



COMMUNITY  
**HEALTH**  
**STATUS**  
ASSESSMENT

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## Assessment Methodology

The CHSA team met three times to gather quantitative data on health status, quality of life and risk factors that answered the questions:

- How healthy are our residents?
- What does the health status of our community look like?

The CHSA team utilized the following process to complete the assessment:

- 1) Review of the Community Health Status Assessment (1 meeting)
  - a. Overview of the data collection
  - b. Current status of Macomb County
  - c. Review of the indicators needing to be addressed
- 2) Data indicators were distributed among group members based on each person's specialty. (2 meetings)
- 3) Data was collected from team members, organized in a workbook, and then shared with the group.
- 4) CHSA members identified areas where Macomb County was comparatively doing better, worse or about the same as a benchmark – either the State of Michigan or Healthy People 2020. (1 meeting)
- 5) Committee members then identified areas of focus where Macomb County needs to be continuing to improve the health status of community members. These results were shared with the Steering Committee for review for the Community Health Improvement Plan.

## About the Data

Unless otherwise stated, statistics and rates are from 2015 estimates. These estimates are either from surveys specifically collected in 2015, or contain averages from a 3 or 5-year range (Michigan Behavioral Risk Factor Surveys, 2013-2015).

# Results

## Benchmark Comparisons

The CHSA team narrowed 221 indicators down to a list of 67 indicators with benchmarks. The benchmarking comparison process resulted in the indicators being grouped as listed below:

- 30 indicators were better than the benchmark
- 18 indicators were about the same as the benchmark
- 19 indicators were worse than the benchmark

After reviewing the data and having group discussions about what was presented and available, the committee narrowed the themes and indicators down to four themes and 16 indicators. The CHSA team voted to finalize these themes and indicators.

Recommendation: the themes and indicators selected by the committee area shown below and are being recommended to the Steering Committee for consideration in the identifying strategic issues phase.

## Four Theme Indicator Analyses

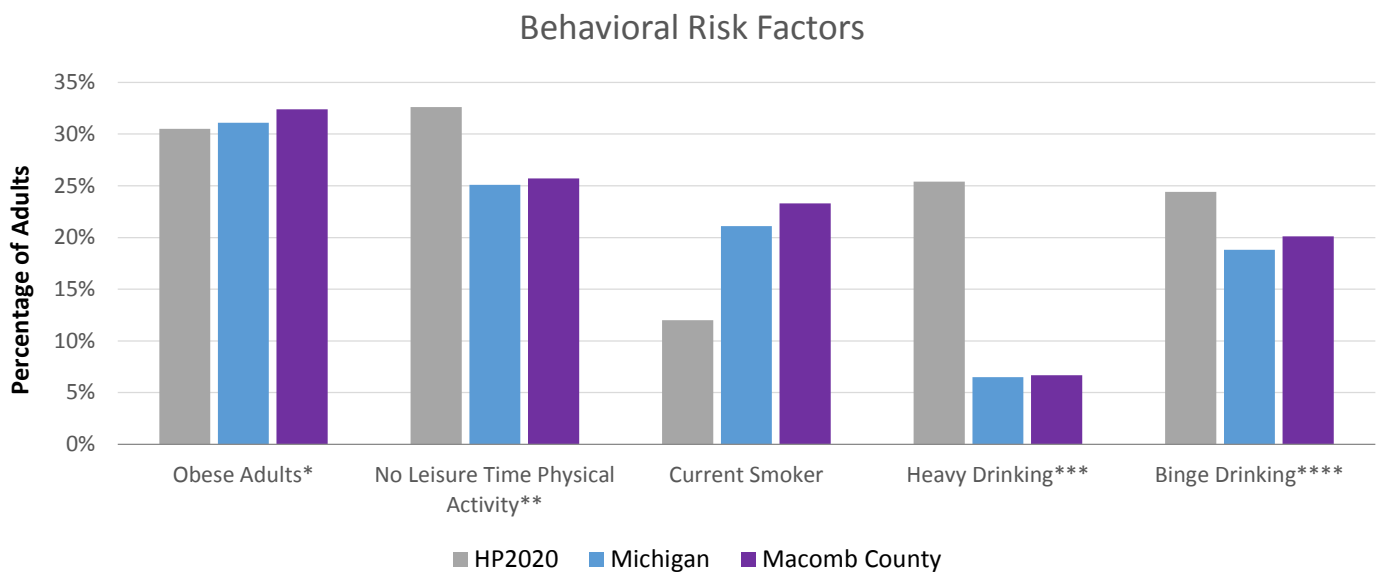
<b>Behavioral Risk Factors</b> Weight Status Physical Activity Tobacco Use Fruit and Vegetable Consumption Drug Use	<b>Maternal and Child Health</b> Low Birthweight Infant Mortality Prenatal Care Pregnancy and Tobacco Use
<b>Chronic Disease</b> Cardiovascular Disease High Blood Pressure Cancer Stroke	<b>Access to Care</b> Healthcare Access No coverage No selected provider

# Supporting Data

## Behaviors

Health isn't solely related to bacteria and the immune system: actions and personal characteristics, such as poor diet and physical inactivity, can greatly contribute to generating disease or exacerbating existing conditions. Health promotion should focus on both the proximal and distal causes of diseases. Social and behavioral theories and models can improve individual practices for a wide variety of populations and problems.

While many indicators are relative to behavioral risk factors, the following data pieces helped to determine the theme of Behavioral Risk Factors. All of these indicators are negative: lower population percentages are preferred. As shown in the data below, Macomb County has higher rates of obese adults and current smokers, and are far from the Healthy People 2020 target levels. However, the county rates of heavy drinking, binge drinking, and lack of leisure time have successfully surpassed the Healthy People 2020 objectives.



Source: 2013 - 2015 Michigan BRFSS Regional and Local Health Department Estimates, Healthy People 2020

\* The proportion of adults whose BMI was greater than or equal to 30.0.

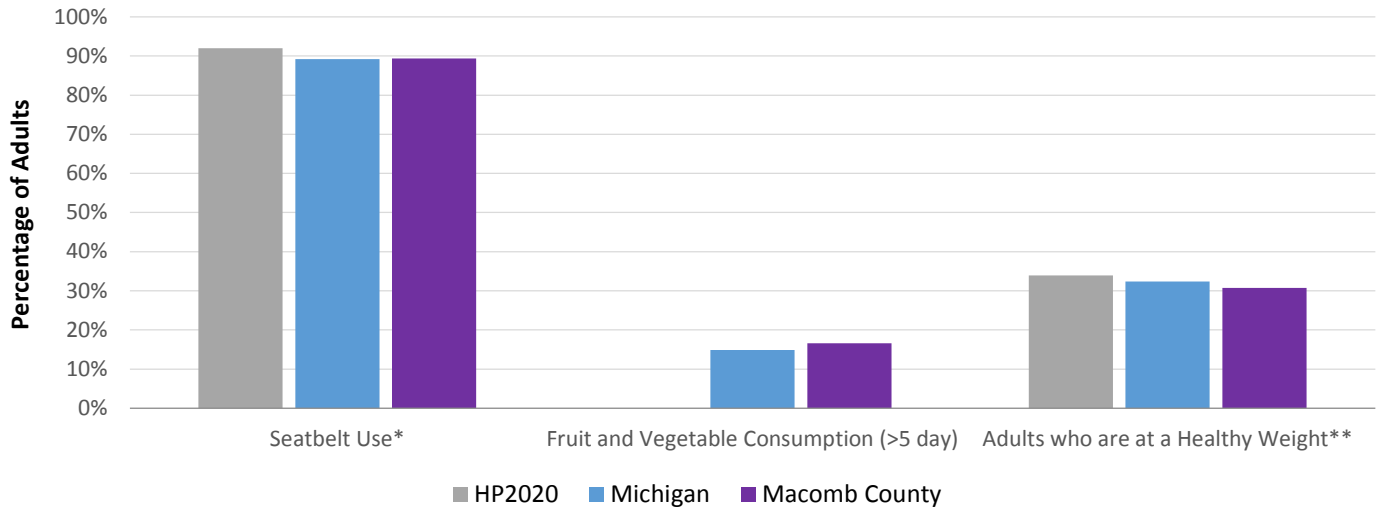
\*\* The proportion of adults who reported not participating in any leisure time physical activities or exercises such as running, calisthenics, golf, gardening, or walking during the past month.

\*\*\* Among all adults, the proportion who reported consuming an average of more than two alcoholic drinks per day for men or more than one per day for women in the previous month.

