2016

Community Health Needs Assessment
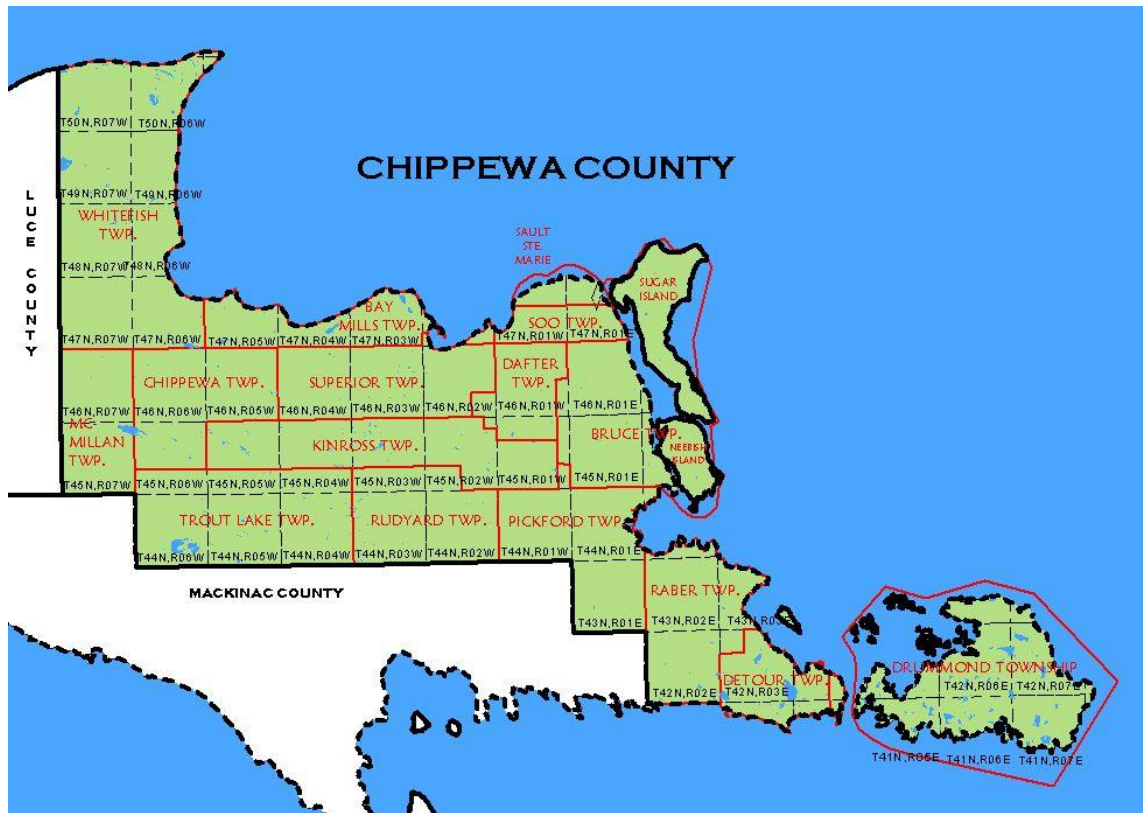# War Memorial Hospital

Sault Ste. Marie and Chippewa County, Michigan

Conducted by Western Upper Peninsula Health Department

in Collaboration with **War Memorial Hospital,**

**Eastern U.P. Regional Planning & Development Commission,
and Community Partners**

"Si Quaeris Peninsulam Amoenam Circumspice"

Table of Contents

Executive Summary

War Memorial Hospital (WMH) in Sault Ste. Marie, Michigan, provides health care services to residents of Chippewa County, Michigan, a large county in the eastern Upper Peninsula region with about 34,000 residents, not including a significant state prison population. The percentage of residents age 65-plus is approaching 20 percent, and 16 percent are Native Americans.

Almost 19 percent of residents live in poverty, including 26 percent of children. The local median household income is about 84 percent of the Michigan median. The county's annual unemployment rate fell to 7.4 percent in 2015 from a relative high of 12.7 percent in 2009. More than 2,100 residents are enrolled in the Healthy Michigan Plan, the Medicaid expansion for low-income adults age 18-64 implemented with the Affordable Care Act (ACA), and as a result, the uninsured rate has fallen to well under 10 percent and more people have access to primary care than just a couple years ago, but the future of national health reform and financing is impossible to predict in the current political climate.

In 2014, there were 384 births to Chippewa County residents. About 85 percent of pregnant women received first trimester care, higher than the state average. In recent years, smoking rates by pregnant women averaged greater than 30 percent. Survey data indicate that nearly 40 percent of adolescents are overweight or obese, and youth alcohol, tobacco and other drug use is common. As in many other communities, chlamydia is the most common lab confirmed infectious disease seen among sexually active young adults, while hepatitis C, a chronic liver disease, is widespread among older adults. The leading causes of death in Chippewa County are cardiovascular disease and cancer, while other diseases of aging including diabetes and Alzheimer's disease are projected to become more prevalent given the region's demographics and behavioral risk factors.

Based on a thorough review of population health data, and focus groups with community leaders and hospital staff, priority health concerns include caring for an aging population and others with chronic disease and/or dementia; tobacco and substance abuse prevention; and access to care for behavioral health care and substance abuse treatment. Proposed health improvement initiatives include collaborative, long-range planning to address the burgeoning need for quality long-term care and dementia care; recreation facilities and programs that provide opportunities for youth to practice healthy lifestyles; and expanded use of telemedicine to improve access to primary-, specialty- and behavioral-health care.

(Because Chippewa County is experiencing many of the health problems facing rural America, including concerns about opioid and I.V. drug abuse, the newly released CDC study on rural health trends is attached on the following two pages.)

Press Release from the Centers for Disease Control and Prevention (CDC), Jan. 12, 2017

(As an addendum to the Executive Summary on the previous page, we reprint below an extremely timely 2-page press release from the CDC because it outlines succinctly the emerging health disparities – some would say an emerging health crisis – in rural America, and offers common-sense policy recommendations.)

Rural Americans at higher risk of death from five leading causes

Demographic, environmental, economic, social factors might be key to difference

A new CDC study demonstrates that Americans living in rural areas are more likely to die from five leading causes than their urban counterparts. In 2014, many deaths among rural Americans were potentially preventable, including 25,000 from heart disease, 19,000 from cancer, 12,000 from unintentional injuries, 11,000 from chronic lower respiratory disease, and 4,000 from stroke. The percentages of deaths that were potentially preventable were higher in rural areas than in urban areas. The report and a companion commentary are part of a new rural health series in CDC's Morbidity and Mortality Weekly Report.

"This new study shows there is a striking gap in health between rural and urban Americans," said CDC Director Tom Frieden, M.D., M.P.H. "To close this gap, we are working to better understand and address the health threats that put rural Americans at increased risk of early death."

Some 46 million Americans — 15 percent of the U.S. population — currently live in rural areas. Several demographic, environmental, economic, and social factors might put rural residents at higher risk of death from these public health conditions. Residents of rural areas in the United States tend to be older and sicker than their urban counterparts. They have higher rates of cigarette smoking, high blood pressure, and obesity. Rural residents report less leisure-time physical activity and lower seatbelt use than their urban counterparts. They also have higher rates of poverty, less access to healthcare, and are less likely to have health insurance.

The Health Resources and Services Administration (HRSA), which houses the Federal Office of Rural Health Policy, will collaborate with CDC on the series and will help to promote the findings and recommendations to rural communities.

"We have seen increasing rural-urban disparities in life expectancy and mortality emerge in the past few years. CDC's focus on these critical rural health issues comes at an important time," said Health Resources and Services Administration (HRSA) Acting Administrator Jim Macrae.

In the study, mortality data for U.S. residents was analyzed from the National Vital Statistics System.

Counties were placed in two categories—urban or rural—based on the NCHS urban-rural classification scheme for counties. The current study found that unintentional injury deaths were approximately 50 percent higher in rural areas than in urban areas, partly due to greater

risk of death from motor vehicle crashes and opioid overdoses. Also, because of the distance between healthcare facilities and trauma centers, rapid access to specialized care can be more challenging for people injured in rural areas.

The gaps in health can be addressed. For example, healthcare providers in rural areas can:

· **Screen patients for high blood pressure and make control a quality improvement goal.** High blood pressure is a leading risk factor for heart disease and stroke.

· **Increase cancer prevention and early detection.** Rural healthcare providers should participate in the state-level comprehensive control coalitions. Comprehensive cancer control programs focus on cancer prevention, education, screening, access to care, support for cancer survivors, and overall good health.

· **Encourage physical activity and healthy eating** to reduce obesity. Obesity has been linked to a variety of serious chronic illnesses, including diabetes, heart disease, cancer, and arthritis.

· **Promote smoking cessation.** Cigarette smoking is the leading cause of preventable disease and death in the United States and is the most significant risk factor for chronic lower respiratory disease.

· **Promote motor vehicle safety.** Rural healthcare providers should encourage patients to always wear a seat belt and counsel parents and child care providers to use age- and size-appropriate car seats, booster seats, and seat belts on every trip.

· **Engage in safer prescribing of opioids for pain.** Healthcare providers should follow the CDC guideline when prescribing opioids for chronic pain and educate patients on the risks and benefits of opioids and using nonpharmacologic therapies to provide greater benefit.

Not all deaths can be prevented. Some rural areas might have characteristics that put residents at higher risk of death, such as long travel distances to specialty and emergency care or exposures to specific environmental hazards. It's also possible that excessively high death rates could signal a need for improved public health programs that support healthier behaviors and neighborhoods or better access to health care services.

Introduction

Project Background and Acknowledgements

The following report contains findings from a community health needs assessment conducted in 2016 by Western Upper Peninsula Health Department (WUPHD) in partnership with War Memorial Hospital (WMH), in Sault Ste. Marie, Michigan, with assistance from Chippewa County Health Department and community members who attended focus groups. The assessment primarily covers the health of residents of Chippewa County but also includes some data from neighboring counties in the Luce-Mackinaw-Alger-Schoolcraft public health district, and from the entire Upper Peninsula, and Michigan as a whole, for comparison or where single-county data are not available.

The purpose of this assessment is to provide a picture of the health status and needs of Chippewa County's 38,000 residents (actually less than 34,000 non-incarcerated). Data for the assessment report were gathered from a wide array of published sources included the U.S. Census Bureau, American Community Survey, Michigan Department of Health and Human Services, Federal Reserve Bank of St. Louis, Michigan Department of Education's Michigan Profile for Healthy Youth (MiPHY) Survey, the federal Health Resources and Services Administration (HRSA), and other government and private agencies.

The report was authored and edited by Ray Sharp, Director of Community Health Promotion and Education at Western U.P. Health Department in Hancock, with considerable assistance from health data analyst Kim Reeve, who aggregated and analyzed data, created data tables and graphs, and wrote the Focus Groups chapter. Sharp wishes to thank WMH President and CEO David B. Jahn and his staff for their thoughtful and enthusiastic participation in focus groups; Chippewa County Health Department Health Officer Karen Senkus for her help and encouragement; and MDHHS Regional Epidemiologist Scott Schreiber for providing reports with communicable disease data. Special thanks go to the WMH Director of Community Relations/Development Fund Teresa Armstrong for help with communications and planning throughout the project.

This report is intended to inform health practitioners, planners, policymakers, and the public. It can be read as a snapshot of the region's health status and trends and used to determine priorities for hospital strategic planning and the broader community health improvement process. If knowledge is power, it is hoped that this report will empower citizens and health care professionals alike to work effectively for improved health and wellbeing in Chippewa County and the Eastern Upper Peninsula region.

How to Use This Report

Report Organization

The report begins with an Executive Summary and this introductory chapter. Chapters with data from secondary sources follow, beginning with statistics describing the demographics (population counts, characteristics and trends) of the region, followed by a chapter focused on populations considered more vulnerable to poor health outcomes, such as people living in poverty, and indicators of access to care. From there the report follows the chronology of life, beginning with measures of maternal and infant wellbeing, followed by health data on adolescents. Rates of infectious diseases from recent years come next, followed by chronic disease and mortality statistics. The health data section concludes with regional data from the Michigan Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is used to estimate the prevalence of various health behaviors, medical conditions, and preventive health care practices among U.S. adults. The report concludes with a summary of feedback from community focus groups hosted by WMH and facilitated by Ray Sharp in December 2016, from notes recorded and summarized by Kim Reeve.

Data Types

Data included in the report are generally summarized in one of four forms: trends over time, single-year tabulations, multi-year tabulations, or snapshots in time. Trends are shown when multiple years of data are available and when examining an indicator over time tells something meaningful about a problem that is increasing, being resolved, or not responding to intervention efforts. Single-year tabulations or snapshots are used when a single year's worth of data or a snapshot gives a reasonably representative picture of an indicator, or when trend data are not available. Multi-year tabulations are used for rare or low-probability events where single-year calculated rates fluctuate greatly with a change of relatively few events. Snapshots in time are used for indicators that are constantly changing as people age into and out of a given interval, as with the percent of children age 19-35 months who are fully immunized.

Understanding Health Statistics

Population Statistics

It is important to understand several statistical concepts when using this report. Wherever possible, data resulting from an accounting of all individuals appear in this report. Examples of these types of data are population statistics taken from the U.S. Census, and annual birth and death counts. For the time period in which they were collected, these data have little to no uncertainty associated with them.

Estimates and Confidence Intervals

Another type of statistic commonly found in this report is an estimate based on a survey administered to a random sample of the population. Examples of this type of data are

educational attainment estimates produced by the American Community Survey and rates of cigarette smoking calculated from the Michigan Behavioral Risk Factor Survey. Sampling error is unavoidable and arises from estimating a population characteristic by looking at a sample of the population rather than the entire population. The degree of uncertainty introduced into these estimates by sampling error is conveyed to the reader by the use of confidence intervals. These intervals do not take into account response errors, which result if data is incorrectly requested, provided, or recorded.

In this report, 95 percent confidence intervals are most commonly used. A confidence interval is a range around a measurement that conveys how precise the measurement is. Narrower confidence intervals indicate more precise estimates that derive from a larger sample. For example, suppose a survey given to a random sample of Michigan adults indicated that 23.3% ± 1.3% of those adults were current smokers (95 percent confidence interval indicated). This means that there would be a 95 percent chance that between 22.0% and 24.6% of Michigan adults are current smokers. There would be a 5 percent chance that the actual adult smoking rate is lower than 22.0% or higher than 24.6%.

When comparing estimates that have confidence intervals associated with them, non-overlapping confidence intervals are an indication that a statistically significant difference exists between the two groups being compared. If confidence intervals overlap, then a statistically significant difference may or may not exist.

Infrequent Events and Their Effect on Rates

A rate of a particular event occurring within a population is calculated by dividing the number of events by the number of persons in the population of interest. A small number of events in the numerator of this calculation results in a rate that is highly sensitive to small changes in the numerator. For example, two events versus one would double the observed rate, as do four events versus two. In general, less than 20 events in a numerator tend to yield an unreliable result with little or no predictive value. For this reason, some secondary sources do not publish rates for events that occur fewer than six, 10 or 20 times over a specified time interval. Additionally, sensitive health data are often suppressed when there are few events in a given time period at the county level in order to protect privacy. When the number or rate is not available, that fact will be connoted by using the (*) symbol in data tables.

Geographic Scope of the Assessment

Most data cited in this report are for Chippewa County. The term U.P. shall refer to the entire Upper Peninsula region.

Demographics

Demography, the starting point for community health needs assessment, is the study of statistical characteristics of a population; of its various cohorts such as age, gender and ethnic groups; and of trends and rates of change. Demographics provide a count of people living in a county, region, or catchment area for health care services. Trends in population growth or decline are useful in planning for future programs and resource allocations. Furthermore, the distribution of a population among its subsets or cohorts can be used to understand the needs of residents in greater detail.

Age and gender are the two most important demographic characteristics in health assessment. Many health conditions, diagnoses and procedures, such as pregnancy, or prostate cancer, are gender-exclusive. And age is a primary factor in planning for prevention and health care services. The health care needs of infants, pre-adolescents, teens, young adults and older adults vary greatly. Guidelines for preventive services like immunizations and cancer screenings are age-specific. In general, rates of disease, disability and mortality increase with age. An area with many older adults and a large group of Baby Boomers (residents born roughly between 1946 and 1964) can expect to have higher gross rates of the diseases of aging such as heart disease, cancer, stroke, chronic lower respiratory disease (CLRD), dementia and Alzheimer's disease.

In addition to age and gender, race and ethnicity are often-cited demographic characteristics, as health disparities (differences in behaviors, rates of disease, health outcomes, and access to and quality of care) are observed between racial and ethnic groups in the United States, as with the higher rate of infant-mortality among African Americans in southeast Michigan. The U.P. is less racially diverse than Michigan as a whole, with Native Americans representing the largest minority group.

The population of Chippewa County is about 38,000, which includes about 4,500 prisoners. The population of the county has been declining in recent years. Declining populations affect both the need for services and the resources available. Declining school enrollments over time inevitably lead to closing of facilities and consolidation; and declining tax bases further diminish communities' resources and services. Throughout history, the search for economic opportunity has been an impetus for migrations of people. As young adults leave an area in search of work, the remaining population becomes relatively older, and birth rates decline. In Chippewa County, about 17 percent of the non-incarcerated population is age 65 or older, compared with 15 percent statewide. The gradual shifting of age distribution toward the older cohorts has profound implications on the needs for health care and elder services.

Local Focus

- Chippewa County has a larger proportion of senior citizens and relatively fewer young people, similar to Japan and some Western European nations, and perhaps 10 years ahead of what demographers predict for the United States as the Baby Boomers enter old age. The U.S. Census Bureau estimates 20 percent of Americans will be age 65-plus by 2030; a benchmark the region served by WMH may reach by the end of this decade.

- The county population declined by about 1,000, or roughly 2.5 percent, from 2012 to 2015, largely because of reductions in state prison censuses, but births have kept pace with deaths over the last few years, more so than in neighboring counties that have larger percentages of seniors, making for a fairly stable population that is slowly graying.

- The majority of Chippewa County residents identify as White, Non-Hispanic. Native Americans form the largest racial or ethnic minority group.

- About 1-in-8 households in Chippewa County is occupied by a single resident age 65 or older. Many seniors, especially those living in rural areas, need help with transportation assistance and other aspects of daily living. Social isolation and depression among the growing elder population is also cited as a concern, as is capacity for quality long term care and care for seniors with dementia.

Potential Future Implications

- An aging population will increase the prevalence of many chronic diseases.

- Increased need for health services for the elderly is anticipated, including assisted living and long-term care facilities, and home health, hospice, dementia care and other services.

- With nearly 1-in-5 county residents identifying as Native American, planning for health services and prevention programs must consider health trends and behavioral risk factors for this population group and deliver programs that are culturally appropriate and have evidence of success with Native peoples.

Census Data

Population counts and characteristics are commonly, but not exclusively, based on the decennial census counts of everyone residing in the United States, including both citizens and non-citizens. This 2016 Health Needs Assessment falls between the 2010 U.S. Census and the next census which will take place in 2020. Therefore, we derive most population data in this report not from the 2010 Census, but rather from the American Community Survey (ACS) conducted in an ongoing basis by the Census Bureau, quoting from 2014 or 2015 estimates, as noted.

On the following 15 pages (pp. 16-30), 2015 ACS data from four reports, Demographic, Household, Economic and Social Characteristics, are reproduced. Among the data presented:

- An estimated 15.8 of Chippewa County residents, or about 6,100, are age 65-plus.

- While most residents are White, about 1-in-5 residents self-identify as either wholly or partly Native American, mostly affiliated with Chippewa tribes. About 7,264 residents, or 18.8 percent, identify Native American as their single race or in combination with another. It can be stated that Indigenous communities in North America, on a statistical population health basis, have higher rates of heart disease, diabetes, tobacco use, alcohol and drug abuse, and suicide.

- About 1.6 percent, an estimated 626 people, identify as Hispanic, but remember that this includes the prison population. The inclusion of prisoners is thought to inflate the percentages of Hispanics and African Americans above what are represented in the general, non-incarcerated population.

- The median household income in 2014 was an estimated $41,903, meaning that among all households, about half earned more than that figure. The Michigan median income is about $50,000. Chippewa County, with many professional jobs in higher education, health care and corrections, and a lower percentage of retirees on fixed incomes, has a higher median household income than neighboring eastern U.P. counties, but still lags some 16 percent behind the statewide figure.

- An estimated 1,695 households (12.1 percent of all occupied households) have a single occupant over the age of 65, an indicator of need for a host of health and social services.

