



Community Health Needs Assessment Kalamazoo County

Bronson Methodist Hospital

Published: December 2016

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Summary

Bronson Methodist Hospital (BMH), a member of the Bronson Healthcare system, conducted this Community Health Needs Assessment (CHNA) to further its commitment to the community and to fulfill the requirements of the Affordable Care Act. For the purposes of this CHNA, the definition of community is all residents of Kalamazoo County, Michigan. This CHNA began in December 2015 and was completed and approved by Bronson Healthcare's Board of Directors in November 2016. The CHNA was conducted by Bronson Community Health staff who engaged local organizations in the data collection.

Data on health needs were derived using four methods:

- Data gathered and analyzed from secondary sources such as US Census, Michigan Department of Community Health, and Kalamazoo County Department of Health and Community Services
- A region-wide survey, available on-line and in paper form, generating 3,190 completed responses
- Focus groups with participants from vulnerable populations
- Key informant interviews with representatives of the community with unique knowledge of health issues affecting the community

This data was analyzed to identify the top health needs of residents of Kalamazoo County:

- Access to care
- Addiction (smoking, alcohol, prescription and illegal drugs)
- Chronic disease management
- Health education and literacy
- Mental health treatment and support
- Obesity
- Poverty
- Safety (safe neighborhoods, bullying, violence)
- Sexual health
- Social health (connections to community, and isolation)

Summary (continued)

These top health needs were prioritized using consensus criteria including availability of evidence-based interventions and measures of impact, magnitude of the need, and fit within Bronson's strategy and capabilities.

As a result of this analysis, Bronson Methodist Hospital (BMH) identified improving access to care as its focus for community health improvement for the period January 1, 2016 through December 31, 2019. This decision reflects a coming together of the health needs expressed by residents of Kalamazoo County through focus groups, surveys, key informant interviews, and the ability of Bronson to directly impact the issues related to access.

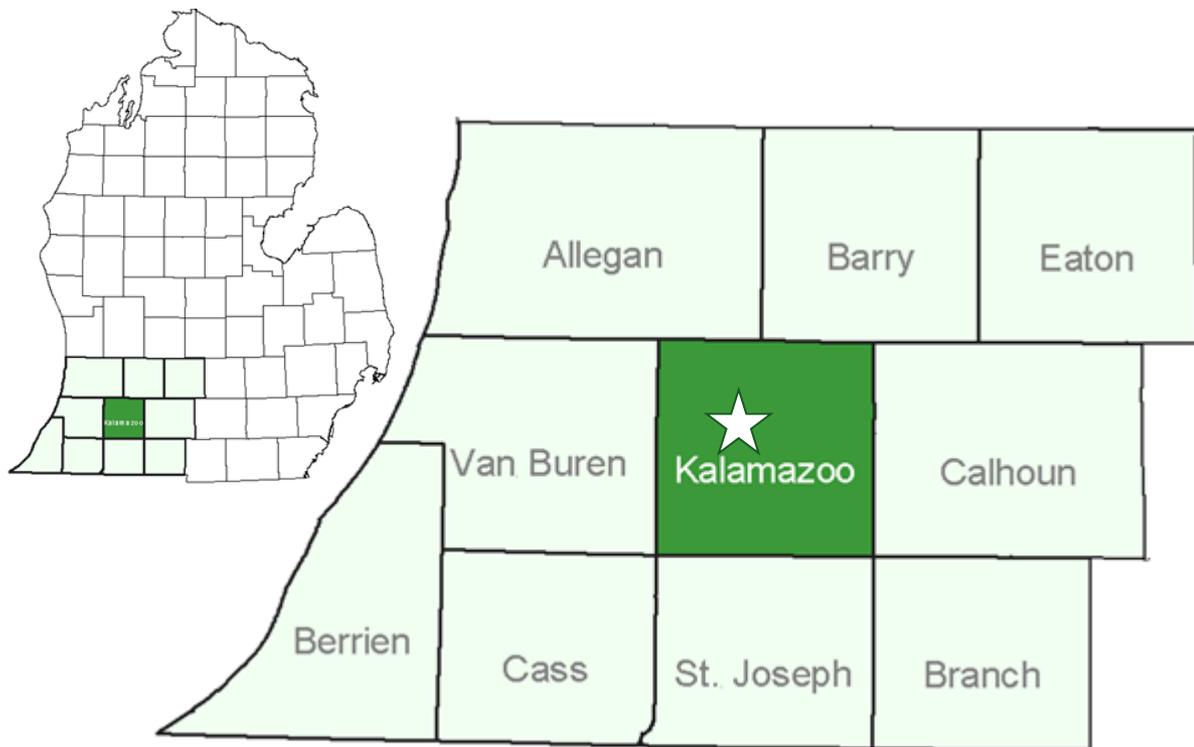
Adequate access is dependent not only on the supply of providers, but also on affordability, accessibility, quality of services, availability of hours, and coordination of care. To address these concerns, Bronson Methodist Hospital will serve as a community health catalyst and engage community partners in taking action to improve access to care.

Section 1

Service Area

Bronson Methodist Hospital

Indicator Definition: The area (defined by county) in which more than 50% of the hospital's patients reside. This was restricted to the county level since geographic distinction, such as county lines, are more stable over time than zip code level market areas.



Overview:

Bronson Methodist Hospital serves patients throughout southwest Michigan and primarily those residing in Kalamazoo, Michigan. Specifically, 60% of Bronson Methodist Hospital patient's reside in Kalamazoo County.

The information gathered for this assessment is based on secondary and primary data. Primary data consisted of insights provided by healthcare consumers, community leaders, healthcare professionals, and others in Kalamazoo County.



Source: Michigan Inpatient Data Base (MIDB), 2014



Section 2

Secondary Data Analysis

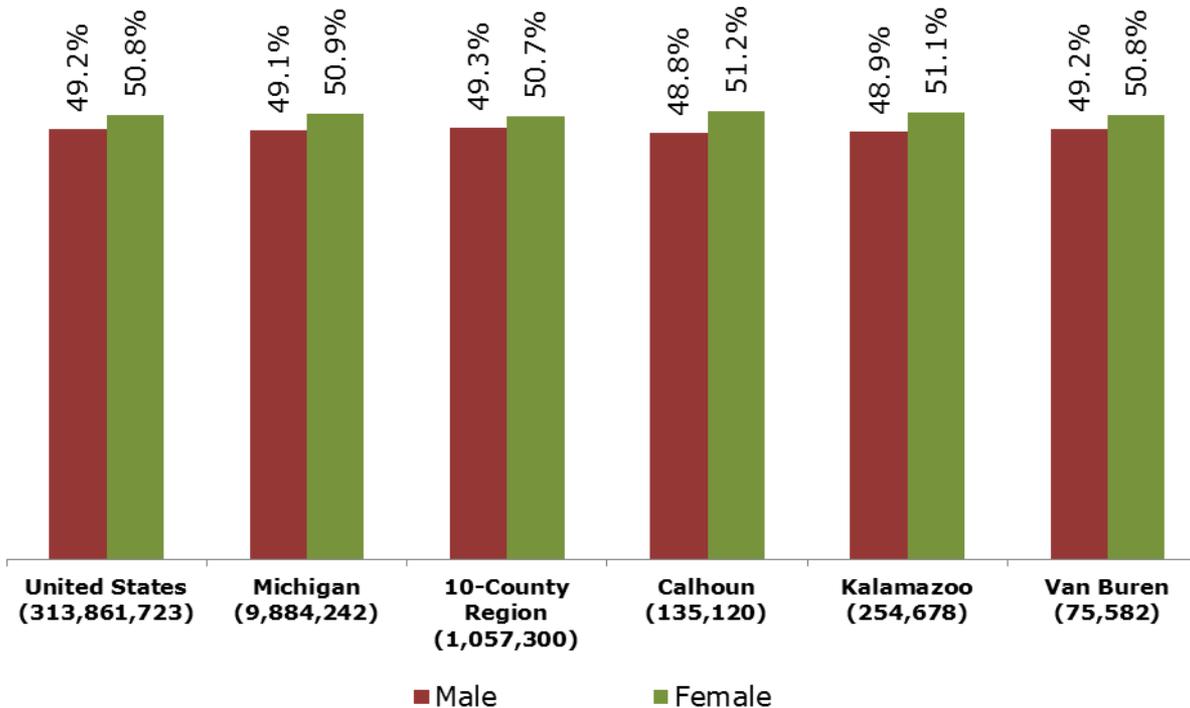
- Demographics
- Social & Economic Factors
- Environmental Factors
- Health Risk Indicators
- Health Conditions
- Access to Health Care

Demographics

Gender

Indicator Definition: The distribution of genders in a given population.

**Population Distribution by Gender
2013**



Overview:

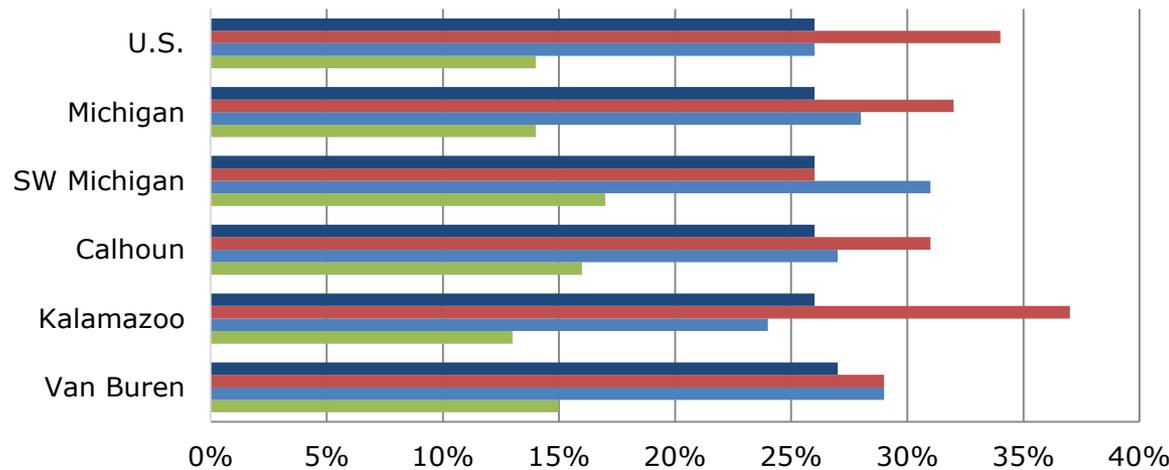
- The gender distribution is similar across all regions.
- Calhoun, Kalamazoo and Van Buren counties have the same proportion of females (51%), and males (49%).
- The 10-county region is the same as the U.S. and Michigan with 51% females and 49% males.

Source: U.S. Census Bureau, 2011-2013 American Community Survey 3-Year Estimates; 10-County Region consists of the following Michigan counties: Allegan, Barry, Eaton, Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph and Branch.

Population Distribution by Age Category

Indicator Definition: The distribution of different age groups in a given population.

Population Distribution by Age Category, 2013



	Van Buren	Kalamazoo	Calhoun	SW Michigan	Michigan	U.S.
0-19	27%	26%	26%	26%	26%	26%
20-44	29%	37%	31%	26%	32%	34%
45-64	29%	24%	27%	31%	28%	26%
65+	15%	13%	16%	17%	14%	14%

Overview:

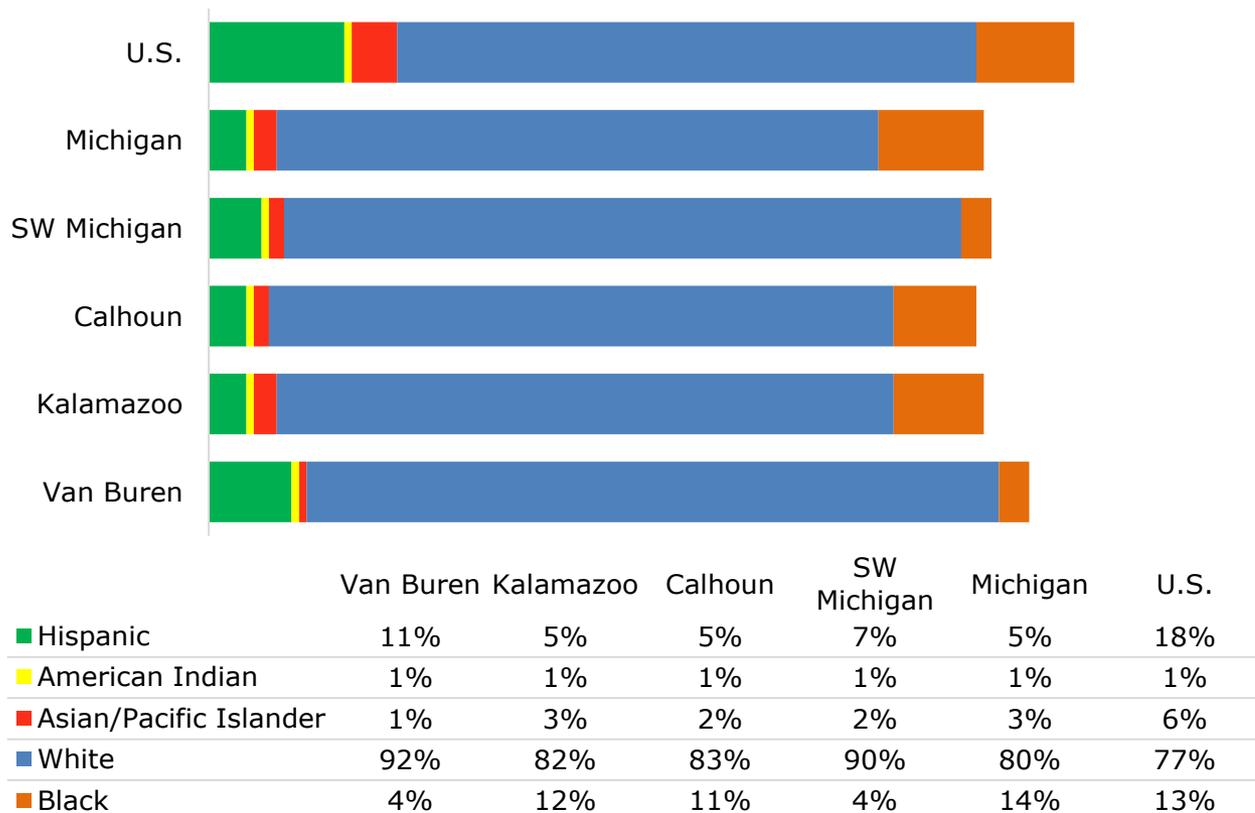
- Van Buren County has the largest percentage of people under 19 (27%), followed by Calhoun County (26%) and Kalamazoo County (26%).
- Kalamazoo County has the largest percentage of those aged 20-44 (37%), followed by Calhoun County (31%) and Van Buren County (29%).
- Van Buren County has the largest percentage of people aged 45-64 (29%), followed by Calhoun County (27%) and Kalamazoo County (24%).
- Calhoun County has the most seniors (16%), followed by Van Buren County (15%) and Kalamazoo County (13%).

Source: U.S. Census Bureau, 2011-2013 American Community Survey 3-Year Estimates; SW Michigan consists of the following Michigan counties: Allegan, Barry, Eaton, Berrien, Cass, St. Joseph and Branch.

Race and Ethnicity

Indicator Definition: The distribution of different race/ethnicities in a given population.

Population Distribution by Race and Ethnicity, 2015



Overview:

- Van Buren County has the largest concentration of the White population (92%), followed by Calhoun County (83%) and Kalamazoo County (82%); all of which are above the U.S. (74%) and Michigan (79%).
- Kalamazoo county has the largest concentration of the Black population (12%), followed by Calhoun County (11%).
- Van Buren has the highest concentration of Hispanic population (11%) followed by Calhoun and Kalamazoo (5%)

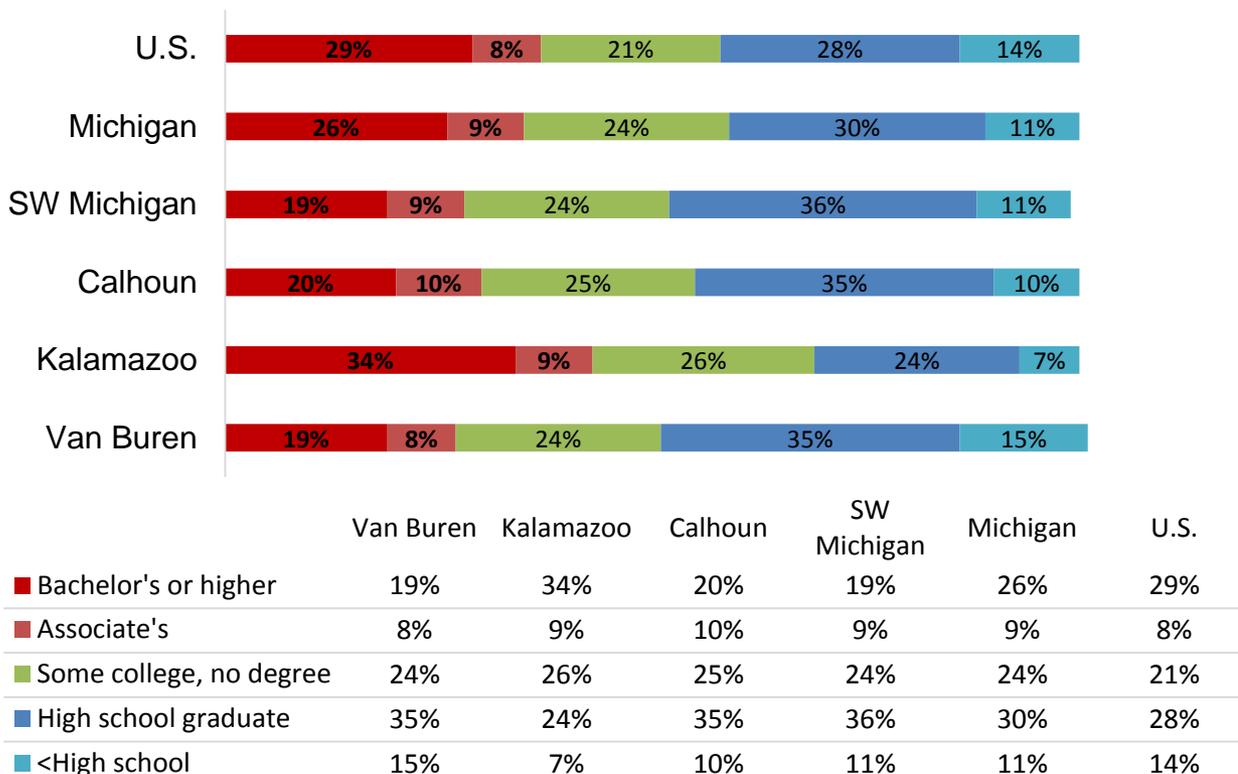
Source: U.S. Census Bureau, 2015 QuickFacts; SW Michigan consists of the following Michigan counties: Allegan, Barry, Eaton, Berrien, Cass, St. Joseph and Branch.

Social & Economic Factors

Educational Attainment

Indicator Definition: The distribution of the highest level of education that an individual, age 25+, has completed in a given population. This is distinct from the level of schooling that an individual is attending.

Adult Population by Education Attainment, 2013



Overview:

- Kalamazoo County has the greatest percentage of those earning a bachelor's degree or higher (34%) followed by Calhoun (20%) and Van Buren (19%).
- 35% of Van Buren and Calhoun County residents have a high school diploma with no college compared to 24% in Kalamazoo.
- Van Buren County has the greatest percentage of residents without a high school diploma (15%) followed by Calhoun (10%) and Kalamazoo (7%).