\*\*\*\* Among all adults, the proportion who reported consuming five or more drinks per occasion (for men) or 4 or more drinks per occasion (for women) at least once in the previous month.

It is just as important to boost positive behaviors as it is to discourage risky actions. For these positive indicators, higher values are desirable. Macomb County (31%) is slightly worse than Healthy People 2020 target (33.9%) and the State of Michigan rate (32.4%) for adults who are at a Healthy Weight. While only 16.6% of adults report adequate fruit and vegetable consumption in the county, it is on par with that of Michigan. Fortunately, Macomb County (89.4%) exceeds the Michigan rate (89.2%) for adults who use seatbelts on a regular basis, although it still has a ways to go before it reaches the HP2020 goal of 92%.

## Healthy Behaviors



Source: 2013 - 2015 Michigan BRFSS Regional and Local Health Department Estimates, Healthy People 2020

\* The proportion of adults who reported always using a seatbelt when driving or riding in a car.

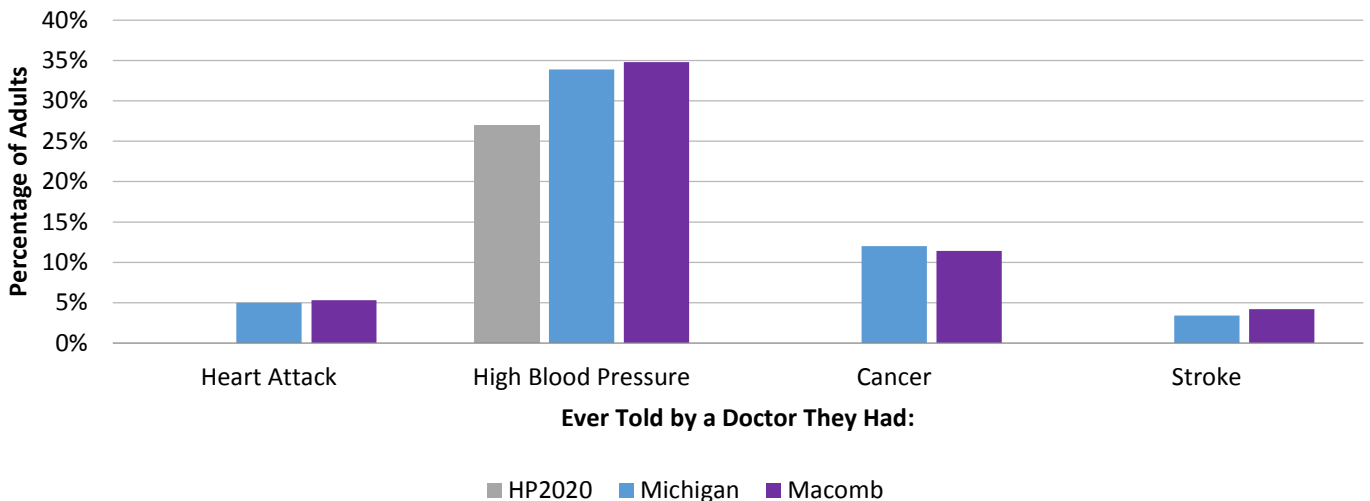
\*\* The proportion of adults whose BMI was greater than or equal to 18.5, but less than 25.0.

## Disease & Death

Macomb County continues to have a higher incidence and mortality for heart disease, cancer, and stroke. In all areas, Macomb had significantly higher rates compared to the State of Michigan and HP2020 where applicable.

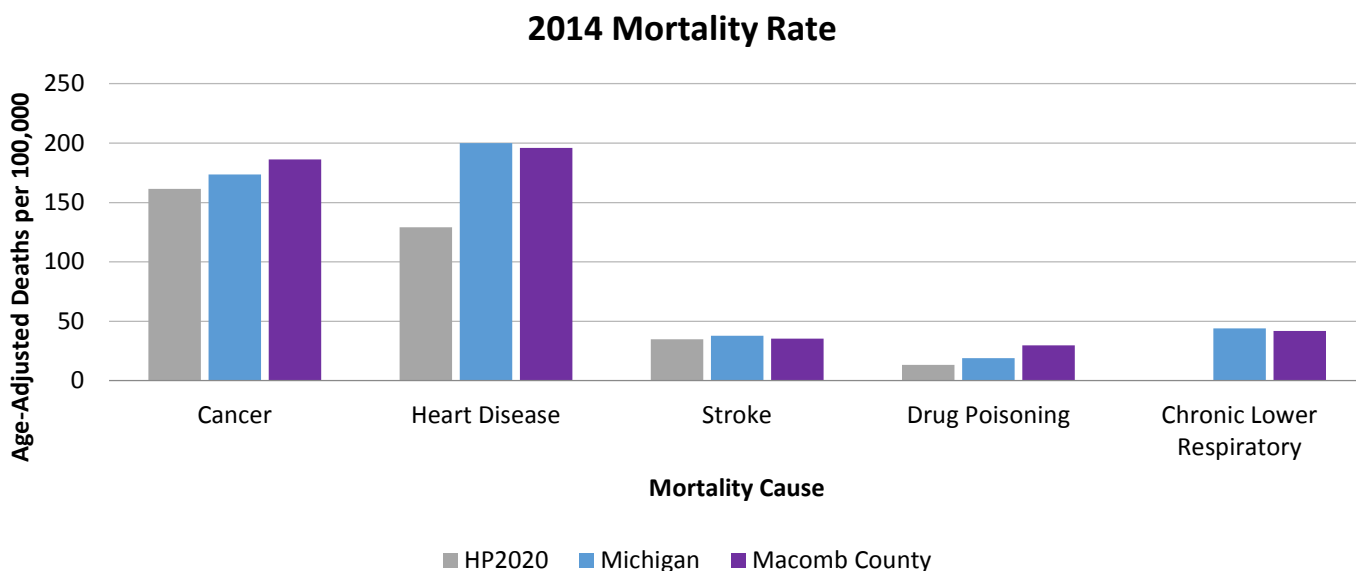
Proportionately, more Macomb adults have been informed of having high blood pressure (34.8%) or a stroke (4.2%) compared to the State of Michigan (33.9% and 3.4%, respectively). Incidence or awareness of cancer was the only category in which Macomb (11.4%) had a smaller population proportion than the state (12%).

## Chronic Disease



Source: 2013 - 2015 Michigan BRFSS Regional and Local Health Department Estimates, Healthy People 2020

Macomb County has a higher age-adjusted mortality than both the HP2020 benchmark and Michigan State for cancer and drug poisoning. HP2020 recommends a target of 13.2 deaths per 100,000 people due to drug poisoning; Macomb in 2014 reported 29.8 deaths – a rate 225% higher. While Michigan itself has a higher rate (18.9 deaths per 100,000), Macomb is far and away suffering the greatest due to drug poisoning; Macomb’s rate of drug poisoning deaths is 1.6x higher than the state rate, and 2.6x higher than the HP2020 objective.



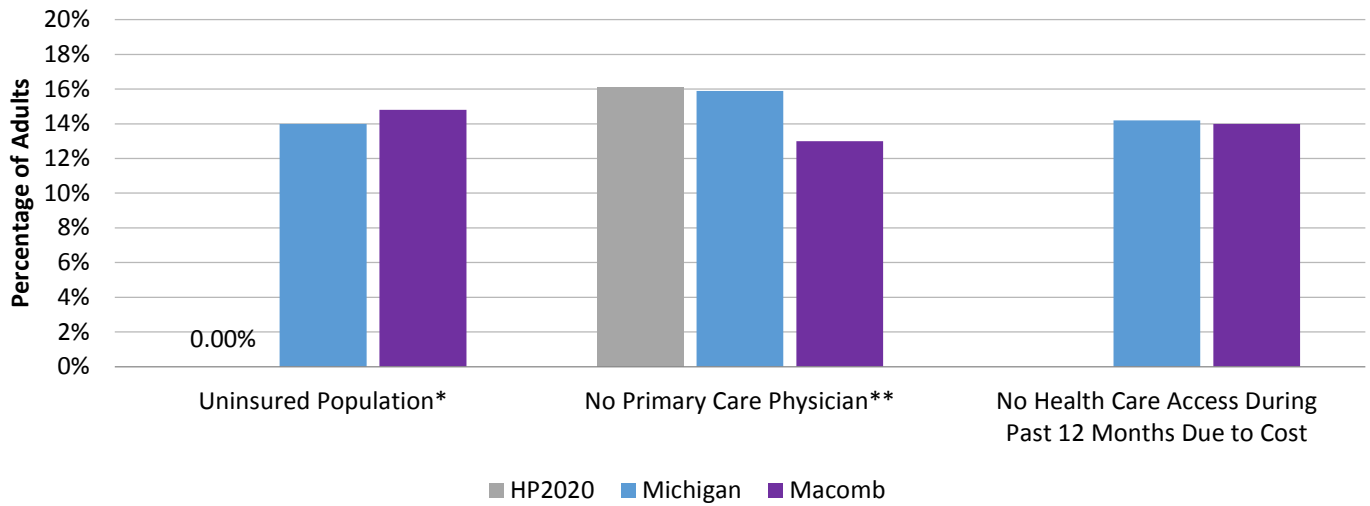
Source: Michigan Department of Health and Human Services, Vital Records & Health Statistics, Single Year Average Age-adjusted Mortality Rates 2014, CDC WONDER 2014, Healthy People 2020

### Access to Care

Access to care has been repeatedly recognized as having a great influence on other health behaviors and conditions, especially those also identified in the Community Health Assessment. Lacking insurance can have drastic effects on health. Research has repeatedly demonstrated that the uninsured are less likely than those with insurance to receive preventive care and services for major health conditions and chronic diseases, leading to expensive hospital bills and outcomes down the road.