American Community Survey, 2015 Estimates (Demographics)

DP05   ACS DEMOGRAPHIC AND HOUSING ESTIMATES

2011-2015 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Tell us what you think. Provide feedback to help make American Community Survey data more useful for you.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
SEX AND AGE				
Total population	38,586	*****	38,586	(X)
Male	21,156	+/-161	54.8%	+/-0.4
Female	17,430	+/-161	45.2%	+/-0.4
Under 5 years	2,082	+/-173	5.4%	+/-0.4
5 to 9 years	1,961	+/-179	5.1%	+/-0.5
10 to 14 years	2,293	+/-218	5.9%	+/-0.6
15 to 19 years	2,594	+/-91	6.7%	+/-0.2
20 to 24 years	3,373	+/-121	8.7%	+/-0.3
25 to 34 years	4,754	+/-142	12.3%	+/-0.4
35 to 44 years	4,939	+/-150	12.8%	+/-0.4
45 to 54 years	5,438	+/-104	14.1%	+/-0.3
55 to 59 years	2,848	+/-154	7.4%	+/-0.4
60 to 64 years	2,205	+/-165	5.7%	+/-0.4
65 to 74 years	3,483	+/-45	9.0%	+/-0.1
75 to 84 years	1,825	+/-134	4.7%	+/-0.3
85 years and over	791	+/-130	2.0%	+/-0.3
Median age (years)	39.0	+/-0.5	(X)	(X)
18 years and over	30,796	+/-177	79.8%	+/-0.5
21 years and over	28,916	+/-237	74.9%	+/-0.6
62 years and over	7,422	+/-138	19.2%	+/-0.4
65 years and over	6,099	+/-46	15.8%	+/-0.1
18 years and over	30,796	+/-177	30,796	(X)
Male	17,123	+/-174	55.6%	+/-0.4
Female	13,673	+/-105	44.4%	+/-0.4
65 years and over	6,099	+/-46	6,099	(X)
Male	2,902	+/-31	47.6%	+/-0.3

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
Female	3,197	+/-28	52.4%	+/-0.3
RACE				
Total population	38,586	*****	38,586	(X)
One race	36,418	+/-298	94.4%	+/-0.8
Two or more races	2,168	+/-298	5.6%	+/-0.8
One race	36,418	+/-298	94.4%	+/-0.8
White	27,614	+/-76	71.6%	+/-0.2
Black or African American	2,583	+/-150	6.7%	+/-0.4
American Indian and Alaska Native	5,762	+/-246	14.9%	+/-0.6
Cherokee tribal grouping	88	+/-64	0.2%	+/-0.2
Chippewa tribal grouping	4,864	+/-259	12.6%	+/-0.7
Navajo tribal grouping	0	+/-21	0.0%	+/-0.1
Sioux tribal grouping	44	+/-33	0.1%	+/-0.1
Asian	349	+/-61	0.9%	+/-0.2
Asian Indian	151	+/-73	0.4%	+/-0.2
Chinese	29	+/-19	0.1%	+/-0.1
Filipino	32	+/-16	0.1%	+/-0.1
Japanese	2	+/-3	0.0%	+/-0.1
Korean	50	+/-34	0.1%	+/-0.1
Vietnamese	11	+/-14	0.0%	+/-0.1
Other Asian	74	+/-45	0.2%	+/-0.1
Native Hawaiian and Other Pacific Islander	13	+/-10	0.0%	+/-0.1
Native Hawaiian	4	+/-5	0.0%	+/-0.1
Guamanian or Chamorro	0	+/-21	0.0%	+/-0.1
Samoan	0	+/-21	0.0%	+/-0.1
Other Pacific Islander	9	+/-9	0.0%	+/-0.1
Some other race	97	+/-35	0.3%	+/-0.1
Two or more races	2,168	+/-298	5.6%	+/-0.8
White and Black or African American	256	+/-142	0.7%	+/-0.4
White and American Indian and Alaska Native	1,502	+/-242	3.9%	+/-0.6
White and Asian	83	+/-43	0.2%	+/-0.1
Black or African American and American Indian and Alaska Native	81	+/-47	0.2%	+/-0.1
Race alone or in combination with one or more other races				
Total population	38,586	*****	38,586	(X)
White	29,565	+/-307	76.6%	+/-0.8
Black or African American	3,039	+/-93	7.9%	+/-0.2
American Indian and Alaska Native	7,469	+/-38	19.4%	+/-0.1
Asian	528	+/-39	1.4%	+/-0.1
Native Hawaiian and Other Pacific Islander	47	+/-41	0.1%	+/-0.1
Some other race	226	+/-66	0.6%	+/-0.2
HISPANIC OR LATINO AND RACE				
Total population	38,586	*****	38,586	(X)
Hispanic or Latino (of any race)	626	*****	1.6%	*****
Mexican	402	+/-75	1.0%	+/-0.2
Puerto Rican	115	+/-65	0.3%	+/-0.2
Cuban	13	+/-9	0.0%	+/-0.1
Other Hispanic or Latino	96	+/-44	0.2%	+/-0.1
Not Hispanic or Latino	37,960	*****	98.4%	*****
White alone	27,288	+/-20	70.7%	+/-0.1
Black or African American alone	2,497	+/-139	6.5%	+/-0.4
American Indian and Alaska Native alone	5,711	+/-242	14.8%	+/-0.6
Asian alone	349	+/-61	0.9%	+/-0.2
Native Hawaiian and Other Pacific Islander alone	13	+/-10	0.0%	+/-0.1

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
Some other race alone	28	+/-22	0.1%	+/-0.1
Two or more races	2,074	+/-298	5.4%	+/-0.8
Two races including Some other race	72	+/-45	0.2%	+/-0.1
Two races excluding Some other race, and Three or more races	2,002	+/-295	5.2%	+/-0.8
Total housing units	21,231	+/-149	(X)	(X)
CITIZEN, VOTING AGE POPULATION				
Citizen, 18 and over population	30,237	+/-213	30,237	(X)
Male	16,747	+/-207	55.4%	+/-0.4
Female	13,490	+/-117	44.6%	+/-0.4

American Community Survey, 2015 Estimates (Housing)

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
HOUSING OCCUPANCY				
Total housing units	21,231	+/-149	21,231	(X)
Occupied housing units	13,997	+/-200	65.9%	+/-1.2
Vacant housing units	7,234	+/-245	34.1%	+/-1.2
Homeowner vacancy rate	3.0	+/-0.8	(X)	(X)
Rental vacancy rate	7.1	+/-2.3	(X)	(X)
UNITS IN STRUCTURE				
Total housing units	21,231	+/-149	21,231	(X)
1-unit, detached	15,924	+/-310	75.0%	+/-1.5
1-unit, attached	807	+/-137	3.8%	+/-0.6
2 units	668	+/-130	3.1%	+/-0.6
3 or 4 units	387	+/-99	1.8%	+/-0.5
5 to 9 units	295	+/-104	1.4%	+/-0.5
10 to 19 units	274	+/-90	1.3%	+/-0.4
20 or more units	798	+/-145	3.8%	+/-0.7
Mobile home	2,071	+/-181	9.8%	+/-0.9
Boat, RV, van, etc.	7	+/-12	0.0%	+/-0.1
YEAR STRUCTURE BUILT				
Total housing units	21,231	+/-149	21,231	(X)
Built 2014 or later	4	+/-8	0.0%	+/-0.1
Built 2010 to 2013	256	+/-106	1.2%	+/-0.5
Built 2000 to 2009	2,820	+/-204	13.3%	+/-1.0
Built 1990 to 1999	3,683	+/-254	17.3%	+/-1.2
Built 1980 to 1989	2,053	+/-165	9.7%	+/-0.8
Built 1970 to 1979	2,868	+/-222	13.6%	+/-1.0
Built 1960 to 1969	2,182	+/-202	10.3%	+/-0.9

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
Built 1950 to 1959	2,914	+/-247	13.7%	+/-1.2
Built 1940 to 1949	1,348	+/-167	6.3%	+/-0.8
Built 1939 or earlier	3,103	+/-276	14.6%	+/-1.3
ROOMS				
Total housing units	21,231	+/-149	21,231	(X)
1 room	467	+/-108	2.2%	+/-0.5
2 rooms	751	+/-116	3.5%	+/-0.5
3 rooms	2,101	+/-187	9.9%	+/-0.9
4 rooms	3,697	+/-236	17.4%	+/-1.1
5 rooms	4,881	+/-296	23.0%	+/-1.4
6 rooms	3,769	+/-224	17.8%	+/-1.0
7 rooms	2,538	+/-188	12.0%	+/-0.9
8 rooms	1,630	+/-212	7.7%	+/-1.0
9 rooms or more	1,397	+/-193	6.6%	+/-0.9
Median rooms	5.2	+/-0.2	(X)	(X)
BEDROOMS				
Total housing units	21,231	+/-149	21,231	(X)
No bedroom	490	+/-116	2.3%	+/-0.5
1 bedroom	2,449	+/-203	11.5%	+/-1.0
2 bedrooms	6,626	+/-254	31.2%	+/-1.2
3 bedrooms	8,545	+/-337	40.2%	+/-1.6
4 bedrooms	2,552	+/-217	12.0%	+/-1.0
5 or more bedrooms	569	+/-115	2.7%	+/-0.5
HOUSING TENURE				
Occupied housing units	13,997	+/-290	13,997	(X)
Owner-occupied	9,833	+/-263	70.3%	+/-1.6
Renter-occupied	4,164	+/-256	29.7%	+/-1.6
Average household size of owner-occupied unit	2.49	+/-0.06	(X)	(X)
Average household size of renter-occupied unit	2.37	+/-0.10	(X)	(X)
YEAR HOUSEHOLDER MOVED INTO UNIT				
Occupied housing units	13,997	+/-290	13,997	(X)
Moved in 2015 or later	197	+/-84	1.4%	+/-0.6
Moved in 2010 to 2014	3,989	+/-300	28.5%	+/-1.9
Moved in 2000 to 2009	4,719	+/-252	33.7%	+/-1.8
Moved in 1990 to 1999	2,492	+/-156	17.8%	+/-1.1
Moved in 1980 to 1989	1,280	+/-139	9.1%	+/-1.0
Moved in 1979 and earlier	1,320	+/-133	9.4%	+/-0.9
VEHICLES AVAILABLE				
Occupied housing units	13,997	+/-290	13,997	(X)
No vehicles available	1,066	+/-174	7.6%	+/-1.2
1 vehicle available	4,995	+/-294	35.7%	+/-1.8
2 vehicles available	5,471	+/-264	39.1%	+/-1.7
3 or more vehicles available	2,465	+/-182	17.6%	+/-1.4
HOUSE HEATING FUEL				
Occupied housing units	13,997	+/-290	13,997	(X)
Utility gas	6,454	+/-264	46.1%	+/-1.6
Bottled, tank, or LP gas	2,938	+/-169	21.0%	+/-1.2
Electricity	2,255	+/-224	16.1%	+/-1.5
Fuel oil, kerosene, etc.	477	+/-82	3.4%	+/-0.6
Coal or coke	7	+/-6	0.1%	+/-0.1
Wood	1,548	+/-125	11.1%	+/-0.9
Solar energy	4	+/-4	0.0%	+/-0.1

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
Other fuel	215	+/-83	1.5%	+/-0.4
No fuel used	99	+/-83	0.7%	+/-0.4
SELECTED CHARACTERISTICS				
Occupied housing units	13,997	+/-290	13,997	(X)
Lacking complete plumbing facilities	50	+/-40	0.4%	+/-0.3
Lacking complete kitchen facilities	116	+/-69	0.8%	+/-0.5
No telephone service available	527	+/-142	3.8%	+/-1.0
OCCUPANTS PER ROOM				
Occupied housing units	13,997	+/-290	13,997	(X)
1.00 or less	13,868	+/-300	99.1%	+/-0.4
1.01 to 1.50	98	+/-33	0.7%	+/-0.2
1.51 or more	31	+/-38	0.2%	+/-0.3
VALUE				
Owner-occupied units	9,833	+/-363	9,833	(X)
Less than $50,000	1,435	+/-170	14.6%	+/-1.6
$50,000 to $99,999	3,146	+/-205	32.0%	+/-1.9
$100,000 to $149,999	2,245	+/-193	22.8%	+/-1.9
$150,000 to $199,999	1,427	+/-135	14.5%	+/-1.4
$200,000 to $299,999	1,005	+/-121	10.2%	+/-1.2
$300,000 to $499,999	431	+/-70	4.4%	+/-0.7
$500,000 to $999,999	127	+/-44	1.3%	+/-0.5
$1,000,000 or more	17	+/-11	0.2%	+/-0.1
Median (dollars)	106,300	+/-3,663	(X)	(X)
MORTGAGE STATUS				
Owner-occupied units	9,833	+/-363	9,833	(X)
Housing units with a mortgage	5,360	+/-249	54.5%	+/-1.9
Housing units without a mortgage	4,473	+/-206	45.5%	+/-1.9
SELECTED MONTHLY OWNER COSTS (SMOC)				
Housing units with a mortgage	5,360	+/-249	5,360	(X)
Less than $500	212	+/-60	4.0%	+/-1.1
$500 to $999	2,340	+/-211	43.7%	+/-3.5
$1,000 to $1,499	1,968	+/-215	36.7%	+/-3.4
$1,500 to $1,999	553	+/-85	10.3%	+/-1.5
$2,000 to $2,499	193	+/-56	3.6%	+/-1.1
$2,500 to $2,999	55	+/-29	1.0%	+/-0.5
$3,000 or more	39	+/-20	0.7%	+/-0.4
Median (dollars)	1,028	+/-39	(X)	(X)
Housing units without a mortgage	4,473	+/-206	4,473	(X)
Less than $250	693	+/-96	15.5%	+/-2.0
$250 to $399	1,624	+/-117	36.3%	+/-2.4
$400 to $599	1,432	+/-147	32.0%	+/-2.7
$600 to $799	490	+/-85	11.0%	+/-1.8
$800 to $999	178	+/-67	4.0%	+/-1.5
$1,000 or more	56	+/-25	1.3%	+/-0.6
Median (dollars)	392	+/-11	(X)	(X)
SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (SMOCAPI)				
Housing units with a mortgage (excluding units where SMOCAPI cannot be computed)	5,328	+/-245	5,328	(X)
Less than 20.0 percent	2,647	+/-176	49.7%	+/-2.9
20.0 to 24.9 percent	706	+/-101	13.3%	+/-1.8
25.0 to 29.9 percent	537	+/-115	10.1%	+/-2.0
30.0 to 34.9 percent	335	+/-69	6.3%	+/-1.3

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
35.0 percent or more	1,103	+/-153	20.7%	+/-2.2
Not computed	32	+/-27	(X)	(X)
Housing unit without a mortgage (excluding units where SMOCAPI cannot be computed)	4,447	+/-205	4,447	(X)
Less than 10.0 percent	1,687	+/-137	37.9%	+/-2.8
10.0 to 14.9 percent	1,022	+/-124	23.0%	+/-2.6
15.0 to 19.9 percent	627	+/-111	14.1%	+/-2.4
20.0 to 24.9 percent	329	+/-71	7.4%	+/-1.5
25.0 to 29.9 percent	201	+/-53	4.5%	+/-1.2
30.0 to 34.9 percent	150	+/-40	3.4%	+/-0.9
35.0 percent or more	431	+/-86	9.7%	+/-1.8
Not computed	28	+/-14	(X)	(X)
GROSS RENT				
Occupied units paying rent	3,834	+/-258	3,834	(X)
Less than $500	1,099	+/-148	28.7%	+/-3.6
$500 to $999	2,431	+/-219	63.4%	+/-3.8
$1,000 to $1,499	185	+/-71	4.8%	+/-1.7
$1,500 to $1,999	82	+/-58	2.1%	+/-1.5
$2,000 to $2,499	0	+/-21	0.0%	+/-0.6
$2,500 to $2,999	0	+/-21	0.0%	+/-0.6
$3,000 or more	37	+/-44	1.0%	+/-1.1
Median (dollars)	608	+/-19	(X)	(X)
No rent paid	330	+/-93	(X)	(X)
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME (GRAPI)				
Occupied units paying rent (excluding units where GRAPI cannot be computed)	3,717	+/-270	3,717	(X)
Less than 15.0 percent	657	+/-114	17.7%	+/-3.0
15.0 to 19.9 percent	438	+/-111	11.8%	+/-2.9
20.0 to 24.9 percent	500	+/-127	13.5%	+/-3.3
25.0 to 29.9 percent	296	+/-87	8.0%	+/-2.3
30.0 to 34.9 percent	279	+/-74	7.5%	+/-1.9
35.0 percent or more	1,547	+/-206	41.6%	+/-4.2
Not computed	447	+/-121	(X)	(X)

American Community Survey, 2015 Estimates (Economics)

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
EMPLOYMENT STATUS				
Population 16 years and over	31,819	+/-171	31,819	(X)
In labor force	16,863	+/-424	53.0%	+/-1.4
Civilian labor force	16,683	+/-442	52.4%	+/-1.4
Employed	14,733	+/-388	46.3%	+/-1.3
Unemployed	1,950	+/-290	6.1%	+/-0.9
Armed Forces	180	+/-66	0.6%	+/-0.3
Not in labor force	14,956	+/-466	47.0%	+/-1.4
Civilian labor force	16,683	+/-442	16,683	(X)
Unemployment Rate	(X)	(X)	11.7%	+/-1.6
Females 16 years and over	14,129	+/-116	14,129	(X)
In labor force	8,085	+/-207	57.2%	+/-1.4
Civilian labor force	8,066	+/-214	57.1%	+/-1.4
Employed	7,234	+/-206	51.2%	+/-1.5
Own children of the householder under 6 years	2,340	+/-187	2,340	(X)
All parents in family in labor force	1,577	+/-214	67.4%	+/-5.9
Own children of the householder 6 to 17 years	5,026	+/-213	5,026	(X)
All parents in family in labor force	3,750	+/-300	74.6%	+/-4.6
COMMUTING TO WORK				
Workers 16 years and over	14,667	+/-362	14,667	(X)
Car, truck, or van -- drove alone	11,285	+/-386	76.9%	+/-1.6
Car, truck, or van -- carpooled	1,820	+/-200	12.4%	+/-1.4
Public transportation (excluding taxicab)	113	+/-46	0.8%	+/-0.3
Walked	745	+/-158	5.1%	+/-1.1
Other means	188	+/-58	1.3%	+/-0.4
Worked at home	516	+/-104	3.5%	+/-0.7

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
Mean travel time to work (minutes)	16.9	+/-0.7	(X)	(X)
OCCUPATION				
Civilian employed population 16 years and over	14,733	+/-386	14,733	(X)
Management, business, science, and arts occupations	4,523	+/-285	30.7%	+/-1.8
Service occupations	3,907	+/-276	26.5%	+/-1.7
Sales and office occupations	3,422	+/-283	23.2%	+/-1.9
Natural resources, construction, and maintenance occupations	1,132	+/-141	7.7%	+/-0.9
Production, transportation, and material moving occupations	1,749	+/-218	11.9%	+/-1.4
INDUSTRY				
Civilian employed population 16 years and over	14,733	+/-386	14,733	(X)
Agriculture, forestry, fishing and hunting, and mining	238	+/-59	1.6%	+/-0.4
Construction	843	+/-150	5.7%	+/-1.0
Manufacturing	1,010	+/-188	6.9%	+/-1.2
Wholesale trade	198	+/-79	1.3%	+/-0.5
Retail trade	1,655	+/-174	11.2%	+/-1.1
Transportation and warehousing, and utilities	480	+/-76	3.3%	+/-0.5
Information	301	+/-88	2.0%	+/-0.6
Finance and insurance, and real estate and rental and leasing	529	+/-122	3.6%	+/-0.8
Professional, scientific, and management, and administrative and waste management services	805	+/-164	5.5%	+/-1.1
Educational services, and health care and social assistance	4,070	+/-315	27.6%	+/-2.2
Arts, entertainment, and recreation, and accommodation and food services	2,353	+/-273	16.0%	+/-1.7
Other services, except public administration	748	+/-164	5.1%	+/-1.1
Public administration	1,505	+/-166	10.2%	+/-1.1
CLASS OF WORKER				
Civilian employed population 16 years and over	14,733	+/-386	14,733	(X)
Private wage and salary workers	9,378	+/-413	63.7%	+/-2.3
Government workers	4,343	+/-328	29.5%	+/-2.0
Self-employed in own not incorporated business workers	975	+/-138	6.6%	+/-0.9
Unpaid family workers	37	+/-17	0.3%	+/-0.1
INCOME AND BENEFITS (IN 2015 INFLATION-ADJUSTED DOLLARS)				
Total households	13,997	+/-290	13,997	(X)
Less than $10,000	1,192	+/-164	8.5%	+/-1.1
$10,000 to $14,999	1,031	+/-157	7.4%	+/-1.1
$15,000 to $24,999	2,161	+/-238	15.4%	+/-1.6
$25,000 to $34,999	1,589	+/-212	11.4%	+/-1.5
$35,000 to $49,999	2,176	+/-184	15.5%	+/-1.4
$50,000 to $74,999	2,708	+/-212	19.3%	+/-1.5
$75,000 to $99,999	1,734	+/-168	12.4%	+/-1.3
$100,000 to $149,999	976	+/-139	7.0%	+/-1.0
$150,000 to $199,999	281	+/-79	2.0%	+/-0.6
$200,000 or more	157	+/-44	1.1%	+/-0.3
Median household income (dollars)	41,993	+/-1,700	(X)	(X)
Mean household income (dollars)	52,832	+/-2,081	(X)	(X)
With earnings	9,693	+/-287	69.3%	+/-1.2
Mean earnings (dollars)	51,707	+/-2,095	(X)	(X)
With Social Security	5,265	+/-168	37.6%	+/-1.2
Mean Social Security income (dollars)	17,705	+/-468	(X)	(X)
With retirement income	3,484	+/-161	24.9%	+/-1.1
Mean retirement income (dollars)	20,955	+/-1,397	(X)	(X)