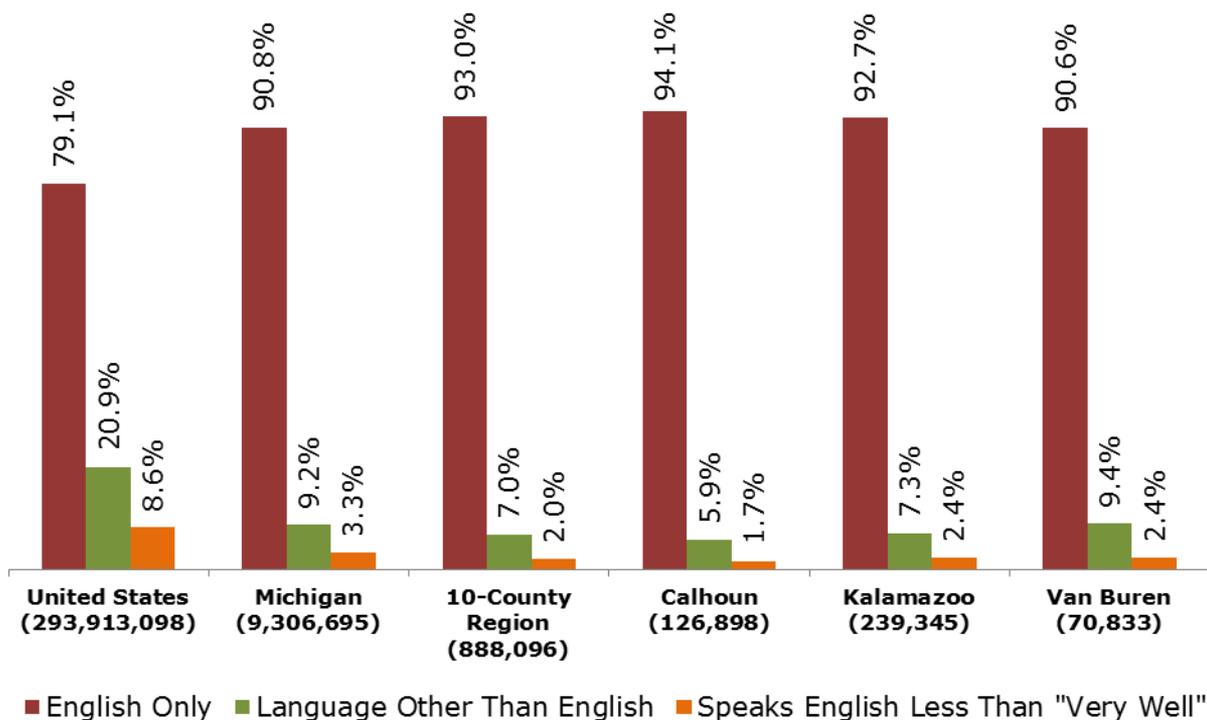
Note: High School Graduate includes equivalency

Source: U.S. Census Bureau, 2011-2013 American Community Survey 3-Year Estimates; SW Michigan consists of the following Michigan counties: Allegan, Barry, Eaton, Berrien, Cass, St. Joseph and Branch.

Language Spoken at Home

Indicator Definition: The distribution of languages spoken at home, for those aged five and above, in a given population.

Language Spoken at Home, 2013



Overview:

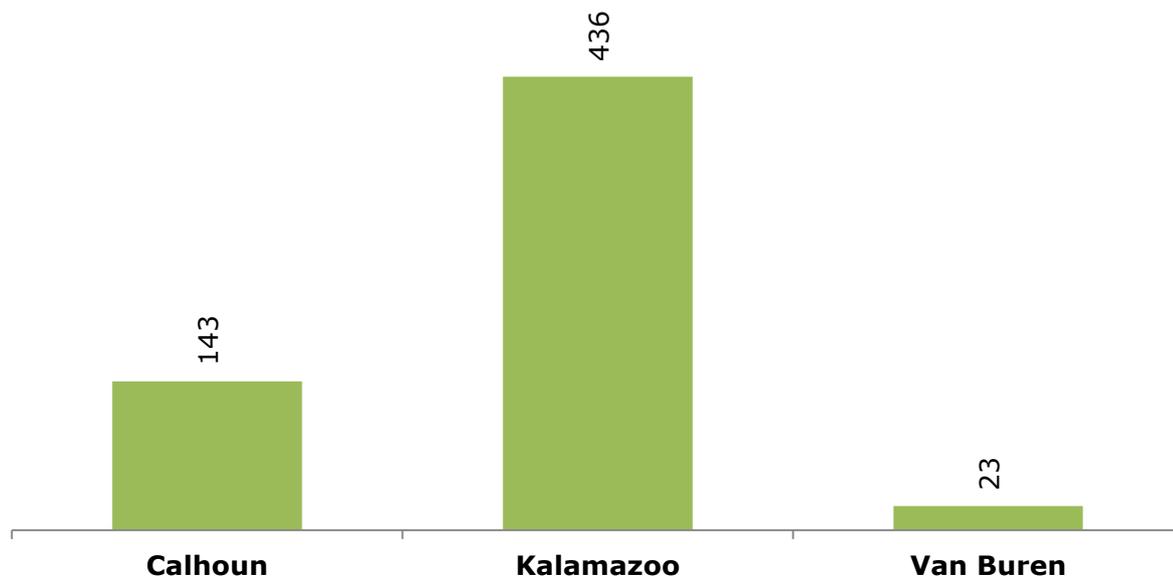
- English is the primary language spoken in all regions.
- Van Buren County has the highest percentage of the population that speak a language other than English (9%), followed by Kalamazoo County (7%) and Calhoun County (6%).
- Kalamazoo and Van Buren counties have the highest percent of the population that speak English less than "very well" (2.4%), followed by Calhoun County' (1.7%).

Source: U.S. Census Bureau, 2011-2013 American Community Survey 3-Year Estimates; 10-County Region consists of the following Michigan counties: Allegan, Barry, Eaton, Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph and Branch.

Homelessness Average Daily Census

Indicator Definition: 2015 average daily census is from when a person arrives to the agency's front door to seek services. Counts are based on agency location or where the client was interviewed. The average is based on three point-in-time samples taken in January, March and May of 2015.

Daily Average of Unduplicated Homelessness, 2015



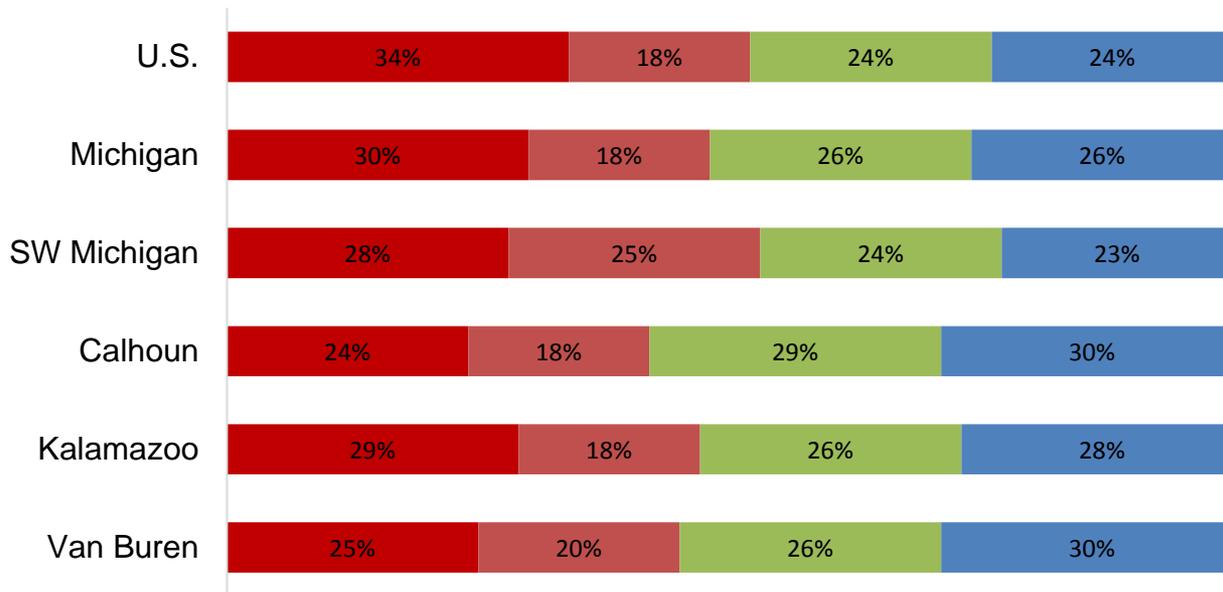
Overview:

- The U.S. Department of Housing and Urban Development reported a decrease in homelessness of 14% in Michigan and 11% nationally.
- In Michigan, 10,516 people were homeless in 2015.
- The Michigan Coalition Against Homelessness average daily census report showed Kalamazoo with the highest census of 436, followed by Calhoun 143 and Van Buren 23.
- The census for Michigan was estimated at 10,516.

Household Income

Indicator Definition: The distribution of household income (includes taxable and nontaxable income) received by all adult household members that is used for household expenses during the year in a given population.

**Adult Population by Household Income
2013**



	Van Buren	Kalamazoo	Calhoun	SW Michigan	Michigan	U.S.
>\$75,000	25%	29%	24%	28%	30%	34%
\$50,000-74,999	20%	18%	18%	25%	18%	18%
\$25,000-49,999	26%	26%	29%	24%	26%	24%
<\$25,000	30%	28%	30%	23%	26%	24%

Overview:

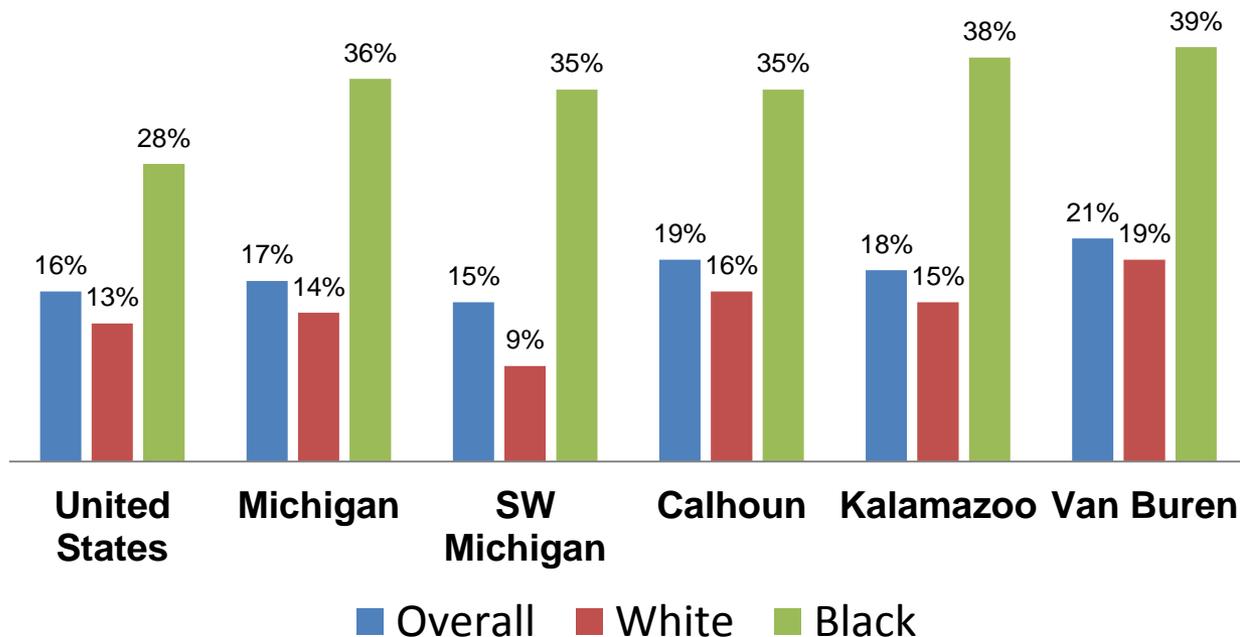
- 30% of Calhoun and Van Buren County households earn less than \$25,000 per year, followed by Kalamazoo County at 28%; all of which are higher than the SW Michigan (23%), Michigan (26%) and the U.S (24%).
- 29% of Calhoun County households have an income of \$25,000-\$49,000; followed by Kalamazoo (26%) and Van Buren (26%).
- Households earning \$50,000-\$74,999 were similar in Calhoun, Kalamazoo, and Van Buren compared to Michigan and the U.S.
- No notable changes compared to 2011 estimates.

Source: U.S. Census Bureau, 2011-2013 American Community Survey 3-Year Estimates; SW Michigan consists of the following Michigan counties: Allegan, Barry, Eaton, Berrien, Cass, St. Joseph and Branch.

People in Poverty

Indicator Definition: The U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's income is less than the family's threshold, then that family is considered in poverty. The thresholds are updated annually for inflation with the Consumer Price Index (CPI-U).

**Percent of Population Living in Poverty
2013**



Overview:

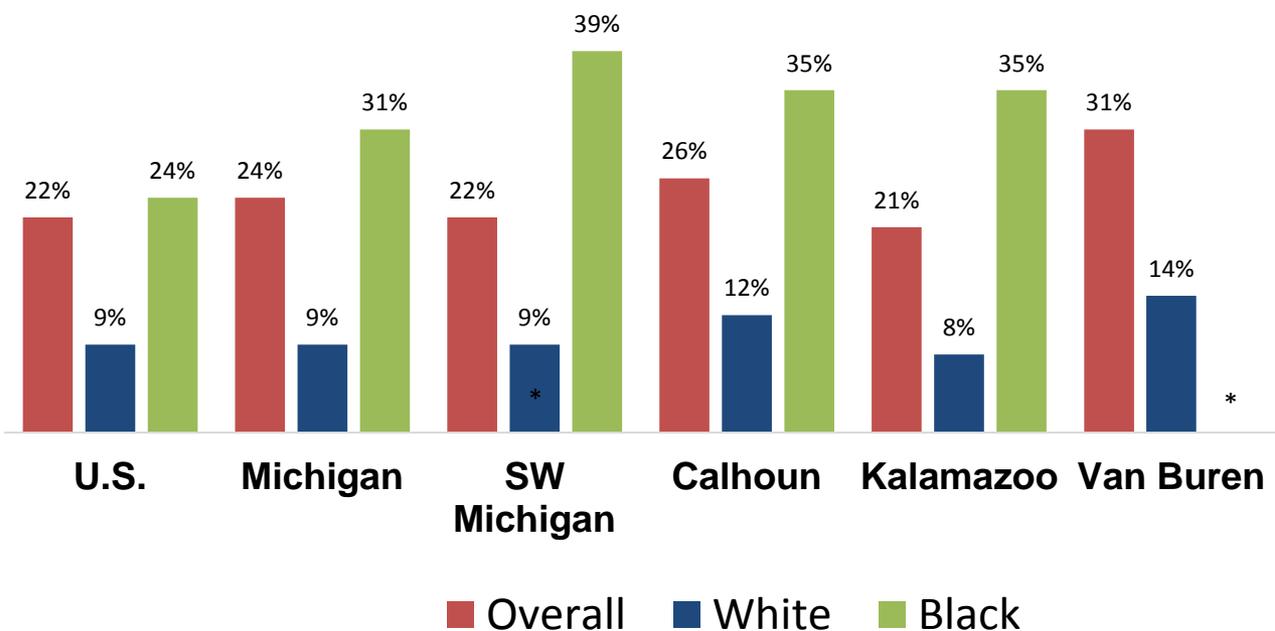
- Percent of people in poverty ranged was highest in Van Buren County (21%) followed by Calhoun (19%) and Kalamazoo (18%).
- Overall poverty in Michigan was 17%.
- In all regions, the proportion of Blacks living in poverty was higher than Whites.
- No notable changes compared to 2011.



Children in Poverty

Indicator Definition: The distribution of children in poverty (Age <18) in a given population. Poverty is defined by income in the past 12 months that is below the poverty level (income less than 100% of the Federal Poverty Level). The thresholds are updated annually for inflation with the Consumer Price Index (CPI-U).

**Percent of Children Living in Poverty
2013**



Overview:

- Van Buren County has the highest overall percentage of children in poverty (31%), followed by Calhoun (26%), and Kalamazoo (21%).
- In all regions, the proportion of Blacks living in poverty is higher than White.
- *Indicates data suppressed due to low numbers.

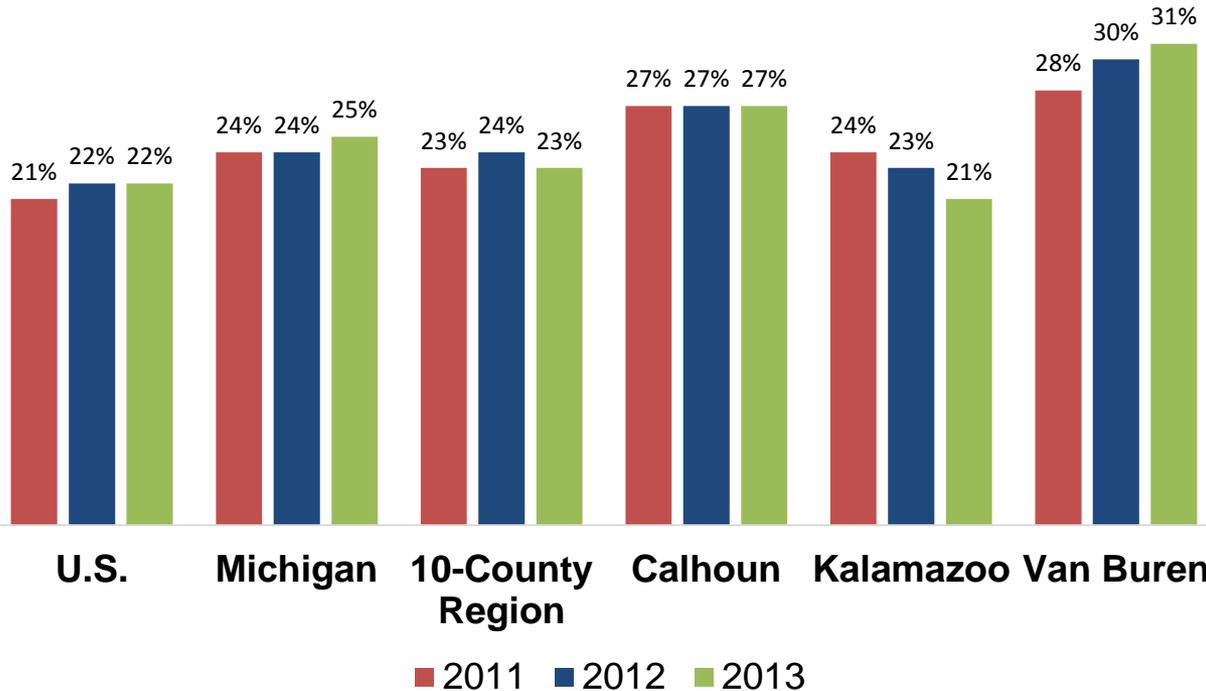


Source: U.S. Census Bureau, American Community Survey 3-Year Estimates; SW Michigan consists of the following Michigan counties: Allegan, Barry, Eaton, Berrien, Cass, St. Joseph and Branch for Overall and Whites. *For Black estimate, SW Michigan is Berrien County alone. Data for Black children was suppressed for Van Buren County.

Children in Poverty

Indicator Definition: The distribution of children in poverty (Age <18) in a given population. Poverty is defined by income in the past 12 months that is below the poverty level (income less than 100% of the Federal Poverty Level). The thresholds are updated annually for inflation with the Consumer Price Index (CPI-U).

Percent of Children Living in Poverty Trending



Overview:

- Van Buren County has the largest percentage of children in poverty (31%), followed by Calhoun County (27%), and Kalamazoo County (21%).
- Calhoun and Van Buren counties' percentage of children in poverty are unfavorable to Michigan (25%) and the U.S. (22%).
- The proportion of children living in poverty shows year-over-year increases in Van Buren County while Kalamazoo County's proportion shows year-over-year declines and Calhoun remains the same.

