol in the past year; 73 percent consumed alcohol in the past 30 days; 69 percent of underage students (under age 21) consumed alcohol in the past 30 days; and 49 percent of students reported binge drinking (five or more drinks at a sitting) in the past two weeks.

The study also found that 24 percent of students used marijuana in the past year; 11 percent used marijuana in the past month; 7.1 percent used an illegal drug other than marijuana in the past year; and 2.4 percent used an illegal drug other than marijuana in the past month.

Michigan Tech has far more male than female students. The above results are consistent with nationwide alcohol-use studies, which find the highest use rates among young males. In fact, studies have shown that colleges and universities with high rates of alcohol use and binge drinking tend to have more males than females, are more likely rural than urban, and are more often engineering schools than liberal arts institutions.

# Education

Quality of education is a key indicator of the health status of a community. Good schools and a well-educated populace foster economic development and healthier, more successful children. By most measures of student performance, schools in the Western Upper Peninsula are doing a good job with limited resources.

The public schools of the Western U.P. range from small to very small. Class sizes are generally smaller, which has been shown to provide better learning opportunities, especially at the lower elementary level. The downside of small class sizes is that public school funding in Michigan is based on enrollment. Since 1994, state education expenditures have been allocated according to a per-pupil formula, with most U.P. districts at the bottom of the scale in terms of revenue per child. For districts with declining enrollment, it becomes increasingly difficult to make ends meet.

The region is also served by three institutions of higher learning – Michigan Technological University, Finlandia University and Gogebic Community College – and several long-standing preschool programs.

**Regional Trends  
In Education**

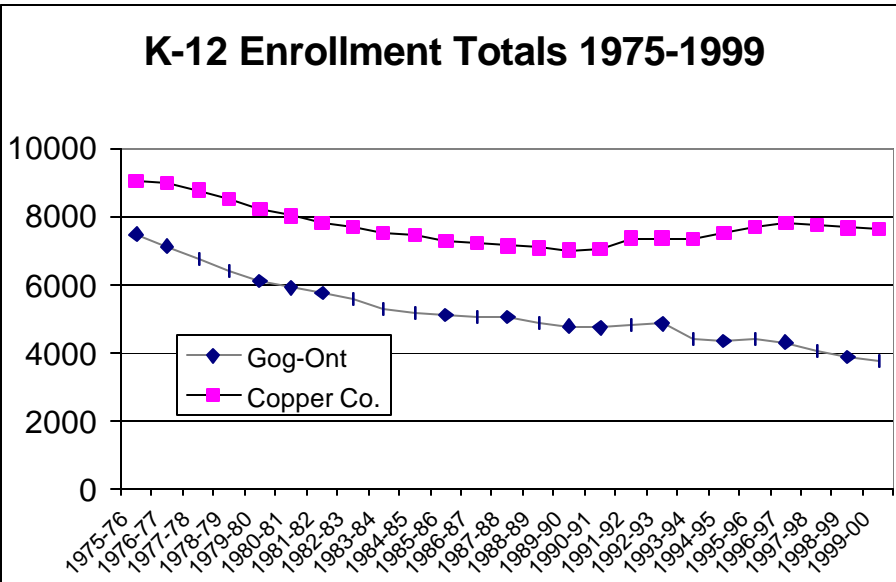
**Enrollment: *Declining***

**Funding: *Rising,  
But Still Below the  
State Average***

**Student  
Performance:  
*Average to Above  
Average***

## Snapshot Indicator

**K-12 Enrollment Totals 1975-1999**



Since 1975, public school enrollment in Gogebic and Ontonagon counties has dropped by half, from 7,476 in 1975-76 to 3,753 in 1999-2000.

In Baraga, Houghton and Keweenaw counties, enrollment dropped 16% in the 10 years after the closing of the C&H mines before rebounding in the early 1990s.

# Key Indicators

## Public K-12 Education

### Michigan District Averages

Description	1996-97	1997-98	1998-99
Free& Reduced Lunch	31.4%	31.6%	31.3%
Pupil/Teacher Ratio	22.1	21.7	21.3
<b>Financial Data</b>			
Foundation Grant	\$5,878	\$6,063	\$6,065
Operating \$ Per Pupil	\$6,395	\$6,551	n/a
Total Revenue/Pupil	\$6,930	\$7,372	n/a
Avg. Teacher Salary	\$46,883	\$47,345	n/a
<b>Completion Rates</b>			
Dropout Rate (1 yr.)	6.5%	4.6%	n/a
Graduation Rate (4 yrs.)	76.4%	82.8%	n/a

The percentage of students in a school district receiving *free or reduced lunches* is a handy indicator of the proportion children from low-income families. Eligibility for free or reduced meals is determined by applying federal guidelines through a review of a family's size and financial resources.