The latest Michigan Behavioral Risk Factor Survey identified that 14.8% of Macomb County adults were uninsured, and 13% of residents do not have a usual care provider. The high cost of medical treatment prevented 14% of adults from seeing a doctor when needed. The CHSA team decided to focus on Access to Care because the goal of having an insured population is 100% as set by Healthy People 2020, and Macomb County is still working on reaching that goal. While Macomb is doing better than the State of Michigan in some categories of Access to Care, there are still a few areas that Macomb County can continue to improve in such as No Health Care Access during the Past 12 Months.

## Access to Care



Source: 2013 - 2015 Michigan BRFSS Regional and Local Health Department Estimates, Healthy People 2020

\* Among adults aged 18-64 years, the proportion who reported having no health care coverage, including health insurance, prepaid plans such as HMOs, or government plans, such as Medicare.

\*\* The proportion of adults who reported that they did not have anyone that they thought of as their personal doctor or health care provider.

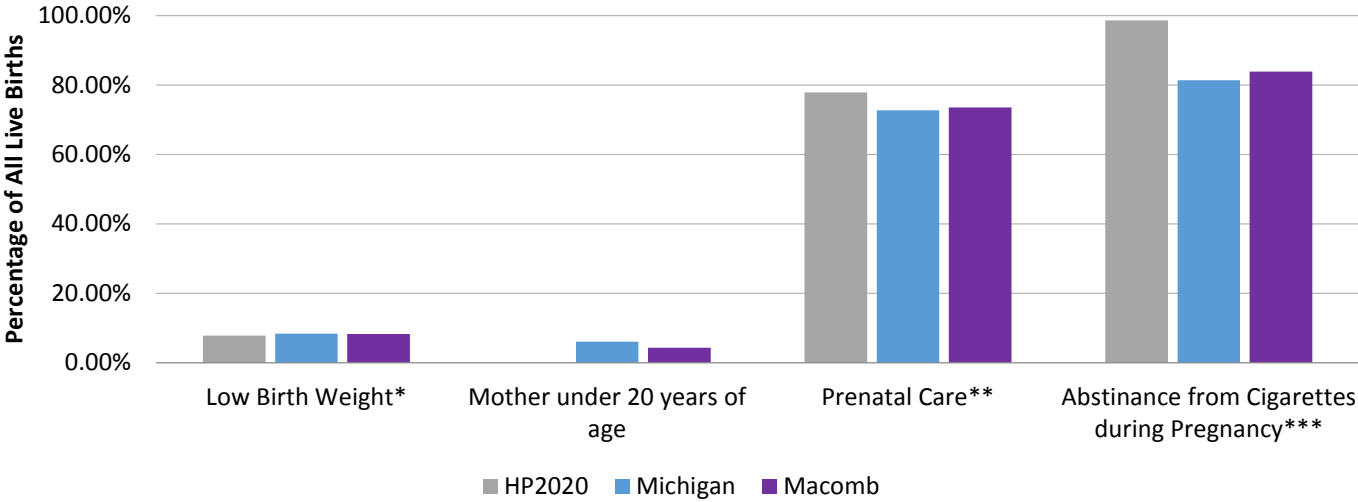
## Women and Infants

Infant mortality rate is often used as an indicator to measure the health and well-being of a nation or community, because factors affecting the health of entire populations can also impact infant mortality. Similarly, maternal health and pregnancy characteristics are important gauges to track. Low birth weight is a negative indicator: babies born at a low weight are at a higher risk for disease, disability, and death. Teenage pregnancy can be dangerous for both the mother and the child due to socio-economic reasons and a lack of stable support – it too is a negative indicator, where a lower rate is preferred. In contrast, early entry into prenatal care and abstinence from substance use (e.g., alcohol and cigarettes) are positive indicators – higher numbers are desired.

While Macomb County is doing relatively similar or better than the State of Michigan with respect to most MCH indicators, the CHSA team still decided to put focus on this category. The County does not meet HP2020 objectives for adequate prenatal care and cigarette abstinence, which may be associated with the higher neonatal (less than 28 days old) mortality compared to both the State of Michigan and HP2020 benchmark. Fortunately, Macomb County favorably achieves and goes past the HP2020 targets for post-neonatal mortality. Reducing premature births, low birth weight babies and infant deaths due to unsafe sleep practices is a continual goal in Macomb County. There is always room for improvement in areas of Maternal and Child Health.



## Maternal and Child Health



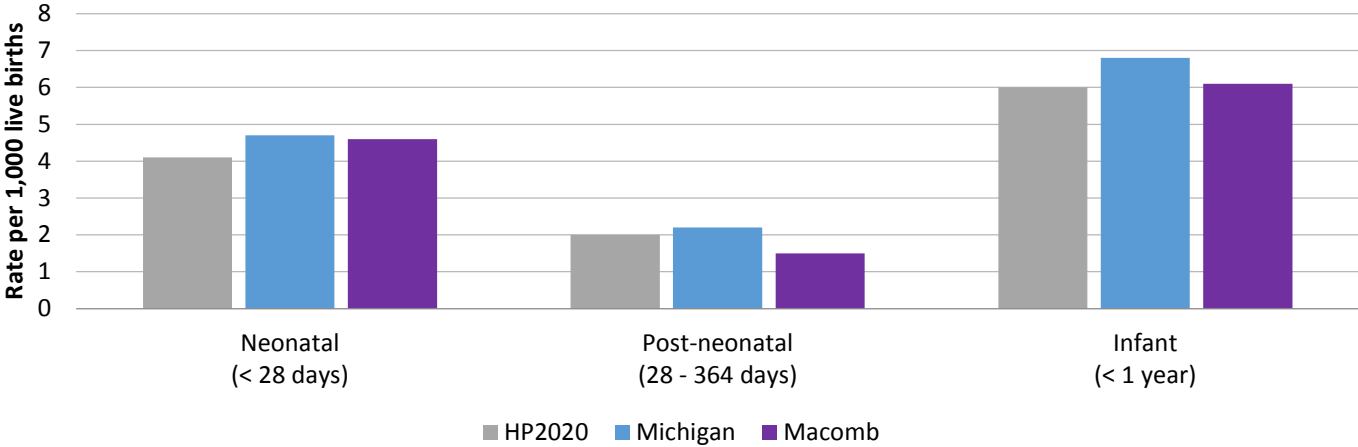
Source: Michigan Department of Health and Human Services, Vital Records & Health Statistics 2014 Characteristics, Healthy People 2020

\* Low weight births are less than 2,500 grams.

\*\* Received prenatal care during first trimester.

\*\*\* Mothers who smoked while pregnant where those who had a history of smoking, but never quit, plus those who quit at some point between estimated conception and birth date.