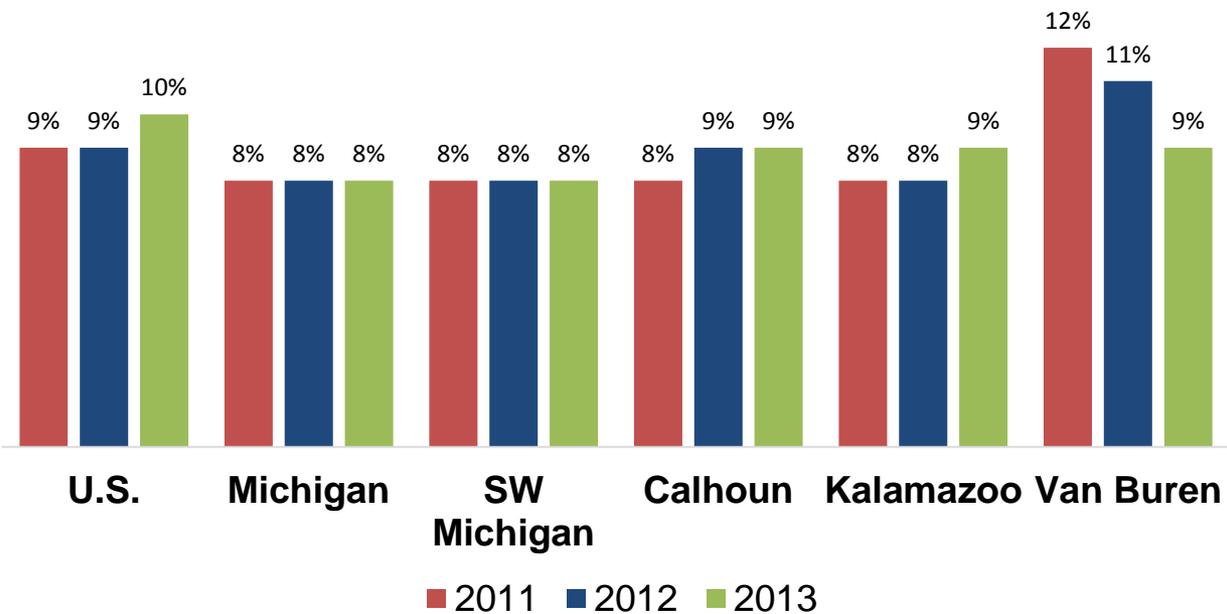


Source: U.S. Census Bureau, 2009-2011, 2010-2012 and 2011-2013 American Community Survey 3-Year Estimates; 10-County Region consists of the following Michigan counties: Allegan, Barry, Eaton, Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph and Branch.

Seniors in Poverty

Indicator Definition: The distribution of seniors in poverty (Age >65) in a given population. Poverty is defined by income in the past 12 months that is below the poverty level (income less than 100% of the Federal Poverty Level). The thresholds are updated annually for inflation with the Consumer Price Index (CPI-U).

Percent of Seniors Living in Poverty Trending



Overview:

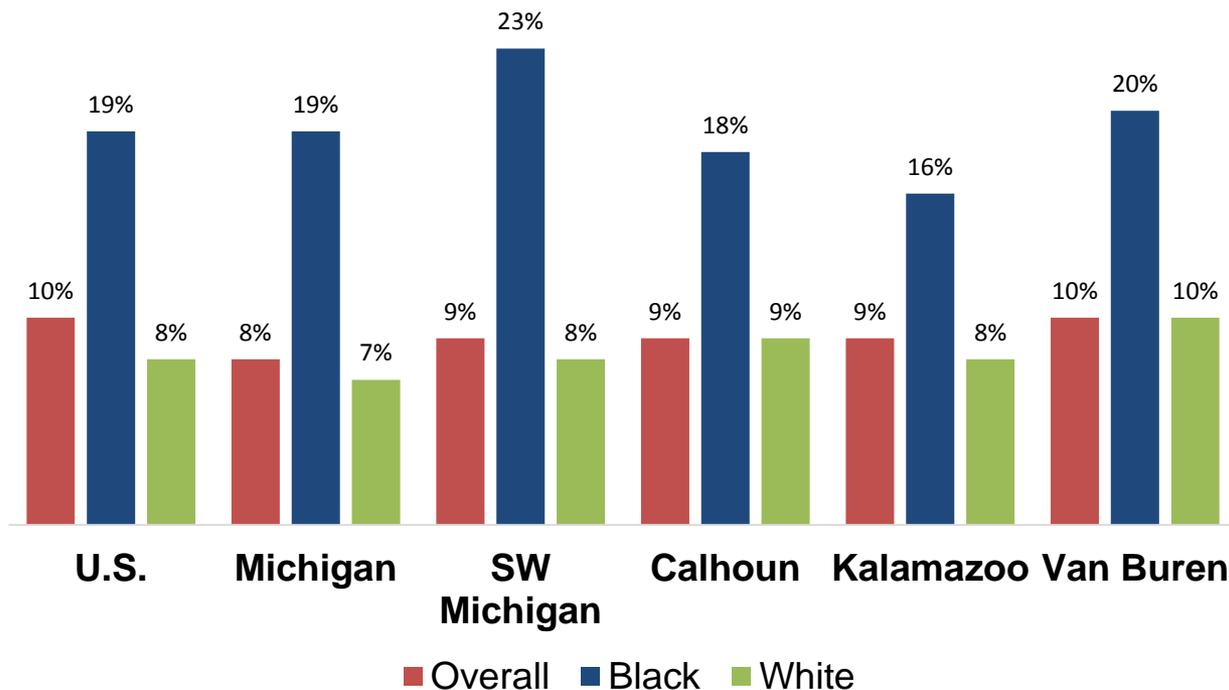
- 9% of Calhoun, Kalamazoo and Van Buren counties seniors live in poverty, similar to Michigan (8%) and the U.S. (10%).
- The percent of seniors living in poverty has increased slight in Kalamazoo and Calhoun. Van Buren has experienced yearly decreases in seniors in poverty.



Seniors in Poverty

Indicator Definition: The distribution of seniors in poverty (Age >65) in a given population. Poverty is defined by income in the past 12 months that is below the poverty level (income less than 100% of the Federal Poverty Level). The thresholds are updated annually for inflation with the Consumer Price Index (CPI-U).

Percent of Seniors Living in Poverty By Race, 2013



Overview:

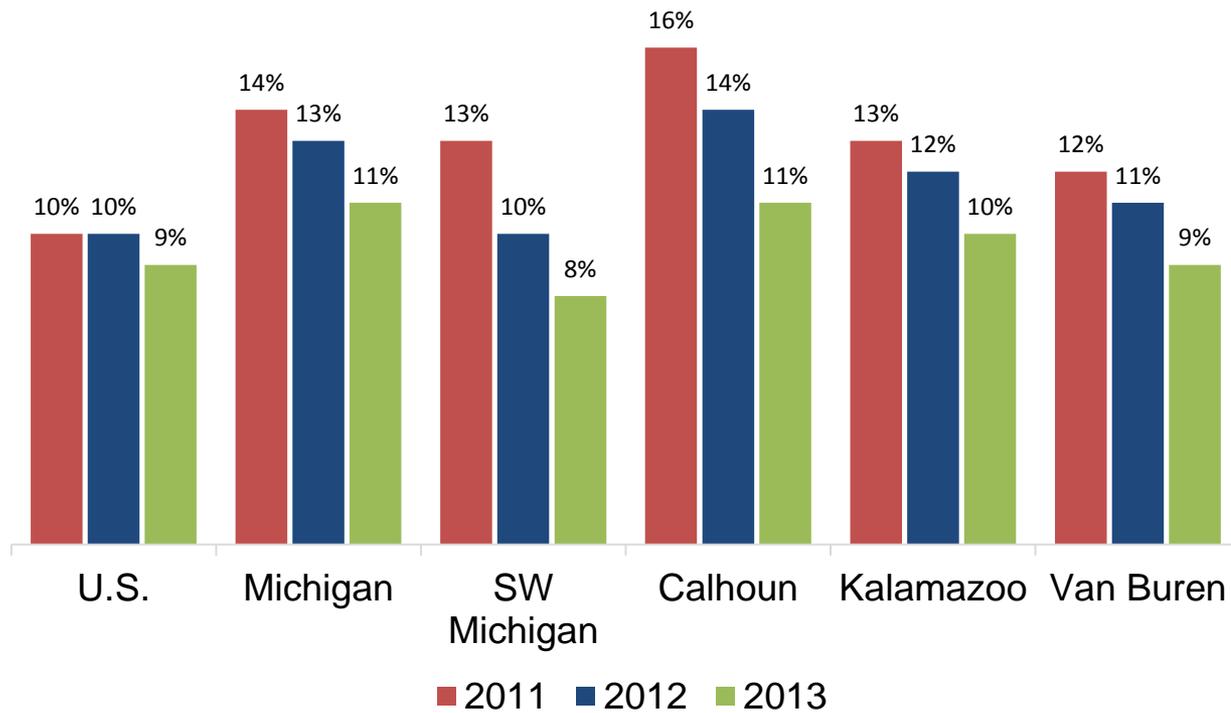
- Van Buren has the highest percentage of seniors living in poverty (10%) followed by Calhoun and Kalamazoo (9%).
- In all regions, the proportion of Black seniors living in poverty is higher than White. Van Buren has the highest (20%) followed by Calhoun (18%) and Kalamazoo (16%).



Unemployment Rate

Indicator Definition: The number of unemployed people as a percent of the civilian labor force (age >=16)

Percent of Adults That Are Unemployed, Trending



Overview:

- Between 2011 to 2013, the unemployment rate has decreased yearly in all markets.
- Calhoun County has the highest percentage of unemployed adults (11%), followed by Kalamazoo (10%) and Van Buren (9%) in 2013.



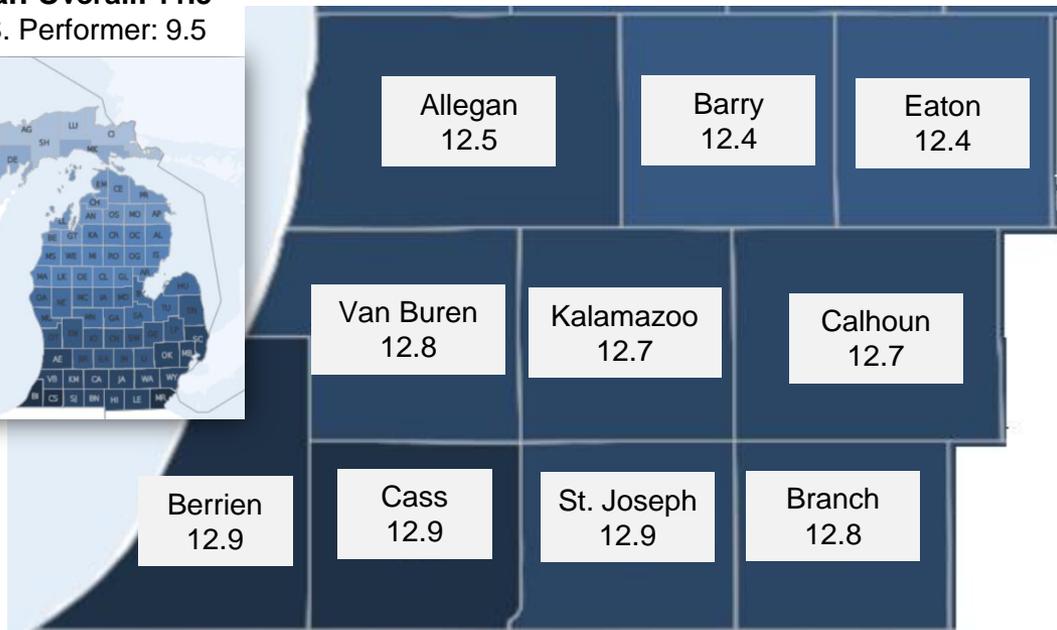
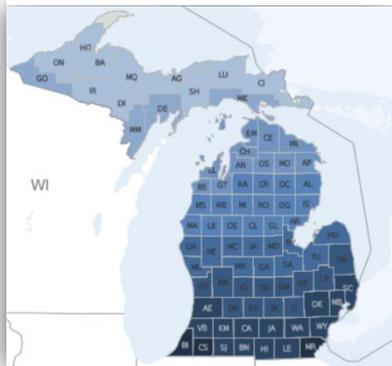
Environmental Factors

Air Pollution Particulate Matter

Indicator Definition: Air Pollution - Particulate Matter is the average daily density of fine particulate matter in micrograms per cubic meter (PM2.5). Fine particulate matter is defined as particles of air pollutants with an aerodynamic diameter less than 2.5 micrometers. Particles can be directly emitted or they can form from gases emitted from power plants, industries and automobiles.

Air Pollution Particulate Matter, 2011 Average Daily PM2.5

Michigan Overall: 11.5
Top U.S. Performer: 9.5



BEST  WORST

Overview:

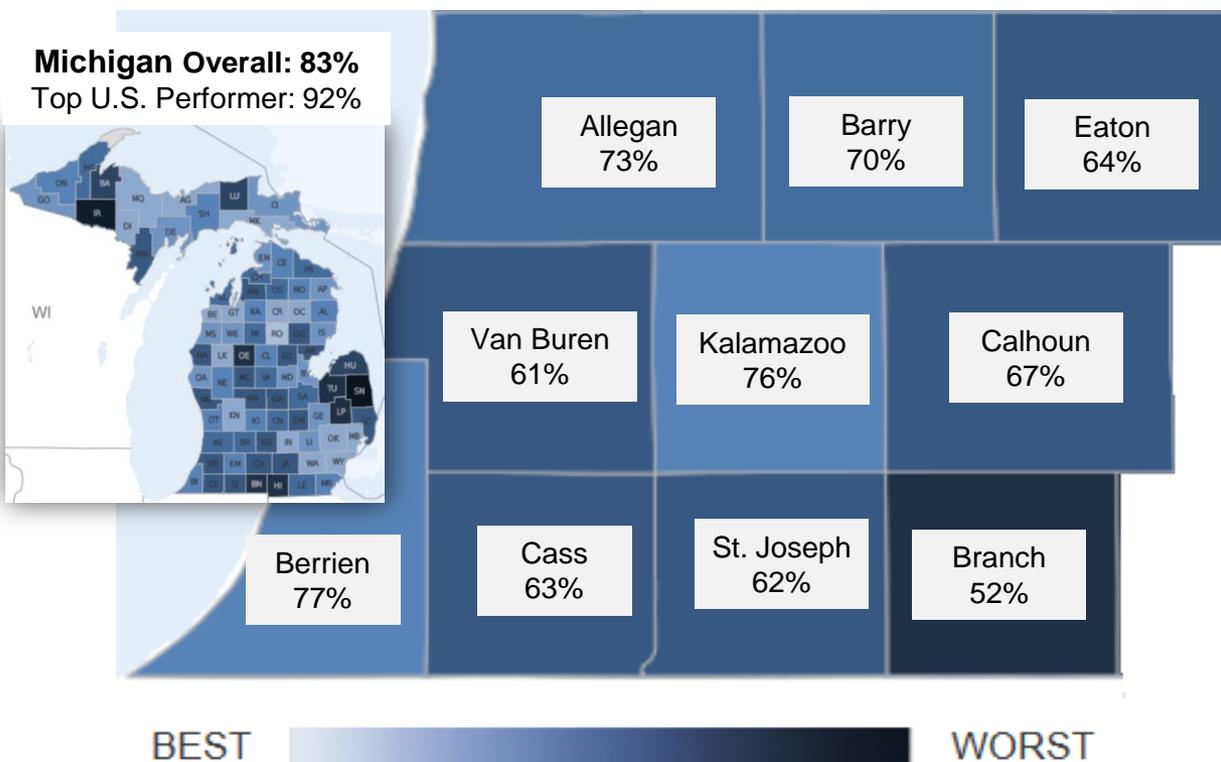
- Michigan's average daily density of fine particulate matter is 11.5, compared to the top U.S. performer with 9.5 overall at the 90th percentile.
- The ten counties within southwest Michigan's average daily density of fine particulate matter ranged from 12.4 to 12.9, above Michigan's average.



Access to Exercise Opportunities

Indicator Definition: The percentage of individuals who live reasonably close to a location for physical activity (parks or recreational facilities). Parks include local, state, and national parks. Recreational facilities include businesses identified by the Standard Industry Classification codes and include gyms, community centers, YMCAs, dance studios, pools, etc.

Access to Exercise Opportunities, 2013



Overview:

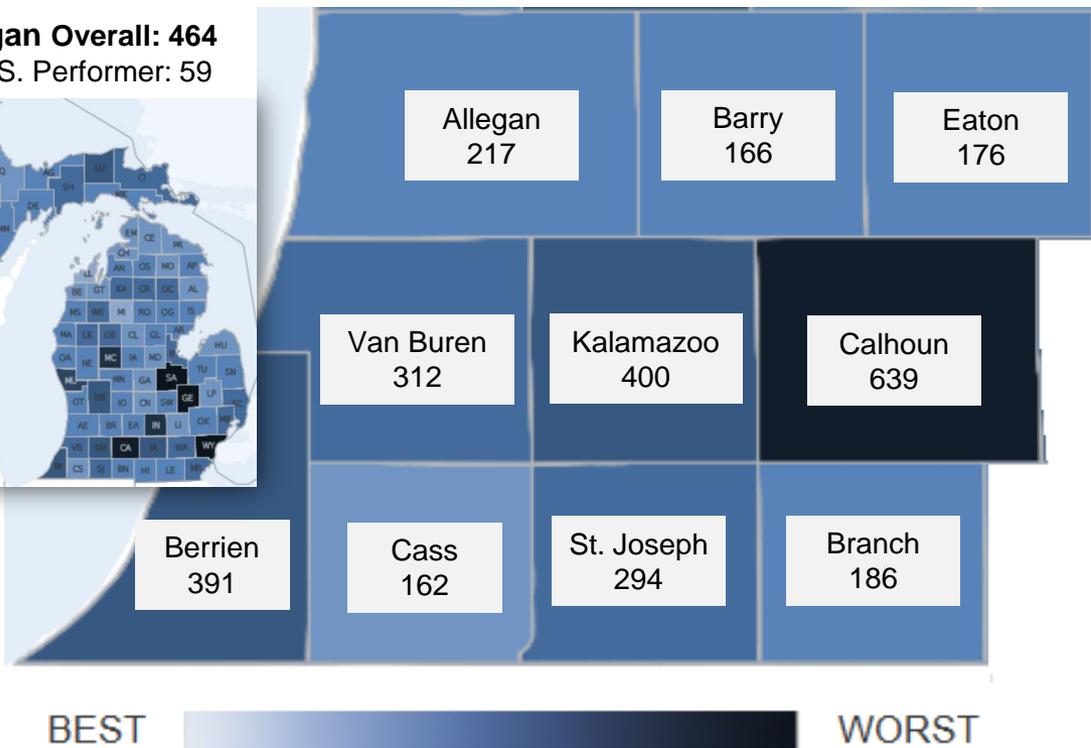
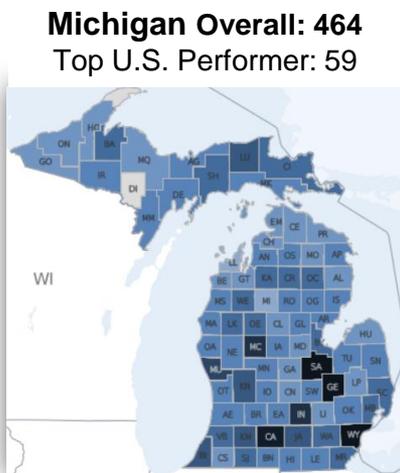
- 83% of Michigan’s residents have adequate access to location for physical activity, compared to the top U.S. performer with 92% overall at the 90th percentile.
- Van Buren (61%) had the lowest percent of residents with access to exercise opportunities followed by Calhoun (67%), and Kalamazoo (76%).
- The percentage of access to exercise opportunities for Calhoun, Kalamazoo, and Van Buren is unfavorable compared to the state.



Violent Crime Rate

Indicator Definition: The number of violent crime offenses per 100,000 population. Violent crimes are defined as offenses that involve face-to-face confrontation between the victim and the perpetrator, including homicide, forcible rape, robbery, and aggravated assault.

Violent Crime Rate, 2012



Overview:

- Michigan's violent crime rate was 464, compared to the top U.S. performer with 59 overall at the 90th percentile.
- Calhoun had the highest violent crime rate (639) followed by Kalamazoo (400) and Van Buren (312).
- Violent crime in all counties saw a decrease from 2009 rates. Calhoun rates fell from 760 to 639, Kalamazoo fell from 486 to 400, and Van Buren fell from 338 to 312.