Since the 1994 school-finance reform called Proposal A, the primary source of revenues for local districts is the *per-pupil foundation allowance*, which is funded by the state sales tax and local property taxes. The Proposal A formula was designed to gradually eliminate funding inequities between districts, but it also means that annual changes in enrollment determine revenue gains or losses.

### Copper Country District Averages

Description	1996-97	1997-98	1998-99
Free& Reduced Lunch	36.5%	37.6%	36.0%
Pupil/Teacher Ratio	20.4	20.0	19.2
<b>Financial Data</b>			
Foundation Grant	\$4,984	\$5,277	\$5,274
Operating \$ Per Pupil	\$5,283	\$5,616	n/a
Total Revenue/Pupil	\$5,957	\$6,299	n/a
Avg. Teacher Salary	\$38,375	\$39,056	n/a
<b>Completion Rates</b>			
Dropout Rate (1 yr.)	3.6%	3.5%	n/a
Graduation Rate (4 yrs.)	86.1%	86.3%	n/a

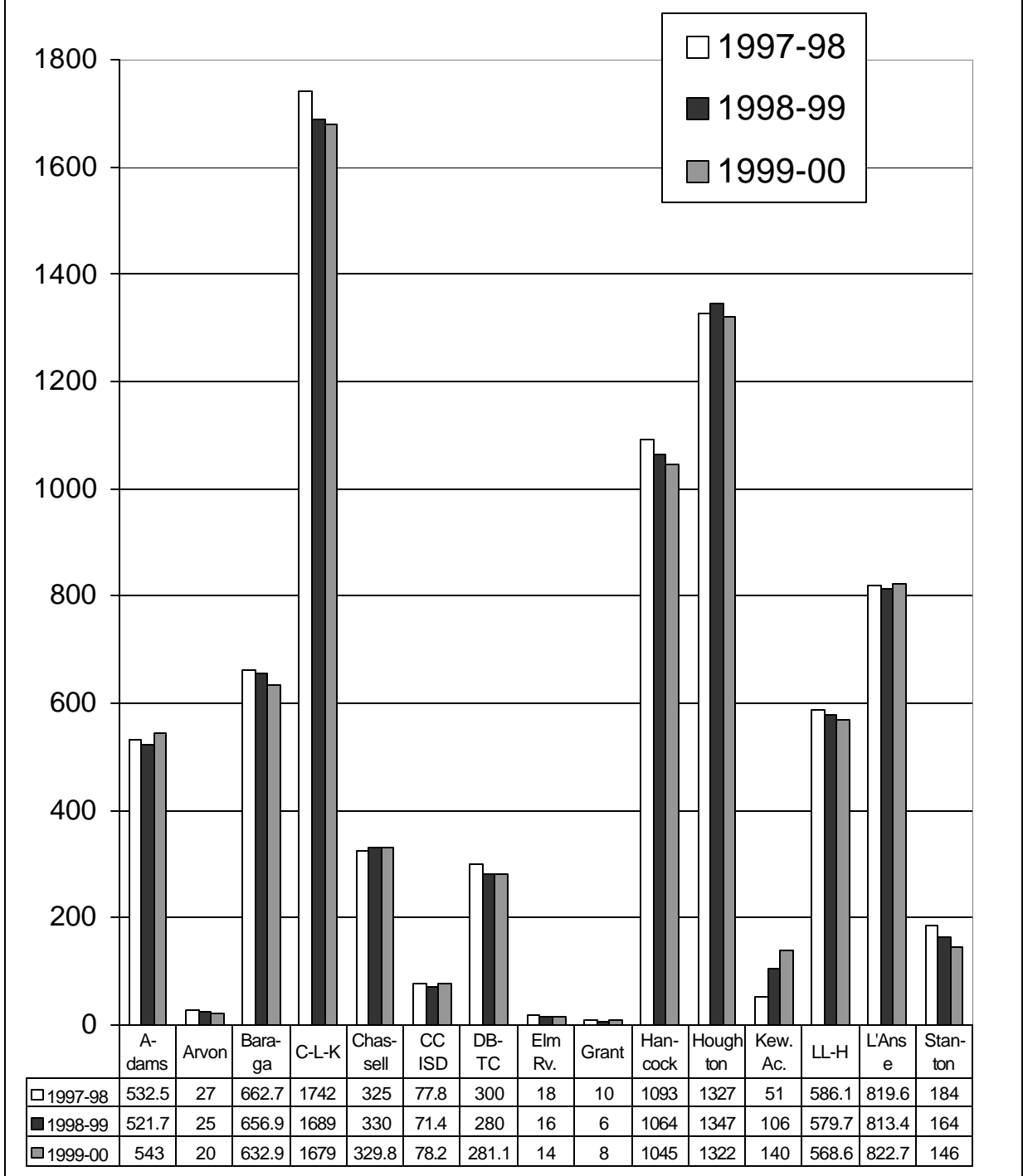
### Gogebic-Ontonagon District Averages

Description	1996-97	1997-98	1998-99