## Infant Mortality, Macomb County Residents 2012-2014 Average

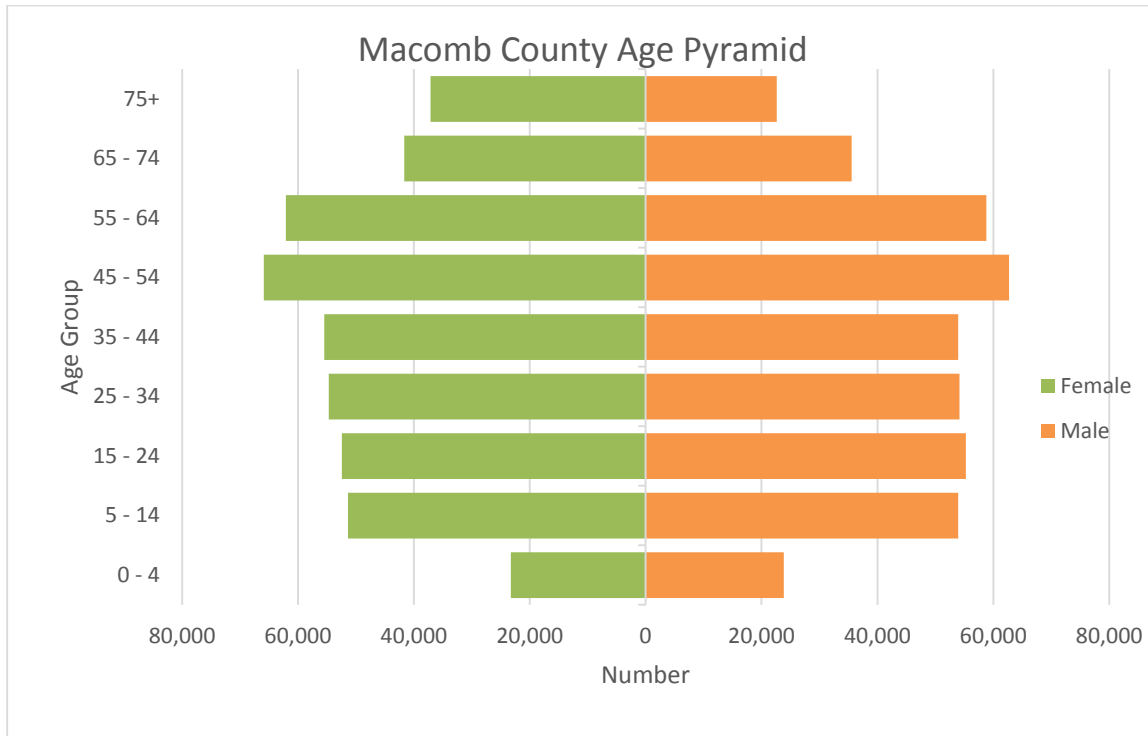


Source: Michigan Department of Health and Human Services, Vital Records & Health Statistics 2012-2014 Average, Healthy People 2020

## Macomb County Charts and Graphs

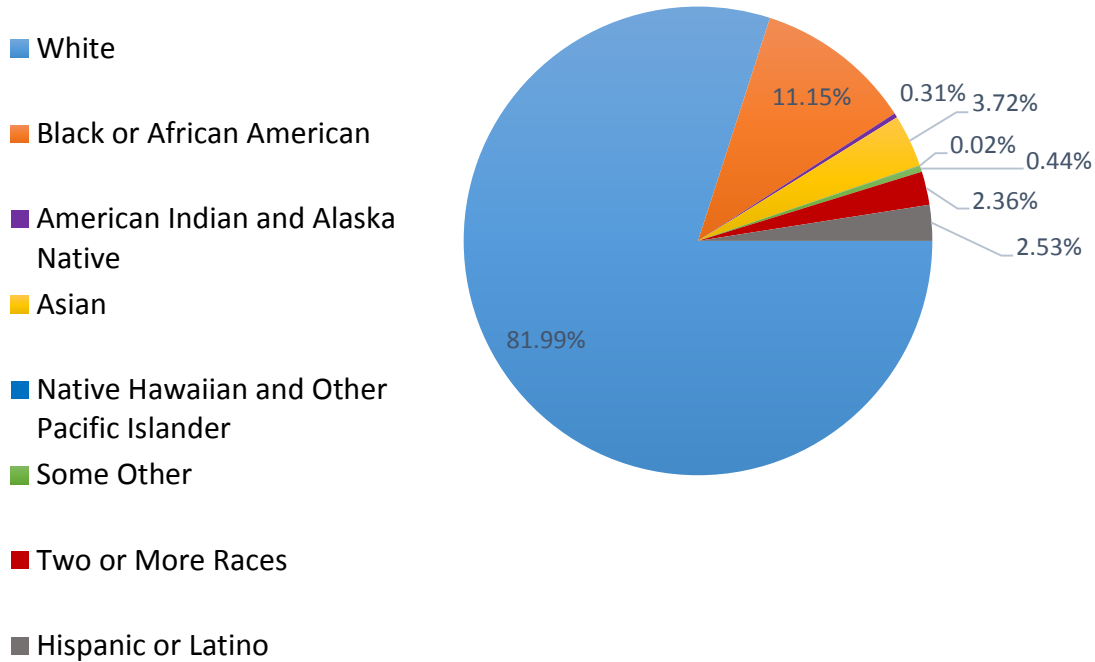
Demographics of Macomb County and Michigan		
	Michigan	Macomb County
<b>Total Population</b>	9,922,576	864,840
Male	49.10%	48.60%
Female	50.90%	51.40%
<b>Age (in years)</b>	<b>Michigan</b>	<b>Macomb County</b>
<5	5.80%	5.40%
5 -17	16.50%	16.20%
18 - 64	61.90%	62.60%
≥65	15.80%	15.80%
<b>Race/ Ethnicity</b>	<b>Michigan</b>	<b>Macomb County</b>
White	78.62%	81.99%
Black or African American	13.89%	11.15%
American Indian and Alaska Native	0.54%	0.31%
Asian	2.95%	3.72%
Native Hawaiian and Other Pacific Islander	0.04%	0.02%
Some Other	1.21%	0.44%
Two or More Races	2.74%	2.36%
Hispanic or Latino	4.90%	2.53%

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimate



Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimate

## Racial Composition of Macomb



Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimate

Socioeconomic Measures		
	Michigan	Macomb County
Percent of Population below the poverty level	15.80%	11.70%
Percent unemployment among those 16 yrs and older	7.20%	6.60%
Number of households receiving food stamps/SNAP	580,043	44,357

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimate

Education Level*		
	Michigan	Macomb County
Less than high school (including grades 9-12 without a diploma)	9.90%	10.80%
High school graduate (includes equivalency)	29.40%	30.50%
Some college or associate's degree	32.90%	35.00%
Bachelor's degree or higher	17.00%	15.10%
Graduate or professional degree	10.80%	8.60%

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimate

\*Among those aged 25 years and older.

Household Income		
	Michigan	Macomb
<b>Total Households</b>	3,858,532	341,532
<b>Household Income</b>	<i>Percent of Households</i>	
Less than \$10,000	7.70%	5.60%
\$10,000 to \$14,999	5.10%	4.20%
\$15,000 to \$24,000	11.00%	10.10%
\$25,000 to \$34,999	10.60%	11.00%
\$35,000 to \$49,000	14.40%	14.20%
\$50,000 to \$74,999	18.70%	19.50%
\$75,000 to \$99,999	12.00%	12.80%
\$100,000 or more	20.50%	22.60%

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimate

Percent Below Poverty Level		
Year	Michigan	Macomb
2012	17.40%	12.40%
2013	17.00%	13.30%
2014	16.20%	12.20%
2015	15.80%	11.70%

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimate

Housing		
	Michigan	Macomb
<b>Housing Tenure:</b>		
Owner-Occupied	70.40%	71.70%
Renter-Occupied	29.60%	28.30%
<b>Selected Monthly Owner Costs as a Percentage of Household Income</b>		
<b>With a Mortgage:</b>		
Less than 20.0 percent	49.90%	50.40%
20.0 to 24.9 percent	15.10%	15.20%
25.0 to 29.9 percent	9.90%	10.00%
30.0 to 34.9 percent	6.40%	6.70%
35.0 percent or more	18.80%	17.60%
<b>Without a Mortgage:</b>		
Less than 10.0 percent	39.50%	36.70%
10.0 to 14.9 percent	20.50%	22.90%
15.0 to 19.9 percent	12.40%	15.20%
20.0 to 24.9 percent	7.20%	6.20%
25.0 to 29.9 percent	5.10%	4.50%
30.0 to 34.9 percent	3.40%	3.40%
35.0 percent or more	12.00%	11.00%
<b>Gross Rent as a Percentage of Household Income</b>		
Less than 15.0 percent	13.40%	11.90%
15.0 to 19.9 percent	12.60%	11.40%
20.0 to 24.9 percent	12.30%	12.30%
25.0 to 29.9 percent	11.70%	13.80%
30.0 to 34.9 percent	8.70%	9.60%
35.0 percent or more	41.30%	41.00%

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimate

Population with Limited English Proficiency			
	US	Michigan	Macomb County
	<b>Percent Population</b>		
Speak a language other than English at home	21.50%	9.50%	13.90%
Speak English less than "very well"	8.60%	3.40%	6.30%

Source: U.S. Census Bureau, 2015 American Community Survey 1-Year Estimate

\* Population with limited English Proficiency represents the percentage of the population aged 5 and older who speak a language other than English at home and speak English less than "very well."