Health Risk Indicators

Health Status, Fair or Poor

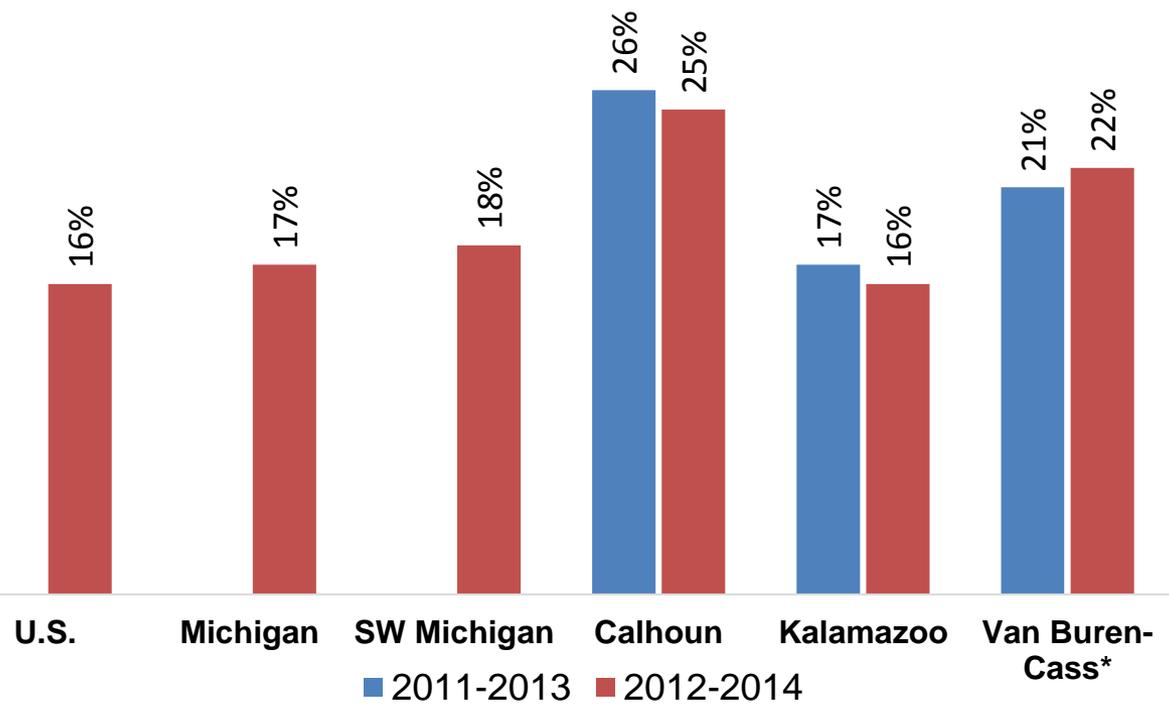
Indicator Definition: The proportion of adults that indicated that their health was fair or poor.

Overview:

- The percent of adults with fair or poor health in Calhoun and Van Buren-Cass counties were unfavorable to the U.S, Michigan, and SW Michigan.
- Kalamazoo County, SW Michigan, Michigan and the U.S. had a similar percent of adults with fair or poor health, ranging from 16-18%.



Percent of Adults Indicating Fair or Poor Health Status

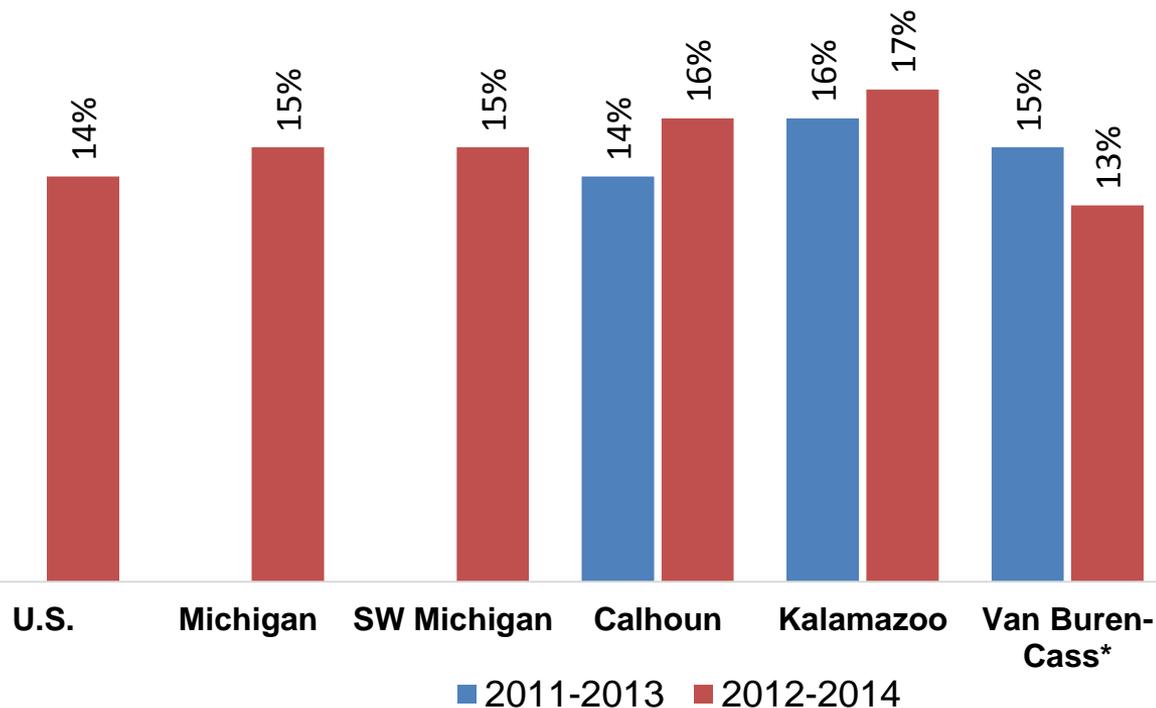


Sources: Michigan Department of Community Health, combined 3-year estimates (2012-2014 and 2011-2013, 2014 MiBRFS Tables and CDC 2014 BRFSS. SW Michigan consists of the following Michigan counties: Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph and Branch. *Van Buren-Cass includes both counties that share a local health department.

Asthma

Indicator Definition/Overview: The proportion of adults who reported that they were told by a doctor, nurse or other health professional that they have asthma.

Percent of Adults Ever Told They Had Asthma



Overview:

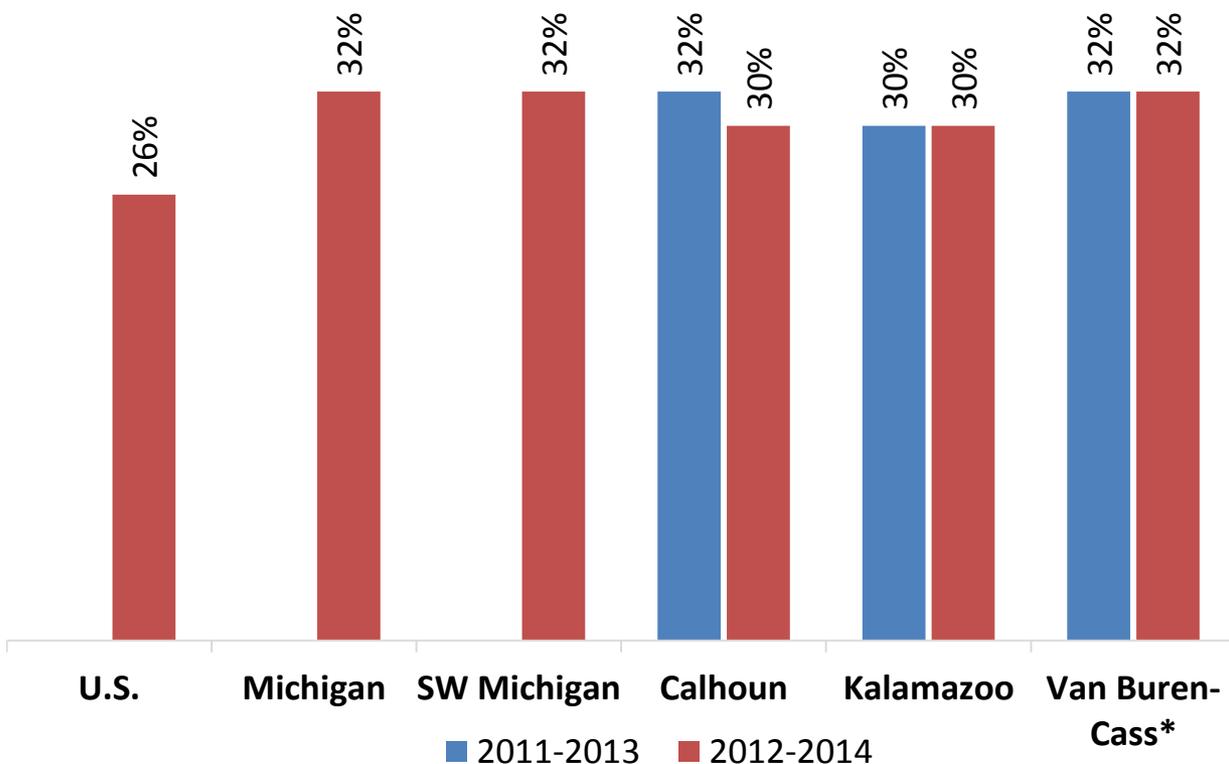
- A similar proportion of adults report they were ever told they had asthma at all sites, ranging from 13-16%.



Arthritis

Indicator Definition/Overview: The proportion of adults who reported that they were told by a doctor or other health professional that they have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.

Percent of Adults Ever Told They Had Arthritis



Overview:

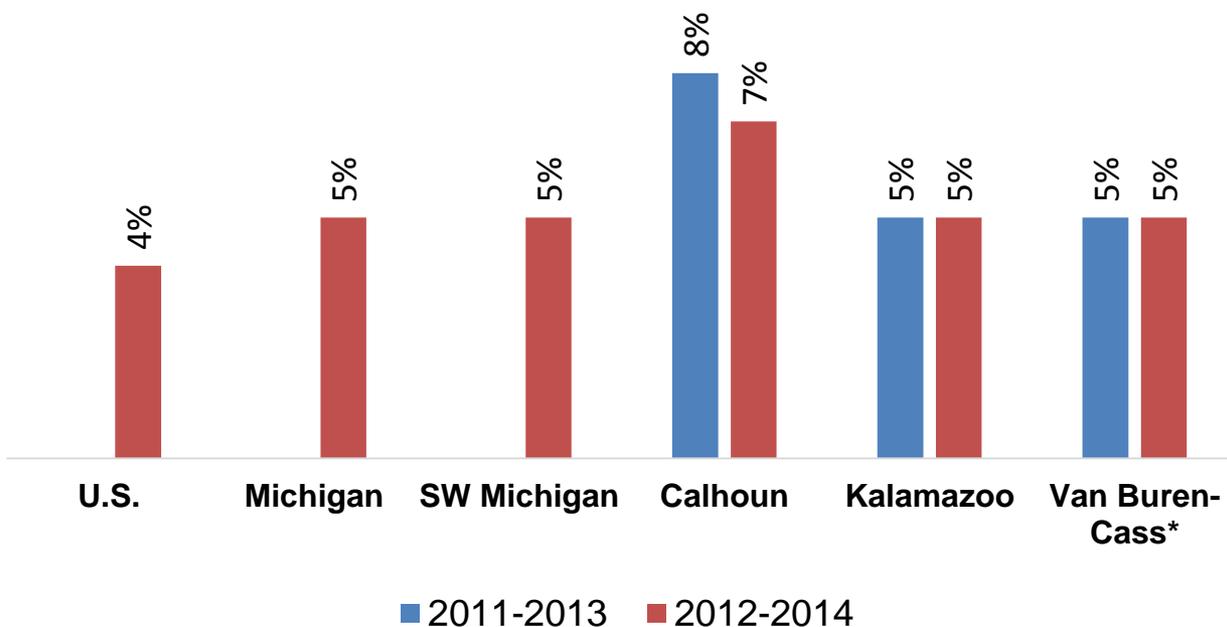
- Kalamazoo (30%), Calhoun (30%), and Van Buren (32%), have a higher prevalence of adults with arthritis than the U.S. (26%).



Cardiovascular Health: Heart Attack

Indicator Definition/Overview: The proportion of adults who had ever been told by a doctor that they had a heart attack or myocardial infarction.

Adults Ever Told They Had a Heart Attack



Overview:

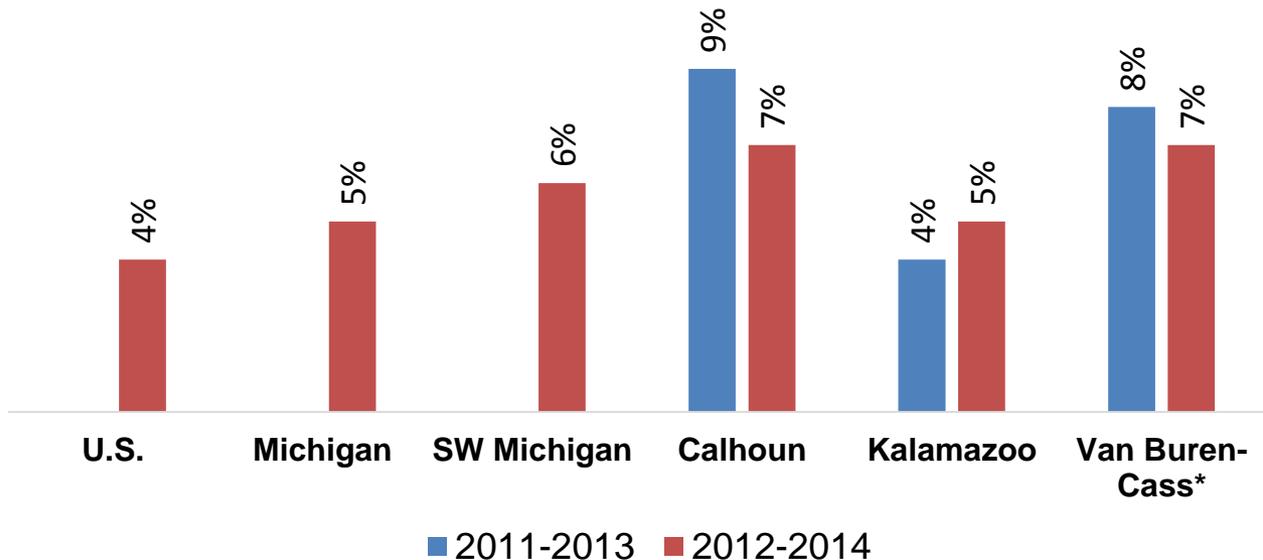
- A similar percent of adults had been told they ever had a heart attack across the SW Michigan area, compared with the state and U.S, ranging from 4-7%.



Cardiovascular Health: Angina or Coronary Heart Disease

Indicator Definition/Overview: The proportion of adults who had ever been told by a doctor that they had a angina or coronary heart disease (CHD).

Adults Ever Told They Had Angina or Coronary Heart Disease (CHD)



Overview:

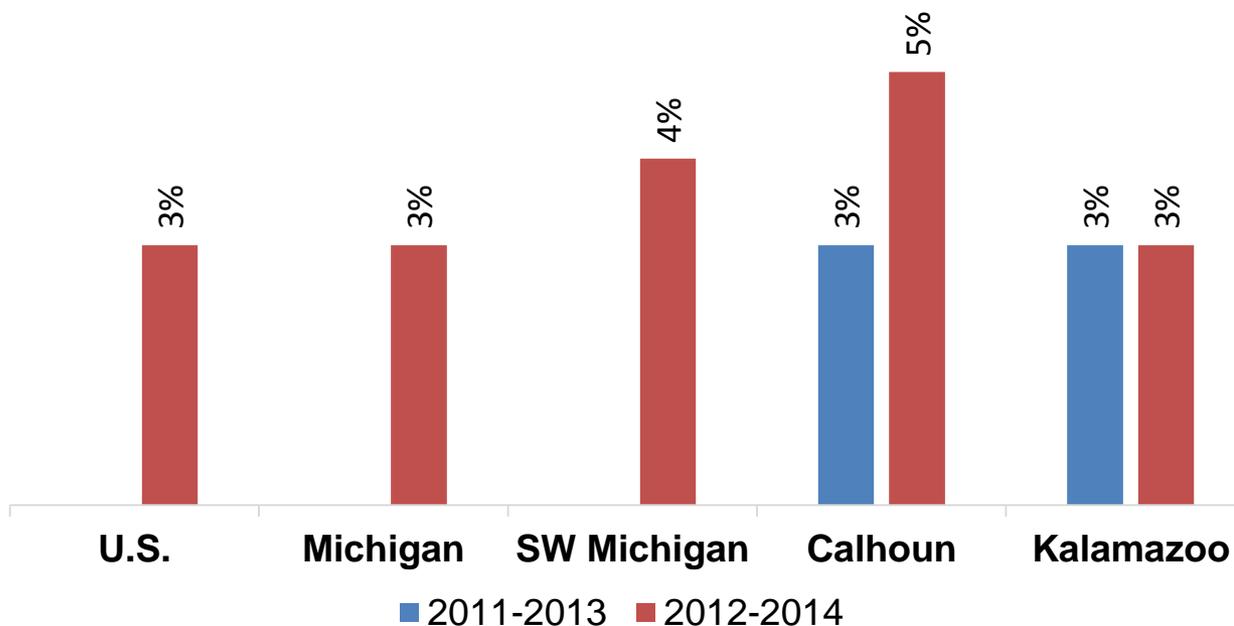
- The proportion of adults that had angina or CHD in Michigan (5%) is similar to the U.S (4%).
- 7% of adults in Calhoun and Van Buren-Cass reported angina or CHD, and 5% in Kalamazoo County. The proportion of adults ever told they had CHD fell in Calhoun County, from 9% to 7%.



Stroke

Indicator Definition/Overview: The proportion of adults who had ever been told by a doctor that they had a stroke.

Adults Ever Told They Had a Stroke



Overview:

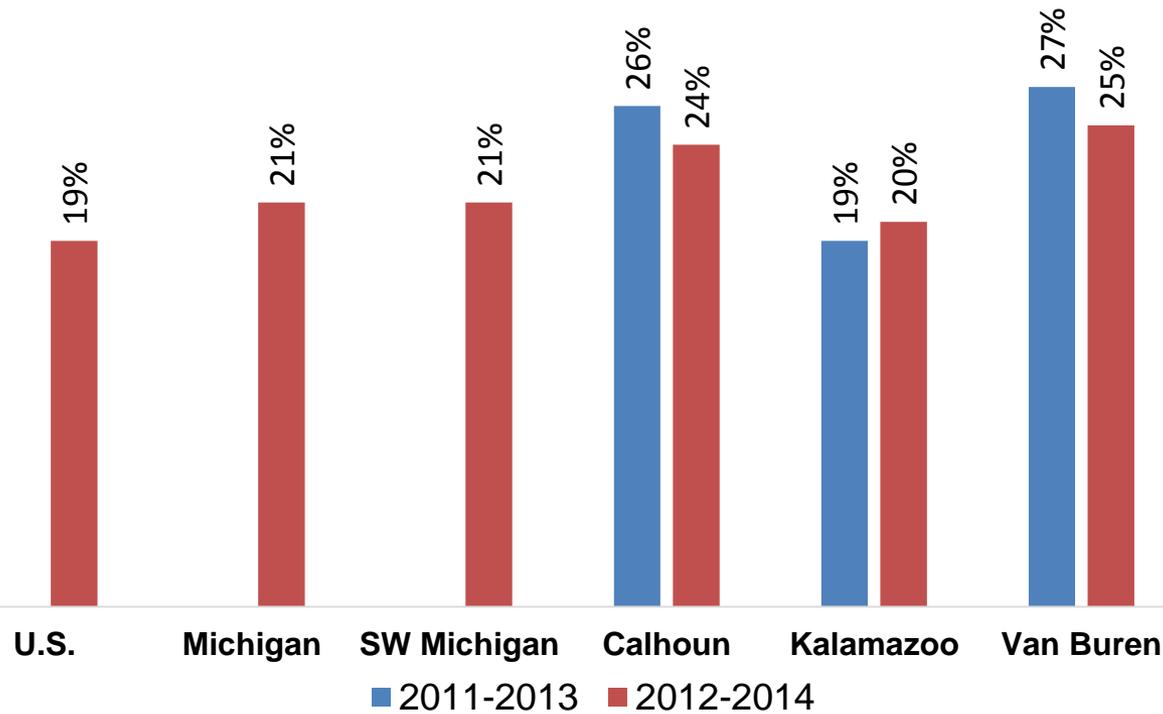
- A similar percentage, 3-5%, of U.S., Michigan, SW Michigan, Calhoun, and Kalamazoo County adults had ever been told they had a stroke.
- Van Buren-Cass data is suppressed as it did not meet the standards of reliability or precision.