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
With Supplemental Security Income	891	+/-134	6.4%	+/-0.9
Mean Supplemental Security Income (dollars)	9,431	+/-1,011	(X)	(X)
With cash public assistance income	385	+/-93	2.8%	+/-0.7
Mean cash public assistance income (dollars)	3,259	+/-912	(X)	(X)
With Food Stamp/SNAP benefits in the past 12 months	2,297	+/-195	16.4%	+/-1.3
Families	8,808	+/-272	8,808	(X)
Less than $10,000	461	+/-113	5.2%	+/-1.2
$10,000 to $14,999	349	+/-89	4.0%	+/-1.0
$15,000 to $24,999	924	+/-143	10.5%	+/-1.6
$25,000 to $34,999	932	+/-152	10.6%	+/-1.6
$35,000 to $49,999	1,491	+/-162	16.9%	+/-1.9
$50,000 to $74,999	2,035	+/-188	23.1%	+/-2.0
$75,000 to $99,999	1,370	+/-164	15.6%	+/-1.8
$100,000 to $149,999	845	+/-118	9.6%	+/-1.3
$150,000 to $199,999	250	+/-72	2.8%	+/-0.8
$200,000 or more	151	+/-44	1.7%	+/-0.5
Median family income (dollars)	52,058	+/-1,757	(X)	(X)
Mean family income (dollars)	63,758	+/-3,089	(X)	(X)
Per capita income (dollars)	20,396	+/-728	(X)	(X)
Nonfamily households	5,189	+/-303	5,189	(X)
Median nonfamily income (dollars)	23,063	+/-1,442	(X)	(X)
Mean nonfamily income (dollars)	32,295	+/-1,643	(X)	(X)
Median earnings for workers (dollars)	20,456	+/-962	(X)	(X)
Median earnings for male full-time, year-round workers (dollars)	40,075	+/-3,350	(X)	(X)
Median earnings for female full-time, year-round workers (dollars)	31,817	+/-1,226	(X)	(X)
HEALTH INSURANCE COVERAGE				
Civilian noninstitutionalized population	34,898	+/-311	34,898	(X)
With health insurance coverage	30,789	+/-445	88.2%	+/-1.1
With private health insurance	22,741	+/-666	65.2%	+/-1.9
With public coverage	14,043	+/-667	40.2%	+/-1.8
No health insurance coverage	4,109	+/-393	11.8%	+/-1.1
Civilian noninstitutionalized population under 18 years	7,790	+/-177	7,790	(X)
No health insurance coverage	507	+/-115	6.5%	+/-1.5
Civilian noninstitutionalized population 18 to 64 years	21,191	+/-294	21,191	(X)
In labor force:	15,674	+/-418	15,674	(X)
Employed:	13,885	+/-359	13,885	(X)
With health insurance coverage	11,623	+/-356	83.7%	+/-2.2
With private health insurance	10,606	+/-401	76.4%	+/-2.5
With public coverage	1,437	+/-231	10.3%	+/-1.7
No health insurance coverage	2,262	+/-321	16.3%	+/-2.2
Unemployed:	1,789	+/-278	1,789	(X)
With health insurance coverage	1,154	+/-199	64.5%	+/-6.8
With private health insurance	683	+/-132	38.2%	+/-6.0
With public coverage	559	+/-141	31.2%	+/-5.9
No health insurance coverage	635	+/-168	35.5%	+/-6.8
Not in labor force:	5,517	+/-315	5,517	(X)
With health insurance coverage	4,822	+/-320	87.4%	+/-2.3
With private health insurance	2,943	+/-257	53.3%	+/-3.7

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
With public coverage	2,479	+/-227	44.9%	+/-3.1
No health insurance coverage	695	+/-125	12.6%	+/-2.3
PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL				
All families	(X)	(X)	12.4%	+/-1.7
With related children of the householder under 18 years	(X)	(X)	21.8%	+/-3.2
With related children of the householder under 5 years only	(X)	(X)	23.8%	+/-7.8
Married couple families	(X)	(X)	5.7%	+/-1.3
With related children of the householder under 18 years	(X)	(X)	8.9%	+/-3.0
With related children of the householder under 5 years only	(X)	(X)	7.3%	+/-4.9
Families with female householder, no husband present	(X)	(X)	42.0%	+/-7.3
With related children of the householder under 18 years	(X)	(X)	50.2%	+/-8.9
With related children of the householder under 5 years only	(X)	(X)	58.0%	+/-17.9
All people	(X)	(X)	18.9%	+/-1.8
Under 18 years	(X)	(X)	28.6%	+/-3.8
Related children of the householder under 18 years	(X)	(X)	28.3%	+/-3.8
Related children of the householder under 5 years	(X)	(X)	41.1%	+/-8.9
Related children of the householder 5 to 17 years	(X)	(X)	23.7%	+/-4.5
18 years and over	(X)	(X)	16.1%	+/-1.7
18 to 64 years	(X)	(X)	18.4%	+/-2.1
65 years and over	(X)	(X)	8.1%	+/-1.6
People in families	(X)	(X)	14.8%	+/-1.8
Unrelated individuals 15 years and over	(X)	(X)	33.6%	+/-3.8

American Community Survey, 2015 estimates (Social)

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
HOUSEHOLDS BY TYPE				
Total households	13,997	+/-290	13,997	(X)
Family households (families)	8,808	+/-272	62.9%	+/-1.8
With own children of the householder under 18 years	3,484	+/-193	24.9%	+/-1.3
Married-couple family	6,854	+/-242	49.0%	+/-1.7
With own children of the householder under 18 years	2,173	+/-168	15.5%	+/-1.2
Male householder, no wife present, family	672	+/-141	4.8%	+/-1.0
With own children of the householder under 18 years	420	+/-92	3.0%	+/-0.7
Female householder, no husband present, family	1,282	+/-149	9.2%	+/-1.1
With own children of the householder under 18 years	891	+/-127	6.4%	+/-0.9
Nonfamily households	5,189	+/-303	37.1%	+/-1.8
Householder living alone	4,316	+/-250	30.8%	+/-1.6
65 years and over	1,695	+/-138	12.1%	+/-0.9
Households with one or more people under 18 years	3,888	+/-197	27.8%	+/-1.3
Households with one or more people 65 years and over	4,172	+/-116	29.8%	+/-0.8
Average household size	2.46	+/-0.04	(X)	(X)
Average family size	3.05	+/-0.07	(X)	(X)
RELATIONSHIP				
Population in households	34,395	+/-348	34,395	(X)
Householder	13,997	+/-290	40.7%	+/-0.7
Spouse	6,789	+/-247	19.7%	+/-0.7
Child	9,775	+/-350	28.4%	+/-1.0
Other relatives	1,485	+/-259	4.3%	+/-0.8
Nonrelatives	2,349	+/-291	6.8%	+/-0.8
Unmarried partner	981	+/-145	2.9%	+/-0.4

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
MARITAL STATUS				
Males 15 years and over	17,874	+/-177	17,874	(X)
Never married	7,370	+/-307	41.2%	+/-1.5
Now married, except separated	7,462	+/-249	41.7%	+/-1.4
Separated	216	+/-75	1.2%	+/-0.4
Widowed	431	+/-91	2.4%	+/-0.5
Divorced	2,395	+/-193	13.4%	+/-1.1
Females 15 years and over	14,376	+/-125	14,376	(X)
Never married	3,901	+/-221	27.1%	+/-1.5
Now married, except separated	7,047	+/-265	49.0%	+/-1.9
Separated	162	+/-64	1.1%	+/-0.4
Widowed	1,511	+/-164	10.5%	+/-1.2
Divorced	1,755	+/-162	12.2%	+/-1.3
FERTILITY				
Number of women 15 to 50 years old who had a birth in the past 12 months	456	+/-129	456	(X)
Unmarried women (widowed, divorced, and never married)	255	+/-112	55.9%	+/-13.4
Per 1,000 unmarried women	57	+/-34	(X)	(X)
Per 1,000 women 15 to 50 years old	58	+/-16	(X)	(X)
Per 1,000 women 15 to 19 years old	50	+/-25	(X)	(X)
Per 1,000 women 20 to 34 years old	98	+/-52	(X)	(X)
Per 1,000 women 35 to 50 years old	31	+/-15	(X)	(X)
GRANDPARENTS				
Number of grandparents living with own grandchildren under 18 years	622	+/-143	622	(X)
Grandparents responsible for grandchildren	337	+/-97	54.2%	+/-13.7
Years responsible for grandchildren				
Less than 1 year	86	+/-50	13.8%	+/-7.5
1 or 2 years	47	+/-27	7.6%	+/-4.5
3 or 4 years	56	+/-35	9.0%	+/-5.5
5 or more years	148	+/-68	23.8%	+/-10.7
Number of grandparents responsible for own grandchildren under 18 years	337	+/-97	337	(X)
Who are female	202	+/-61	59.9%	+/-6.1
Who are married	265	+/-63	78.6%	+/-12.0
SCHOOL ENROLLMENT				
Population 3 years and over enrolled in school	8,870	+/-372	8,870	(X)
Nursery school, preschool	428	+/-90	4.8%	+/-1.0
Kindergarten	367	+/-79	4.1%	+/-0.9
Elementary school (grades 1-8)	3,493	+/-196	39.4%	+/-2.4
High school (grades 9-12)	1,844	+/-147	20.8%	+/-1.7
College or graduate school	2,738	+/-333	30.9%	+/-2.9
EDUCATIONAL ATTAINMENT				
Population 25 years and over	26,283	+/-234	26,283	(X)
Less than 9th grade	775	+/-131	2.9%	+/-0.5
9th to 12th grade, no diploma	2,117	+/-254	8.1%	+/-1.0
High school graduate (includes equivalency)	9,927	+/-370	37.8%	+/-1.4
Some college, no degree	6,475	+/-390	24.6%	+/-1.5
Associate's degree	1,965	+/-188	7.5%	+/-0.7
Bachelor's degree	3,102	+/-290	11.8%	+/-1.1
Graduate or professional degree	1,922	+/-190	7.3%	+/-0.7
Percent high school graduate or higher	(X)	(X)	89.0%	+/-1.1
Percent bachelor's degree or higher	(X)	(X)	19.1%	+/-1.2

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
VETERAN STATUS				
Civilian population 18 years and over	30,616	+/-207	30,616	(X)
Civilian veterans	3,540	+/-250	11.6%	+/-0.8
DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION				
Total Civilian Noninstitutionalized Population	34,898	+/-311	34,898	(X)
With a disability	6,267	+/-441	18.0%	+/-1.2
Under 18 years	7,790	+/-177	7,790	(X)
With a disability	635	+/-130	8.2%	+/-1.7
18 to 64 years	21,191	+/-294	21,191	(X)
With a disability	3,331	+/-328	15.7%	+/-1.5
65 years and over	5,917	+/-81	5,917	(X)
With a disability	2,301	+/-174	38.9%	+/-2.9
RESIDENCE 1 YEAR AGO				
Population 1 year and over	38,127	+/-109	38,127	(X)
Same house	31,514	+/-510	82.7%	+/-1.3
Different house in the U.S.	6,477	+/-518	17.0%	+/-1.4
Same county	3,468	+/-447	9.1%	+/-1.2
Different county	3,009	+/-481	7.9%	+/-1.3
Same state	2,239	+/-348	5.9%	+/-0.9
Different state	770	+/-282	2.0%	+/-0.8
Abroad	136	+/-66	0.4%	+/-0.2
PLACE OF BIRTH				
Total population	38,586	*****	38,586	(X)
Native	37,538	+/-163	97.3%	+/-0.4
Born in United States	36,767	+/-247	95.3%	+/-0.6
State of residence	30,847	+/-457	79.9%	+/-1.2
Different state	5,920	+/-408	15.3%	+/-1.1
Born in Puerto Rico, U.S. Island areas, or born abroad to American parent(s)	771	+/-186	2.0%	+/-0.5
Foreign born	1,048	+/-163	2.7%	+/-0.4
U.S. CITIZENSHIP STATUS				
Foreign-born population	1,048	+/-163	1,048	(X)
Naturalized U.S. citizen	446	+/-79	42.6%	+/-8.0
Not a U.S. citizen	602	+/-152	57.4%	+/-8.0
YEAR OF ENTRY				
Population born outside the United States	1,819	+/-247	1,819	(X)
Native	771	+/-186	771	(X)
Entered 2010 or later	40	+/-33	5.2%	+/-4.0
Entered before 2010	731	+/-175	94.8%	+/-4.0
Foreign born	1,048	+/-163	1,048	(X)
Entered 2010 or later	169	+/-84	16.1%	+/-7.6
Entered before 2010	879	+/-158	83.9%	+/-7.6
WORLD REGION OF BIRTH OF FOREIGN BORN				
Foreign-born population, excluding population born at sea	1,048	+/-163	1,048	(X)
Europe	143	+/-54	13.6%	+/-5.0
Asia	300	+/-84	28.6%	+/-8.1

Subject	Chippewa County, Michigan			
	Estimate	Margin of Error	Percent	Percent Margin of Error
Africa	46	+/-55	4.4%	+/-5.1
Oceania	12	+/-16	1.1%	+/-1.5
Latin America	112	+/-90	10.7%	+/-8.0
Northern America	435	+/-102	41.5%	+/-7.1
LANGUAGE SPOKEN AT HOME				
Population 5 years and over	38,504	+/-173	38,504	(X)
English only	34,948	+/-266	95.7%	+/-0.6
Language other than English	1,556	+/-221	4.3%	+/-0.6
Speak English less than "very well"	302	+/-80	0.8%	+/-0.2
Spanish	408	+/-96	1.1%	+/-0.3
Speak English less than "very well"	94	+/-46	0.3%	+/-0.1
Other Indo-European languages	433	+/-129	1.2%	+/-0.4
Speak English less than "very well"	96	+/-44	0.3%	+/-0.1
Asian and Pacific Islander languages	149	+/-46	0.4%	+/-0.1
Speak English less than "very well"	54	+/-30	0.1%	+/-0.1
Other languages	566	+/-132	1.6%	+/-0.4
Speak English less than "very well"	58	+/-27	0.2%	+/-0.1
ANCESTRY				
Total population	38,586	*****	38,586	(X)
American	1,469	+/-265	3.8%	+/-0.7
Arab	372	+/-129	1.0%	+/-0.3
Czech	120	+/-53	0.3%	+/-0.1
Danish	143	+/-61	0.4%	+/-0.2
Dutch	1,385	+/-282	3.6%	+/-0.7
English	4,082	+/-310	10.6%	+/-0.8
French (except Basque)	2,927	+/-327	7.6%	+/-0.8
French Canadian	755	+/-138	2.0%	+/-0.4
German	6,705	+/-479	17.4%	+/-1.2
Greek	110	+/-76	0.3%	+/-0.2
Hungarian	199	+/-79	0.5%	+/-0.2
Irish	4,329	+/-462	11.2%	+/-1.2
Italian	1,621	+/-279	4.2%	+/-0.7
Lithuanian	21	+/-16	0.1%	+/-0.1
Norwegian	431	+/-119	1.1%	+/-0.3
Polish	2,148	+/-269	5.6%	+/-0.7
Portuguese	23	+/-29	0.1%	+/-0.1
Russian	154	+/-79	0.4%	+/-0.2
Scotch-Irish	476	+/-88	1.2%	+/-0.2
Scottish	947	+/-138	2.5%	+/-0.4
Slovak	13	+/-11	0.0%	+/-0.1
Subsaharan African	322	+/-156	0.8%	+/-0.4
Swedish	860	+/-137	2.2%	+/-0.4
Swiss	61	+/-45	0.2%	+/-0.1
Ukrainian	65	+/-35	0.2%	+/-0.1
Welsh	152	+/-58	0.4%	+/-0.1
West Indian (excluding Hispanic origin groups)	146	+/-176	0.4%	+/-0.5
COMPUTERS AND INTERNET USE				
Total households	(X)	(X)	(X)	(X)
With a computer	(X)	(X)	(X)	(X)
With a broadband Internet subscription	(X)	(X)	(X)	(X)

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data).

The effect of nonsampling error is not represented in these tables.

Ancestry listed in this table refers to the total number of people who responded with a particular ancestry; for example, the estimate given for Russian represents the number of people who listed Russian as either their first or second ancestry. This table lists only the largest ancestry groups; see the Detailed Tables for more categories. Race and Hispanic origin groups are not included in this table because official data for those groups come from the Race and Hispanic origin questions rather than the ancestry question (see Demographic Table).

Data for year of entry of the native population reflect the year of entry into the U.S. by people who were born in Puerto Rico, U.S. Island Areas or born outside the U.S. to a U.S. citizen parent and who subsequently moved to the U.S.

Fertility data are not available for certain geographic areas due to problems with data collection. See Errata Note #92 for details.

Methodological changes to data collection in 2013 may have affected language data for 2013. Users should be aware of these changes when using multi-year data containing data from 2013. For more information, see: Language User Note.

The Census Bureau introduced a new set of disability questions in the 2008 ACS questionnaire. Accordingly, comparisons of disability data from 2008 or later with data from prior years are not recommended. For more information on these questions and their evaluation in the 2006 ACS Content Test, see the Evaluation Report Covering Disability.

While the 2011-2015 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas, in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

Population Trend

Population* - Chippewa County 2000-2015
### (U.S. Census Bureau, American Community Survey)
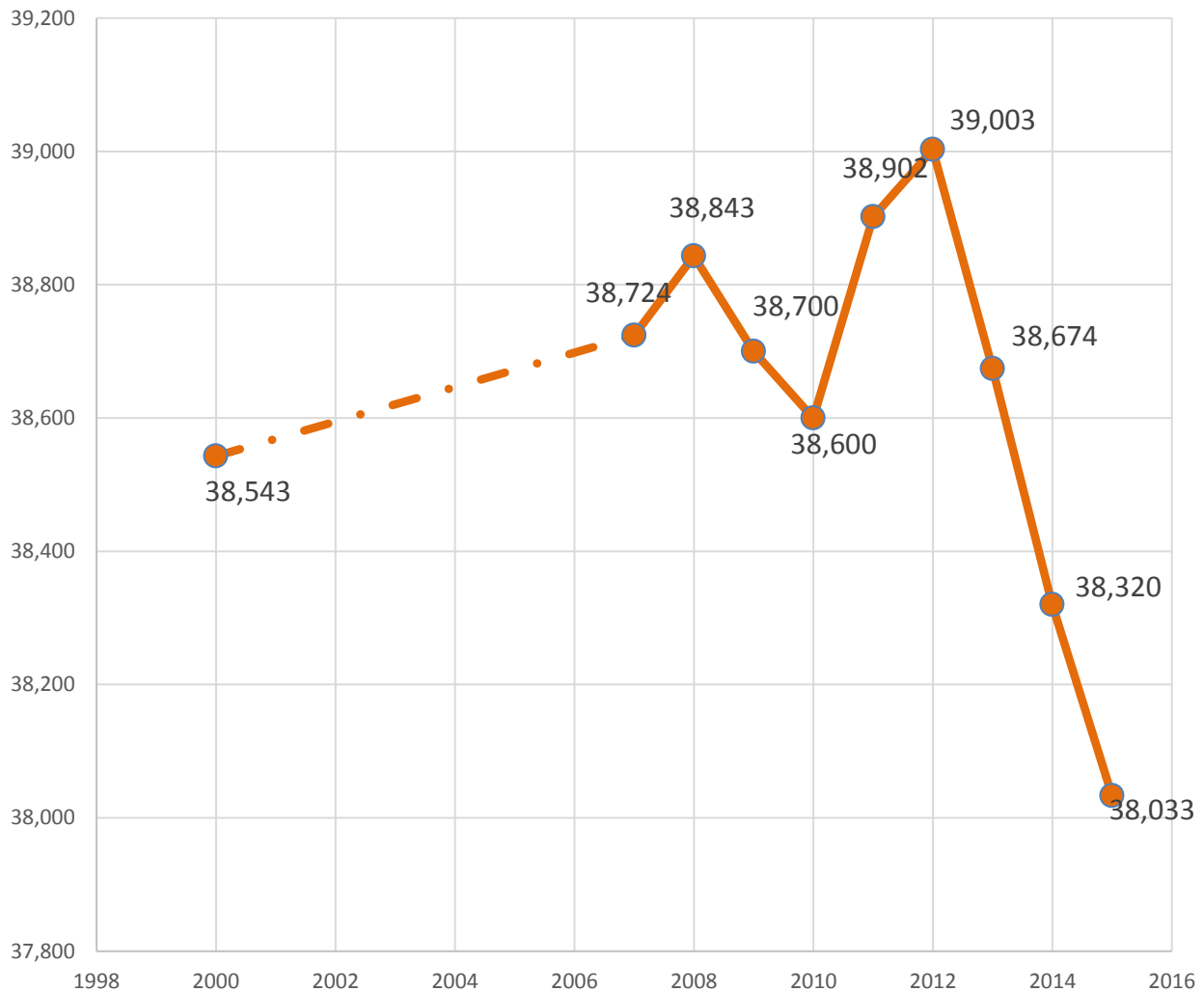
Approximately 2,300 people are enrolled in college or graduate school, and about 4,560 people are incarcerated in Chippewa County.