Free& Reduced Lunch	40.5%	42.7%	44.5%
Pupil/Teacher Ratio	18.5	17.5	17.8
<b>Financial Data</b>			
Foundation Grant	\$5,327	\$5,572	\$5,575
Operating \$ Per Pupil	\$6,347	\$6,855	n/a
Total Revenue/Pupil	\$6,755	\$7,120	n/a
Avg. Teacher Salary	\$40,065	\$39,867	n/a
<b>Completion Rates</b>			
Dropout Rate (1 yr.)	3.3%	2.6%	n/a
Graduation Rate (4 yrs.)	87.2%	90.0%	n/a

The *dropout rate* is an estimate of the percentage of students in grades 9-12 who left school and did not return during the following school year. The *graduation rate* is an estimate of the percentage of 9<sup>th</sup>-grade students who will complete their senior year and graduate. Local school districts generally boast graduation rates higher than statewide averages.

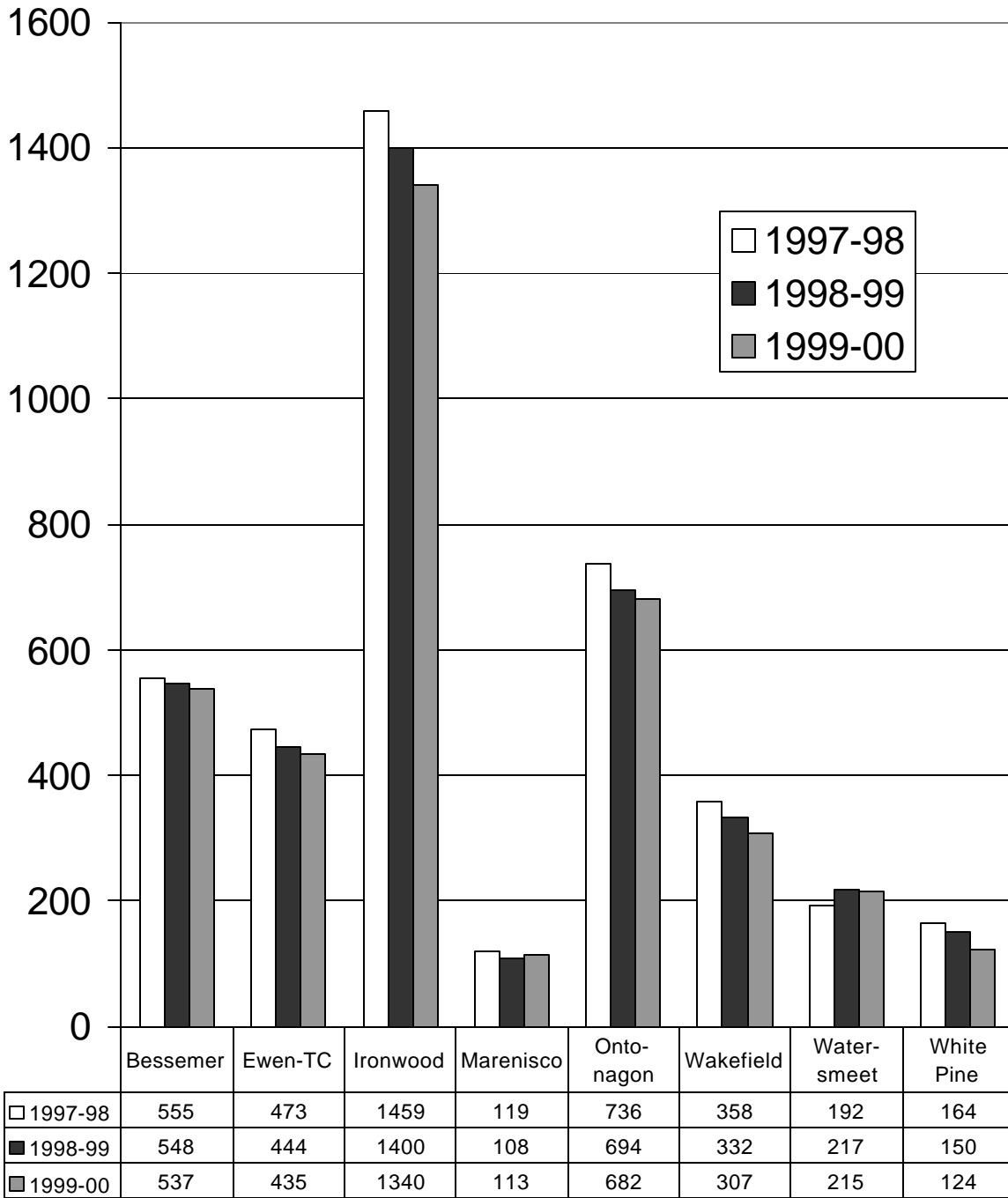
The above statistics are taken from the *1999 Michigan School Report*. The report is issued every fall by the Michigan Department of Education, based on data reports from intermediate school districts.