Depression

Indicator Definition/Overview: The percentage of adults who reported ever being told they had a depressive disorder including depression, major depression, dysthymia, or minor depression.

Adults Reporting Depression



Overview:

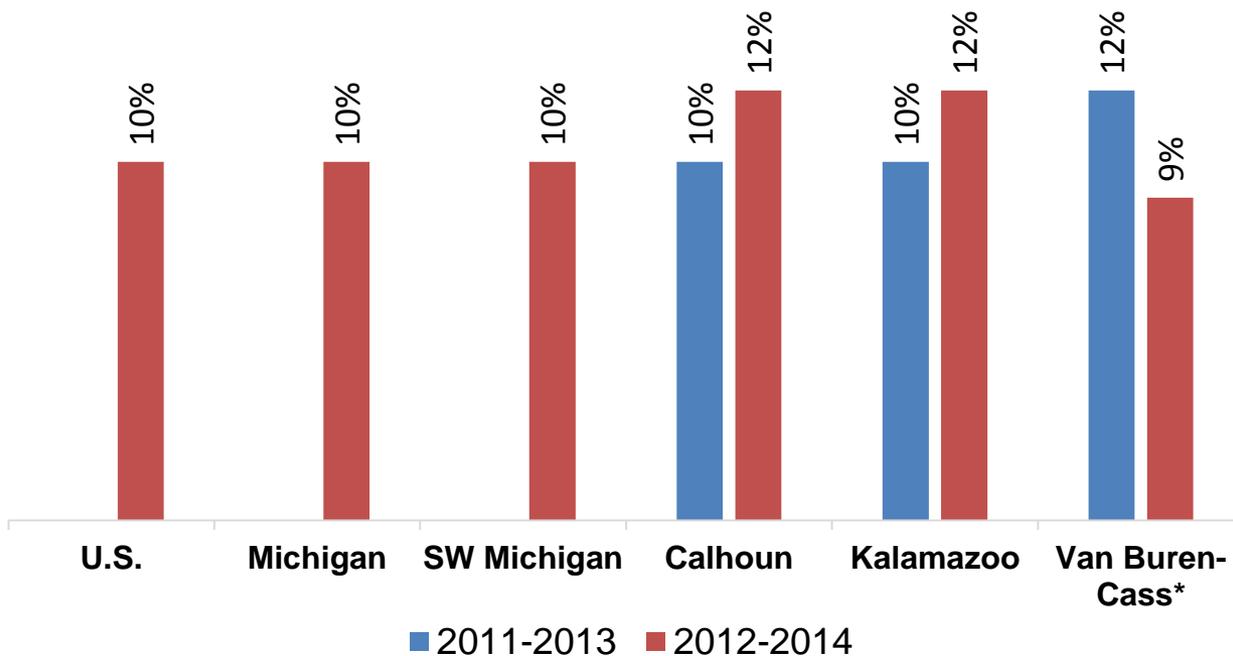
- 19% of U.S. adults reported ever being told they had a depressive disorder, compared to 21% in Michigan and SW Michigan.
- 25% of Van Buren-Cass and 24% of Calhoun County adults reported a depressive disorder; a lower percent (20%) reported depression in Kalamazoo County.



Diabetes

Indicator Definition/Overview: The proportion of adults who reported that they were ever told by a doctor that they have diabetes. Women who had diabetes only during pregnancy and adults who were diagnosed with pre-diabetes were considered to not have been diagnosed with diabetes.

Adults Ever Told They Had Diabetes



Overview:

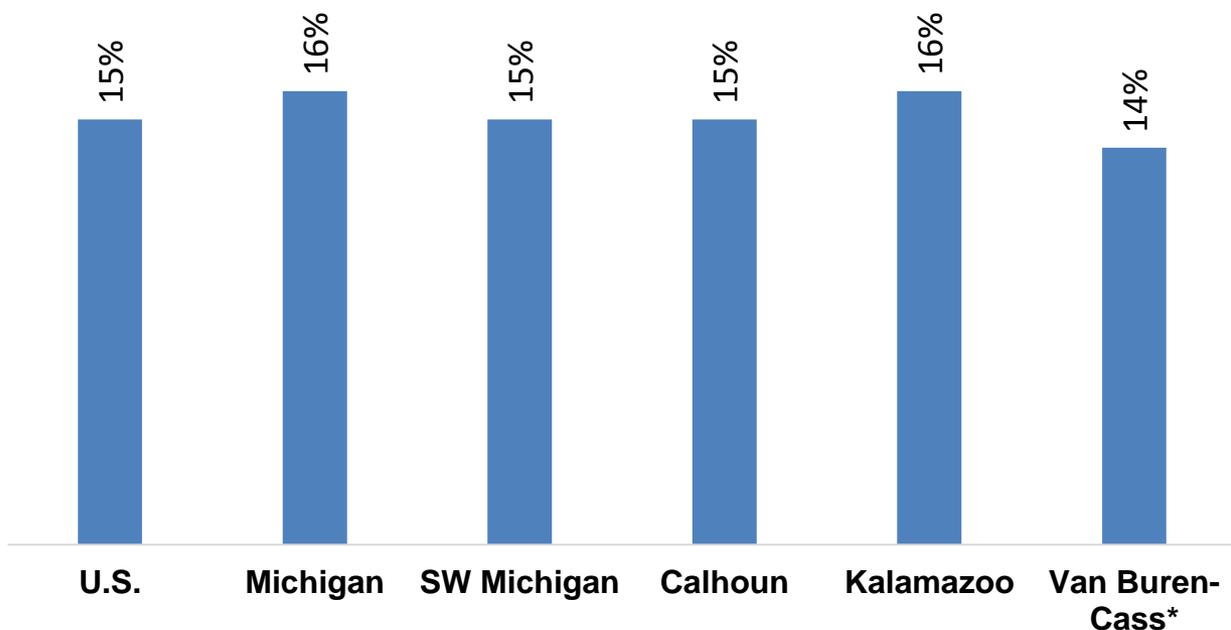
- A similar proportion of adults in the U.S., Michigan, SW Michigan, and the counties evaluated report that they had ever been told they have diabetes.
- Van Buren-Cass has the lowest percentage of adults told they had diabetes (9%) compared with Kalamazoo (12%) and Calhoun (12%).



Diet/Nutrition: Food Insecurity

Indicator Definition: Lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods (USDA definition).

Percent Food Insecure, 2013



Overview:

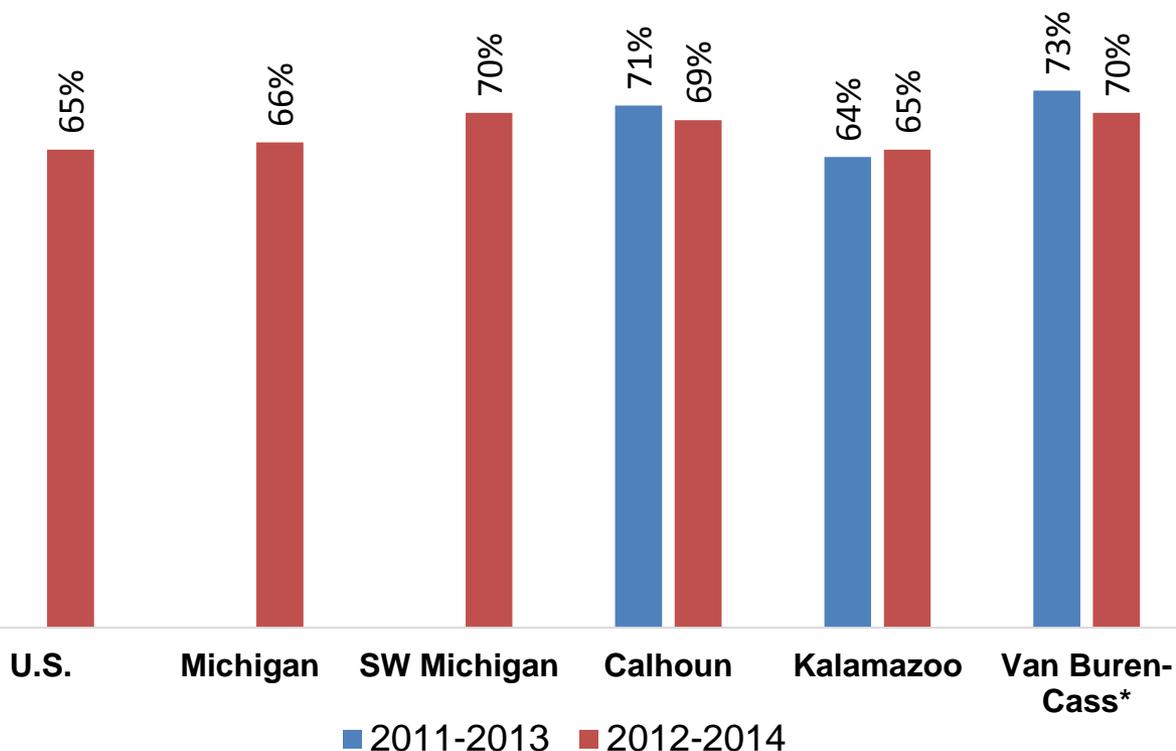
- Michigan has a similar percentage of residents with food insecurity (16%) compared to the nation, SW Michigan, Kalamazoo, Van Buren, and Calhoun counties.



Diet/Nutrition: Weight Status of Obese or Overweight

Indicator Definition/Overview: The proportion of adults whose Body Mass Index (BMI) is between 25.0 and 29.9 (or overweight) and 30.0 or higher (or obese). BMI is defined as weight divided by height squared [weight in kg/(height in meters)²]. Pregnant women were excluded.

Adults Whose Weight Status is Overweight or Obese



Overview:

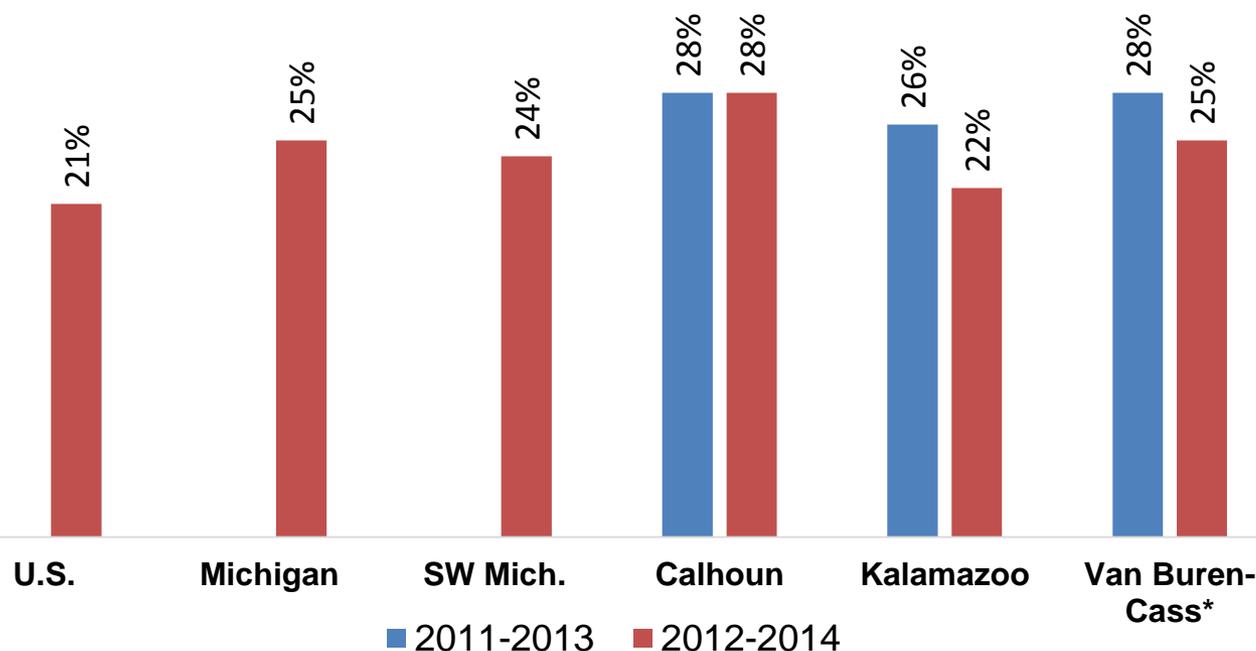
- The proportion of overweight or obese Kalamazoo adults is the same as the U.S. (65%).
- Van Buren-Cass (70%) and Calhoun (69%) counties have similar proportions of overweight or obese adults compared to the U.S. and the state of Michigan (66%).



Disabilities

Indicator Definition/Overview: The proportion of the adult population who reported being limited in any activity because of physical, mental, or emotional problems, or reported that they require use of special equipment due to a health problem.

Proportion of Adults With a Disability



Overview:

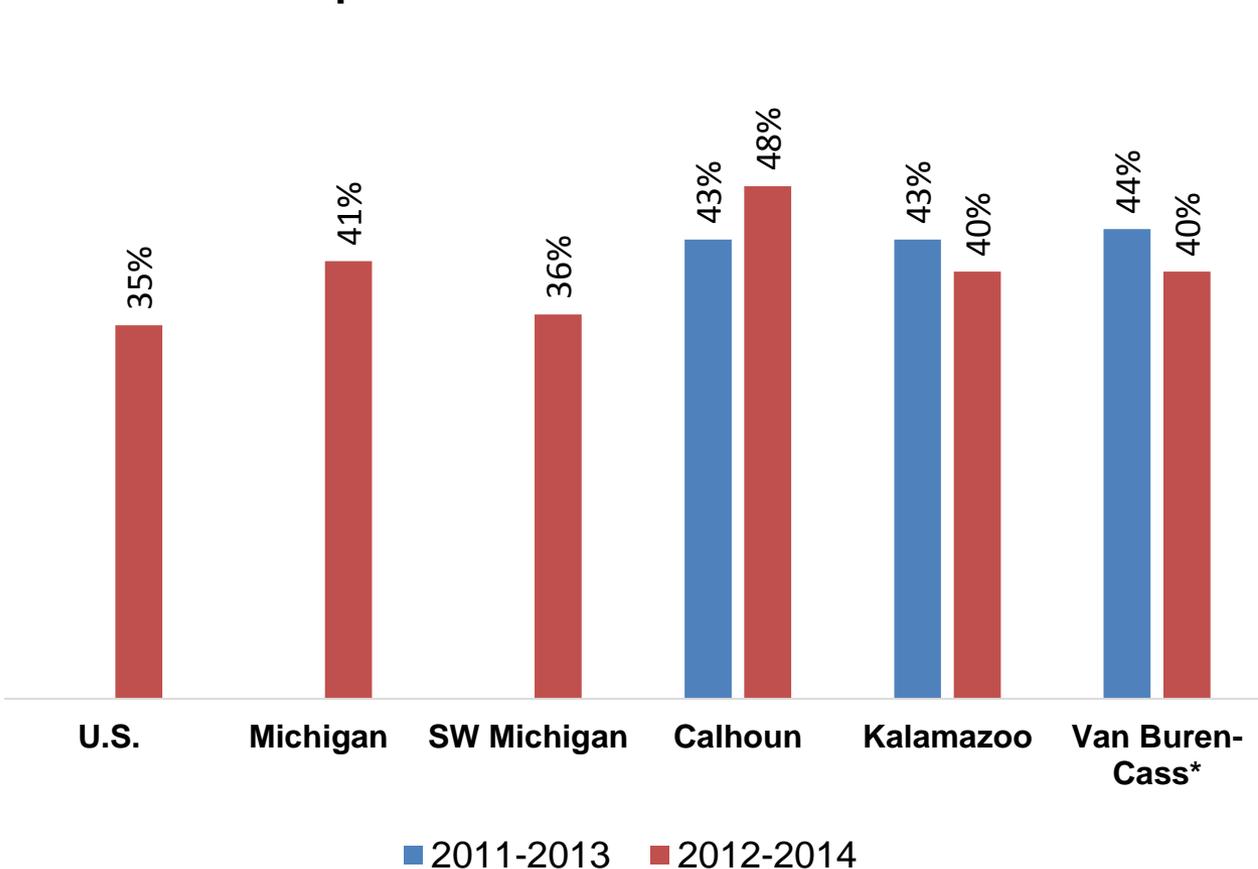
- Calhoun has the greatest percentage of adults reporting a disability (28%), followed by Van Buren (25%) and Kalamazoo (22%).



HIV Testing

Indicator Definition/Overview: Among adults aged 18-64 years, the proportion who reported that they ever had been tested for HIV, apart from test that were part of a blood donation.

Proportion of Adults Tested for HIV



Overview:

- Calhoun County has a higher proportion of adults tested for HIV (48%), compared to Kalamazoo (40%), Van Buren-Cass (40%), and Michigan (41%).

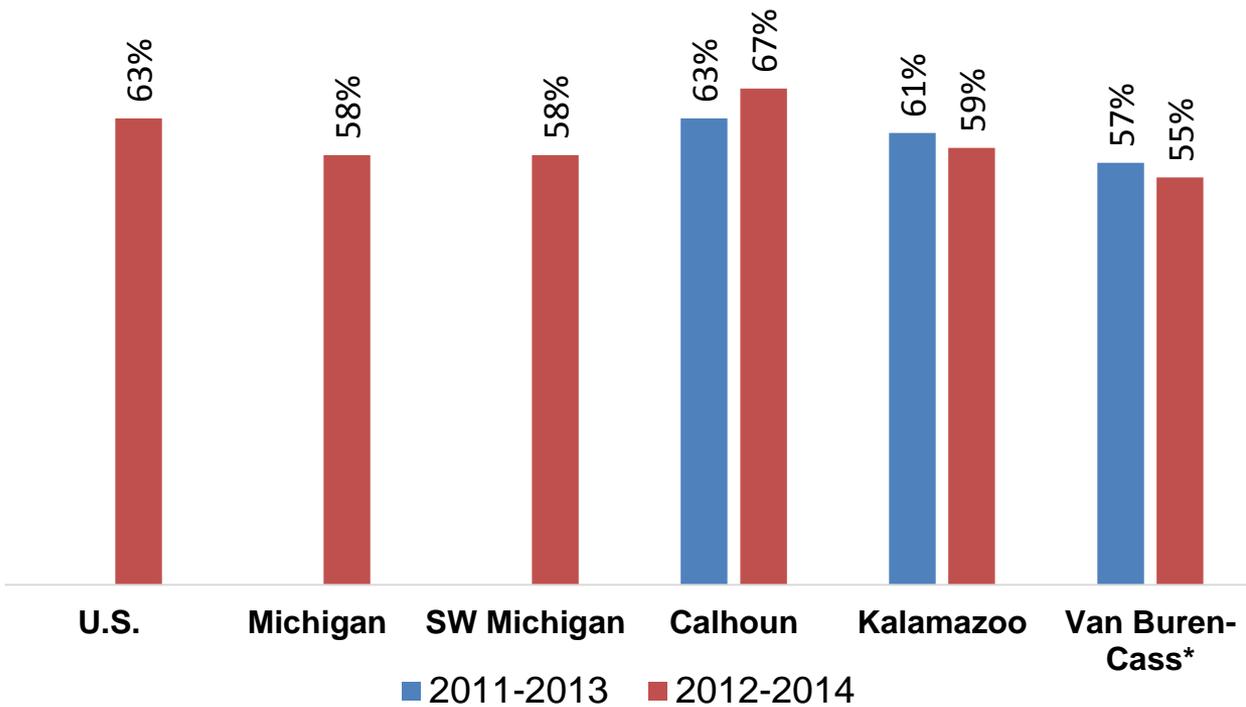


Sources: Michigan Department of Community Health, combined 3-year estimates (2011-2013,2012-2014), 2014 MiBRFS Tables and CDC 2014 BRFSS. SW Michigan consists of the following Michigan counties: Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph and Branch. *Van Buren-Cass includes both counties that share a local health department.