The county population declined by about 1,000, or roughly 2.5 percent, from 2012 to 2015, largely because of reductions in state prison censuses, but births have kept pace with deaths over the last few years, more so than in neighboring counties that have larger percentages of seniors, making for a fairly stable population that is slowly graying.

Population of Seniors

Age Distribution, Michigan and Chippewa County
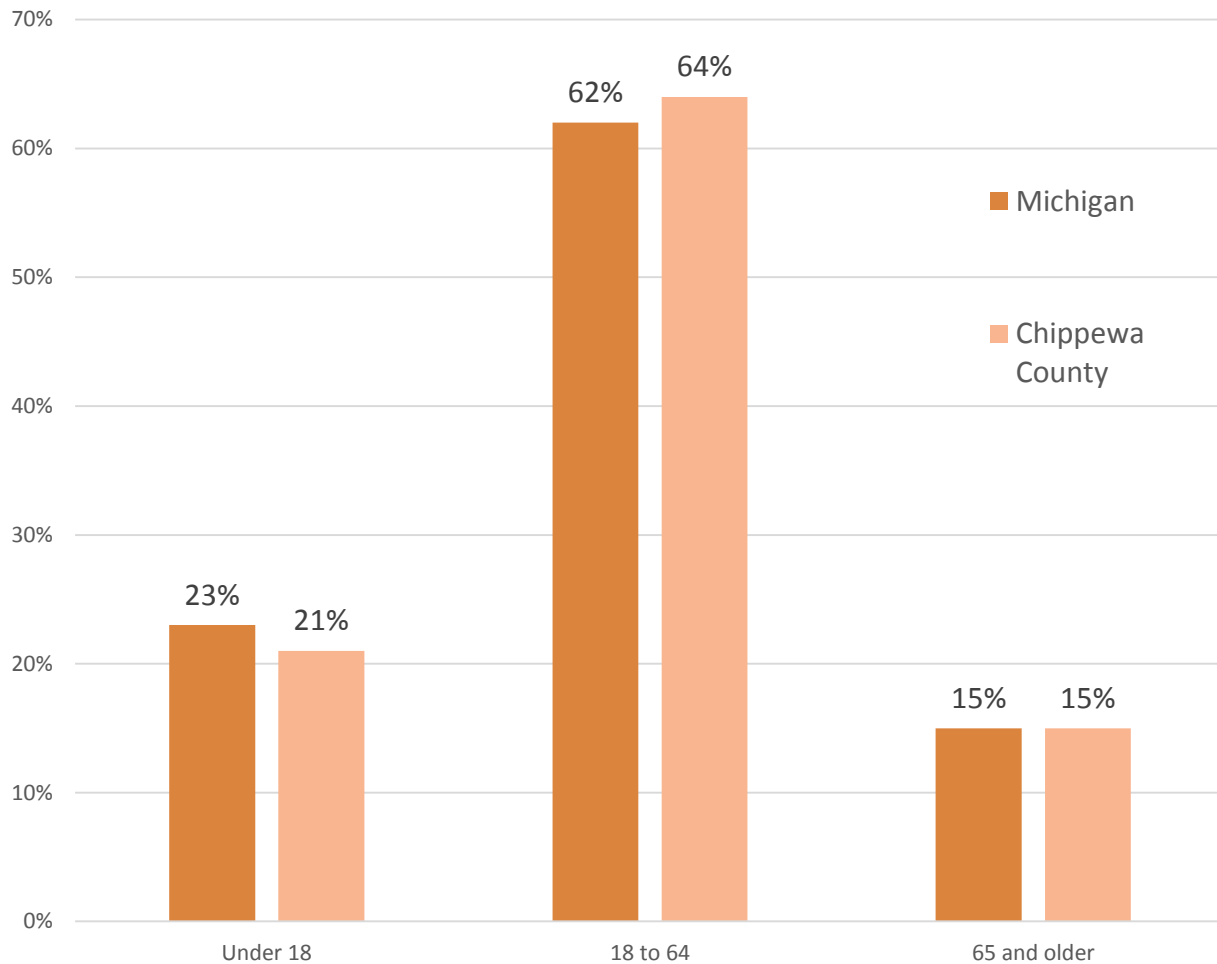
An estimated 15.0 percent of Chippewa County residents were age 65-plus in 2014 (and 15.8 percent in 2015, indicative of the trend), roughly the same as in the state and nation, but excluding incarcerated persons, the percentage of seniors probably exceeds 18 percent and should approach 20 percent by this end of the decade, a benchmark the United States is expected to reach by the year 2030.

This trend has important implications for planning. What will the chronic disease burden look like in a decade? What types of medical specialties will be needed? How many people will suffer from progressive and debilitating conditions like Alzheimer's disease, and what will their housing and daily care needs be? What other services, including transportation, meals and programs to relieve social isolation, will be needed? And will there be sufficient numbers of young people as workers and volunteers to maintain vibrant communities?

Race and Ethnicity

Population by Race, Chippewa County, 2014

Legend:
- White
- Black or African American
- American Indian and Alaska Native alone
- Asian alone
- Native Hawaiian and Other Pacific Islander alone
- Some other race alone
- Two or more race

Chart values: 71.5%, 6.8%, 14.9%, 0.8%, 0.2%, 0.0%, 5.8%
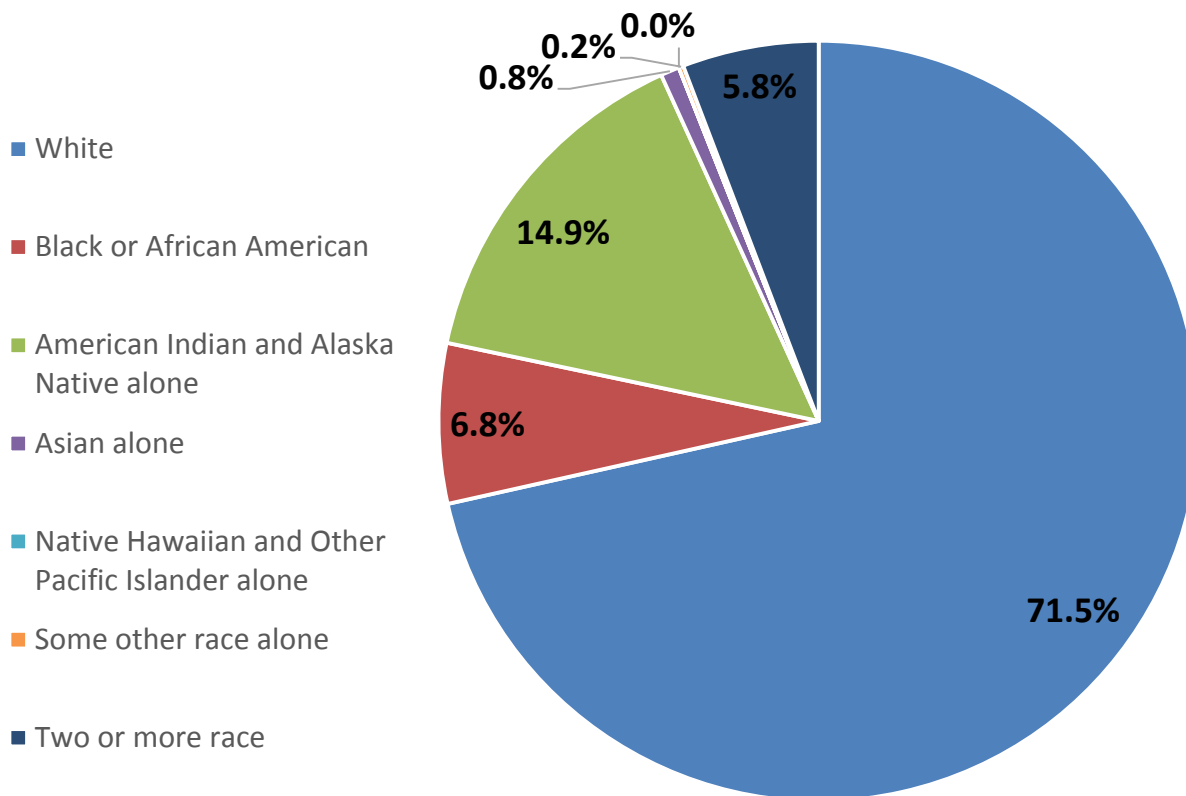
As the pie chart illustrates, Native Americans comprise the largest racial or ethnic minority in Chippewa County at nearly 15 percent, but, considering that U.S. Census data includes incarcerated men in state prison facilities within the county of residence which accounts for a sizeable portion of the 6.8 percent African Americans shown above, the actual percentages of Whites and Native Americans are likely somewhat higher that the figures given above, and the Native American population not including prisoners should approach 20 percent within the next 10 years.

While population health data cannot predict health status and behaviors of individuals, it is known from numerous studies that Native Americans across the country, in aggregate, suffer higher rates of cardiovascular disease, diabetes, alcohol, tobacco and drug abuse, and suicide than the population as a whole.

Educational Attainment: The Chippewa County high school graduation rate is similar to rates in surrounding counties and statewide. Less than 1-in-5 local residents has a bachelor's degree or higher, lower than the Michigan rate but higher than the rates in surrounding Eastern U.P. counties.

Education, Age 25+, 2014, Michigan and Chippewa County
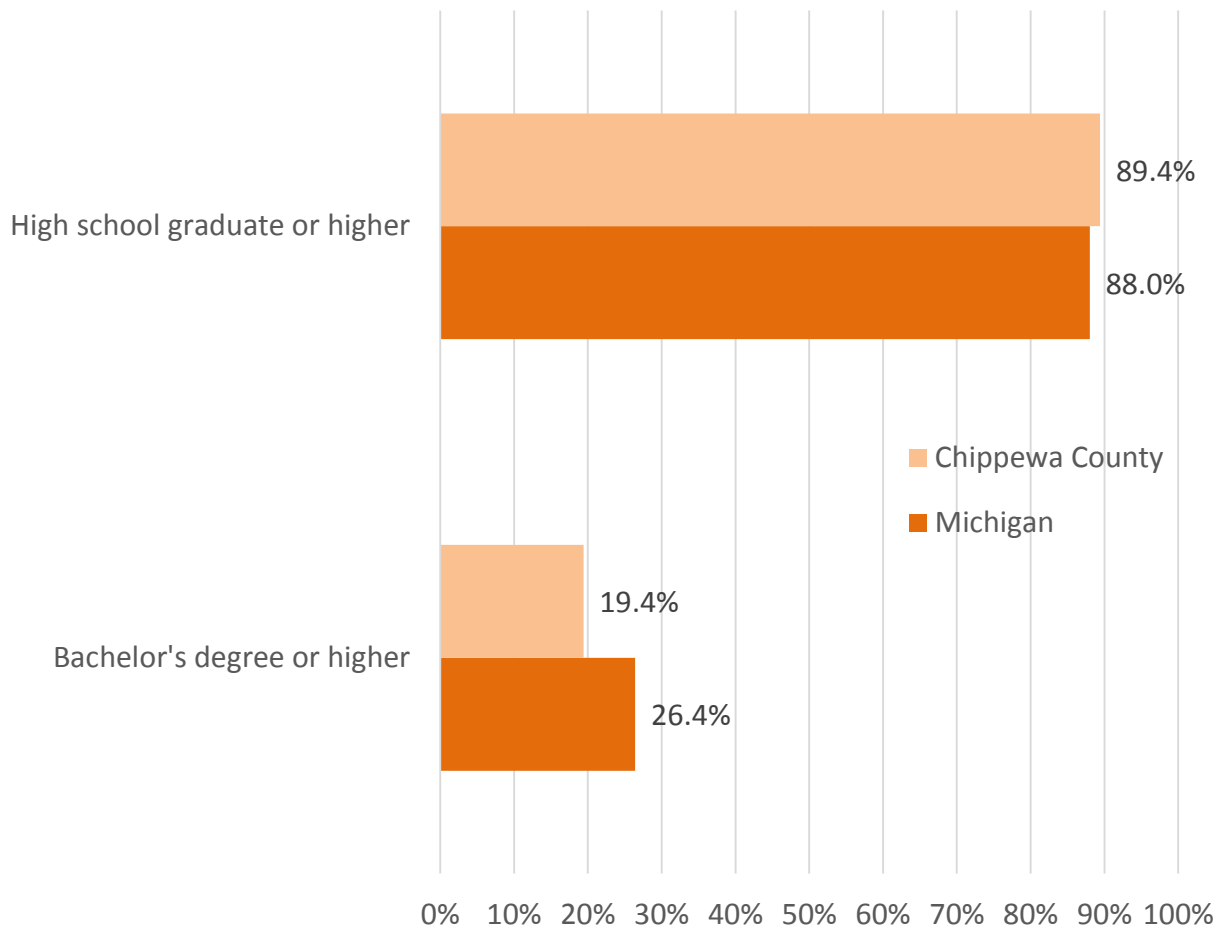
Educational attainment is an important social determinant of health. While people often think of differences in health access, behaviors and outcomes between racial or ethnic groups when they hear the phrase "health disparities," income and educational attainment are also strong correlates for health indicators, as people with higher incomes and educational levels tend to have higher rates for health insurance, preventive health service utilization, tobacco use, and even certain chronic diseases including heart disease and diabetes.

Vulnerable Populations and Access to Care

Vulnerable populations, in terms of community health, are groups of people who are at greater risk of disease, disability and difficulty accessing services, based on socioeconomic status or other social determinants of health. As defined by the World Health Organization (WHO), social determinants of health are "the circumstances in which people are born, grow up, live, work, and age, as well as the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics." Summarizing the same 2008 WHO report on health disparities, the Centers for Disease Control and Prevention (CDC) defines social determinants as:

> …the complex, integrated, and overlapping social structures and economic systems that are responsible for most health inequities. These social structures and economic systems include the social environment, physical environment, health services, and structural and societal factors. Social determinants of health are shaped by the distribution of money, power, and resources throughout local communities, nations, and the world.

Even in the United States, poverty is a statistically significant factor when health disparities are analyzed. Multiple studies in this country and other industrialized nations find that long-term living in poverty more than doubles the risk of chronic disease, disability and premature death. While a poor individual may live to 100 and a wealthy one may die young, in large population studies, those with the least wealth and educational attainment live less healthy and shorter lives. In recent Upper Peninsula health needs assessments and surveys conducted in other counties, disparities based on income, wealth and social standing persisted and were strongly evident.

According to government labor statistics, the United States experienced its longest period of high unemployment since the Great Depression beginning in late 2008, but the last couple of years have seen a return to jobless rates more typical of pre-Recession levels. For many U.P. communities, economic contraction and unemployment are nothing new; they have been the story, more or less, for decades. The region was especially hard hit, though, by the recent recession. In addition, frustrated job-seekers have left the active workforce and are not counted in official statistics, some are working part-time when full-time work is desired, and others, judging by population figures, have left the region seeking economic opportunity elsewhere.

Other economic data confirm that many Chippewa County residents live in or near poverty. Even with some incremental improvements in the last few years, median household incomes are about 80 percent of state and national levels. Greater than 18 percent of all residents, and 26 percent of children, live at or below the federal poverty line.

While it is important to understand that correlation does not prove causation, population health studies demonstrate that living in poverty poses a significant health risk factor. Most behavioral risk factor survey data show that low-income residents have poorer health status, lower rates of insurance coverage and utilization of preventive health care services, and higher rates of poor health habits, disease and disability. Low income individuals and families should be considered an important target for health education and promotion, and communities and providers should prioritize expanded access to care if they seek to reduce disparities.

Access to comprehensive health, mental health and dental services is important for the achievement of health equity and to increase the quality of life for all members of the community. "Access" means that an individual can gain entry into the health care system, find a health care location to obtain services and identify a health care provider with whom the patient can develop a trusting relationship. Barriers to access include:

- Provider shortages
- High cost
- Lack of insurance
- Transportation
- Language and cultural differences between the individual and the provider or system
- Patient perception of importance

A lack of access may lead to unmet health needs, delays in obtaining appropriate care, inability to get preventive services and preventable hospitalizations. Disparities in access affect individuals and the communities in which they live, often preventing people from reaching their potential and lowering their quality of life. Equity of access may be measured in terms of the availability, utilization and outcomes of services.

Clearly, one of the most significant barriers to access has been a lack of health insurance coverage for millions of U.S. residents, many of them low income and without other means to pay for health care. In March of 2010, President Obama signed into law the Patient Protection and Affordable Care Act (ACA). The major provisions of this law went into effect in 2014, although some components began earlier. The ACA emerged, as President Obama commented upon its signing, from "the core principle that everybody should have some basic security when it comes to their health care."

Since the passage of the Affordable Care Act six years ago, more than 20 million uninsured people have gained health coverage. Those gains come primarily from the insurance marketplace, young adults who can stay on their parents' plans until they turn 26, and Medicaid expansions (per Federal Health and Human Services agency). The ACA also eliminated the exclusion of coverage for individuals with pre-existing conditions. Certainly the ACA is making inroads on one of the barriers above, lack of insurance. Over the coming years, researchers will

be looking at how this increase in access impacts health outcomes for the population overall and for those at highest risk.

Two main federal health programs, Medicaid and Medicare, cover poor and low-income children and all seniors, respectively. Historically, the largest group in the United States without health insurance has been adults ages 18-64. This group may not have employer sponsored health care plans because they work in low-wage jobs without benefits, work for small employers, are self-employed, or are in fact unemployed, and have not been able to afford health insurance. Here are some facts about that group, from a study by the National Center for Health Statistics:

- In the first 3 months of 2012, 47.3 million persons of all ages (15.4%) were uninsured at the time of interview, 59.7 million (19.4%) had been uninsured for at least part of the year prior to interview, and 34.6 million (11.3%) had been uninsured for more than a year.

- Unemployed adults had poorer mental and physical health than employed adults; this pattern is found for insured and uninsured adults.

- Unemployed adults were less likely to receive needed medical care due to cost than the employed in each insurance category.

- The unemployed were less likely to receive needed prescriptions due to cost than the employed in all insurance categories.

- Uninsured adults were less likely to receive needed medical care and prescription drugs due to cost than those with public or private insurance, regardless of employment status.

According to data from the Michigan Behavioral Risk Factor Survey from interviews conducted in 2012-14, an estimated 15 percent of U.P. residents 18-64 years of age reported no health insurance coverage and 11.6 percent adults in the Chippewa County reported that they had not accessed healthcare in the past 12 months due to cost. Based on Chippewa County Healthy Michigan Plan enrollment and ACA Marketplace data, the rate of uninsured adults age 18-64 in Chippewa County likely dropped to about 5 percent by the end of 2016, but access to dental and mental health services is an ongoing concern due to health professional shortages and systemic barriers in financing for oral and mental health services.
Local Focus

- The median household income is about 16 percent lower in Chippewa County than statewide.

- An estimated 26 percent of children live at or below the poverty level.

- Local rates of uninsured adults have declined dramatically from an estimated 10-15 percent to perhaps 5 percent in the last two years since the implementation of the insurance mandate of the Affordable Care Act, largely due to Healthy Michigan Plan enrollment, although many people who have insurance are under-insured, i.e. have high copays or deductibles which make obtaining health services difficult or impossible.

- Health insurance coverage directly correlates with employment as most adults currently access health insurance through employer-funded plans. Increasing access to Medicaid insurance for poor adults may change this correlate.

- Low-income adults are less likely to access routine physical exams and preventive screenings. An estimated 11.6 percent of Chippewa County adults in 2012-14 had to forego needed health care in the previous year because cost was a barrier, and 28 percent received no dental care in the past year.

- Chippewa County is a federally designated Health Professional Shortage Area for primary care and oral health.

Potential Future Implications

- Low-income individuals and families are more likely to have poor health outcomes, so they are an important population for prevention and outreach. Many Chippewa County residents are vulnerable from a health standpoint because of their income status.