**Top Ten Leading Causes of Death in Macomb County, Age-Adjusted Rates per 100,000**

	All Races			White			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1. Heart Disease	196	240.9	160.6	196	244.6	157.2	224.1	200	233.8
2. Cancer	186.1	219.4	163.4	186.8	220.5	164.1	186	212.1	166.5
3. Chronic Lower Respiratory Diseases	42	45.3	40.4	42.1	46	40.2	45.5	•	•
4. Stroke	35.5	39.2	33	34.5	39	31.4	36.3	•	•
5. Unintentional Injuries/ Accidents	46.2	66.5	27.6	49	70.6	28.6	39.1	51.3	•
6. Alzheimer's Disease	24.2	18.6	27.3	24.4	18.4	27.7	•	•	•
7. Diabetes Mellitus (Type 2)	27.1	35.6	20.7	25.1	32.7	19.2	58.6	•	•
8. Pneumonia/Influenza	14.7	18.9	12.1	14.6	18.4	12.2	•	•	•
9. Kidney Disease	14.1	14.8	13.7	14.2	14.8	14	•	•	•
10. Intentional Self-harm (Suicide)	13.3	20	7.1	15.4	22.9	8.1	•	•	•

Source: 2014 Michigan Death Certificate Registry. Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services; Population Estimate (latest update 9/2014), National Center for Health Statistics, U.S. Census Populations With Bridged Race Categories .

\* Age-adjusted Rates are per 100,000 population. The causes of death are listed in order of the 10 leading causes of death for Michigan residents in 2014.

\* indicates that the data do not meet standards of reliability or precision.

**Rates of Years of Potential Life Lost Below Age 75 Due to  
Leading Causes of YPLL in Macomb County**

Cause of Death	All Races			White			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
All Causes	9,297.6	11,433.3	7,209.1	9,285.0	11,490.3	7,088.5	10,874.4	12,987.3	9,059.3
1. Malignant neoplasms	2,144.9	2,257.0	2,035.3	2,197.1	2,323.1	2,071.5	1,976.0	1,930.9	2,014.8
2. Diseases of heart	1,439.3	2,057.1	835.1	1,469.1	2,130.7	810.1	1,550.1	1,964.7	1,194.0
3. Accidents	1,465.6	2,069.6	874.9	1,527.3	2,178.6	878.5	1,328.5	1,653.4	1,049.3
4. Intentional self-harm (suicide)	546.7	845.5	254.6	600.9	931.3	271.8	•	•	•
5. Certain conditions originating in the perinatal period	407.3	418.6	396.3	290.2	265.4	314.9	1,251.5	1,710.8	857
6. Assault (homicide)	194.4	313.6	77.8	85.1	117.1	•	1,081.5	2,006.1	•
7. Chronic lower respiratory diseases	256.6	240.2	272.7	265.9	237.8	293.9	252.6	333	183.6
8. Chronic liver disease and cirrhosis	246.4	326.4	168.2	268.9	358.2	179.9	115	•	•
9. Diabetes mellitus	261.1	320.4	203.1	252.5	309.6	195.5	391.1	470.1	323.3
10. Cerebrovascular diseases	236.6	248.3	225	217.6	236.3	198.9	362.5	318.9	400
11. Congenital malformations, deformations and chromosomal abnormalities	178.2	181.6	174.9	174.7	194.8	154.6	•	•	•
12. Influenza and pneumonia	96.8	85	108.3	99.5	89.7	109.2	109.1	•	134.2
13. Septicemia	89.1	105.5	73.1	76.7	93.4	60	193.1	197.7	189
14. Nephritis, nephrotic syndrome and nephrosis	79.5	89.9	69.3	73.1	79.7	66.6	151.8	207.3	104.1
15. Viral hepatitis	43.5	61	26.4	42.5	57.6	27.6	•	•	•
All Other Causes	1,611.5	1,813.4	1,414.1	1,644.0	1,886.8	1,402.2	1,654.8	1,550.1	1,744.1

Source: Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services Population Estimate, 2010-2014

Note: The years of potential life lost (YPLL) below age 75 is a measure of mortality designed to emphasize mortality which is prevalent among persons under age 75. The number of years of potential life lost is calculated as the number of years between the age at death and 75 years of age for persons dying before their 75th year. Rates are per 100,000 population under 75 years of age.

The causes of death are listed in order of the 15 leading causes of YPLL for Michigan residents in 2014.

•: A dot (•) indicates that the data do not meet standards of reliability or precision.

**Rates of Years of Potential Life Lost Below Age 75 Due to  
Certain Cancers, Firearm, Drug and Alcohol-related Deaths in Macomb County**

Cause of Death	All Races		
	Total	Male	Female
1. Drug-induced deaths	1,167.90	1,566.00	778.6
2. Malignant neoplasms of trachea, bronchus and lung	550.8	603	499.6
3. Injury by firearms	372.4	635.6	115.1
4. Alcohol-induced deaths	270.7	372.6	171
5. Malignant neoplasm of breast	189.3	•	371.3
6. Malignant neoplasms of lymphoid, hematopoietic and related tissue	187.6	229	147.2
7. Malignant neoplasms of colon, rectum and anus	186.4	213.1	160.4

Source: Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services Population Estimate, 2010-2014

Note: The years of potential life lost (YPLL) below age 75 is a measure of mortality designed to emphasize mortality which is prevalent among persons under age 75. The number of years of potential life lost is calculated as the number of years between the age at death and 75 years of age for persons dying before their 75th year. Rates are per 100,000 population under 75 years of age.

The causes of death are listed in order of the 15 leading causes of YPLL for Michigan residents in 2014.

•: A dot (•) indicates that the data do not meet standards of reliability or precision.

**Leading Communicable Diseases Overall, Macomb County and Michigan**

	Macomb County		Michigan	
	Number of Cases	Rate	Number of Cases	Rate
Chlamydia (Genital)	2,479.0	294.0	45,390.0	459.0
Influenza	821.0	97.0	7,928.0	80.0
Hepatitis C, Chronic	721.0	85.0	8,419.0	85.0
Gonorrhea	476.0	56.0	9,766.0	98.0
Hepatitis B, Chronic	390.0	46.0	2,352.0	23.0
Chickenpox (Varicella)	88.0	10.0	713.0	7.2
Campylobacter	86.0	10.0	1,156.0	11.0
Pertussis	83.0	9.9	1,387.0	14.0
Salmonellosis	75.0	8.9	1,057.0	10.0
Shingles	50.0	5.9	491.0	5.0

Source: Michigan Department of Health & Human Services, Michigan Disease Surveillance System, 2014

Top ten ranking order is for Macomb County only, based on confirmed and probable cases. Investigation Status includes Active, Canceled, Completed, Completed - Follow Up, New, Review, Superseded cases. Michigan cases are provided for comparison and are not ranked.

Rates are per 100,000 population using the 2010 census data estimates.



Maternal and Child Health					
	Reference	2010		2014	
	HP 2020	Macomb	Michigan	Macomb	Michigan
<i>Rate per 1,000 Resident Population</i>					
Live births	N/A	55.9	59.9	57.2	60.6
<i>Percent Population</i>					
Mother under 20 years old	N/A	5.8	9.5	4.3	6.1
Live births with prenatal care beginning in the first trimester	77.9	73.8	74.3	73.6	72.7
Inadequate prenatal care (Kessner Index)	N/A	15.4	8.3	8.7	8.9
Low birth weight	7.8	8.5	8.4	8.3	8.4
Very low birth weight	1.4	1.7	1.7	1.4	1.5
Very Preterm (prior to 32 weeks gestation)	1.8	2.0	2.2	1.8	2.2
Live births (32 to 33 weeks gestation)	1.4	1.5	1.5	1.8	1.6
Late preterm (34 to 36 weeks of gestation)	8.1	8.2	8.4	7.5	8.5
Total Preterm	11.4	11.7	12.1	11.1	12.3
Low-risk live births that were first birth Cesarean sections	23.9	20.6	18.8	18.5	17.5
Women delivering a live birth who had a healthy weight prior to pregnancy	57.8	24.0	27.6	22.8	28.6
Weight gained while pregnant for singleton moms was excessive	N/A	43.3	46.6	43.9	46.4
Mothers who did not smoke while pregnant	98.6	80.1	80.4	83.9	81.4
Breastfeeding not planned	N/A	27.1	25.9	22.5	20.0
Breastfeeding planned	N/A	32.7	37.2	38.4	36.8
Breastfeeding initiated	N/A	34.3	34.6	37.3	42.4

Source: Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services, Natality

Infant Mortality			
	HP 2020	Macomb County	Michigan
<i>Rate per 1,000 live births</i>			
Infant mortality	6.0	6.1	6.8
Neonatal mortality	4.1	4.6	4.7
Post-neonatal mortality	2.0	1.5	2.2

Source: Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services, Natality 2012 – 2014 Average

Nativity Characteristics by Maternal Race								
	All	White	Black	American Indian	Asian & Pacific Islander	Other Races	Hispanic	Arab
Number of Live Births	114,460	84,492	21,282	601	3,835	4,138	7,625	4,744
Fertility Rate*	60.6	57.8	65	31.1	48.6	N/A	70	108

Source: Division for Vital Records & Health Statistics, Michigan Department of Health & Human Services, Natality 2014 Characteristics

\* Rates are per 1,000 female population.