Immunizations: Flu Vaccine

Indicator Definition/Overview: The proportion of adults (aged 65+) who reported that they had a flu vaccine, either by an injection in the arm or sprayed in the nose during the past 12 months.

Percent of Seniors Vaccinated for the Flu



Overview:

- Calhoun County has the largest proportion of seniors vaccinated for the flu (67%) compared to Kalamazoo (59%) and Van Buren-Cass (55%).

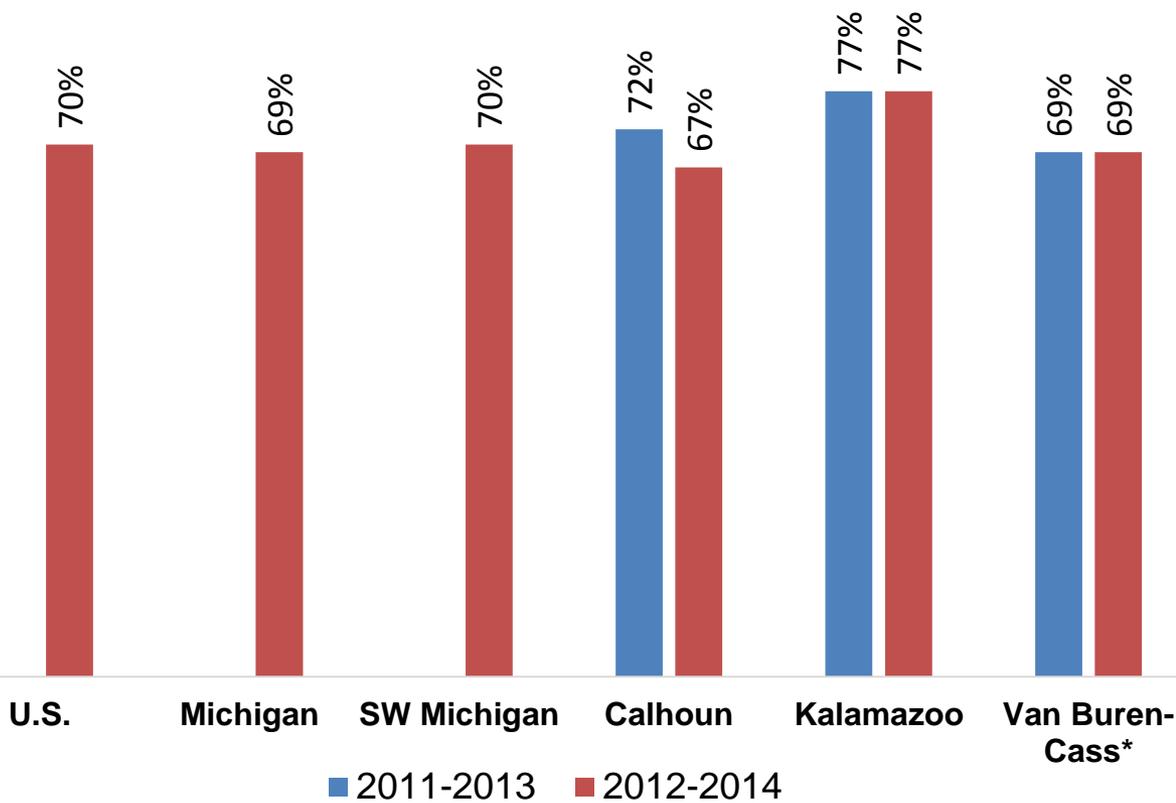


Sources: Michigan Department of Community Health, combined 3-year estimates (2011-2013,2012-2014), 2014 MiBRFS Tables and CDC 2014 BRFSS. SW Michigan consists of the following Michigan counties: Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph and Branch. *Van Buren-Cass includes both counties that share a local health department.

Immunizations: Pneumonia Vaccine

Indicator Definition/Overview: The proportion of adults (aged 65+) who reported that they had ever had a pneumonia vaccine.

Percent of Seniors Vaccinated for Pneumonia



Overview:

- Similar proportions of U.S., Michigan, Southwest MI and Van Buren-Cass, and Calhoun County seniors had a pneumonia vaccine, ranging from 67-70%.
- Kalamazoo County has a larger proportion of seniors vaccinated for pneumonia (77%).

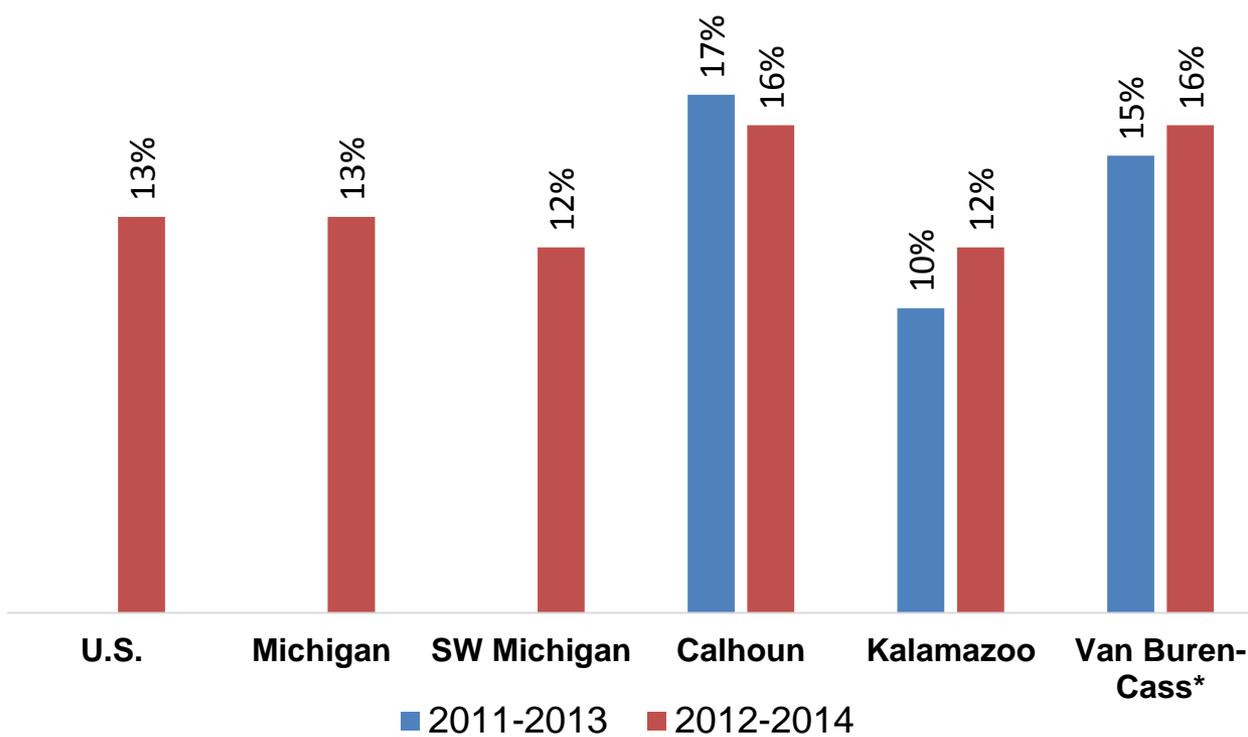


Sources: Michigan Department of Community Health, combined 3-year estimates (2011-2013,2012-2014), 2014 MiBRFS Tables and CDC 2014 BRFS. SW Michigan consists of the following Michigan counties: Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph and Branch. *Van Buren-Cass includes both counties that share a local health department.

Mental Health

Indicator Definition/Overview: The percentage of adults who reported 14 or more days, out of the previous 30, on which their mental health was not good, which includes stress, depression and problems with emotions.

Adults Reporting Poor Mental Health



Overview:

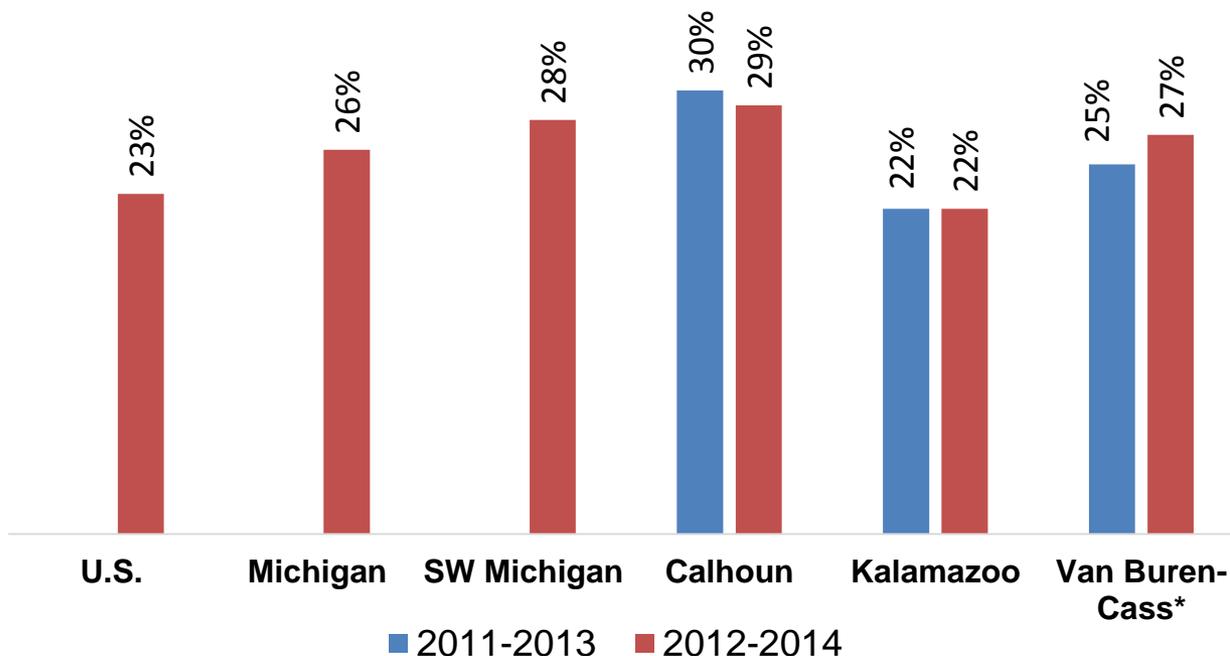
- Among U.S., Michigan, Kalamazoo County and SW Michigan adults, a similar proportion reported poor mental health (12-13%)
- 16% of Calhoun and Van Buren-Cass county adults reported poor mental health. In Kalamazoo 12% of adults reported poor mental health.



Physical Activity

Indicator Definition/Overview: 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.

Percent of Adults Not Engaging in Physical Activity



Overview:

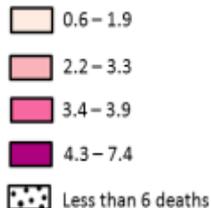
- 23% of U.S. adults and 22% of Kalamazoo County adults are not engaging in physical activity.
- The percent with no physical activity is similar in Southwest Michigan, Michigan, and Van Buren-Cass and Calhoun counties, ranging from 26-29%.



Opioid Utilization and Poisoning Deaths

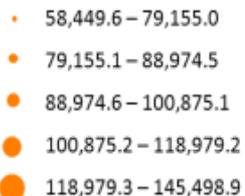
Indicator Definition/Overview: Opioid-related drug poisoning death rates and opioid prescriptions written by county of residence: overdose decedents, 2009-2012.

Opioid-related Poisoning Death Rates Per 100,000 MI Residents

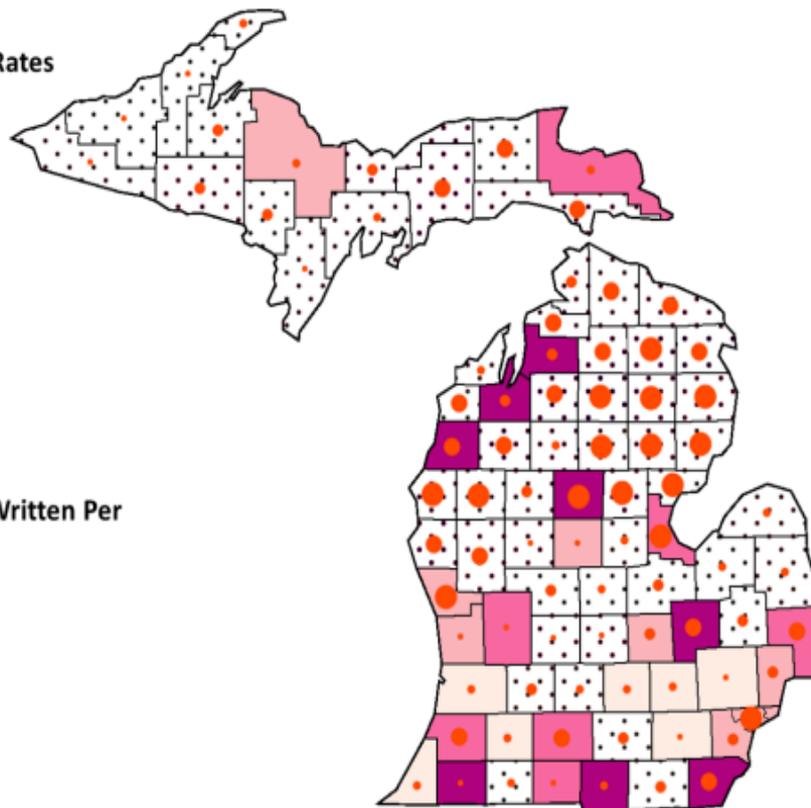


Overall MI rate: 2.3 (95% CI: 2.2 – 2.5)

Number of Opioid Prescriptions Written Per 100,000 MI residents



Overall MI Rate: 92,792.7

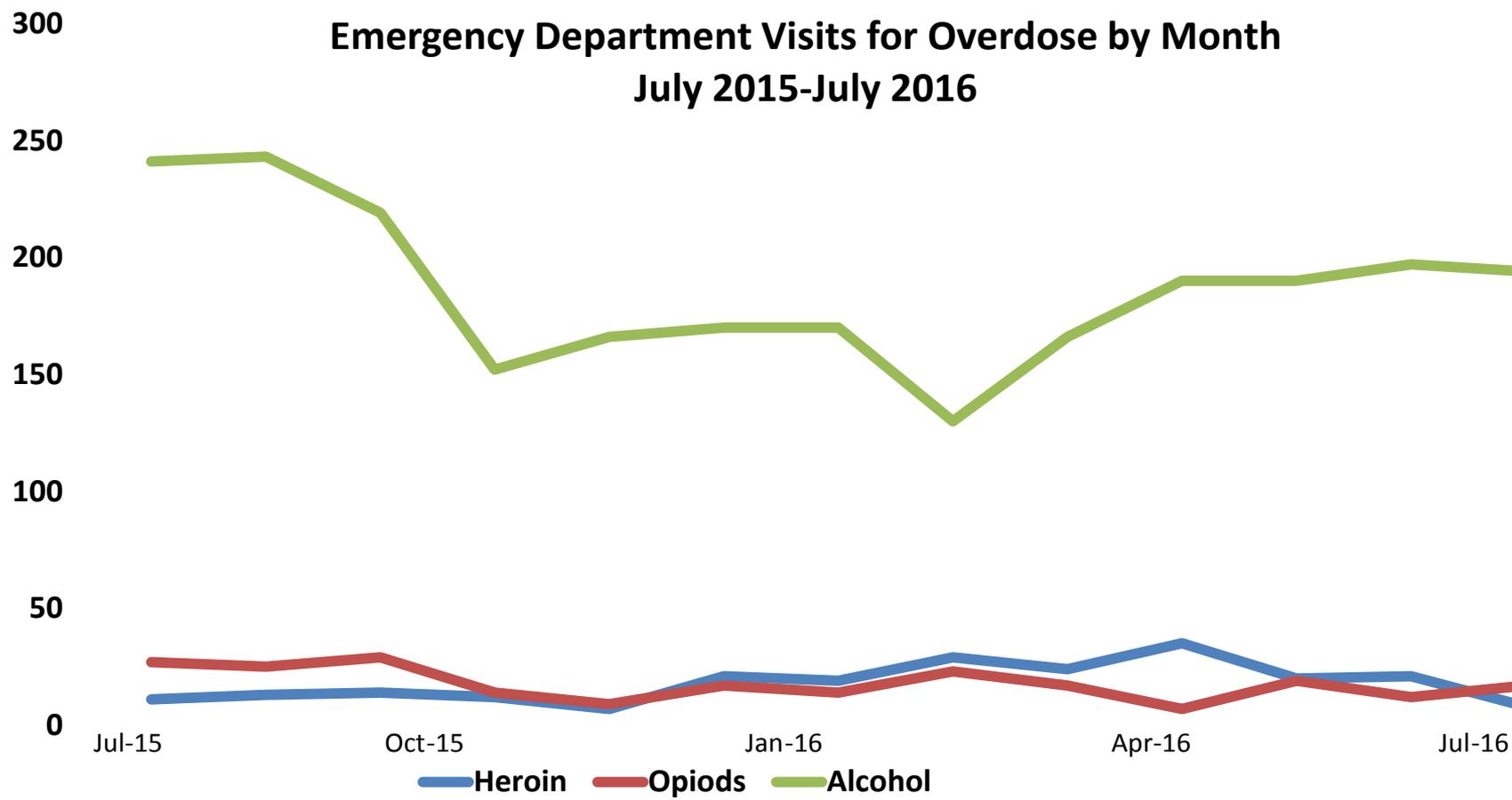


Overview:

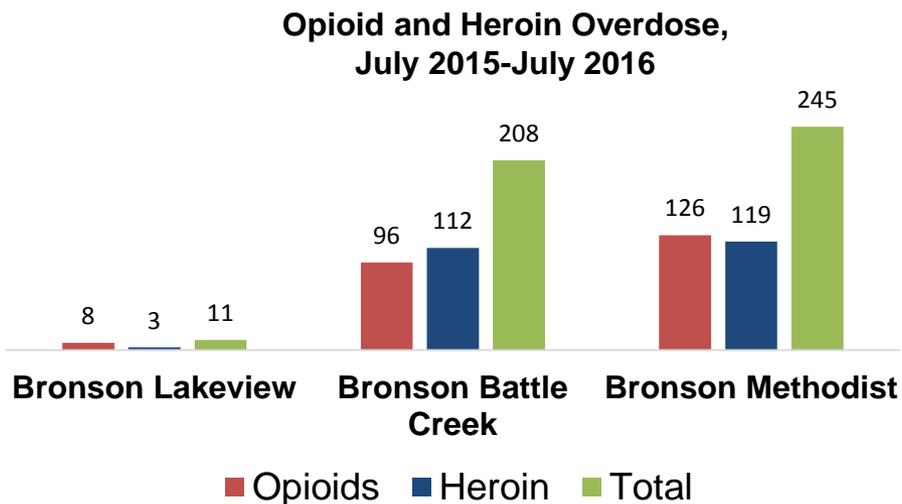
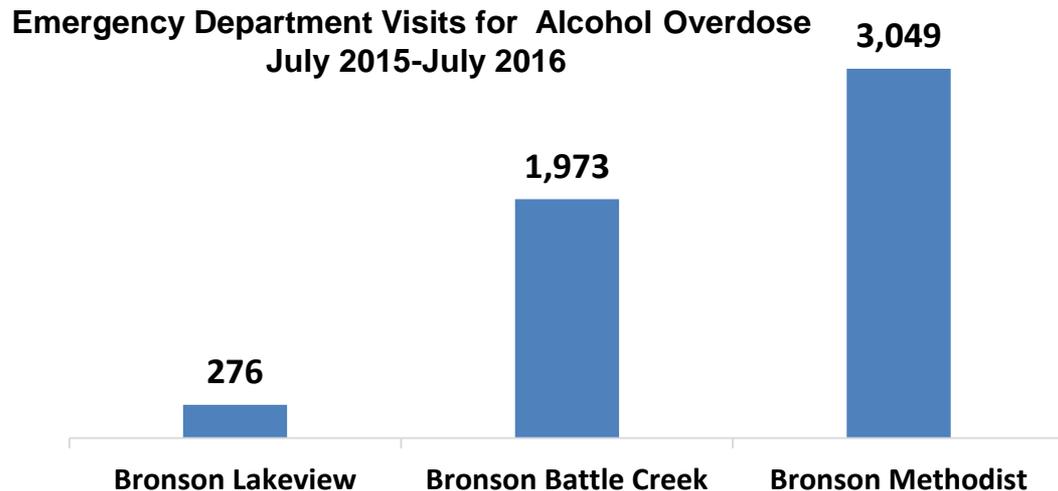
- The number of opioid prescriptions written per 100,000 residents, at 119,000-145,000, was higher for Calhoun and Van Buren counties than for the state of Michigan (93,000).
- The rate of opioid-poisoning deaths was higher in Calhoun and Van Buren counties compared to the state.