- The federal Affordable Care Act has expanded access to health insurance and preventive services, but what long-term impact this may have on the health outcomes of vulnerable populations is not yet known.
- The 2017 Congress is in the process of repealing some provisions and programs of the ACA, but it is impossible to predict what types of programs or funding appropriations will be developed to replace the ACA, and whether people who are currently eligible for the Healthy Michigan Plan or Marketplace plans will be able to keep their coverages, confounding the ability of planners to project access to and demand for medical services in years to come.

- Health disparities are related to economic status, independent of insurance coverage; therefore, expansion of health insurance is not expected to fully eliminate disparities of health outcomes as long as wide income inequalities persist.

- Poor oral health has been linked to other health concerns such as cardiovascular disease, and poorer birth outcomes for affected pregnant women. In addition, routine dental care provides an opportunity to screen for findings suggestive of head and neck cancers, diabetes and other disease processes. Lack of access to or utilization of these services may have a broad impact on the health status of local residents.
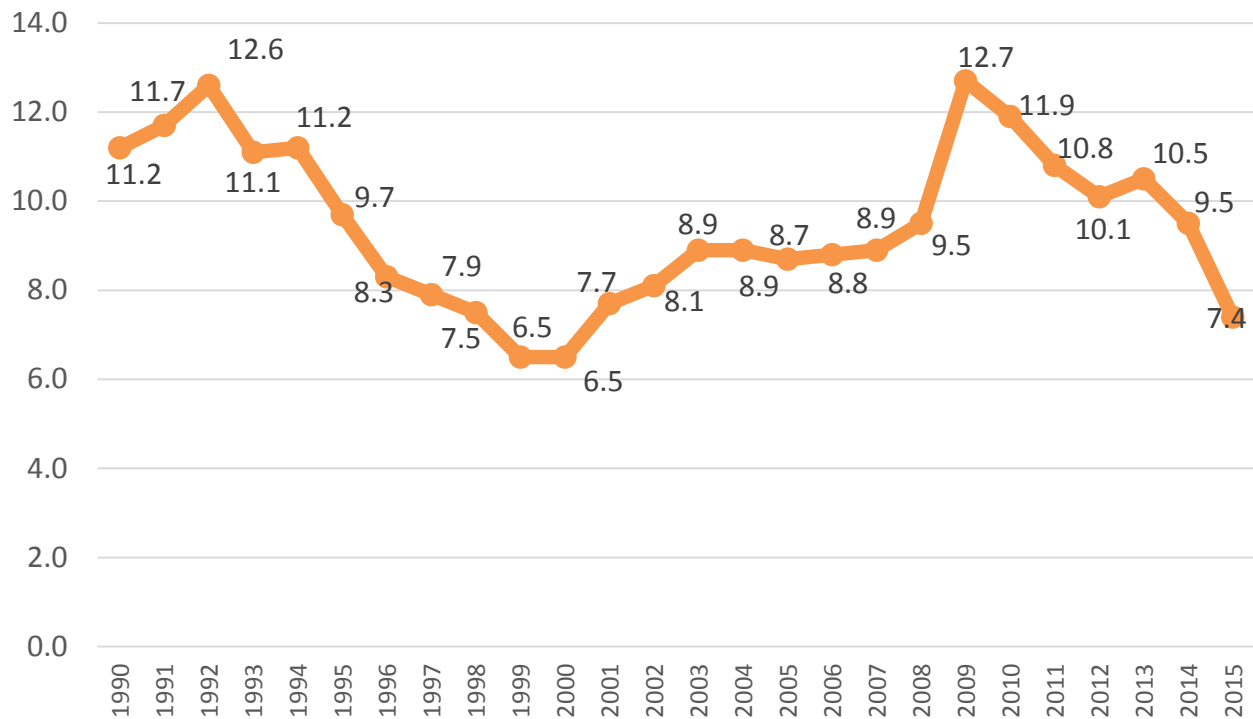
Poverty: From 2014 American Community Survey estimates, about 19 percent of Chippewa County residents, and 26 percent of children age 0-17, live in households at or below the federal poverty line. Poverty and poor health are strongly correlated on a population basis.

Poverty Rates by Age Group, Michigan and Chippewa County, 2014
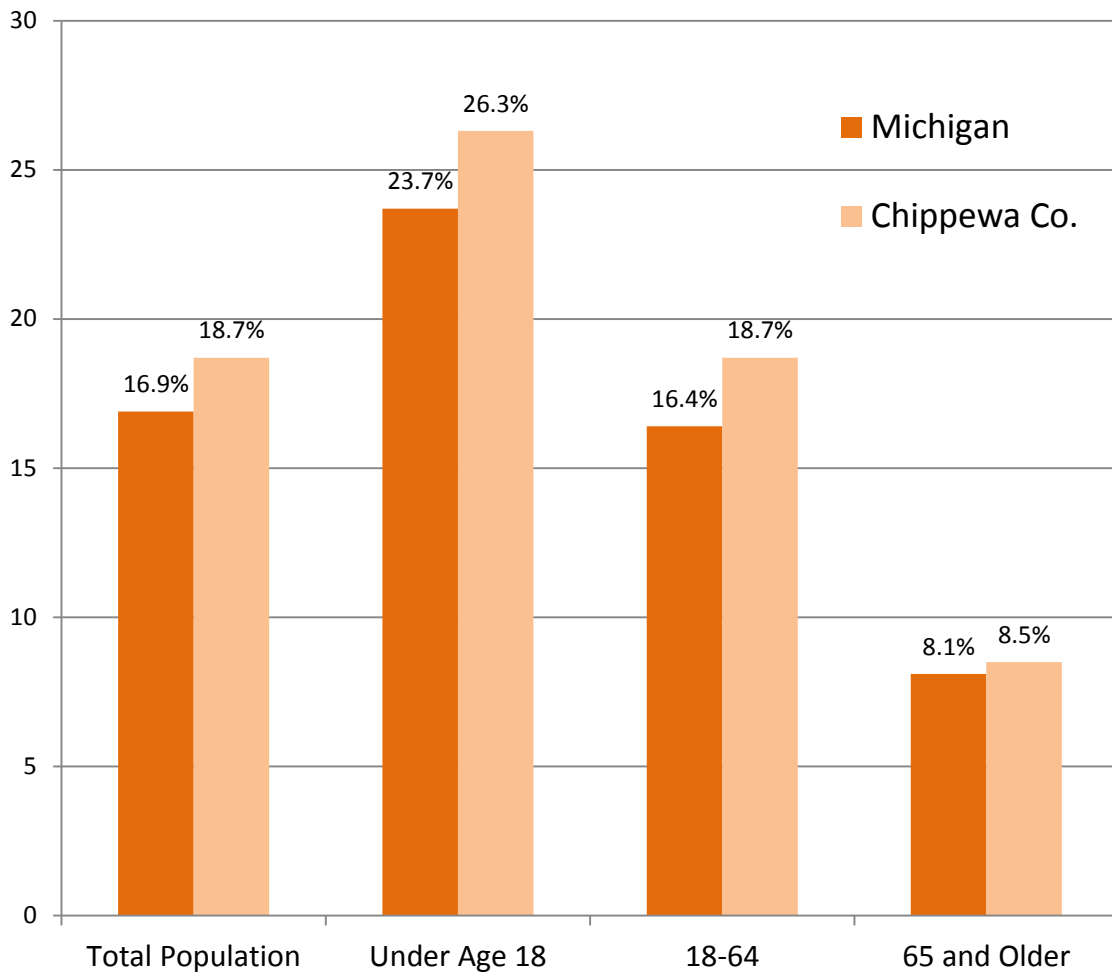
Unemployment: The official unemployment rate for Chippewa County has trended downward since its high point during the last recession in 2009-2011, to an annual average of 7.4 percent in 2015 *(please see graph, top of next page.)* The unemployment rate in Chippewa County in recent years has tended to be somewhat higher than the rates for Michigan and Houghton and Marquette counties, but lower (better) than in neighboring eastern U.P. areas owing to the presence of Lake Superior State, state prisons, and other relatively stable and reliable employers. Unemployment is a factor in health access as many families have employer-sponsored health insurance.

Annual Unemployment Rate, Chippewa Co., 1990-2015

Data points by year:
- 1990: 11.2
- 1991: 11.7
- 1992: 12.6
- 1993: 11.1
- 1994: 11.2
- 1995: 9.7
- 1996: 8.3
- 1997: 7.5
- 1998: 7.9
- 1999: 6.5
- 2000: 6.5
- 2001: 7.7
- 2002: 8.1
- 2003: 8.9
- 2004: 8.9
- 2005: 8.7
- 2006: 8.8
- 2007: 8.9
- 2008: 9.5
- 2009: 12.7
- 2010: 11.9
- 2011: 10.8
- 2012: 10.1
- 2013: 10.5
- 2014: 9.5
- 2015: 7.4

Healthy Michigan Plan: Michigan's version of Medicaid Expansion, implemented in April 2014, is a large factor in the reduction of the rate of uninsured adults over the last two years *(please see table, next page).*

- As of January 2017, more than 2,100 Chippewa County residents were enrolled in this "Medicaid Expansion" health insurance program run by MDHHS under the Affordable Care Act, about 11 percent of the non-incarcerated population, age 18-64.

- The rate of uninsured adults age 18-64 in Chippewa County has likely been reduced by more than half since 2014, due to the Healthy Michigan Plan, ACA Marketplace plans, and coverage for 18-25 year olds on parents' policies and people with pre-existing conditions who can now access insurance. Of these four reasons, Healthy Michigan Plan is undoubtedly the biggest factor.

- Many adults, especially between the ages of 18-39 who are less likely to have jobs that offer health insurance, may be accessing health care for the first time since their high school sports physicals, which could exacerbate a shortage of primary care providers.

- Health plans must cover 10 essential services (but not adult dental care).

Healthy Michigan Plan County Enrollment
January 9, 2017

County	Enrollee Count	County	Enrollee Count
ALCONA	686	LAPEER	4773
ALGER	490	LEELANAU	795
ALLEGAN	4737	LENAWEE	5068
ALPENA	2130	LIVINGSTON	5407
ANTRIM	1414	LUCE	417
ARENAC	1103	MACKINAC	603
BARAGA	619	MACOMB	52912
BARRY	2494	MANISTEE	1655
BAY	6756	MARQUETTE	4053
BENZIE	1124	MASON	1952
BERRIEN	9823	MECOSTA	2694
BRANCH	2448	MENOMINEE	1274
CALHOUN	8957	MIDLAND	4454
CASS	2848	MISSAUKEE	952
CHARLEVOIX	1326	MONROE	7169
CHEBOYGAN	2068	MONTCALM	3904
CHIPPEWA	2121	MONTMORENCY	621
CLARE	2569	MUSKEGON	13018
CLINTON	2434	NEWAYGO	3225
CRAWFORD	1080	OAKLAND	52498
DELTA	2318	OCEANA	1817
DICKINSON	1416	OGEMAW	1810
EATON	4453	ONTONAGON	420
EMMET	1911	OSCEOLA	1456
GENESEE	34463	OSCODA	623
GLADWIN	1733	OTSEGO	1702
GOGEBIC	1100	OTTAWA	7876
GRAND TRAVERSE	4612	PRESQUE ISLE	932
GRATIOT	2279	ROSCOMMON	2019
HILLSDALE	2706	SAGINAW	14069
HOUGHTON	2243	SAINT CLAIR	10111
HURON	1729	SAINT JOSEPH	3728
INGHAM	19019	SANILAC	2376
IONIA	3096	SCHOOLCRAFT	574
IOSCO	2055	SHIAWASSEE	3893
IRON	759	TUSCOLA	3645
ISABELLA	3974	UNKNOWN*	349
JACKSON	10116	VAN BUREN	4998
KALAMAZOO	14353	WASHTENAW	16795
KALKASKA	1309	WAYNE (City of Detroit)	85590
KENT	32155	WAYNE (excluding Detroit)	89047
KEWEENAW	149	WEXFORD	2458
LAKE	1026	**TOTAL**	629,933

* County may be unknown due to the homeless population or changes in address that are currently in process.

HPSA

The tables below list the current federal Health Care Professional Shortage Area (HPSA) designations that apply to Chippewa County. The county is a shortage area for primary care and dental care.

Area, Population or Clinic	Care Type	Date Designated
Chippewa - Single County	Dental Health	9/13/2013
Chippewa - Single County	Primary Care	2/14/2011
Medicaid Eligible - Chippewa County - HPSA Population	Dental Health	9/13/2013
Low Income - Chippewa County - HPSA Population	Primary Care	2/14/2011
Sault St. Marie Health and Human Services - Native American Tribal Population	Primary Care	11/9/2015
Sault St. Marie Health and Human Services - Native American Tribal Population	Dental Health	7/19/2011
Sault St. Marie Health and Human Services - Native American Tribal Population	Mental Health	7/19/2011
Inter-Tribal Council of Michigan, Inc. - Native American Tribal Population	Primary Care	10/26/2002
Kinross Correctional Facility - Correctional Facility	Dental Health	12/28/2015
Chippewa Correctional Facility - Correctional Facility	Dental Health	12/3/2015
Bay Mills Indian Community - Comprehensive Health Center	Primary Care	8/15/2014
Bay Mills Indian Community - Comprehensive Health Center	Dental Health	8/15/2014
Bay Mills Indian Community - Comprehensive Health Center	Mental Health	8/15/2014

Area, Population or Clinic	Care Type	Date Designated
WMH - Community Care Clinic - Rural Health Clinic	Mental Health	1/8/2015
WMH - Community Care Clinic - Rural Health Clinic	Dental Health	1/8/2015
WMH - Community Care Clinic - Rural Health Clinic	Primary Care	1/8/2015
Superior Family Medical Associates - Rural Health Clinic	Primary Care	9/29/2014
Riverside Medical Associates Primary Care - Rural Health Clinic	Primary Care	7/17/2012
Riverside Medical Associates Primary Care - Rural Health Clinic	Dental Health	7/17/2012
Riverside Medical Associates Primary Care - Rural Health Clinic	Mental Health	4/26/2007
Pickford Medical Center - Rural Health Clinic	Primary Care	2/2/2015
Paradise Community Health Clinic - Rural Health Clinic	Primary Care	12/30/2013
Community Care Clinic - Rural Health Clinic	Mental Health	12/17/2015
Community Care Clinic - Rural Health Clinic	Dental Health	12/17/2015
Community Care Clinic - Rural Health Clinic	Primary Care	12/17/2014
Community Care Clinic - Kinross - Rural Health Clinic	Mental Health	1/8/2015
Community Care Clinic - Kinross - Rural Health Clinic	Dental Health	1/8/2015
Community Care Clinic - Kinross - Rural Health Clinic	Primary Care	1/8/2015

Maternal, Infant and Child Health

According to Centers for Disease Control and Prevention (CDC), improving the health of mothers, infants, and children is an important public health goal for the United States. Their well-being determines the health of the next generation and can help predict future public health challenges for families, communities, and the health care system.

A wide range of social determinants impact the well-being of women, infants and children including race/ethnicity, income, educational attainment, access to health care and the physical environment. In spite of significant improvements over the years in maternal health, many studies show that an increasing number of pregnant women in the United States have chronic health conditions such as high blood pressure, diabetes, or heart disease that may put them at higher risk of adverse outcomes.

Reduction in maternal and infant mortality and preterm and low birthweight births are important Healthy People 2020 goals. Although pregnancy-related mortality for women has declined in the United States, approximately 700 women still die of pregnancy-related causes each year and 65,000 have serious health complications, according to the CDC.

Preterm birth is the birth of an infant before 37 weeks of pregnancy and is the greatest contributor to infant deaths, with most preterm-related deaths occurring among babies who were born before 32 weeks gestation. Preterm birth is also a leading cause of long-term neurological disabilities in children. In 2014, preterm birth affected about 1 of every 10 infants born in the United States. Fortunately, most newborns grow and thrive. However, for every 1,000 babies that are born in the Unites States, nearly six die during their first year. Most of these babies die as a result of birth defects, preterm birth, sudden infant death syndrome, complications of pregnancy, and injuries.

According to 2015 estimates from the World Fact Book, the United States trails 56 other countries with lower (better) infant mortality rates, including all European countries, the United Kingdom, Canada, Poland, Croatia, Scandinavia and Japan. Monaco had the lowest rate at 1.82 infant deaths per 1,000 live births. The United States estimate was 5.87 deaths per 1,000 births (an improvement over 2010's rate of 6.1/1,000), and the country with the highest infant mortality was Afghanistan, with a staggering 115.8 per 1,000, or one-in-seven.

The risk of maternal and infant mortality and pregnancy-related complications can be reduced by increasing access to quality care before, during and after pregnancy. In addition, healthy birth and early identification and treatment of health problems among infants can prevent death or disability and enable children to reach their full potential. A few key points from the CDC's Pregnancy Risk Assessment Monitoring System (PRAMS) and other sources include:

- In 2011, approximately 10.2 percent of women nationally reported smoking during

the last 3 months of pregnancy. In Michigan that number was 14.9 percent. Tobacco use during pregnancy is associated with an increased risk of poor outcomes including low birthweight, prematurity, birth defects and sudden unexpected infant death (SUID).

- In 2011, approximately 45 percent of U.S. women were overweight or obese prior to conception. In Michigan this percentage was 50.3 percent. Overweight and obesity places women at higher risk of diabetes, longer hospital stays and caesarean section. They are also at risk for complications later in life including diabetes, heart disease and some cancers. Their infants are at risk of being stillborn, premature, too heavy and of having birth defects,

- Only 66.8 percent of U.S. women and 74.6 percent of Michigan women report adequate prenatal care as assessed by the Kessner index, a commonly used algorithm for evaluating the adequacy of prenatal care.

- According to a large study of more than 4,000 women, approximately one in seven women were identified with and treated for depression during the 39 weeks before pregnancy through 39 weeks after pregnancy, and more than half of these women had recurring indicators for depression. Maternal depression has been associated with inadequate prenatal care, poor nutrition, higher preterm birth and low birth weight and may have a profound impact on the social-emotional and cognitive development of infants.

- Routine vaccination of women before and during pregnancy as outlined by the CDC, can positively impact the health of their infants. Similarly, timely administration of recommended childhood vaccines can protect infants and children from a broad array of vaccine-preventable illnesses.

Local Focus

- There are about 360 births per year to Chippewa County residents.

- Local cigarette smoking during pregnancy far exceeds state levels with a long term average of greater than 35 percent of Chippewa County pregnant women reporting at least some tobacco use during pregnancy. As noted above, tobacco exposure increases the risk of prematurity, low birthweight and Sudden Infant Death (SIDS) for these children.

- Immunization is one of the most important tools available to protect the health of children in our communities. It is important to maintain high levels of immunization within communities in order to limit the spread of infectious disease. The percent of

coverage needed depends on the virus or bacteria targeted. For example, measles, with its easy transmissibility, requires vaccination coverage of 93-94 percent of the population to be most effective, while coverage in the mid-80 percent range would suffice for mumps. Unfortunately, at the state and in most U.P. counties, rates for the primary series of vaccines completed by 36 months are below 80 percent. Chippewa County recently had 74.7 percent immunization completion rate at 19-35 months, ranking 49th among 82 Michigan counties.

Potential Future Implications

- Tobacco prevention efforts are imperative to decrease the initiation of tobacco use in youth as research demonstrates that the adolescent brain is more susceptible to nicotine addiction and early use increases the risk of becoming a lifelong smoker. Local tobacco use in pregnant women places children and their mothers at risk.

- A focus on improving access to quality preventive care among women and children is an important societal priority as early prevention is a cost-effective strategy in promoting community health.

- Four out of five teen pregnancies are unplanned and both teen mothers and their children are at higher risk of poor outcomes. These include: low educational attainment and poverty for mothers and prematurity, low birthweight, and lower educational attainment for their children. Access to reproductive health services is critically important to support the delivery of healthy children into healthy homes.