## Copper Country K-12 Fall Pupil Counts 1997-99



Public K-12 enrollment in Baraga, Houghton and Keweenaw counties has declined slightly over the past three years, from 7,754 pupils in the fall of 1997, to 7,664 in 1998 and 7,630 in 1999.

## Gogebic-Ontonagon K-12 Fall Pupil Counts 1997-1999



Public K-12 enrollment in Gogebic and Ontonagon counties has declined over the past three years, from 4,056 pupils in the fall of 1997, to 3,893 in 1998 and 3,753 in 1999.

# MEAP Test Results

(Michigan Educational Assessment Program)

## Michigan District Averages

Description	1996-97	1997-98	1998-99
<b>Grades 4 &amp; 7</b>	<b>Percent Satisfactory</b>		
Math – Grade 4	59.1%	75.5%	82.6%
Math – Grade 7	48.5%	64.6%	59.4%
Reading – Grade 4	46.4%	52.9%	62.2%
Reading – Grade 7	36.5%	48.1%	55.0%
<b>Grades 5 &amp; 8</b>	<b>Percent Proficient</b>		
Science – Grade 5	29.6%	40.2%	37.3%
Science – Grade 8	13.2%	18.0%	19.9%
Writing – Grade 5	76.5%	70.7%	61.9%
Writing – Grade 8	77.6%	69.5%	66.2%

## Copper Country District Averages

Description	1996-97	1997-98	1998-99
<b>Grades 4 &amp; 7</b>	<b>Percent Satisfactory</b>		
Math – Grade 4	61.1%	74.0%	75.5%
Math – Grade 7	61.6%	66.1%	72.8%
Reading – Grade 4	54.3%	61.2%	62.0%
Reading – Grade 7	50.2%	45.6%	53.6%
<b>Grades 5 &amp; 8</b>	<b>Percent Proficient</b>		
Science – Grade 5	41.9%	46.1%	37.3%
Science – Grade 8	19.3%	28.8%	27.9%
Writing – Grade 5	74.8%	63.2%	64.1%
Writing – Grade 8	76.8%	67.1%	60.5%

## Gogebic-Ontonagon District Averages

Description	1996-97	1997-98	1998-99
<b>Grades 4 &amp; 7</b>	<b>Percent Satisfactory</b>		
Math – Grade 4	60.5%	74.1%	71.7%
Math – Grade 7	51.4%	61.4%	63.2%
Reading – Grade 4	49.0%	58.6%	59.4%
Reading – Grade 7	40.4%	48.8%	53.0%
<b>Grades 5 &amp; 8</b>	<b>Percent Proficient</b>		
Science – Grade 5	36.8%	40.4%	37.5%
Science – Grade 8	17.5%	22.0%	23.0%
Writing – Grade 5	73.4%	64.3%	54.8%
Writing – Grade 8	77.0%	69.0%	63.5%

## MEAP: What do the numbers mean?

Tens of thousands of Michigan children take MEAP tests every year. The percentages of children who achieve high, middle and low scores are readily available and are published in many newspapers around the state. This wealth of statistics on a “standardized” test provides a data set for educational assessment, but data users should exercise caution before drawing conclusions from MEAP statistics for several reasons.