Substance Overdose Trends in Emergency Department Visits



Substance Overdose Emergency Department Visits



Overview:

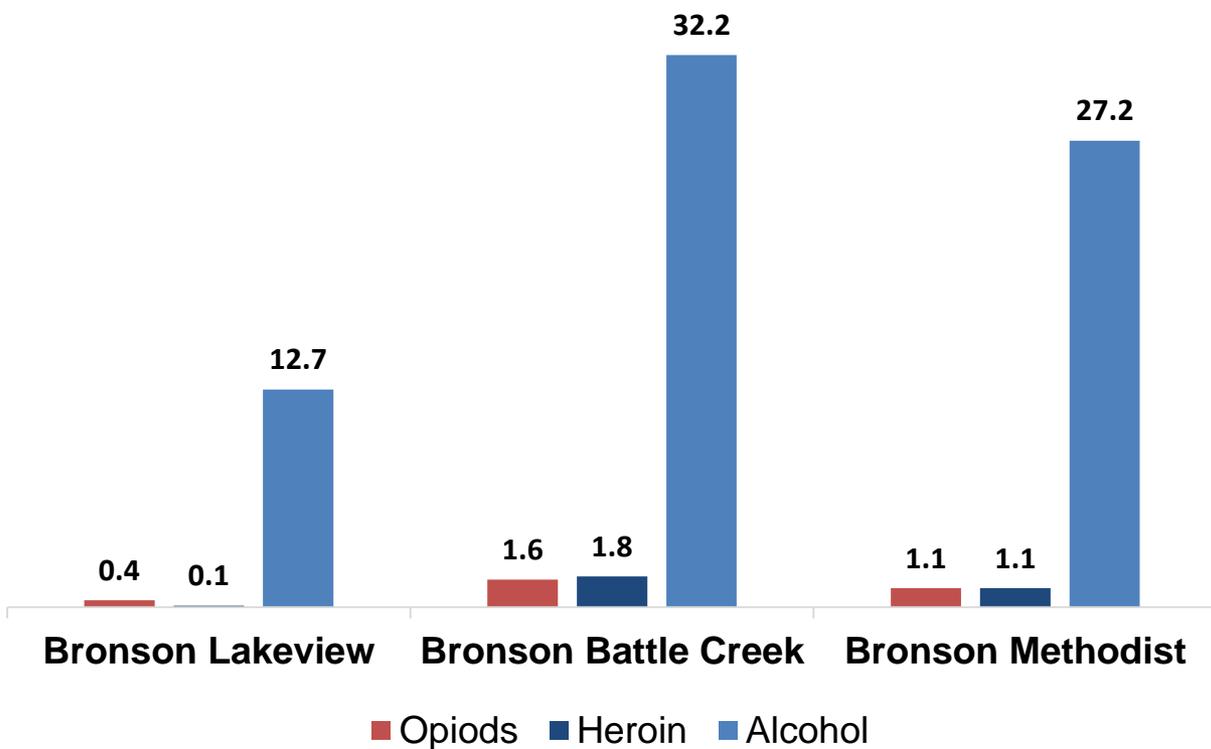
- Bronson Methodist Hospital treated the greatest number of alcohol overdose patients with 3,049 treated followed by Bronson Battle Creek (1,973).
- Overdoses due to Opioids and Heroin combined are highest for Bronson Methodist (245) followed by Bronson Battle Creek (208) and Bronson Lakeview (11). The number of overdoses is increasing in all counties yearly.



Substance Overdose Emergency Department Visits

Indicator Definition/Overview: Rate of Emergency Department Visits for Substance Overdose per 1,000 Bronson Emergency Department visits

**Substance Overdose Rate
July 2015-July 2016**



Overview:

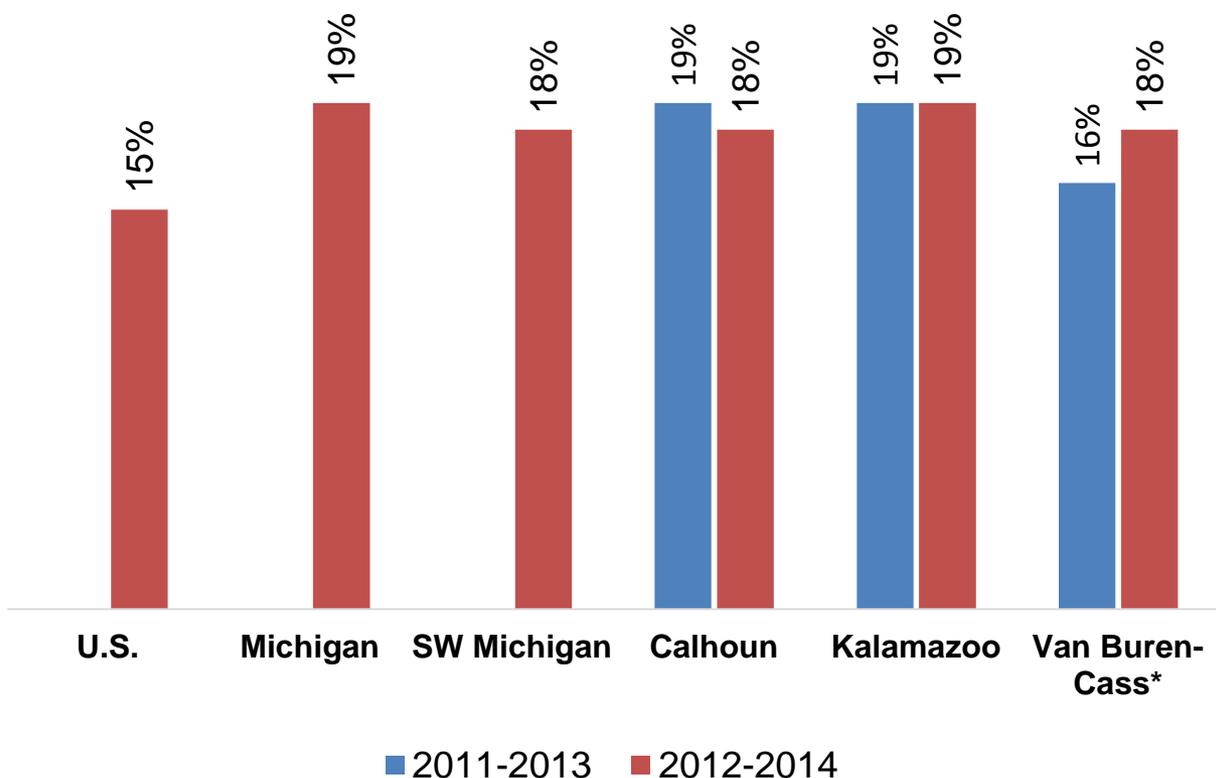
- When comparing overdose treatment per all ED visits, alcohol had the highest rate of all facilities, ranging from 12.7 per 1,000 ED visits at Bronson Lakeview to 32.2 at Bronson Battle Creek.
- Bronson Battle Creek (Calhoun) had the highest rate of emergency visits from alcohol, opioid, and heroin use, followed by Bronson Methodist (Kalamazoo) and Bronson Lakeview (Van Buren).

↓ Lower is better

Binge Drinking

Indicator Definition: Binge drinking is defined as the consumption of five or more drinks per occasion (for men) or four or more drinks per occasion (for women) at least once in the previous month.

Percent of Adults Who Binge Drink



Overview:

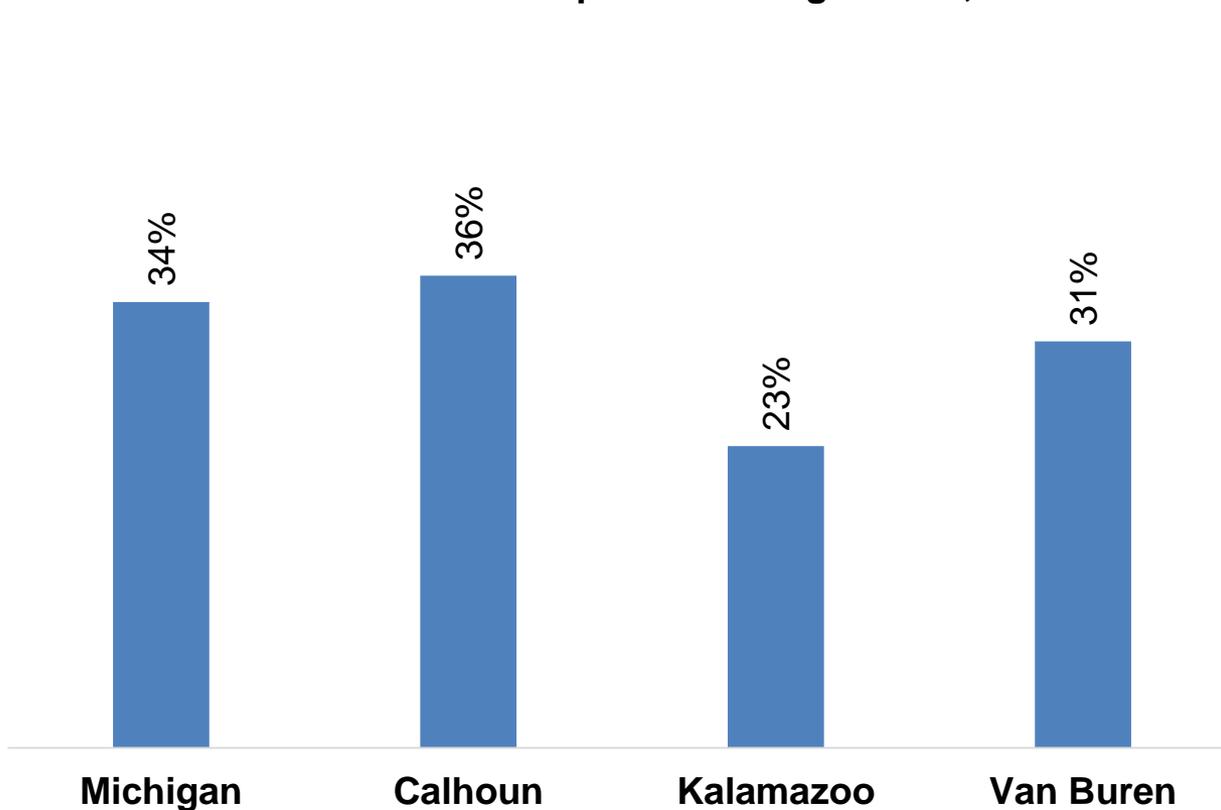
- The proportion of the population that binge drinks in Michigan (19%) is higher than the U.S. (15%) in 2014.
- Kalamazoo, Calhoun County, and Van Buren-Cass counties have a similar percent of adults who binge drink, ranging from 18-19%, all higher than the U.S.
- There was no statistically significant difference within counties when comparing 2012-14 to the previous 2011-13 estimate.



Alcohol-Impaired Deaths

Indicator Definition: Percentage of motor vehicle crash deaths with alcohol involvement.

Percent of Alcohol-Impaired Driving Deaths, 2014



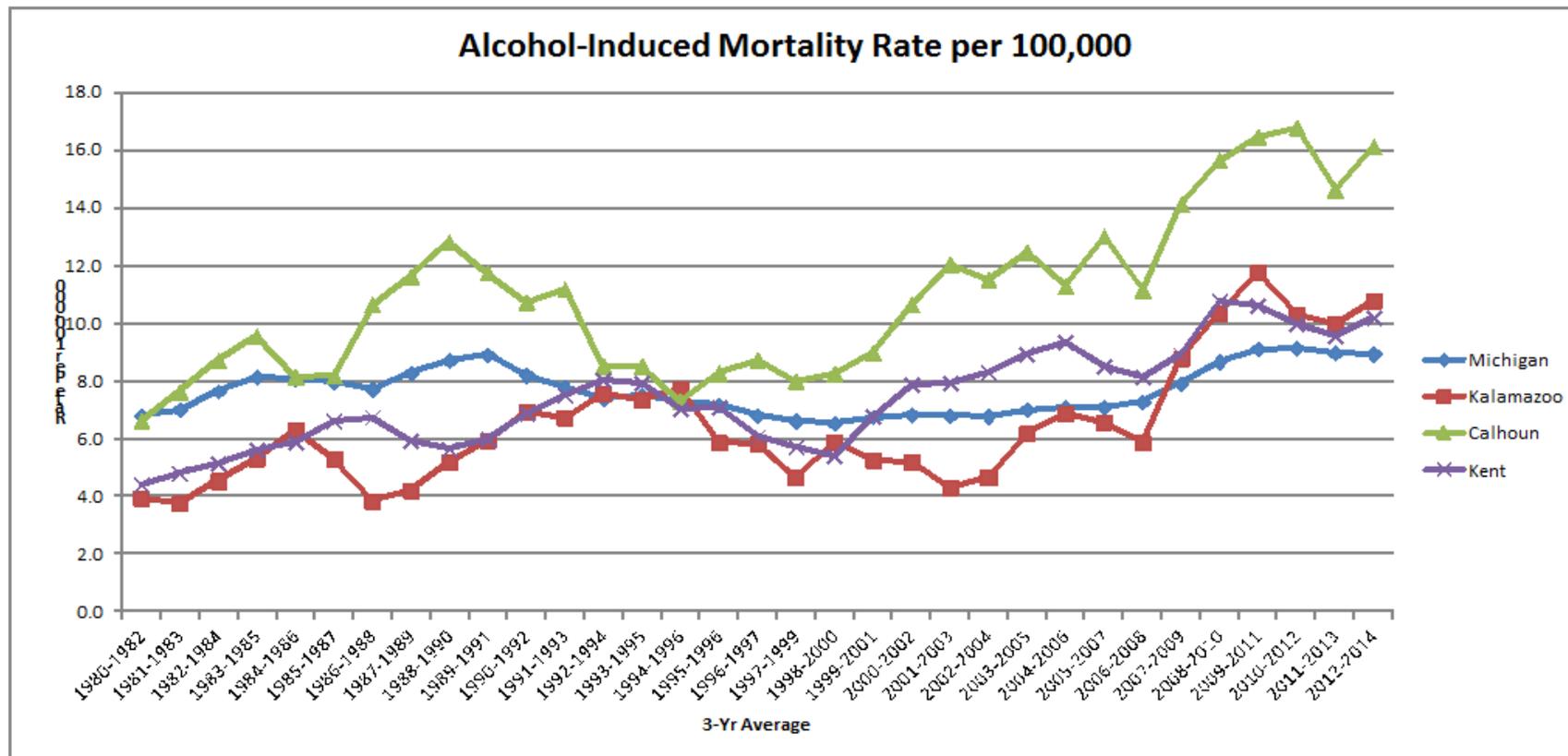
Overview:

- Compared to Michigan overall (34%), there was a lower proportion of alcohol-related driving deaths in Kalamazoo County (23%).
- Calhoun County (36%) and Van Buren County (31%) were similar to the state average.



Alcohol-Induced Mortality

Indicator Definition: Deaths attributed to alcohol use, as death rate per 100,000 population.

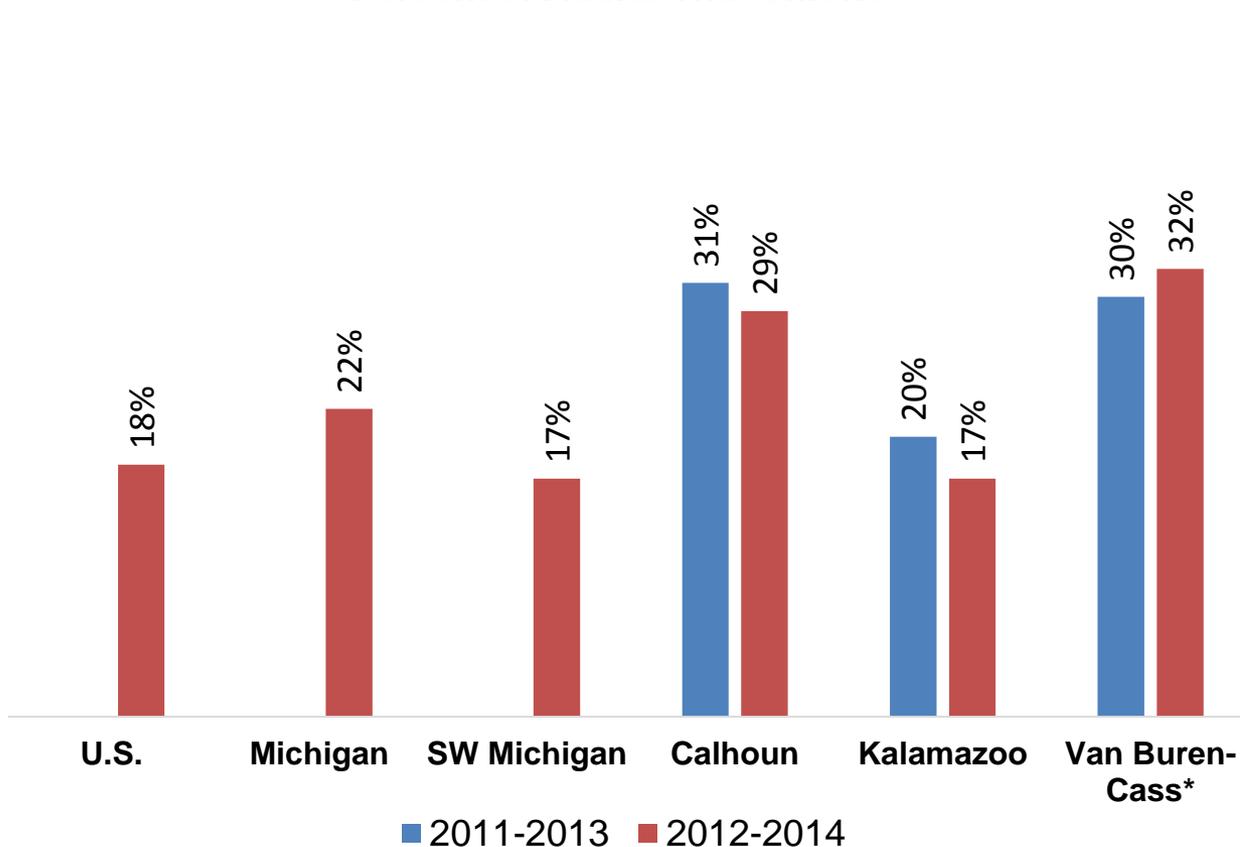


Sources: Michigan Department of Community Health, combined 3-year estimates. Graph courtesy of Kalamazoo Health & Human Services

Smoking

Indicator Definition: The proportion of adults who reported that they had ever smoked at least 100 cigarettes (five packs) in their life and that they smoke cigarettes now either every day or on some days.

Percent of Adults That Smoke



Overview:

- 32% of adults in Van Buren-Cass counties smoke, an increase from the 2011-2013 estimate (30%).
- 29% of Calhoun adults smoke, a slight decrease from the 2011-2013 estimate.
- 17% of Kalamazoo adults report smoking, similar to the U.S. (18%) and Michigan (22%).