All Births, and Teen Births, Chippewa County Residents, 1999-2014

Number of Births, 1999-2014
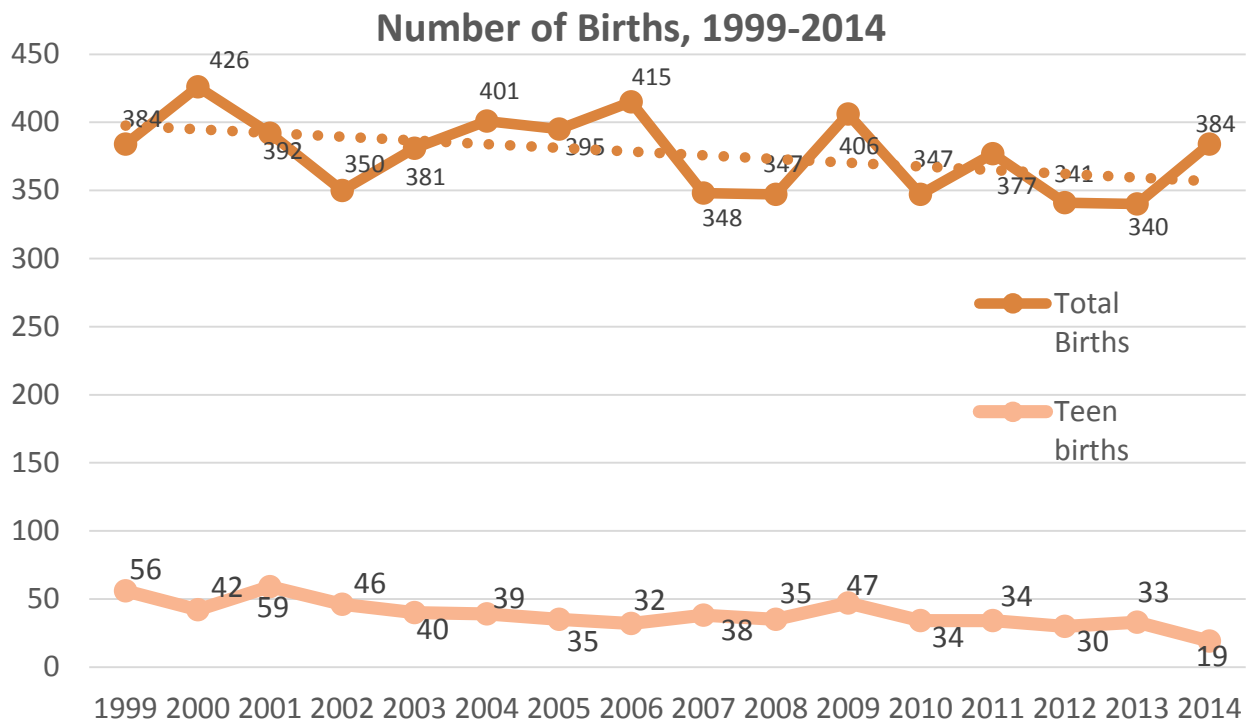
Births to Chippewa County residents are declining slowly, are not keeping pace with deaths (roughly 360 births versus 380 deaths per year).
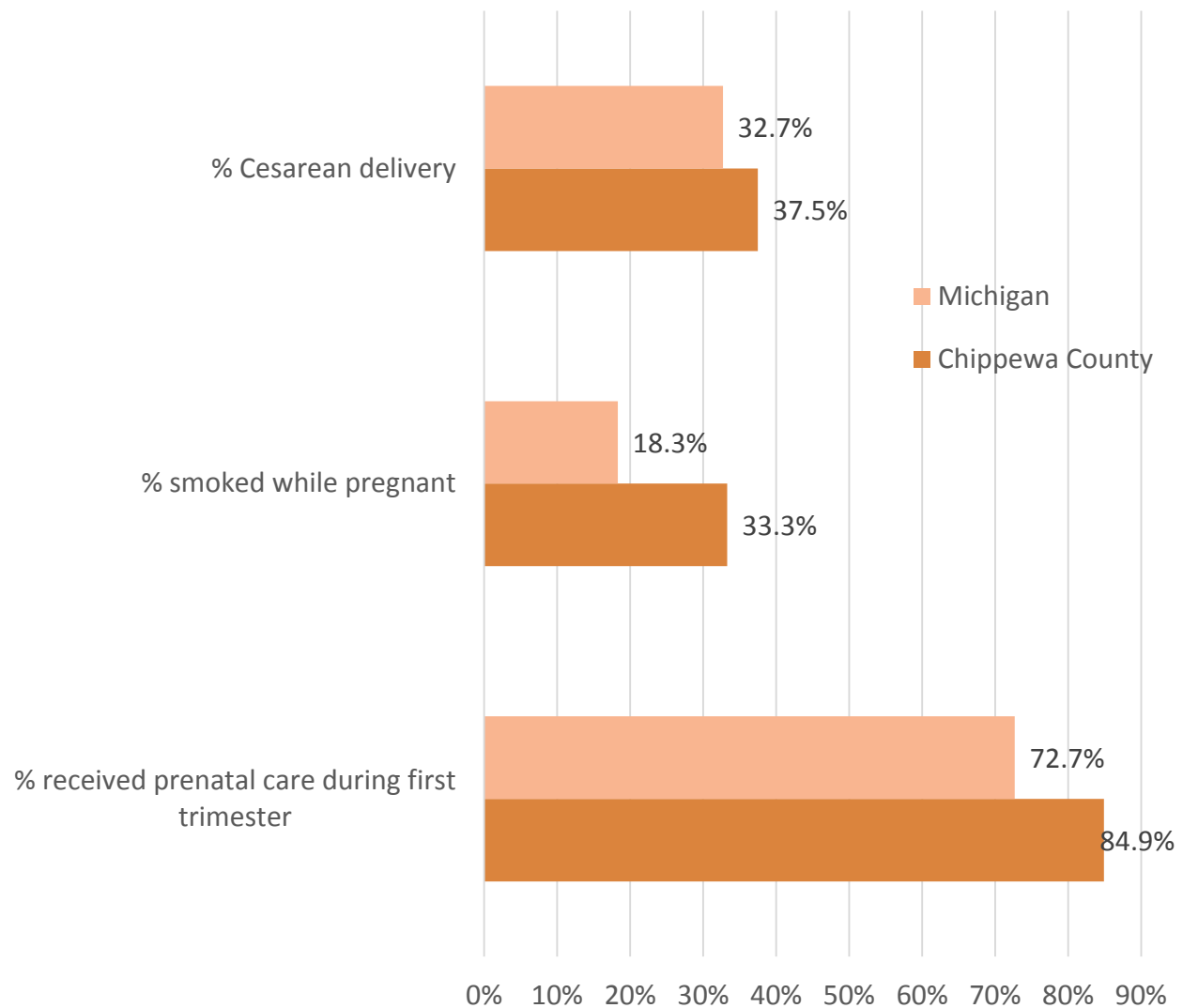
Selected Birth Statistics, 2014

Natality rates and percentages	Chippewa Co.	Michigan
Percent births with adequate prenatal care*	75.2	67.5
Teen pregnancy rate per 1,000 girls 15-19	40.5	38.3
Percent low-weight births**	5.4	8.4

*Kessner Index
**Less than 2,500 grams (5 pounds, 8 oz.)

Access to prenatal care, represented by 75 percent of mothers having received adequate prenatal care according to the multi-factorial Kessner Index, was considerably higher than the Michigan rate in 2014. Teen pregnancy incidence was similar to state and national rates, but somewhat higher compared with White teens nationwide. The percentage of low birth weight babies was laudable.

Maternal Characteristics, 2014

% Cesarean delivery
- Michigan: 32.7%
- Chippewa County: 37.5%

% smoked while pregnant
- Michigan: 18.3%
- Chippewa County: 33.3%

% received prenatal care during first trimester
- Michigan: 72.7%
- Chippewa County: 84.9%

Of the 384 births to Chippewa County residents in 2014, 3-in-8 were Cesarean deliveries. Almost 85 percent of pregnant women had accessed prenatal care in the first trimester, higher than in neighboring Eastern U.P. counties that have less regular access to obstetric services.

Note than one-third of births were to mothers who reported smoking while pregnant, a long-term and disturbing trend in Chippewa County and many U.P. counties *(please see next page.)*

Prenatal Tobacco Exposure: Tobacco use is associated with a broad range of poor health outcomes for smokers in general and for infants of smokers in particular. Aside from the impact of other components in cigarettes, nicotine decreases placental blood flow and can decrease growth of the fetus leading to the delivery of low birth weight infants. In addition, maternal smoking during and after pregnancy is associated with an increased risk of Sudden Infant Death Syndrome (SIDS). Data on smoking during pregnancy is collected from birth certificates and reflects smoking during any or all of the pregnancy. Smoking percentages in the region are generally far higher than for Michigan and the U.S. Even given the fact that Whites and Native Americans, rural residents and people of low income and educational status tend to have higher rates of tobacco use than Blacks, Asians, urbanites and people of higher socioeconomic status, the persistently high rates of prenatal tobacco exposure in Chippewa County are startling and represent an ongoing health issue.

Percent Mothers Smoked While Pregnant, 1989-2014
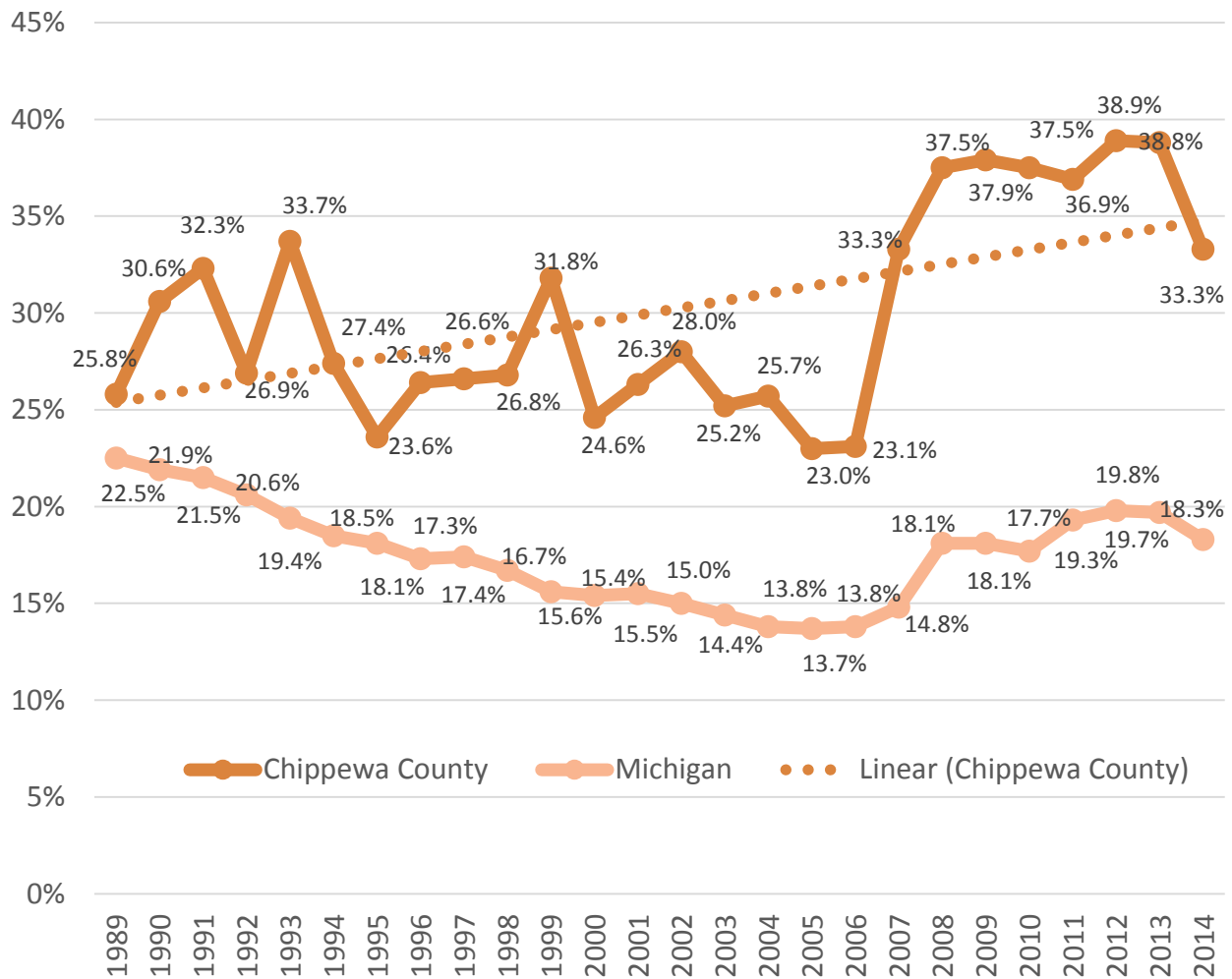
Infant-Toddler Immunization: Chippewa County currently ranks 49th among 82 Michigan counties for the 19-35 month window for immunization series completion.

	Chippewa (MCIR)	% Diff.	MI Avg (MCIR)	US Average 2014 NIS	Chippewa County Rank
19 through 35 months	%	%	%	%	No.
4313314 Coverage	74.7	1.0	74.8	71.6	49
43133142 Coverage	38.8	2.0	53.3	-	79
WIC Coverage (4313314)	80.1	-0.9	77.6	65.7	37
13 through 17 years					
132321 Coverage	80.7	-0.5	74.0	-	41
1323213 Coverage	35.4	0.6	26.5	-	19

Vaccinations are one of the most important public health accomplishments of the 20th century, making infectious diseases no longer the leading cause of death in Americans. Completion of the 4:3:1:3:3:1:4 series of vaccinations includes: 4 doses of diphtheria/tetanus/pertussis (DTaP) vaccine, 3 doses of polio (IPV) vaccine, 1 dose of measles/ mumps/ rubella (MMR) vaccine, 3 doses of Hemophilus B (HIB) vaccine, 3 doses of hepatitis B (HepB) vaccine, one dose of varicella and 4 doses of pneumococcal vaccine. These doses are timed for maximum protection of vulnerable infants and toddlers. If they are not all given by age 3, the child will not be counted as completed in the 19-35 month window referenced in the above table.

Although levels have fluctuated over time and most notably suffered declines in the wake of the 1998 fraudulent study linking MMR vaccine and autism, they have recovered some in recent years. Still, low vaccination coverage of populations, certainly at below 80 percent, places the community, particularly its most vulnerable residents, at increased risk of vaccine preventable diseases and their potential complications. Measles, for example, requires coverage of 93-95 percent of the community for optimal herd immunity. Much of the U.P. and Michigan fall well below recommended levels.

Adolescent Health

During the transition from childhood to adulthood, adolescents establish patterns of behavior and make lifestyle choices that affect both their current and future health. Serious health and safety issues such as motor vehicle crashes, violence, substance use, and risky sexual behaviors can adversely affect adolescents and young adults. Some adolescents also struggle to adopt positive behaviors that could decrease their risk of developing chronic diseases in adulthood, such as eating nutritiously, engaging in physical activity, and choosing not to use tobacco. Environmental factors such as family, peer group, school, and community characteristics also contribute to adolescents' health and risk behaviors. (CDC)

Results from the CDC 2013 Youth Behavioral Risk Factor Survey (YBRS), a survey of students in grades 9-12 in all 50 states, indicated that many high school students engaged in health-risk behaviors associated with the leading causes of death among persons aged 10–24 years in the United States. During the 30 days before the survey, 34.9 percent of high school students nationwide had had at least one alcoholic drink, 23.4 percent had used marijuana, and 17.9 percent had carried a weapon at least once. During the 12 months before the survey, 24.7 percent of students had been in a physical fight, 19.6 percent had been bullied on school property, and 8.0 percent had attempted suicide. Many high school students nationwide are engaged in sexual high risk behaviors associated with unintended pregnancies and STDs, including HIV infection. Nearly half (46.8 percent) of students had ever had sexual intercourse, 34.0 percent had sexual intercourse during the 3 months before the survey (i.e., currently sexually active), and 15.0 percent had already had sexual intercourse with four or more people during their life. Among currently sexually active students, only 59.1 percent reported using a condom during their last sexual intercourse.

Results from the 2013 national YRBS also indicate many high school students are engaged in behaviors associated with the leading causes of death among adults aged 25 years and older in the United States. During the 30 days before the survey, 15.7 percent of high school students had smoked cigarettes and 8.8% had used smokeless tobacco. A full 30 percent of high school students were either overweight or obese. During the 7 days before the survey, 5.0 percent of high school students had not eaten fruit or consumed 100-percent fruit juices and 6.6 percent had not eaten vegetables. Only 15.7 percent of students had eaten a serving of vegetables 3 or more times a day in the previous 7 days. Three-quarters of high school students reported more than 2 hours per day of screen time.

The YBRS does not sample in all communities, so it cannot provide county-level data. Instead, Michigan counties and even individual schools can access data from a similar, but not exactly comparable on-line survey conducted periodically in many Michigan middle- and high called the Michigan Department of Education's Michigan Profile for Healthy Youth (MiPHY) survey. The MiPHY provides aggregate student results on health risk behaviors

including substance use, violence, physical activity, nutrition, sexual behavior, and emotional health in grades 7, 9, and 11. The survey also measures risk and protective factors most predictive of alcohol, tobacco, and other drug use and violence. Student privacy is maintained through confidential, anonymous, and voluntary participation. A minimum of at least two districts and at least two building types (middle school or high school) must participate for a county/regional report to be generated. Unfortunately, not all schools participate in the MiPHY survey and those who do may eliminate questions at their discretion. Over the past few years, many U.P. school districts have not opted to take the MiPHY.

Selected aggregate data from a 2014 MiPHY survey of 788 students, grades 7, 9 and 11, in Chippewa, Luce and Mackinaw counties, is presented in this chapter.

Local Focus

- Nearly 40 percent of local teens are either overweight or obese, similar to neighboring counties.

- Many students report risk behaviors including use of alcohol, tobacco and other drugs.

Potential Future Implications

- Adolescents have important preventive health care needs, including immunizations, and access to birth control for those who chose it.

- Early adolescence (middle school) is a critical age for ATOD prevention efforts as that is the age on experimentation when lifelong habits may be formed.

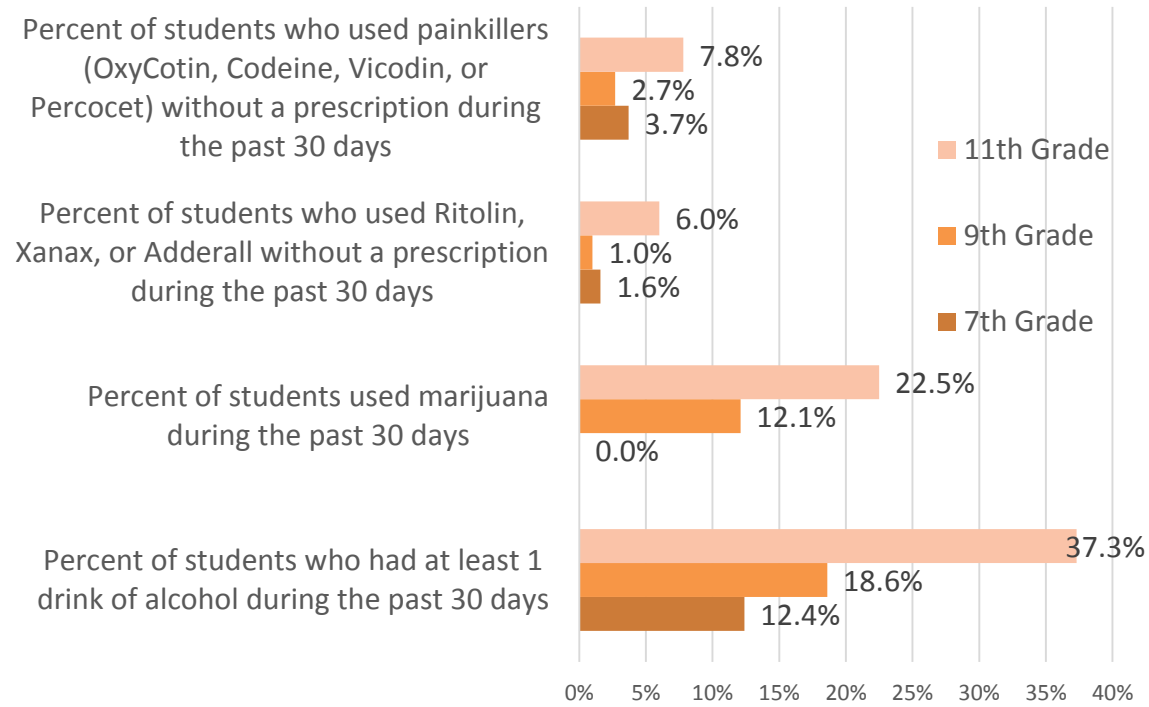**Adolescent Risk Behaviors: 2014 MiPHY Student Survey**