For one thing, the smaller the local group of test takers, the less reliable are any assumptions based on one year’s results. The scores from an individual school can fluctuate widely from year to year, even with the same teachers, books and curricula, because only a few extra right or wrong answers by a handful of students can lead to large swings in the percentages attaining the cut-off scores for the “satisfactory” or “proficient” groups.

Furthermore, the tests vary in format and difficulty from year to year. Finally, remember that MEAP is a measure of how well a school aligns its curriculum with state content standards, how familiar students are with the testing format, and how many students master the “basics,” not a measure of every aspect of educational opportunity and quality. One trend that seems safe to predict is that with individual student scholarships and even financial bonuses to districts based on MEAP scores, expect more, not less, emphasis to be placed on preparing students for the tests.

# Special Education

## Special Education Enrollment, 1999-2000

Disability	Copper Country ISD	Gogebic - Onto. ISD	Western U.P. Totals
Educable Mentally Impaired	80	19	104
Trainable Mentally Impaired	29	10	39
Severely Mentally Impaired	8	2	13
Emotionally Impaired	57	35	89
Learning Disabled	364	222	589
Hearing Impaired	8	3	11
Vision Impaired	4	1	4
Physically or Otherwise Health Impaired	62	74	141
Severely Multiply Impaired	13	2	14
Speech and/or Language Impaired	112	123	251
Pre-Primary Impaired	11	14	30
Autistic	15	5	20
<b>Special Education Total</b>	<b>763</b>	<b>510</b>	<b>1,273</b>
Total ISD Enrollment (All Students)	7,630	3,753	11,383
Percent Receiving Special Education Services	10.0%	13.6%	11.2%

About 13 percent of students statewide receive classroom or ancillary special education services. The two most populous disabilities, Learning Disabled and Speech and/or Language Impaired, together comprise almost two thirds of all special education students in the Western U.P. Learning-disabled students are distributed fairly evenly throughout all ages and grades, whereas speech and/or language impairments are more common at the preschool, kindergarten and early-primary grades.

# Higher Education

There are three institutions of higher education in the Western U.P. – Michigan Technological University in Houghton, Finlandia University (formerly Suomi College) in Hancock, and Gogebic Community College in Ironwood. Michigan Tech is a highly regarded engineering-focused university with a wide variety of graduate and under-graduate degree programs. Tech is also the largest employer in the Western U.P., with a fall 2000 payroll of 1,451 (418 faculty/1,033 staff.) Finlandia University, a private college founded by Finnish Lutherans, offers two- and four-year degrees. Gogebic Community College offers associate degrees as well as a variety of personal-enrichment classes.

## Higher Education Enrollment, Fall 2000

Michigan Technological University	Finlandia University	Gogebic Community College
6,320	383	1,200

# Preschool Education and Care

*“Investing in early childhood education provides government and society with estimated rates of return that would make a venture capitalist envious.”*

Isabel V. Sawhill, The Brookings Institute

The way a community cares for its youngest citizens is an important measure of its overall health status. Many long-term studies have demonstrated that investments in high-quality early childhood programs pay off in reduced health care, special education, welfare and criminal justice costs. Societal changes and recent research about early childhood brain development have focused attention on the availability of quality early childhood education and care programs. An acute shortage of licensed childcare for children under age 3 is cited by many community members as one of the region’s most pressing challenges.

## Preschool Enrollment (3-5 Year Olds in Pre-K Education Programs)

Intermediate School District	Number 4 Year Olds	Number 3 Year Olds in Poverty	Number of 4 Year Olds Plus Head Start-Eligible 3 Year Olds	Number of Children 3-5 in Preschool Classes 2000-2001	Enrollment as Percentage of 3-4 Year Olds MSRP/Head Start Eligible
Copper Country (Baraga-Houghton-Keweenaw)	514	133	647	667	103.1%*
Gogebic - Ontonagon	236	64	300	266	88.7%

**Preschool enrollment** includes children in Head Start, which is a federal child development program for low-income and special-needs children age 3-5; Michigan School Readiness Program (MSRP), a state preschool program for 4 year olds with eligibility determined by risk factors; state-funded programs for full-day childcare that meets the quality standards of Head Start or MSRP; and private half-day preschool programs.

**Head Start eligibility** was calculated by multiplying the number of 3 year olds in each ISD by the estimated percent of children in poverty and multiplying by 100.