Macomb County Access to Care			
	Year		
	2012	2013	2014
	<i>Percent Population</i>		
<b>Without insurance</b>	11.4	11.4	10.5
<b>Health Coverage by Type*</b>			
Private Health Insurance	--	72.8	73.0
Private Health Insurance alone	--	57.0	57.1
Employment-based health insurance	--	62.8	62.7
Employment-based health insurance alone	--	51.7	51.5
Direct-purchase health insurance	--	12.6	12.7
Direct-purchase health insurance alone	--	4.9	5.2
TRICARE/military health coverage	--	1.2	1.3
TRICARE/military health coverage alone	--	0.4	0.4
Public coverage	--	30.2	31.0
Public coverage alone	--	14.1	14.6
Medicare coverage	--	16.6	17.0
Medicare coverage alone	--	2.7	2.9
Medicaid/means-tested public coverage	--	16.0	16.4
Medicaid/means-tested public coverage alone	--	11.2	11.5
VA Health Care	--	1.4	1.5
VA Health Care alone	--	0.2	0.2

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

\* Percent Insured by Coverage Type; the denominator only contains Macomb residents who were recording as having insurance.

Mental Health			
	Michigan	Macomb	Year
	<i>Percent Population</i>		
Poor mental health on at least 14 days in the past month	12.2%	11.3%	2013-2015
Binge drinking (adult population)	18.8%	20.1%	2013-2015
	<i>Rate per 100,000</i>		
Rate of confirmed child abuse and neglect cases among children	1470	780	2014
Homicide rate	5.14	1.30	2014
Suicide rate	13.20	13.30	2014
Domestic violence rate	921.70	841.83	2014
Hate crime rate	4.46	5.53	2014

Data source: 2013 - 2015 Michigan BRFSS Regional and Local Health Department Estimates, Michigan Department of Health and Human Services Vital Statistics, Michigan State Police Crime Data and Statistics, Michigan League for Public Policy

Women Screening		
	Macomb County	Michigan
	<i>Percent Female Population</i>	
Pap Test*	74.9	77.2
Mammogram**	46.7	49.1

Source: 2012 - 2014 Michigan BRFSS Regional and Local Health Department Estimates

\* Among women aged 18 years and older, the proportion who reported having a Pap test within the previous three years.

\*\*Among women aged 40 years and older, the proportion who reported having a mammogram and clinical breast exam in the past year.

Sex-Based Economic Equity in Macomb County			
	Total	Male	Female
	<i>Percent Population</i>		
Below Poverty Level	11.7%	10.5%	12.8%
Households receiving food stamps/SNAP	13.0%	N/A	N/A
Unemployment Rate (20 - 64 years)	6.6%	6.5%	6.0%
Uninsured Population	5.8%	6.7%	4.9%
Population with No High School Diploma*	10.8%	10.8%	10.7%

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

\*Among those aged 25 years and older.

Sex-Based Health Disparity in Macomb County			
Multiple Cause of Death	Total	Male	Female
Cancer	195.5	238.8	166.9
Ischemic Heart Disease	193	258.2	146.2
Heart Disease	336.6	420.9	275.6
Homicide	3.9	6.2	1.6
Chronic Lower Respiratory Disease	85	98.7	76.6
Motor Vehicle Accident	8.7	12.6	5.1
Stroke	61.3	66.4	57.2
Suicide	13.5	21.7	6.0
Unintentional Injury	48.6	67.2	32.1
Drug-Induced	153.7	208.9	111.6
Alcohol-Induced	16.6	25.4	8.6
HIV	1.1	1.9	N/A

Source: Centers for Disease Control and Prevention, National Vital Statistics System, CDC WONDER, 2010-2014 five-year average  
Age Adjusted Rate per 100,000

N/A = Death rates are flagged as Unreliable when the rate is calculated with a numerator of 20 or less. This also includes Suppressed Data when the data meet the criteria for confidentiality constraints

Race-Based Health Disparity in Macomb County						
Multiple Cause of Death	Total	White	Black	Asian or Pacific Islander	American Indian Alaskan Native	Hispanic Latino
HIV Prevalence, 2013	1.1	0.7	5.6	N/A	N/A	N/A
Cancer 2010-2014	195.5	195.2	221	123.2	179.2	174.6
Heart Disease 2010-2014	336.6	337.1	396.5	134.6	365.1	232.1
Ischemic Heart Disease 2010-2014	193	194.7	203	79.7	240.1	143.1
Homicide 2010-2014	3.9	2	18.6	N/A	N/A	N/A
Chronic Lower Respiratory Disease 2010-2014	85	86.4	76.8	31.3	N/A	55.9
Motor Vehicle Accident 2010-2014	8.7	8.7	10.2	N/A	N/A	N/A
Stroke 2010-2014	61.3	59.6	96.7	55.7	N/A	63.2
Suicide 2010-2014	13.5	15.1	4.5	N/A	N/A	N/A
Unintentional Injury 2010-2014	48.6	50.7	38.8	N/A	N/A	55.7
Drug-Induced	153.7	159.4	125.6	32.8	198.9	152.3
Alcohol-Induced	16.6	17.7	10	N/A	N/A	N/A

Source: Centers for Disease Control and Prevention, National Vital Statistics System, CDC WONDER, 2010-2014 five-year average  
Age Adjusted Rate per 100,000

N/A = Death rates are flagged as Unreliable when the rate is calculated with a numerator of 20 or less. This also includes Suppressed Data when the data meet the criteria for confidentiality constraints

# Indicators

## Core Indicator Categories

The CHSA team utilized MAPP's eleven broad-based core and extended data categories to review the data.

### Category One

Definition of Category: Demographic characteristics include measures of total population as well as percent of total population by age group, gender, race and ethnicity, where these populations and subpopulations are located, and the rate of change in population density over time, due to births, deaths and migration patterns.

- Overall Demographic Information
- Demographic Profile: Age and Sex
- Demographic Profile: Race / Ethnic Distribution

### Category Two

Definition of Category: Socioeconomic characteristics include measures that have been shown to affect health status, such as income, education, and employment, and the proportion of the population represented by various levels of these variables.

- Employment/Unemployed
- Percent Below Poverty Level
- Median Household Income
- Ratio of students graduating who entered 9th grade 3 years prior
- Special Populations Number Proportion of
  - Migrant persons
  - Homeless persons
  - non-English speaking persons
- Persons aged 25 and older with less than a high school education
- Persons without health insurance
- Single parent families

### Category Three

Definition of Category: This domain represents factors associated with health system capacity, which may include both the number of licensed and credentialed health personnel and the physical capacity of health facilities. In addition, the category of health resources includes measures of access, utilization, cost and quality of health care and prevention services. Service delivery patterns and roles of public and private sectors as payers and/or providers may also be relevant.

- Medicaid eligibles to participating physicians
- Licensed dentists: rate total population (CHSI Report)
- Licensed primary care physicians (general practice, family practice, internal, ob/gyn, and pediatrics): rate total population (CHSI Report)
- Licensed hospital beds: total, acute, specialty beds; rate total population (and occupancy rate)
- Visiting nurse services/in home support services: rate total population
- Proportion of population without a regular source of primary care (including dental services)
- Per capita health care spending for Medicare beneficiaries (the Medicare adjusted average per capita cost)
- Local health department full-time equivalents employees (FTEs): number per total population
- Total operating budget of local health department: dollars per total population

#### **Category Four**

Definition of Category: Quality of Life (QOL) is a construct that “connotes an overall sense of well-being when applied to an individual” and a “supportive environment when applied to a community” (Moriarty, 1996). While some dimensions of QOL can be quantified using indicators research has shown to be related to determinants of health and community-well being, other valid dimensions of QOL include perceptions of community residents about aspects of their neighborhoods and communities that either enhance or diminish their quality of life.