On the following pages are data for 195 7th graders, 300 9th graders, and 293 11th graders in Chippewa, Luce and Mackinaw counties surveyed during the 2013-2014 school year. Risk factors surveyed included, Nutrition and Weight, Physical Activity, Violence, Sexual Activity, and Alcohol, Tobacco and Other Drugs (ATOD).
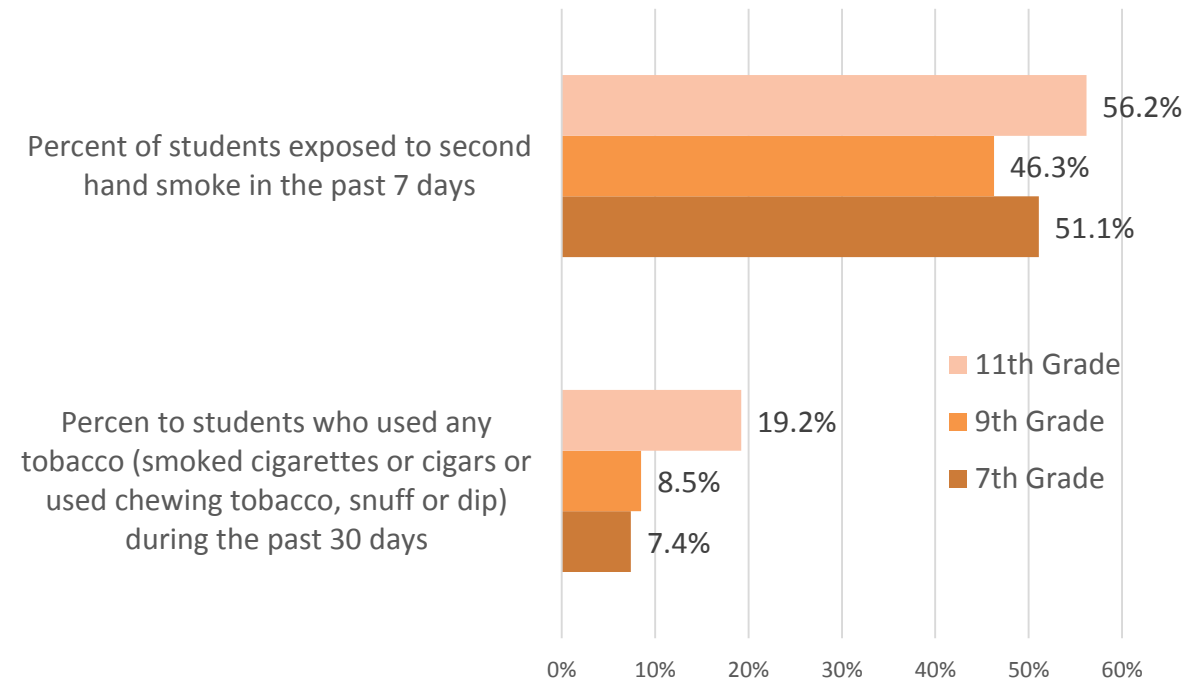
Weight Status and Dieting
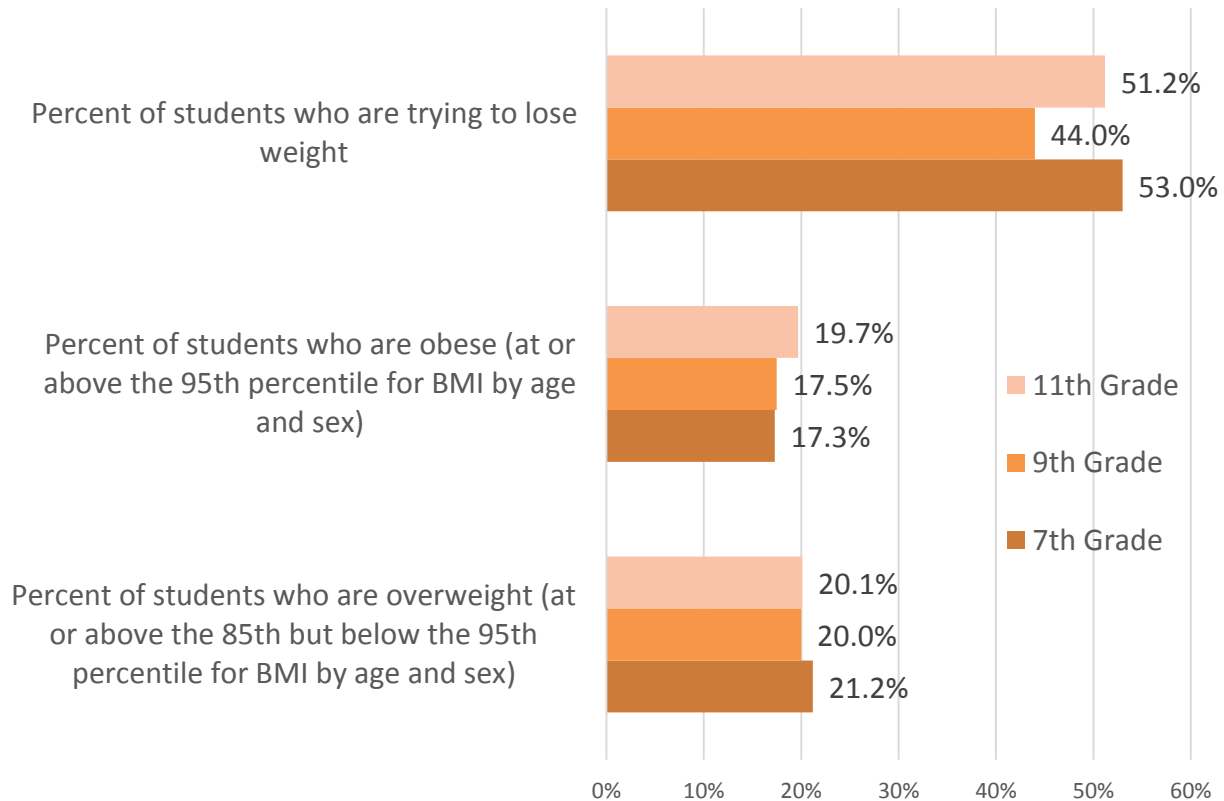
Note that almost 40 percent of eastern U.P. adolescents were either overweight (85-95th percentile) or obese (95+ percentile) on sex-specific age-graded tables for weight for height, putting them at risk for obesity as adults and for a host of chronic diseases including cardiovascular disease, diabetes and certain cancers.
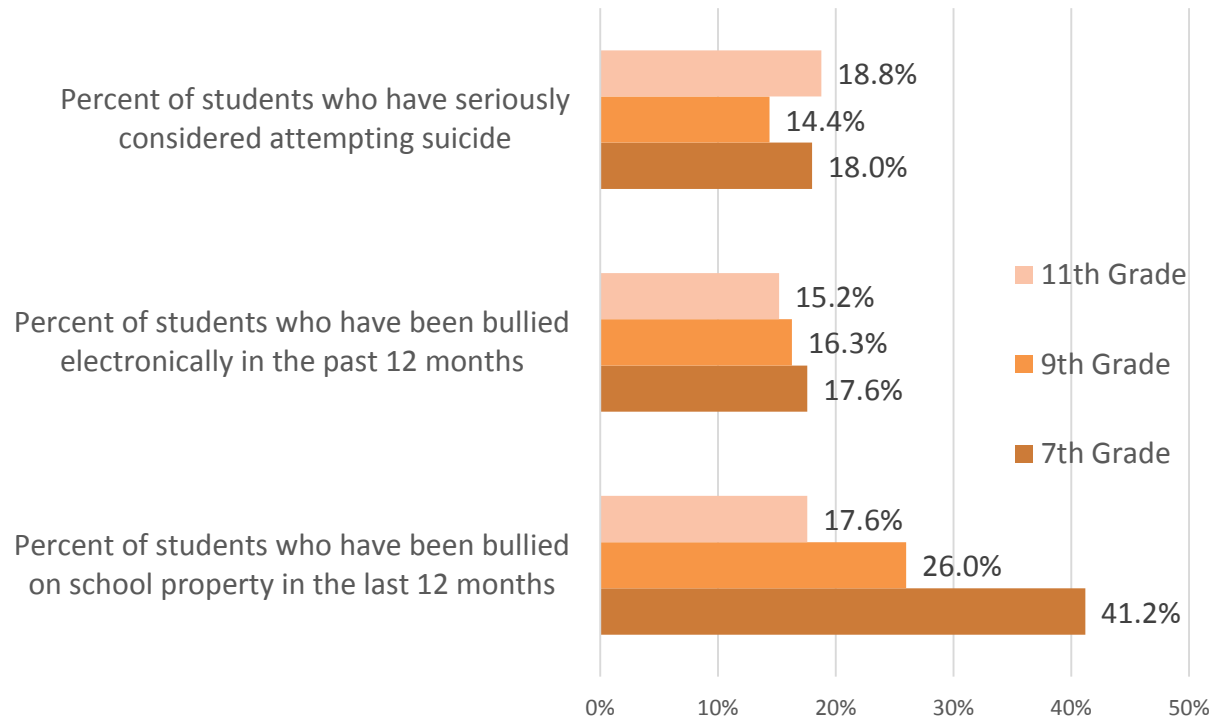
Alcohol and Drug Use

Percent of students who used painkillers (OxyCotin, Codeine, Vicodin, or Percocet) without a prescription during the past 30 days
- 7.8%
- 2.7%
- 3.7%

Percent of students who used Ritolin, Xanax, or Adderall without a prescription during the past 30 days
- 6.0%
- 1.0%
- 1.6%

Percent of students used marijuana during the past 30 days
- 22.5%
- 12.1%
- 0.0%

Percent of students who had at least 1 drink of alcohol during the past 30 days
- 37.3%
- 18.6%
- 12.4%

Legend: ■ 11th Grade ■ 9th Grade ■ 7th Grade

x-axis: 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%

Tobacco Use

Percent of students exposed to second hand smoke in the past 7 days
- 56.2%
- 46.3%
- 51.1%

Percen to students who used any tobacco (smoked cigarettes or cigars or used chewing tobacco, snuff or dip) during the past 30 days
- 19.2%
- 8.5%
- 7.4%

Legend: ■ 11th Grade ■ 9th Grade ■ 7th Grade

x-axis: 0%, 10%, 20%, 30%, 40%, 50%, 60%

Tobacco, alcohol and marijuana are the most commonly reported substances used by adolescents.

Violence and Suicidal Thoughts

Percent of students who have seriously considered attempting suicide	18.8% 11th Grade 14.4% 9th Grade 18.0% 7th Grade
Percent of students who have been bullied electronically in the past 12 months	15.2% 11th Grade 16.3% 9th Grade 17.6% 7th Grade
Percent of students who have been bullied on school property in the last 12 months	17.6% 11th Grade 26.0% 9th Grade 41.2% 7th Grade

While national population rates for suicide are higher during middle- and old age, the cohort with the greatest percentage increase (rate of change) in recent years has been girls age 9-15.

Infectious Disease

As noted by the Centers for Disease Control (CDC), the increase in life expectancy over the past century has been due, in large part, to increases in infant and child survival. Much of that increase can be credited to the decrease in mortality due to infectious diseases and the development of vaccines, one of the greatest public health triumphs in history. However, infectious diseases are still the leading cause of illness and death across the globe. This is due to a variety of factors, including inadequate vaccine coverage in some populations, poverty and poor sanitation, and the endless ability of microbes to adapt and survive when faced with environmental and technological changes.

In 2014, an Ebola outbreak that emerged in Africa became an enormous public health concern across the globe. The arrival of the first U.S. case, through the travel of a Liberian man, brought attention to the fact that in a world made smaller by air travel, public health surveillance and collaborative work across borders is essential to every country's well-being. In all, there have been over 28,000 cases and 11,000 deaths worldwide due to this highly lethal virus. Clearly, public health measures taken by the U.S. were highly successful, as there have been only two domestically acquired cases in the U.S.; both in nurses who provided care for the first U.S. case. In Michigan, healthcare systems, emergency response teams and local public health worked collaboratively with state and federal agencies to ensure local preparedness.

In the United States, there are now vaccines against 17 different infections offered across the lifespan. In spite of the phenomenal safety and efficacy track record of vaccination as a prevention tool, many communities are under-vaccinated. Much of this is due to parental concerns about vaccination which have developed in response to the emergence of poor and even fraudulent so-called 'research' challenging vaccine safety. In reality, it is estimated that 40,000 deaths and 20 million vaccine-preventable illnesses could be avoided in each birth cohort if its children received all age-appropriate vaccinations.

In order for vaccination to be effective as a public health strategy, enough individuals must be vaccinated to promote the "herd immunity." This occurs when small numbers of those who cannot be vaccinated, due to underlying medical conditions, are nonetheless protected because nearly everyone around them is vaccinated and the organism cannot spread efficiently. Protection through herd immunity generally requires vaccination rates of 80-90 percent or more within a population.

In Michigan, a wide range of infectious diseases are tracked through a web-based computer system called the Michigan Disease Surveillance System (MDSS). This system is overseen by the Michigan Department of Health and Human Services and requires a collaborative effort of healthcare providers, laboratories and public health departments to input data on

individual cases of disease into the system. Once a laboratory, for example, enters demographics and a test result into MDSS, that information is seen by local public health nurses who evaluate the data and collect additional information from the healthcare provider and the patient. Contact investigations are undertaken, as indicated, and final reports are submitted to the state. Information is also shared with the federal Centers for Disease Control (CDC) which is then able to identify disease trends and outbreaks across the country. This system is critically important as a surveillance tool for known and emerging diseases. The list of diseases tracked is available at the Michigan.gov website and includes vaccine-preventable illnesses as well as foodborne, waterborne, insect-related and sexually transmitted infections.

While some infectious diseases on the reportable list are quite rare, others are seen with great frequency in U.P. counties and the state as a whole. Two of the more commonly occurring and important illnesses are chlamydia and hepatitis C.

Chlamydia is the most common lab-confirmed sexually transmitted infection (STI) in the United States and locally, yet true prevalence is even higher as many infected persons are asymptomatic. Women, especially young women 15-24 years of age, are hit hardest by Chlamydia. Untreated, about 10-15 percent of women with Chlamydia infection of the lower reproductive tract will go on to develop an infection in the upper reproductive tract called pelvic inflammatory disease (PID). PID may cause symptoms or may be "silent." Involvement of the upper structures (fallopian tubes, uterus and surrounding tissues) can lead to permanent scarring and infertility. Routine annual screening of all sexually active women between 15 and 24 years of age and women of all ages with risk factors is recommended by the CDC. There were 258 confirmed cases of Chlamydia in Chippewa County from the start of 2011 through 2015, and 205 cases throughout the LMAS district.

Hepatitis C is an infectious liver disease that results from infection with the Hepatitis C virus (HCV). The majority of individuals infected with HCV have no symptoms or symptoms so mild as to go unnoticed. Unfortunately, as many as 75-85 percent will develop chronic ongoing infection. It is estimated that 20 percent of those infected will develop cirrhosis within 20 years and others may develop liver cancer, which is one of the fastest growing causes of cancer mortality nationally. Hepatitis C is also the current leading reason for liver transplantation. As many as five percent of individuals infected with HCV, will die from HCV-related illness.   HCV is usually spread when blood from a person infected with the Hepatitis C virus enters the body of someone who is not infected. Before 1992, when blood products began being screened for HCV, transfusion was an important source of infection. Today, most people become infected with the Hepatitis C virus by sharing needles or other equipment used to inject drugs. HCV may also be transmitted in utero from a mother to her child and rarely through sexual contact. Unlike Hepatitis A and B, there is no current vaccine to prevent Hepatitis C infection but there is treatment available.

The CDC now recommends a one-time screening blood test of those born between 1946 and 1964, as there is higher prevalence in this group than the population overall . Other groups recommended to undergo testing include those who use intravenous drugs, those with HIV, those with certain medical conditions and those with known exposure. There are an estimated 2.7 million Americans living with Hepatitis C infection—most of them unaware. In Chippewa County, 386 new cases of HCV were diagnosed in the last five years.

Local Focus

- Increasing immunization coverage in the population is critically important to prevent outbreaks of vaccine-preventable diseases like pertussis, chicken pox and measles. Note the 32 cases of Chickenpox in Chippewa County over the last five years on the table, page 62.

- Chlamydia is the most common *laboratory-confirmed* sexually transmitted disease in the region. Of note, Human Papillomavirus (HPV), the leading cause of cervical cancer, is the overall most common sexually transmitted disease. The cancer-causing strains are now largely preventable with the widely available HPV vaccine. Note, in addition to cervical cancer, HPV has been clearly linked to penile, anal, and head and neck cancers in both males and females. The HPV vaccine has demonstrated exceptional safety and efficacy in reducing HPV infection and is a critically important tool to prevent cancer.

Potential Future Implications

- A well-vaccinated public will continue to be critically important in controlling the spread of many communicable diseases and even cancer (Hepatitis B vaccine, HPV vaccine). This will be even more important as the world becomes effectively smaller through global travel. Illnesses that have declined substantially in this country can re-emerge in the U.S. through infections contracted outside the country and brought home, or through contact of U.S. residents with individuals arriving from other countries where vaccine preventable illnesses are still common.

- It is possible that the territory of Lyme-infected ticks will continue to expand within the state and nationally. Prevention efforts to increase awareness, decrease tick habitat around local homes and otherwise limit exposure through use of environmental measures (long clothing, repellants) will be increasingly important to minimize disease.

- Screening for HCV is increasing the number of identified cases found among the Baby Boomer population and in younger individuals in our communities using intravenous drugs. There will likely be an ongoing increased need for appropriate treatment

services locally.

- The core functions of public health, including disease surveillance and protection of food and water supplies, will continue to be critically important in maintaining the health of the local population.

Infectious Disease Cases Completed in MDSS 2011-15 (5-year totals)

Below are 5-year counts for selected diseases reported in the Michigan Disease Surveillance registry by physicians and laboratories. The neighboring LMAS health district is shown for comparison.

Disease (Incidence, not Prevalence)	Cases Chippewa County	Cases LMAS
HIV/AIDS	1	0
All Foodborne	127	115
All Meningitis	7	9
Chlamydia	258	205
Gonorrhea	7	15
Syphilis	1	0
Tuberculosis	3	4
Chickenpox	32	19
Pertussis	0	8
Hepatitis A	4	6
Hepatitis B	40	0
Hepatitis C	386	169

Chippewa County data include the county's considerable prison population, who are routinely tested for Hepatitis B and C.

Chronic Disease and Mortality

According to the U.S. National Center for Health Statistics, a chronic disease is "one lasting 3 months or more". Chronic diseases can generally be controlled but not cured and do not simply disappear on their own. In the United States, chronic diseases account for approximately 70 percent of deaths and are the leading cause of death and disability. Interestingly, the World Health Organization notes that even in parts of the world where infectious diseases continue to be an enormous health risk, chronic diseases are still the most common cause of death. From a public health perspective, the positive aspect of chronic disease is that it is, in large part, very preventable.

The Center for Managing Chronic Disease outlines a perspective on chronic disease management below.

Above: Circles of Influence in Self-Management of Chronic Disease

Some of the most common chronic diseases and conditions—heart disease, stroke, cancer, diabetes, obesity and arthritis—are largely preventable. Tobacco use remains the single largest preventable cause of death in the United States. According to the Centers for Disease Control:

- As of 2012, about half of all adults—117 million people—had one or more chronic health conditions. One of four adults had two or more chronic health conditions.

- Two chronic diseases—heart disease and cancer—together accounted for nearly 48 percent of all deaths.

- Obesity is a risk factor for many chronic diseases including heart disease, stroke, diabetes and some cancers. In the national Behavioral Risk Factor Surveillance System self-report survey for 2013, 64 percent of adults and 30 percent of adolescents were either obese or overweight. Adolescents who are overweight and obese are at higher risk for becoming obese adults. Obesity rates vary by geographic region of the U.S. and by race/ethnicity, with African Americans having the highest percentages of obesity and Asian Americans

having the lowest. Geographically, the southeastern U.S. and northern Midwest are two of the highest risk areas.

- Arthritis is the most common cause of disability. Of the 53 million adults with a doctor diagnosis of arthritis, more than 22 million say they have trouble with their usual activities.

- Diabetes is the leading cause of kidney failure, lower-limb amputations other than those caused by injury, and new cases of blindness among adults.

Four health risk behaviors—lack of exercise or physical activity, poor nutrition, tobacco use, and drinking too much alcohol—cause much of the illness, suffering, and early death related to chronic diseases and conditions.

- In 2013, approximately 26 percent of adults reported no leisure time physical activity and only 20 percent met recommendations for aerobic and muscle strengthening activity, according to the national Behavioral Risk Factor Surveillance System (BRFSS). This survey also found that only 27 percent of adolescents participated in daily physical activity.

- The BRFSS also looks at fruit and vegetable intake for U.S. adults and adolescents. Eating more fruits and vegetables adds nutrients to diets, reduces the risk for heart disease, stroke, some cancers, and helps manage body weight when consumed in place of more energy-dense foods. The recommended number of servings varies with age and activity level but even for adults with low activity levels, approximately 2 cups of fruit and 2-3 cups of vegetables per day are recommended. Unfortunately, 2013 data suggests that 39 percent of adults consumed fruit less than once a day and 22 percent consumed vegetables less than once per day. Similarly, nearly 40 percent of adolescents consumed fruit and vegetables less than once a day.