\*How can the preschool enrollment percentage for Baraga, Houghton and Keweenaw counties be greater than 100%? The answer lies in how the numbers eligible and served were calculated. The number eligible equals all 4 year olds plus the number of low-income 3 year olds. But actually, Head Start can also serve 3-5 year olds with special needs or disabilities. Therefore, the number served includes some over-income 3 and 5 year olds. It also includes 3 year olds in a state block grant childcare program and 4 year olds in full-day, full-year childcare programs that meet Head Start guidelines. In all counties of the Western U.P., a high percentage of children attend some form of public or private preschool.

An additional 361 Western U.P. children, mostly age 0-3, and their families are served by weekly home visitor programs such as Early Head Start (children 0-3 with special needs or low income), Even Start (children age 0-7 with a parent who has not completed high school), Early On (children 0-3 with a risk factor or developmental delay) and several programs open to any family in need of support.

State-licensed childcare centers and home day care providers serve 430 children. An estimated 1,790 children age 0-5 are in unregulated childcare settings. Many areas face critical shortages of childcare capacity for children age 6 weeks to 3 years old.

# Public Safety

Crime statistics support the popular perception that the streets of Ahmeek, Paulding or Winona are far safer than streets in Detroit and other downstate cities. In fact, Wayne County residents and visitors are 10 times more likely to be victims of murder than their Western U.P. counterparts.

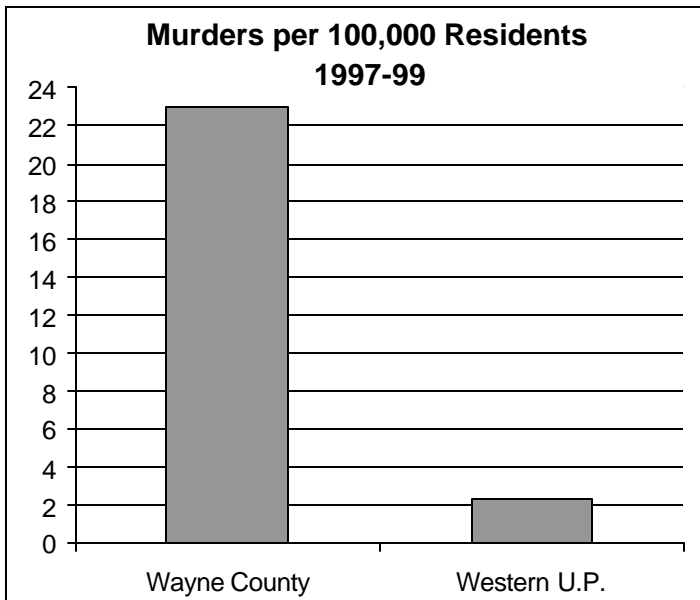
Crime rates are lower in the region than in the state as a whole. From 1997 through 1999, the offense rate per 100,000 people was 34 percent lower in the Western U.P. than statewide. The regional rate translates to approximately one crime reported per

14 residents per year, compared with one crime per nine residents statewide. The regional and state ratios of sworn law enforcement officers per population are similar, but local officers cover a geographically larger beat due to the region's low population density.

Indicator	Michigan	Western U.P.
Offenses Per 100,000 People	11,005	7,264
Arrest Rates (arrests/offenses)	37.0%	37.7%
Juvenile Arrests Per 1,000‡	35.7	42.3
Officers* Per 100,000 People	211	224
Officers* Per 100 Square Miles	36.4	4.6

‡Arrests under age 17 per 1,000 children age 10-16.  
 \*Sworn law enforcement officers, all jurisdictions. Michigan counts from 1999 Uniform Crime Reports, Michigan State Police. Local officer counts from local agency reporting, October 2000.

## Snapshot Indicator



In the years 1997-99, there were 1,454 murders in Wayne County and 5 murders in the Western U.P., making the annual murder rate 23.0 per 100,000 residents in Wayne County, compared with 2.3 per 100,000 in the Western U.P. In other words, murders per capita were 10 times more likely in Wayne County than in the Western U.P.

Michigan murders declined from 721 in 1997 and 716 in 1998 to 675 in 1999, mirroring a national trend. Over the same three years, Wayne County murders dropped from 519 to 478 to 457, while Western U.P. murders dropped from four in 1997 to one in 1998 to zero in 1999.