- Proportion of persons satisfied with the quality of life in the community (IOM, 1997)
- Proportion of adults satisfied with the health care system in the community (IOM, 1997)
- Proportion of parents in the PTA
- Number of openings in child care facilities for low income families
- Number of neighborhood crime watch areas
- Civic organizations/association members per 1,000 population
- Percent of registered voters who vote

#### **Category Five**

Definition of Category: Risk factors in this category include behaviors which are believed to cause, or to be contributing factors to, injuries, disease, and death during youth and adolescence and significant morbidity and mortality in later life. The indicators below correlate with information found in the Behavioral Risk Factor Surveillance System (BRFSS). For more information, go to <http://www.cdc.gov/nccdphp/brfss/pdf/userguide.pdf>.

For each of the following, look at risk by percent of total population, by subgroups: age, gender, race, ethnicity, income, education

- Substance Use and Abuse
  - Tobacco use
  - Illegal drug use
  - Binge drinking
- Lifestyle
  - Nutrition
  - Obesity
  - Exercise
  - Sedentary lifestyle
- Protective Factors (safety)
  - Seatbelt use
  - Child safety seat use
  - Bicycle helmet use
  - Condom use
- Screening
  - Pap Smear (Percent of age-specific female population)
  - Mammography (Percent of age-specific female population)

### **Category Six: Environmental Health Indicators**

Definition of Category: The physical environment directly impacts health and quality of life. Clean air and water, as well as safely prepared food, are essential to physical health. Exposure to environmental substances such as lead or hazardous waste increases risk for preventable disease. Unintentional home, workplace, or recreational injuries affect all age groups and may result in premature disability or mortality.

- Air quality - number and type of U.S. Environmental Protection Agency air quality standards not met
- Water quality - proportion of assessed rivers, lakes, and estuaries that support beneficial uses (e.g., fishing and swimming approved) (IOM, 1997)
- Indoor clean air - Percent of public facilities designated tobacco-free
- Workplace hazards - Percent of OSHA violations
- Food safety - foodborne disease: rate per total population (CHSI Report)
- Lead exposure - Percent of children under 5 years of age who are tested and have blood levels exceeding 10mcg/dL
- Waterborne disease: rate per total population
- Fluoridated water - percent total population with fluoridated water supplies
- Rabies in animals: number of cases

### **Category Seven**

Definition of Category: This category represents social and mental factors and conditions which directly or indirectly influence overall health status and individual and community quality of life. Mental health conditions and overall psychological well-being and safety may be influenced by substance abuse and violence within the home and within the community.

- During the past 30 days, average number of days for which adults report that their mental health was not good (IOM, 1997) [See Category 9 for similar question regarding physical health]
- Number and rate of confirmed cases of child abuse and neglect among children (IOM, 1997)
- Homicide rate: age adjusted; total, white, non-white (IOM, 1997, CHSI Report)
- Suicide rate: age adjusted; total, white, non-white; teen suicide (IOM, 1997, CHSI Report)
- Domestic violence: rate per total population
- Psychiatric admissions: rate per total population
- Alcohol related motor vehicle injuries/mortality: rate per total population
- Drug-related mortality rate

### **Category Eight: Maternal and Child Health**

Definition of Category: One of the most significant areas for monitoring and comparison relates to the health of a vulnerable population: infants and children. This category focuses on birth data and outcomes as well as mortality data for infants and children. Because maternal care is correlated with birth outcomes, measures of maternal access to, and/or utilization of, care is included. Births to teen mothers is a critical indicator of increased risk for both mother and child.

- Infant mortality (death within 1st year): total, white, non-white rate per 1000 live births
- Entrance into prenatal care in 1st trimester: Percent total, white, non-white per live births
- Births to adolescents (ages 10-17) as a proportion of total live births (IOM, 1997, CHSI Report)
- Adolescent pregnancy rate (ages 15-17)
- Very low birthweight (less than 1,500 grams): Percent total live births, white, non-white

- Child mortality: rate per population age 1-14 / 100,000
- Neonatal mortality: total, white, non-white, rate per live births
- Post Neonatal mortality: total, white, non-white rate per live births

### **Category Nine: Death, Illness, and Injury**

Definition of Category: Health status in a community is measured in terms of mortality (rates of death within a population) and morbidity (rates of the incidence and prevalence of disease). Mortality may be represented by crude rates or age-adjusted rates (AAM); by degree of premature death (Years of Productive Life Lost or YPLL); and by cause (disease - cancer and non-cancer or injury - intentional, unintentional). Morbidity may be represented by age-adjusted (AA) incidence of cancer and chronic disease.

- General health status (percent respondents reporting their health status as excellent, very good, good, fair, poor) (IOM, 1997, CHSI Report) [See Category 7 for similar question regarding mental health]
- Average number of sick days within the past month (CHSI Report) Mortality (Age adjusted rates)
- All causes: AAM, total, by age, race, and gender (CHSI Report)
- All cancers: AAM, total, white, non-white (CHSI Report)
- Unintentional Injuries: Total, by age, race, and gender (CHSI Report)
- Years of Productive Life Lost (YPLL): number of YPLL under age 75 per population (total, white, non-white)
- Breast cancer (IOM, CHSI Report)
- Lung cancer (IOM, CHSI Report)
- Cardiovascular disease (IOM, 1997, CHSI Report)
- Motor vehicle crashes (IOM, 1997, CHSI Report)
- Cervical cancer
- Colorectal cancer (CHSI Report)
- Chronic obstructive lung disease
- Chronic liver disease and cirrhosis: AAM, total, white, non-white
- Diabetes mellitus: AAM, total, white, non-white (CHSI Report)
- Pneumonia/influenza: AAM, total, white, non-white
- Stroke: AAM, total, white, non-white (CHSI Report)

### **Category Ten: Communicable Disease**

Definition of Category: Measures within this category include diseases which are usually transmitted through person-to-person contact or shared use of contaminated instruments /materials. Many of these diseases can be prevented through a high level of vaccine coverage of vulnerable populations, or through the use of protective measures, such as condoms for the prevention of sexually-transmitted diseases.

- Proportion of 2-year old children who have received all age-appropriate vaccines, as recommended by the Advisory Committee on Immunization Practices (IOM, 1997)
- Proportion of adults aged 65 and older who have ever been immunized for pneumococcal pneumonia (IOM, 1997)
- Proportion of adults aged 65 and older who have been immunized in the past 12 months for influenza (IOM, 1997, CHSI Report)
- Vaccine preventable: Percent of appropriately immunized children/population
- Syphilis (primary and secondary) cases: reported incidence by age, race, gender
- Gonorrhea cases: rate total population



- Chlamydia: reported incidence
- Tuberculosis: AAM, reported incidence by age, race, and gender (IOM, 1997, CHSI Report –number of cases)
- AIDS: AAM, reported incidence by age, race, gender (IOM, 1997, CHSI Report – number of cases)
- Bacterial meningitis cases: reported incidence
- Hepatitis A cases: reported incidence (CHSI Report – number of cases)
- Hepatitis B cases: reported incidence (CHSI Report – number of cases)
- Hepatitis C cases: reported incidence

### **Category Eleven: Sentinel Events**

Definition of Category: Sentinel events are those cases of unnecessary disease, disability, or untimely death that could be avoided if appropriate and timely medical care or preventive services were provided. These include vaccine-preventable illness, late stage cancer diagnosis, and unexpected syndromes or infections. Sentinel events may alert the community to health system problems such as inadequate vaccine coverage, lack of primary care and/or screening, a bioterrorist event, or the introduction of globally transmitted infections.

- Vaccine preventable disease
  - Measles: number and rate/total population (CHSI Report – number of cases)
  - Mumps: number and rate/total population
  - Rubella: number and rate/total population (CHSI Report – number of cases)
  - Pertussis: number and rate/total population (CHSI Report – number of cases)
  - Tetanus: number and rate/total population
- Other
  - Percent late stage diagnosis cancer – cervical
  - Percent late stage diagnosis cancer – breast
  - Number of deaths or age-adjusted death rate for work-related injuries (IOM, 1997)
  - Unexpected syndromes due to unusual toxins or infectious agents, possibly related to a bioterrorist event (i.e., smallpox, anthrax)

## Extended Indicator Categories

### Category One: Demographic characteristics

- No extended indicators

### Category Two: Socioeconomic Characteristics

- Per Capita Income
- WIC eligibles: Percent of total population
- Medicaid eligibles: Percent of total population
- High School Graduation Rate
- Percent of population with a college or higher level of education
- Food Stamp Recipients -Percent of total population
- Number of subsidized housing units per total number of households.