- In 2013, an estimated 17.8% (42.1 million) U.S. adults were current cigarette smokers. Of these, 76.9% (32.4 million) smoked every day and 23.1 percent (9.7 million) smoked some days. Cigarette smoking kills more than 480,000 Americans each year, with more than 41,000 of these deaths from exposure to secondhand smoke. In addition, smoking-related illness in the United States costs more than $300 billion a year, including nearly $170 billion in direct medical care for adults and $156 billion in lost productivity.

- Drinking too much alcohol is responsible for 88,000 deaths each year, more than half of which are due to binge drinking. About 38 million US adults report binge drinking an average of 4 times a month, and have an average of 8 drinks per binge, yet most binge drinkers are not alcohol dependent.

- According to a recent National Health and Nutrition Examination Survey (NHANES), when looking at combined data between 2009 and 2012, nearly 50 percent of U.S. adults had periodontitis, the leading cause of adult tooth loss. It occurs when gum inflammation or infection is not treated and spreads to the tissues supporting the teeth. Risk increased with age and male gender. Prevalence varied two-fold between the lowest and highest levels of socioeconomic status, whether defined by poverty or education.

As noted above, chronic disease is largely preventable. In particular, four modifiable health risk behaviors—lack of physical activity, poor nutrition, tobacco use, and excessive alcohol consumption—are responsible for much of the illness and early death related to chronic diseases.

Local Focus

- Half of local deaths are attributed to heart disease or cancer, similar to Michigan and U.S. rates. Age- adjusted death rates and years of potential life lost below age 75, are similar as well. Age-adjusted rates of death by cardiovascular disease and trends over time are very similar to state and national data.

- Many people think local cancer rates are higher than in other parts of the country, but the data demonstrate that age-adjusted cancer incidence rates (new cancer cases diagnosed per year per 100,000 people) are similar to the state of Michigan overall. Perhaps the awareness of cancer is greater than that of heart disease because more years of potential life below age 75 are lost to cancer than to heart disease, and because in small towns, nearly everyone knows someone who has had cancer, and fundraisers for cancer are more common than for other diseases.

- Regional diabetes prevalence is about 10 percent, a rate expected to rise given the dramatic increase in obesity in recent years. Experts predict that one third of today's youth will develop Type 2 diabetes in their lifetimes based on current obesity rates.

- U.P. rates for various behavioral risk factors including tobacco use, obesity, physical inactivity and poor nutrition are troubling. As noted above, current and former tobacco users and people who are overweight or obese are at higher risk of chronic disease and disability.
- Another condition not always considered in discussions of disease and disability is clinical depression, but 20 percent of local adults have been diagnosed with chronic or episodic depression and related diagnoses.

Future Implications

- Obesity is projected to overtake tobacco use as the leading root cause of preventable mortality, morbidity, disability and years of potential life lost. With obesity rates that are currently about 30 percent locally, it is reasonable to anticipate an increasing prevalence of cardiovascular disease, diabetes and other chronic illnesses over the coming decades.

- Low income populations tend to bear the highest burden of chronic disease due to multiple factors including a higher prevalence of health risk behaviors and less access to and utilization of preventive and chronic disease care. This means that a significant proportion of the local population is at increased risk for poor health outcomes.

- Low utilization of recommended dental care services places individuals at risk of periodontitis and tooth loss. It is important to note that periodontal disease has also been linked to cardiovascular disease and even to a higher risk for poor birth outcomes for pregnant women. Therefore, a higher burden of dental disease may have a wider impact on health outcomes.

- Because much of chronic disease is preventable with behavior change, predictions on future health outcomes are not set in stone. Targeted and effective prevention efforts can have an enormous impact on the health of our community in future decades.

Age-adjusted Hospitalization Rates per 100,000 Residents, 2014*

Leading Hospital Discharges, 2014	Number of Discharges, Chippewa County	Rate per 100,000, Chippewa County	Rate per 100,000, Michigan
ALL HOSPITALIZATIONS	4,292	1,120.0	1,253.9
Heart Diseases	536	139.9	121.1
Newborns and Neonates (Less than 7 days)	426	111.2	117.0
Females with Deliveries	371	96.8	112.2
Injury and Poisoning	302	78.8	99.2
Psychoses	225	58.7	50.5
Septicemia	198	51.7	62.7
Pneumonia	183	47.8	28.0
Chronic Bronchitis	143	37.3	22.0
Osteoarthrosis and Allied Disorders	140	36.5	45.1
Cancer (Malignant Neoplasms)	119	31.1	35.3

*Rates are per 100, 000, using as the standard population the age distribution of the total population of the United States for the year 2000.

Local hospitalization rates appear similar to statewide rates. Hospitals and communities seek to reduce population rates through primary prevention (e.g. promote tobacco reduction in the general population); secondary prevention (e.g. targeted nutrition education for overweight patients); or tertiary prevention (e.g. better management of diabetes or asthma in primary care to reduce acute conditions leading to hospitalization.)

Leading Causes of Death, Chippewa County Residents, 2014

Leading Causes of Death	Number	Percent
Total	386	100%
Heart Disease	89	23.1%
Cancer	86	22.8%
C.L.R.D.	24	6.2%
Accidents	22	5.7%
Diabetes	19	4.9%
Suicide	12	3.1%
Alzheimer's disease	8	2.1%
Kidney Disease	7	1.8%
Chronic Liver Disease	7	1.8%
Pneumonia/Flu	4	1.1%

Age	All ages	1-14	15-24	25-44	45-64	65+
Suicides	12	1	2	1	5	3

2012-2014 Behavioral Risk Factor Survey: Michigan, U.P. & Chippewa

Introduction

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing and systematic random-sample survey of the health of adults age 18 and older in the United States, conducted by the federal Centers for Disease Control and Prevention (CDC) and state health departments, including the Michigan Department of Health and Human Services (MDHHS, formerly MDCH). The BRFSS is the gold standard for population health data in the United States because it has been conducted in roughly the same way for many years using the same questions and statistical methods.

Given the tens of thousands of people interviewed annually at the national and state levels, and the sophisticated weighting methods used to ensure that the respondents match the characteristics of the population, extremely accurate estimates are made, with narrow 95 Percent Confidence Intervals (the lower and upper bounds within which it can be said with 95 percent certainty that the true value lies.) But for smaller population areas, such precise values are not available due to the smaller numbers sampled.

For an area the size of Chippewa County, less than 100 people may be interviewed per year within the Michigan sample. The smallest areas with published rates are the state's 12 BRFSS regions (of which the entire Upper Peninsula is one region) and the health department level (including the Chippewa County single-county health district.) Even for the regions, three years' worth of data must be combined in order to accumulate enough respondents to allow for reasonable estimates.

And even among the three-year regional and health district data, not all indicators from the state and national BRFSS can be reported, because some questions are only asked in alternate years. And, furthermore, for some of the most recently published data, rates were available for the Upper Peninsula but not for Chippewa County. This happens when there are not enough people surveyed, or enough people answering a question, at the health district level. Chippewa County has one of the smallest populations of any health department jurisdiction in Michigan, so even over three years not enough people are sampled to calculate reasonable estimates for some questions. Questions that apply to all people surveyed, such as "How would you rate your health status?" or "Are you a current smoker, former smoker, or have you never smoked?" generally will have enough responses for reasonable estimates. But rates for indicators that apply only to a subset of all adults, such as "Men over age 50 who reported a PSA test for prostate cancer screening in the past year" will not have sufficient sample sizes for publishing. Therefore, there are only 21 indicators available for reporting in this chapter, out of more than 70 indicators reported at the state and national levels, but they include many of the most commonly referenced indicators such as rates for health insurance coverage, smoking, obesity, heart disease, cancer and diabetes.

2012-2014 Behavioral Risk Factor Survey: Michigan, U.P. & Chippewa

Even for these 21 indicators, two important notes of caution must be made:

1. For Chippewa County data, the 95 Percent Confidence Intervals, or C.I. (think of them as the 'margin of error', to use a familiar, though somewhat imprecise term) are quite wide, much larger than the state and regional C.I., so while the Chippewa County estimate may appear significantly higher or lower than the state rate using the generic sense of the word significant, in scientific terms the difference *may not be statistically significant* if the local C.I. overlaps the Upper Peninsula or Michigan rate.

2. The regional and local data reported by the state have not been reweighted to reflect the jurisdiction's population characteristics for age, gender and other factors. This is very important to remember, because the U.P. and Chippewa County have older and less racially diverse populations that Michigan as a whole; i.e. a great proportion of seniors and relatively fewer young adults. Given that young people as a group tend to have better health status and lower rates of disease and disability, for many of the indicators in this chapter the true figure for Chippewa County may be higher (worse) than the published rate, because the answers from older adults should have been weighted greater to reflect local demographics. Conversely, for some behaviors like binge drinking or not having health insurance that are associated more with younger adults, the published data may overestimate the local rate, for the same reason.

With all that in mind, the following seven paragraphs are reprinted from the introduction to the MDHHS *2012-2014 Michigan BRFS Regional & Local Health Department Estimates* report issued August 18, 2015, prepared by Chris Fussman, M.S., Epidemiologist/BRFSS Coordinator, to give further background on the methodology of Michigan's survey and calculations:

The Michigan Behavioral Risk Factor Survey (MiBRFS) is an annual, statewide telephone survey of Michigan adults aged 18 years and older that is conducted through a collaborative effort among the Population Health Surveillance Branch (PHSB) of the Centers for Disease Control and Prevention (CDC), the Michigan State University Institute for Public Policy and Social Research (IPPSR), and the Michigan Department of Health and Human Services. Michigan BRFS data contribute to the national Behavioral Risk Factor Surveillance System that is managed by the PHSB at the CDC.

State-specific, population-based prevalence estimates (and asymmetric 95% confidence intervals) of health risk behaviors, preventive health practices, and chronic conditions are calculated using annual data sets (see Annual Tables at http://www.michigan.gov/brfs). However, region-specific and local health department-specific prevalence rates are usually computed using BRFS data combined across years.

For this report, data from the 2012-2014 Michigan BRFS were combined. The total sample sizes by year were: 10,499 in 2012, 12,759 in 2013, and 8,466 in 2014. Not all questions were included

annually in the survey. The table subtitles indicate which years were used for that particular analysis.

For the 2012 through 2014 Michigan Behavioral Risk Factor Surveys, the sample of land line telephone numbers that were utilized for data collection was selected using a list-assisted, random-digit-dialed methodology with a disproportionate stratification based on phone bank density, and whether or not the phone numbers were directory listed. The sample of cell phone numbers used within each survey year was randomly selected from dedicated cellular telephone banks sorted on the basis of area code and exchange within the State of Michigan.

Iterative proportional fitting or raking was the weighting methodology used to make the 2012-2014 Michigan BRFS data representative of the current Michigan adult population. Estimates based on this methodology were weighted to adjust for the probabilities of selection and a raking adjustment factor that adjusted for the distribution of Michigan adults by telephone source (land line vs. cell phone), detailed race/ethnicity, education level, marital status, age by gender, gender by race/ethnicity, age by race/ethnicity, and renter/owner status. No additional weighting factors were computed at the regional or local health department (LHD) level, thus the weights used might not always provide accurate regional and/or LHD estimates, particularly when regional and/or LHD demographic distributions vary greatly from that of the state.

Population-based prevalence estimates and asymmetric 95% confidence intervals were calculated for indicators of health status, health risk behaviors, clinical preventive practices, and chronic conditions among the overall adult population in Michigan, as well as at the regional and local health department level. All analyses were performed in SAS-Callable SUDAAN®, a statistical computing program that was designed for complex sample surveys. In an effort to provide the most reliable information possible, prevalence estimates are suppressed if they are based on a denominator of less than 50 respondents or have a relative standard error of greater than 30%. Comparisons between estimates with non-overlapping 95% confidence intervals should be considered significantly different.

Due to the BRFSS methodology changes that took place in 2011, the estimates provided within the following tables should not be compared to Michigan BRFSS estimates from years prior to 2011. If you have any questions regarding any of the estimates within the following tables, please contact Chris Fussman at MDHHS, by phone, 517-335-8144, or by email, MIBRFSS@michigan.gov.

Regional BRFSS Data 2012-14

Indicator	Michigan	UP	Chippewa County
Health Status: Fair/Poor	17.2 (16.6-17.8)	16.2 (13.8-18.9)	19.0 (12.9-27.2)
Obesity (BMI 30+)	31.1 (30.4-31.8)	29.5 (26.4-32.8)	**39.9 (31.2-49.3)**
No Health Insurance Age 18-64	15.6 (14.9-16.3)	15.0 (12.0-19.8)	10.2 (5.7-17.6)
No Health Care Due to Cost	15.0 (14.5-15.6)	12.3 (10.0-15.2)	11.6 (7.2-18.1)
No Routine Checkup Last Year	30.6 (29.9-31.3)	31.9 (28.4-35.5)	32.9 (24.2-42.9)
Current Smoker	22.0 (21.3-22.7)	21.2 (18.1-24.8)	16.5 (10.9-24.2)
No Leisure-time Physical Activity	24.4 (23.7-25.1)	21.7 (19.0-24.7)	28.5 (21.5-36.8)
Heavy Drinking	6.4 (6.0-6.8)	8.6 (6.8-10.8)	-
Binge Drinking	19.0 (18.4-19.6)	21.1 (18.1-24.6)	22.0 (14.0-32.8)
No Dental Visit Last Year	31.7 (30.8-32.6)	33.0 (28.4-37.9)	27.6 (18.0-39.9)
Ever Told Depresesion	20.8 (20.2-21.4)	20.8 (17.9-24.0)	16.3 (11.2-23.1)

Perhaps the most striking estimate is that 39.9m percent of local adults are obese, but note the 95 Percent Confidence Interval is from 31 to 49 percent. The indicator most likely to have changed from 2014 to the present is the rate of uninsured 18-64 year olds, as the rate has probably been reduced by half since the implementation of the main provisions of the Affordable care Act (ACA), although it is impossible to predict what will happen to the new insurance programs over the next few years.

Community Focus Groups

On Dec. 6-7, 2016, a diverse group of hospital employees and community members took part in a series of focus groups sponsored by War Memorial Hospital. A presentation of demographic and population health data was delivered by Community Health Assessment Specialist Ray Sharp of Western U.P. Health Department, followed by a lively discussions of what Chippewa County has to offer and can improve in terms of the health of residents, with notes taken by Health Data Analyst Kim Reeve. Six main areas of concern or opportunity emerged from the wide-ranging discussions.

Concern: Long-Term Care for the Aging Population
The United States has a growing senior population as Baby Boomers get older and retire. With this growing population, Chippewa County is experiencing a lack of available long-term care including long-term care for adults with developmental disabilities, Alzheimer's or chronic health conditions. Seniors with special needs require extra care and smaller care units, which is expensive and requires more space. There is also the concern with how individuals will be able to pay for care (private payer versus Medicaid) and what to do when maximums are met. This is an issue that demands serious consideration and long-range planning in Chippewa County and nationwide as the elderly population continues to grow.

Concern: Smoking Prevention
Smoking is a leading cause of preventable mortality and morbidity. The health effects of smoking are expensive to treat, affect worker productivity and quality of life, and impact the individual as well as those people that experience second-hand smoke. The Upper Peninsula has a legacy of high rates of prenatal smoking in particular. Prevention efforts must focus on adolescents, as the age of initiation (and a potential lifelong addiction) is typically the teen years.

Concern: Transportation to Care

Chippewa County is vast and largely rural. This can make it extremely difficult for patients to secure transportation to appointments, especially those who live in outlying areas. Also, many people need to travel to either Marquette or Traverse City to see specialists. This makes transportation even more difficult.

Concern: Treatment for Mental Health, Alcohol and Substance Abuse
Treatment for mental health as well as substance and alcohol abuse can be difficult to access across the Upper Peninsula, and Chippewa County residents experience the same problem. Patients with severe or emergent depression may be able to access care if they are income-eligible for publically funded care, but provider shortages and funding issues make access problematic for many patients experiencing on-going or chronic mental health issues. There is a

plan to hire a second psychiatrist in Chippewa County this summer in order to develop an outpatient program, but without more physicians and therapists, the needs will continue to be unmet.

IV drugs and prescription drug abuse are epidemic in rural America and a concern in Chippewa County. There are some residential treatment programs, but a lack of necessary in-patient treatment. Also, there is a lack of services for patients that need help to come through detox. There is a possibility to convert a portion of the current mental health building that could be turned into a substance abuse center with approximately 20 beds. Also, publically substance abuse programs may be easier to access for low-income or uninsured patients, but treatment is difficult to afford for many residents.

Concern: Managing Chronic Disease
Navigating life and access to care for those with chronic and serious diseases can be confusing and overwhelming. It would be helpful to have some sort of hotline or training class to help people determine the necessary follow-up they need and how to access services that can make them safer and healthier.

Concern/Opportunity: Emergency Preparedness Plans
The Red Cross, health department and War Memorial Hospital are all involved in creating public health emergency plans. However, it was mentioned that emergencies can be especially difficult for children or adults with special needs. Including advocates for people with special needs in the planning process could result in plans and responses to better meet the temporary needs of special populations for housing and other needs in the event of a disaster such as a flood, power outage or disease outbreak.

Concern/Opportunity: Need for a Recreation Facility for Teens and Young Adults
There is a lack of recreation centers for teens and young adults, similar to the YMCA. Not having a place for teens to go to when they are not in-school can lead to drug, alcohol, and tobacco use when there is "nothing else" to do in town. Also, without recreation opportunities, young people are also more likely to sit at home and not be active, often leading to childhood obesity and risk for chronic disease.

Opportunity: Increased Use of Telemedicine
Telemedicine (access to off-site health care providers through video technology) can improve access to basic medical care as well as access to specialists. War Memorial Hospital and Chippewa County could explore telemedicine for medical specialties as well as behavioral health counseling as a way to alleviate provider shortages and transportation barriers.

Focus Group Participant List

Tuesday, December 6th 2:00-3:30 p.m.

1. Karen Senkus, Health Officer, Chippewa County Health Department
2. Suzann Prell, Director, United Way of the EUP
3. Shelva Johnson, retired physician office staff member and CHAC (Community Health Access Coalition) volunteer
4. John Jorgenson Sr., Board Member. War Memorial Hospital
5. Jeff Holt, Director, Sault Sainte Marie Economic Development Corporation
6. Justin Knepper, Director, Sault Sainte Marie Downtown Development Authority
7. Lindsay Ellis, Downtown Development Authority & Chamber Young Professionals
8. Ron Hutchins, Director of Nursing, Lake Superior State University
9. Maxxine Anderson, Board Member, War Memorial Hospital
10. Jesselyn Bourque, Soo Township Elementary

War Memorial Hospital representation
1. David Jahn, Chief Executive Officer
2. Kevin Kalchik, Chief Financial Officer
3. Alice Maloney, Social Services
4. Lindsey Gregg, Director, Admitting
5. Marion Burton, Physician Practices
6. Nicole Oliver, Director of Med/surg and oncology
7. Rob Milligan, Director Food and Nutrition
8. Mike Fitzner, Physician Recruiter
9. Teresa Armstrong, Director of Community Relations
10. Danielle Frazer-Martinchek, War Memorial Hospital
11. Jackie Landis, Director, Patient Financial Services
12. Heather Whispell, Director of Housekeeping
13. Sheila Lewis, Director, Financial Services
14. Corie King, Director, Emergency Services
15. Pat Hirt, Director, Trauma Services
16. Cindy Dodds, Director, Health Information Management
17. Susan Sliger, Director, Human Resources
18. Glenda Boyko, Physician Practices

Wednesday, December 7th 8:30 -10:00 a.m.

1. Karen Senkus, Chippewa County Health Dept.
2. Christina Korson, Hiawatha Behavioral Health
3. Lisa Lalonde, Utilization Management, Hiawatha Behavioral Health

4. Renee Johnson, Bay Mills Behavioral Health
5. Tony Haller, Director, Sault Sainte Marie Chamber of Commerce
6. Stacy Miller, Behavior Specialist, Eastern Upper Peninsula Intermediate School District
7. Jessica Savoie, Early Childhood, Eastern Upper Peninsula Intermediate School District
8. Cara LaFavre, Coordinator, Great Start Collaborative
9. Pam Pomeroy, Sault Schools Middle School Counselor
10. Erika Dvorak, Sault Schools Middle School Counselor
11. Partrick McKelvie, Chippewa Tribal Court
12. Rebecca Bolen, EUP Regional Planning
13. Betsy Huggett, Diane Peppler Resource Center
14. Kaylynn Cairns, DPRC/Sexual Violence Prevention

War Memorial Hospital representation
1. David Jahn, Chief Executive Officer
2. Marla Bunker, Vice President of Nursing and Operations
3. Corinna Haller, Nursing Director at Behavioral Health Center
4. Teresa Armstrong, Director of Community Relations
5. Regan Jacek, Director of Surgical Services
6. Jessica Heyrman, Director of Obstetrics
7. Carla Cryderman, Director, Materials Management
8. Ken Greenfield, Director of Plant and Environmental Services
9. Hillary Galarowic, Manager of Employee Wellness