# Law Enforcement Indicators

## Regional Law Enforcement Rates, 1997-1999

Jurisdiction	Number of Officers	Officers/100,000 Residents	Officers per 100 Sq. Miles	Average Annual Offenses	Average Annual Arrests	3-Year Arrest Rate	Arrests per Officer
Baraga Co.	24	286	2.7	420	217	52%	9.1
Gogebic Co.	45	266	4.1	1,994	497	25%	11.1
Houghton Co.	71	195	7.0	2,097	833	40%	11.7
Keweenaw Co.	8	421	1.5	130	31	24%	3.9
Ontonagon Co.	13	157	1.0	589	392	67%	30.2
Western U.P.	161	224	4.6	5,230	1,970	38%	12.2
Michigan	20,675	211	36.4	1,077,024	398,669	37%	19.3

The above statistics were calculated using data from Michigan State Police Uniform Crime Reports of 1997, 1998 and 1999. State officer figures were taken from the 1999 report, and represent the sworn-officer count as of Oct. 31, 1999. County officer counts are based on data gathered from local agencies in October 2000. Sworn-officer counts include all professional full and part-time law enforcement officers, including village and city police, campus police, sheriff's officers and state police officers. (Uniform Crime reports do not include data from tribal law enforcement agencies, which operate under the auspices of sovereign Indian nations.) In cases where state police officers from a given post patrol parts of two counties, the total officer count was divided among the counties to reflect the estimated amount of time and resources devoted to each county. For instance, the eight Keweenaw County officers listed above include five county officers and three of the 13 officers assigned to the state police post in Calumet.

The ratios of officers to residents in the Western U.P. and Michigan are roughly equal, with 224 officers per 100,00 residents in the region and 211 statewide. Western U.P. law enforcement agencies 67n

# Crime Data

Law enforcement statistics come in two flavors: *offenses* and *arrests*. *Offenses* include all crimes reported to, and investigated by, a law enforcement agency. *Arrests* refer, of course, to when people are taken into legal custody under suspicion of having committed a crime. In some cases, such as with Driving Under the Influence of Alcohol/Narcotics, the numbers for offenses and arrests will be nearly equal, because offenses tend to be reported by the arresting officer. For other crimes, such as vandalism, there are many more offenses reported than arrests, because one person can commit multiple offenses, and many crimes go unsolved.

Although not all crimes are reported, data on offenses shed more light on the total number of crimes committed. A rise in offenses reported should correlate with a rise in actual crimes committed. On the other hand, there is not necessarily a correlation between arrest data and crime rates. For example, more arrests could take place because more police officers are working in a jurisdiction. Therefore, arrest data is more a measure of law enforcement activity, resources and effectiveness than of an area's crime rate.

## Total Offenses, 1997-99

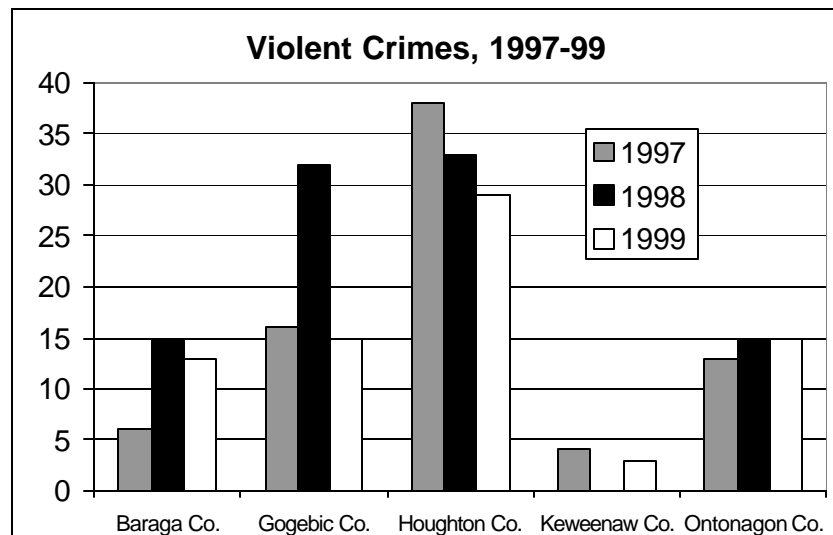
Indicator	1997	1998	1999
Number of Offenses, Western U.P.	5,341	5,419	4,930
Number of Offenses, Michigan	1,036,575	1,128,569	1,065,928
Rate per 100,000 Residents, Western U.P.	7,418	7,526	6,847
Rate per 100,000 Residents, Michigan	10,686	11,635	10,989

## Violent Crime Rates\*, 1997-99

Indicator	1997	1998	1999	3-Year Average
Number of Offenses, Western U.P.	77	95	75	82.3
Number of Offenses, Michigan	52,870	60,569	54,391	55,943
Rate per 100,000 Residents, Western U.P.	107	132	104	114.3
Rate per 100,000 Residents, Michigan	545	624	560	576.3

\*Murder and non-negligent manslaughter, rape (includes attempts), robbery, aggravated assault.