### Category Three: Health Resource Availability

- Medicaid physician availability: ratio
- Medicaid dentist availability: ratio
- Licensed doctors: rate total population
- Licensed opticians/optometrists: rate total population
- Licensed practical nurses: rate total population
- Licensed advanced registered nurse practitioners: rate total population
- Licensed registered nurses: rate total population
- Nursing home beds: rate total population (and occupancy rate)
- Adult living facility beds: total population
- Percent of population provided primary care services by private providers
- Percent of population provided primary care services by community and migrant health centers
- Percent of population provided primary care services by other sources

### Category Four: Quality of Life

- Proportion of residents planning to stay in the community / neighborhood for next five years
- Proportion of youth involved in organized after school recreational/educational activities
- Number of child care facilities/ preschool –age population
- Number of small/medium licensed businesses/population
- Number of small locally owned businesses/population
- Proportion of minority-owned businesses
- Number of neighborhood/community-building get-togethers /year
- Number of support resources identified by residents
- Outreach to the physically, mentally, or psychologically challenged
- Number of cultural events per year
- Number of ethnic events per year
- Number of inter-ethnic community groups and associations
- Participation in developing a shared community vision
- Number of grass root groups active at neighborhood level
- Number of advocacy groups active at community level
- Civic participation hours/week (volunteer, faith-related, cultural, political)
- Percent registered to vote

**Category Five: Behavioral Risk Factors**

- No extended indicators

**Category Six: Environmental Health Indicators**

- Solid Waste Management - number of sanitary nuisance complaints
- Solid Waste Management - percent of residences serviced by sanitary elimination program (garbage pickup, recycling)
- Solid Waste Management - pounds of recycled solid waste per day per person
- Compliance in tributary streams with water standards for dissolved oxygen
- Salmonella cases: rate per total population (CHSI Report – number of cases)
- Shigella: rate per total population (CHSI Report – number of cases)
- Enteric cases: total cases per total population
- Incidence of animal/vector-borne disease (e.g., Lyme, West Nile, encephalitis)
- Contaminated wells: percent of total wells sampled
- Septic tanks: rate per total population
- Septic tanks: rate of failure
- Sanitary nuisance complaints: rate per total population
- Radon Detection - percent of homes tested for or remedied of excessive levels
- Hazardous Waste Sites number - percent of population within exposure area
- Percent of restaurants that failed inspection
- Percent of pools that failed inspection
- Number of houses built before 1950 (risk for lead-based paint exposure): number and proportion in community

**Category Seven: Social and Mental Health**

- Elderly abuse: rate per population > age 59
- Simple assaults: rate per total population
- Aggravated assaults: rate per total population
- Burglary: rate per total population
- Illegal drug sales and possession: rate per total population
- Forcible sex: rate per total population
- Intentional injury: age-adjusted mortality
- Alcohol related mortality rate
- Binge drinking -- percent of adult population
- Treatment for mental disorder -- percent of population
- Crime rates: violent crimes; hate crimes; sexual assault

**Category Eight: Maternal and Child Health**

- Live birth rate
- Fertility rates
- 3rd trimester prenatal care: percent of total, white, non-white per live births
- No prenatal care: percent of total, white, non-white live births
- Prenatal care; no care; adequate care
- Repeat births to teens
- Family planning numbers as percent of target population
- Low birthweight: percent of total, white, non-white live births (CHSI Report – percent of total population)
- Perinatal conditions: AAM
- Mortality due to birth defects: total, white, non-white rate population (CHSI Report)

- EPSDT as percent of eligibles
- WIC recipients as percent of eligibles
- Teen and young adult tobacco smoking rates
- C-section rate

**Category Nine: Death, Illness, and Injury**

- Morbidity (Incidence of newly diagnosed cases)
  - Breast cancer (total, white, non-white)
  - Cervical cancer (total, white, non-white)
  - Colorectal cancer
  - Lung and bronchus cancer
  - Prostate cancer
  - Melanoma
  - Oral cancer
  - Dental caries in school-aged children
- Hospitalizations (number and rate/total pop.) for the following:
  - Asthma
  - Cellulitis
  - Congestive heart failure
  - Diabetes
  - Gangrene
  - Influenza
  - Malignant hypertension
  - Perforated/bleeding ulcers
  - Pneumonia
  - Pyelonephritis
  - Ruptured appendix

**Category Ten: Communicable Disease**

- Nosocomial infections
- Group B streptococcus

**Category Eleven: Sentinel Events**

- Congenital syphilis
- Childhood TB
- Drug-resistant TB
- Residential fire deaths (number and rate)
- Drug overdose deaths (number and rate)
- Gun-related youth deaths
- Maternal death

## Benchmark Comparisons

### Worse than the Benchmark

- No Health Care Coverage Among Those Aged 18-64 Years, Michigan & HP2020
- Health Care Access - No Personal Health Care Provider, Michigan & HP2020
- Health Care Access - No Health Care Access During Past 12 Months Due to Cost, Michigan & HP2020
- Low Birth Weight Babies, Michigan
- Unintentional injuries, Michigan
- CVD, Michigan
- Chlamydia, Michigan
- High Blood Pressure, Michigan
- Cholesterol Screening and Awareness - Ever Told High Cholesterol, Michigan
- Chronic Obstructive Pulmonary Disease (COPD), Michigan
- Stroke, Michigan
- Cardiovascular Disease, Michigan
- Cancer, Michigan
- Fruit and Vegetable Consumption – Fruits, Michigan
- Activity Limitation on at least 14 Days in the Past Month, Michigan
- Cigarette Smoking - Current Smoking, Michigan
- Alcohol Consumption - Any Alcohol in past Month, Michigan
- Alcohol Consumption - Heavy Drinking, Michigan
- Alcohol Consumption - Binge Drinking, Michigan

### About the same as the benchmark

- Post neonatal mortality, Michigan
- All Cancers, Michigan
- Chronic Liver disease and cirrhosis, Michigan
- Pneumonia, Michigan
- Rubella, Michigan
- Cholesterol Screening and Awareness – Cholesterol Ever Checked, Michigan
- Asthma - Ever told have Asthma, Michigan
- Asthma - Still have Asthma, Michigan
- Heart Attack, Michigan
- Angina/Coronary Heart Disease, Michigan
- Weight Status – Obese, Michigan
- Weight Status – Overweight, Michigan
- Weight Status - Healthy Weight, Michigan
- Fruit and Vegetable Consumption – Vegetables, Michigan
- Fruit and Vegetable Consumption - Fruits and Vegetables, Michigan
- Adequate Physical Activity, Michigan
- Cigarette Smoking - Former Smoking, Michigan

### Better than the Benchmark

- Increase the proportion of person with medical insurance, HP2020
- Domestic Violence, Michigan
- Infant Mortality, Michigan
- Neonatal mortality, Michigan
- Live birth rate, Michigan
- Adolescent pregnancy rate, Michigan
- Entrance into prenatal care in 1st trimester, Michigan
- WIC recipients, Michigan
- COPD, Michigan
- Diabetes-related Deaths, Michigan
- Stroke, Michigan
- Measles, Michigan
- Mumps, Michigan
- Pertussis, Michigan
- Gonorrhea, Michigan
- AIDS, Michigan
- Bacterial Meningitis, Michigan
- Hep A, Michigan
- Colorectal Cancer Screening Among Adults 50 Years and Older, Michigan
- Immunizations Among Adults aged 65 years and Older - Had flu vaccine in past year, Michigan
- Immunizations Among Adults aged 65 years and Older - Ever had Pneumonia Vaccine, Michigan
- HIV Testing Among Adults aged 18-64 years, Michigan
- Arthritis, Michigan
- Diabetes, Michigan
- Kidney Disease, Michigan
- Breast Cancer screening among women age 40 and Older, Michigan
- Poor Physical Health on at Least 14 Days in the Past Month, Michigan
- No leisure time physical activity, Michigan
- Cigarette Smoking -Never Smoked, Michigan
- Seatbelt Use - Always Uses a Seatbelt, Michigan

# Partners

## **Great Start Macomb**

Lisa Sturges

## **Henry Ford Health System**

Debora Murray

## **Judson Center**

Melissa Savage

## **Macomb County Community Mental Health**

Sue Gough

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