Violent crime rates (based on offenses reported) are much lower in the Western U.P. than in the state as a whole. The crimes included in the tallies at right are murder and non-negligent manslaughter, rape (includes attempts), robbery, and aggravated assault. For these violent crimes, the Michigan rate per 100,000 residents is about five times as high as the Western U.P. rate (see above.)



## Offenses (Crimes Reported and Investigated) 1999

Offenses 1999	Baraga Co.	Gogebic Co.	Houghton	Keweenaw	Ontonagon
Murder and Non-Negligent Manslaughter	0	0	0	0	0
Rape (Includes attempts)	2	7	13	1	3
Robbery	0	0	0	0	0
Aggravated Assault	11	8	16	2	12
Burglary	11	88	73	11	36
Larceny	46	212	411	18	55
Motor Vehicle Theft	2	22	38	0	1
Arson	6	2	6	0	0
Negligent Manslaughter	0	0	0	0	0
Assault (Non-aggravated)	56	114	210	29	58
Forgery and Counterfeiting	1	7	7	0	0
Fraud	11	60	58	5	11
Embezzlement	0	3	8	0	2
Stolen Property	0	4	7	0	1
Vandalism	27	191	293	17	39
Weapons (Possession, etc.)	2	8	3	0	2
Prostitution and Vice	0	0	0	0	0
Sex Offenses (Except rape and prostitution)	5	6	15	3	6
Narcotics Laws	11	40	46	2	18
Gambling	0	0	0	0	0
Family and Children	12	5	11	1	4
Driving Under Influence Alcohol/Narcotics	31	156	236	11	89
Liquor Laws	21	65	82	8	40
Disorderly Conduct	19	206	82	9	9
All Other (Includes drunkenness and vagrancy)	75	888	234	25	112
<b>Total Offenses</b>	<b>349</b>	<b>2,092</b>	<b>1,849</b>	<b>142</b>	<b>498</b>

## Child Safety

This year, Michigan Family Independence Agency established a new 5-tier classification system for investigated child abuse and neglect cases. Presented here are 1995-97 data as a baseline with which the new system's data can be compared in future years.

### Child Protection 1995-97 – Rates Per 1,000 Children Age 0-17

Indicator	Michigan	Baraga	Gogebic	Houghton	Keweenaw	Ontonagon
Children in Investigated Families	58.9	43.3	93.8	47.5	15.3	51.9
Substantiated Victims	8.2	8.5	11.9	2.3	10.2	2.2
Children in Out-of-Home Care...	6.3	7.0	3.8	2.9	0	2.2
-For Abuse or Neglect	4.0	5.3	1.4	1.0	0	0.6
-For Delinquency	1.4	1.5	2.9	1.7	0	1.6

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Many individuals have contributed to the author's understanding of the data presented, and some of them may have supplied additional data not attributed below. The author apologizes for any unintentional omissions of attribution.

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## For More Information

For more information on the Community Health Assessment and Improvement process in the Western U.P., please contact:

M. Gail Shebuski, M.D., M.P.H.  
Medical Director/Health Officer  
Western Upper Peninsula District Health Department  
540 Depot St., Hancock, MI 49930  
Phone: (906) 482-7382  
Email: [drgail@hline.localhealth.net](mailto:drgail@hline.localhealth.net)

With specific data requests, to learn more about the statistics referenced in this publication, or to request additional copies, please contact:

Ray Sharp  
Community Health Assessment Specialist  
Western Upper Peninsula District Health Department  
540 Depot St., Hancock, MI 49930  
Phone: (906) 482-7382  
Email: [rsharp@hline.localhealth.net](mailto:rsharp@hline.localhealth.net)

For information about collaborative planning in Baraga, Houghton and Keweenaw counties, or to request additional copies of this publication, please contact:

Susan Donnelly, Ph.D., Coordinator  
Copper Country Human Services Coordinating Body  
900 West Sharon Avenue, Houghton, MI 49931  
Phone: (906) 482-4880  
Email: [prevent@portup.com](mailto:prevent@portup.com)

For more information about collaborative planning in Gogebic and Ontonagon counties, or to request additional copies of this publication, please contact:

Betsy Wesselhoft, Coordinator  
Gogebic-Ontonagon Human Services Coordinating Board  
103 West U.S. 2, Wakefield, MI 49968  
Phone: (906) 229-6104  
Email: [bwessel@hline.localhealth.net](mailto:bwessel@hline.localhealth.net)