Lower is better



Health Risk Indicators

Youth

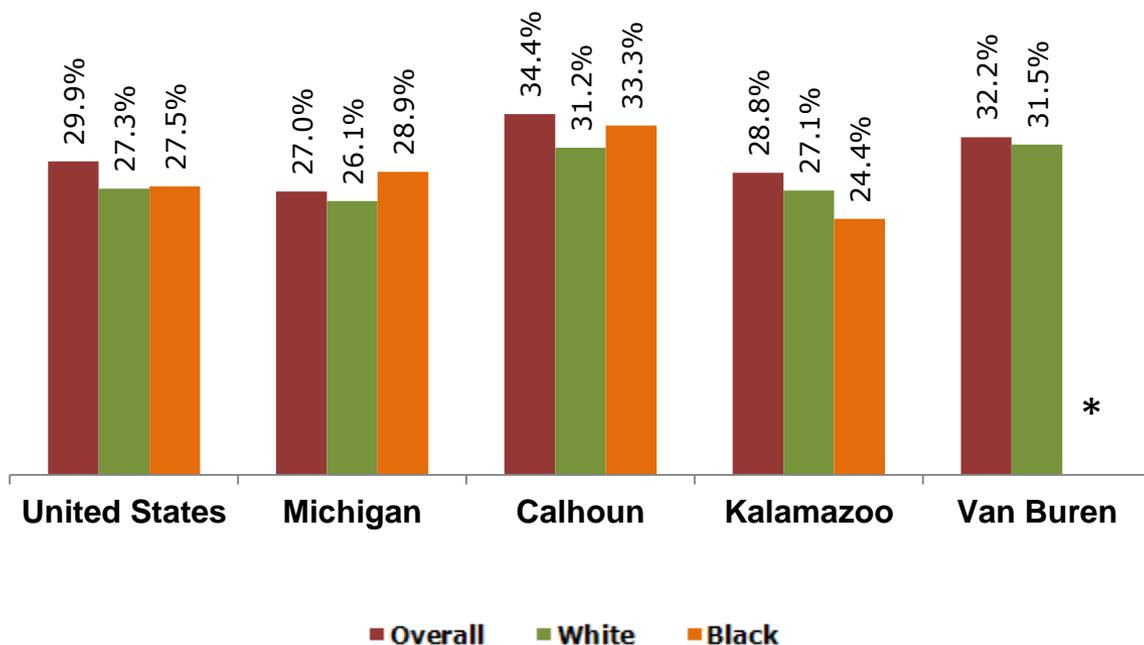


Throughout this section, the symbol to the left is used to indicate a topic targeted for improvement by Michigan's Governor Snyder

Felt Sad or Helpless

Indicator Definition/Overview: The proportion of high school students that felt sad or hopeless almost every day for 2 or more weeks in a row so that they stopped doing some usual activities during the 12 months before the survey.

High School Students That Felt Sad or Helpless, 2013



Overview:

- The proportion of high school students that felt sad or helpless is lower in Michigan (27%) than the U.S. (30%).
- The proportion of high school students that felt sad or helpless is greatest in Calhoun (34%), followed by Van Buren (32%) and Kalamazoo (29%).

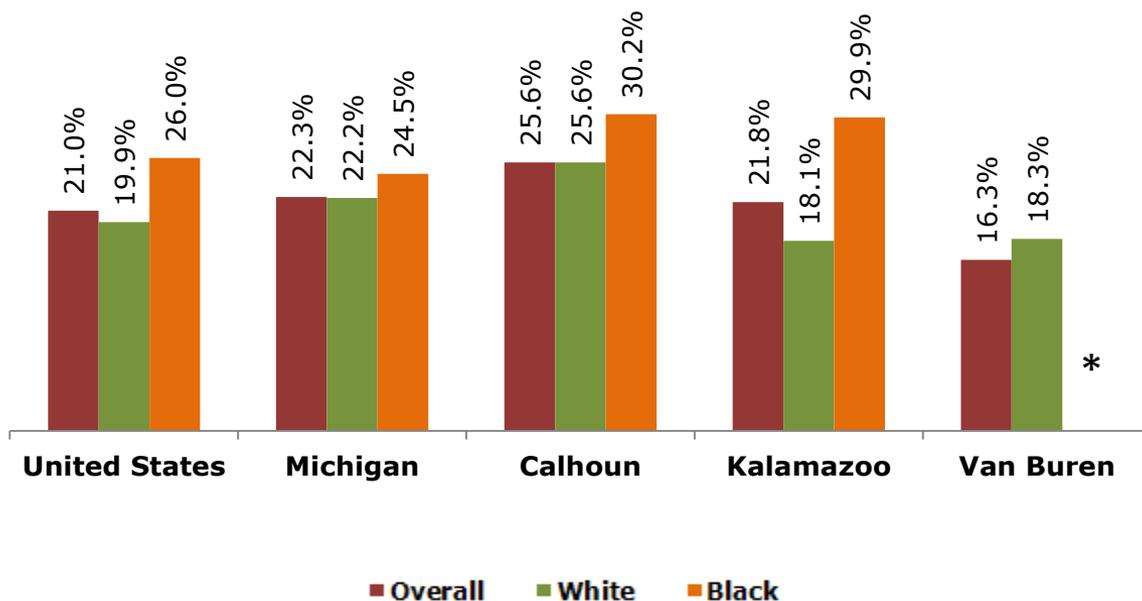


Sources: Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System (YRBSS) 9-12th grade (2013); The Michigan Department of Education, The Michigan Profile for Healthy Youth (MiPHY), 9 and 11th grade (2013-2014). * The data did not meet the standards of reliability or precision.

Asthma

Indicator Definition/Overview: The proportion of high school students that were ever told by a doctor or nurse that they have asthma.

High School Students Told They Have Asthma, 2013



Overview:

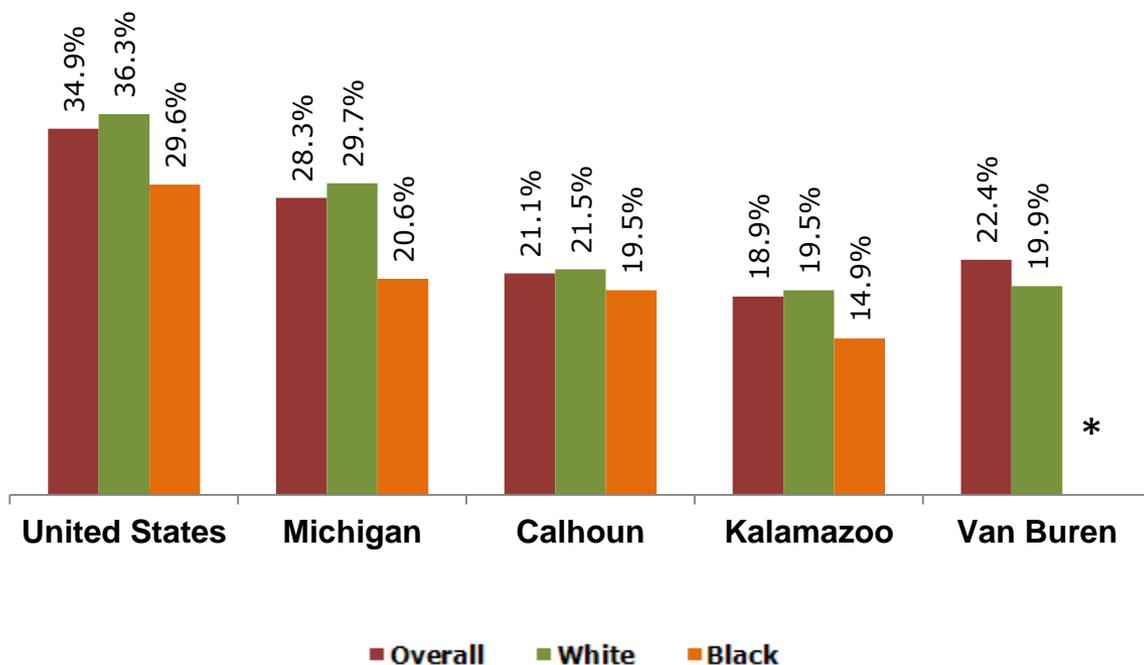
- The proportion of high school students with asthma is similar in the U.S. (21%) and in Michigan (22%).
- Calhoun has the highest percentage of students with asthma (26%), followed by Kalamazoo (22%) and Van Buren (16%) counties.
- There are more Black students with asthma than White in Kalamazoo and Calhoun counties.



Drug/Alcohol: Alcohol Use

Indicator Definition/Overview: The proportion of high school students that ever had at least one drink of alcohol on at least 1 day (during the 30 days before the survey)

High School Students That Ever Had At Least One Drink Of Alcohol In Past 30 Days, 2013



Overview:

- The proportion of high school students that consumed alcohol in the past 30 days is lower in Michigan (28%) than the U.S. (35%).
- Calhoun and Kalamazoo counties proportion of high school students that consumed alcohol was the same (19-21%), followed by Van Buren County (22%).

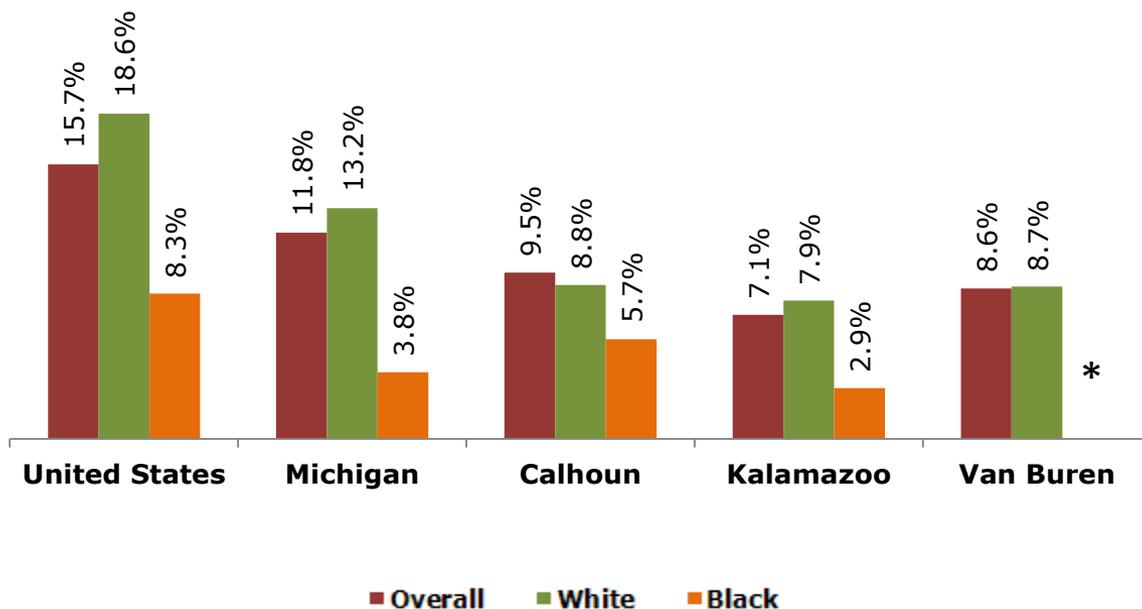


Sources: Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System (YRBSS) 9-12th grade (2013); The Michigan Department of Education, The Michigan Profile for Healthy Youth (MiPHY), 9 and 11th grade (2013-2014). * The data did not meet the standards of reliability or precision.

Drug/Alcohol: Cigarette Use

Indicator Definition/Overview: The proportion of high school students that ever smoked cigarettes on at least 1 day(during the 30 days before the survey)

High School Students That Ever Smokes Cigarettes in Past 30 Days, 2013



Overview:

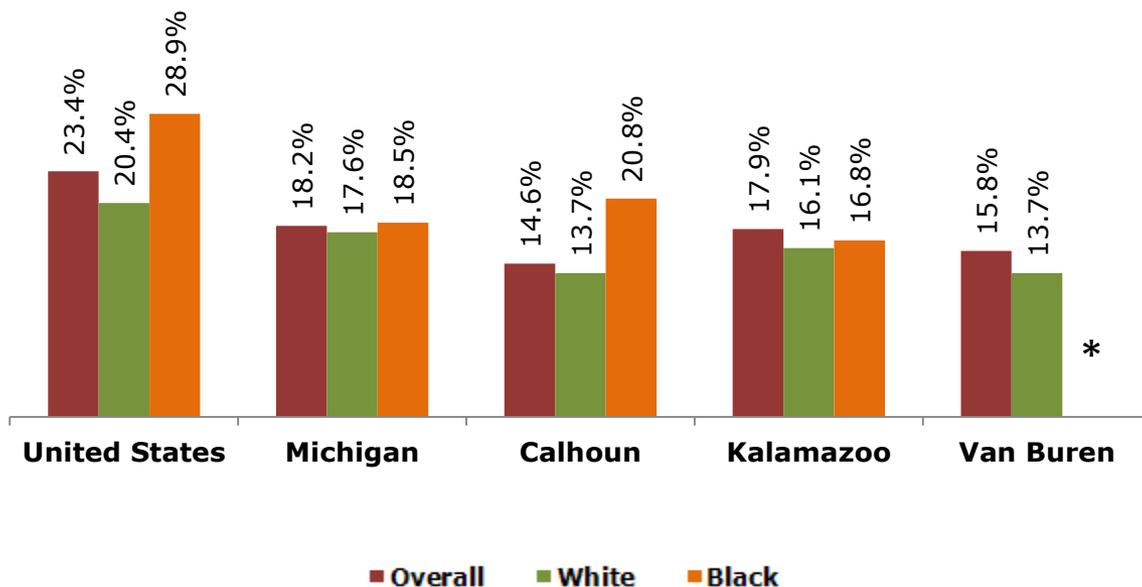
- The proportion of high school students that smoked cigarettes in the past 30 days is lower in Michigan (12%) than the U.S. (16%).
- The proportion of high school students that smoked cigarettes in the past 30 days was greatest in Calhoun (10%), followed by Van Buren (9%) and Kalamazoo (7%).
- The percentage of high school students that ever smokes cigarettes is higher for White students than Black students.



Drug/Alcohol: Marijuana Use

Indicator Definition/Overview: The proportion of high school students that ever used marijuana one or more times (during the 30 days before the survey).

**High School Students That Used Marijuana
in Last 30 Days, 2013**



Overview:

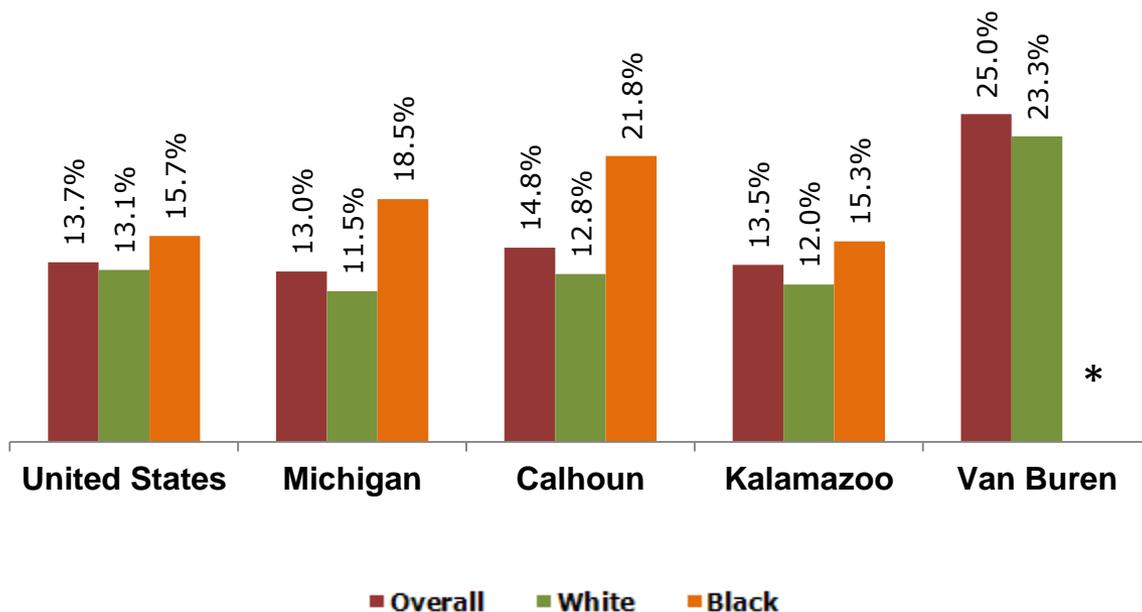
- The proportion of high school students that have used marijuana is lower in Michigan (18%) than the U.S. (23%).
- The proportion of high school students that have used marijuana in the past 30 days is highest in Kalamazoo (18%) followed by Van Buren (16%) and Calhoun (15%).
- In the U.S., more Black students smoked marijuana than White. In Calhoun county a greater percentage of Black students (21%) smoke marijuana than White students (15%).



Diet/Activity: Obese

Indicator Definition/Overview: The proportion of high school students who were \geq 95th percentile for body mass index, based on sex- and age-specific reference data from the 2000 CDC Growth Charts).

Proportion of High School Students That Are Obese, 2013



Overview:

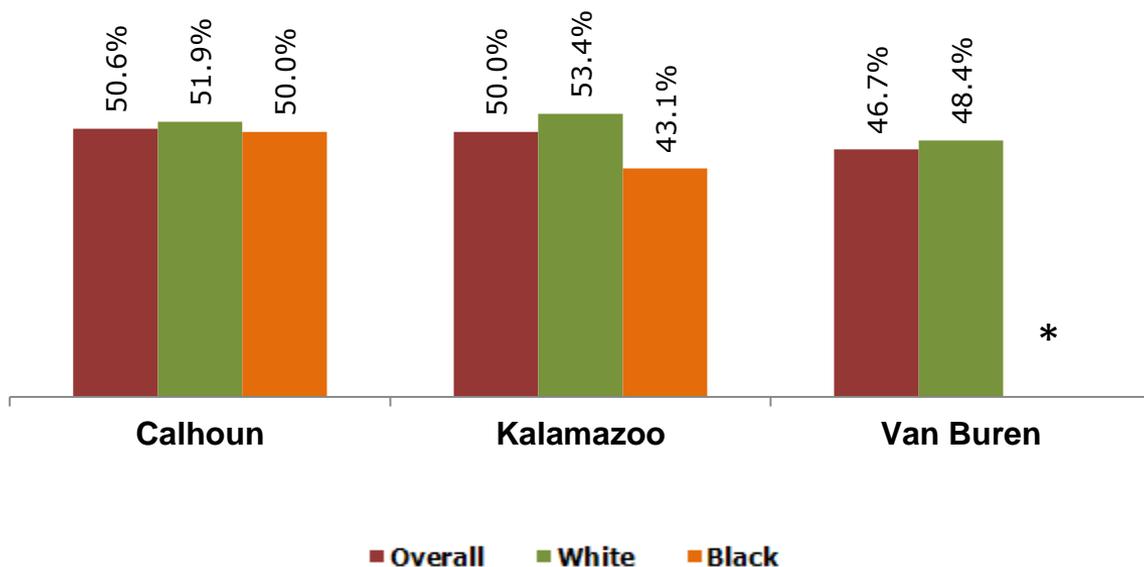
- The proportion of Michigan high school students that are obese is statistically the same as the U.S.
- Van Buren County has the largest proportion of high school students that are obese (25%), followed by Calhoun County (15%) and Kalamazoo County (14%).
- In Michigan more Black students (19%) were obese than White (13%) and in Calhoun county 22% of Black students were obese than White students (15%).



Diet/Activity: Physically Active

Indicator Definition/Overview: The proportion of high school students that were physically active at least 60 minutes per day on five or more of the past seven days.

High School Students That Were Physically Active At Least 60 Minutes per Day, 2013



Overview:

- There is no statistical difference in the percent of high school students that were physically active at least 60 minutes per day on five or more of the past seven days in Calhoun (51%), Kalamazoo (50%) and Van Buren (47%) counties.
- There is no statistical difference between Black and White students who were physically active in the Calhoun County. In Kalamazoo County, more White students were physically active than Black.

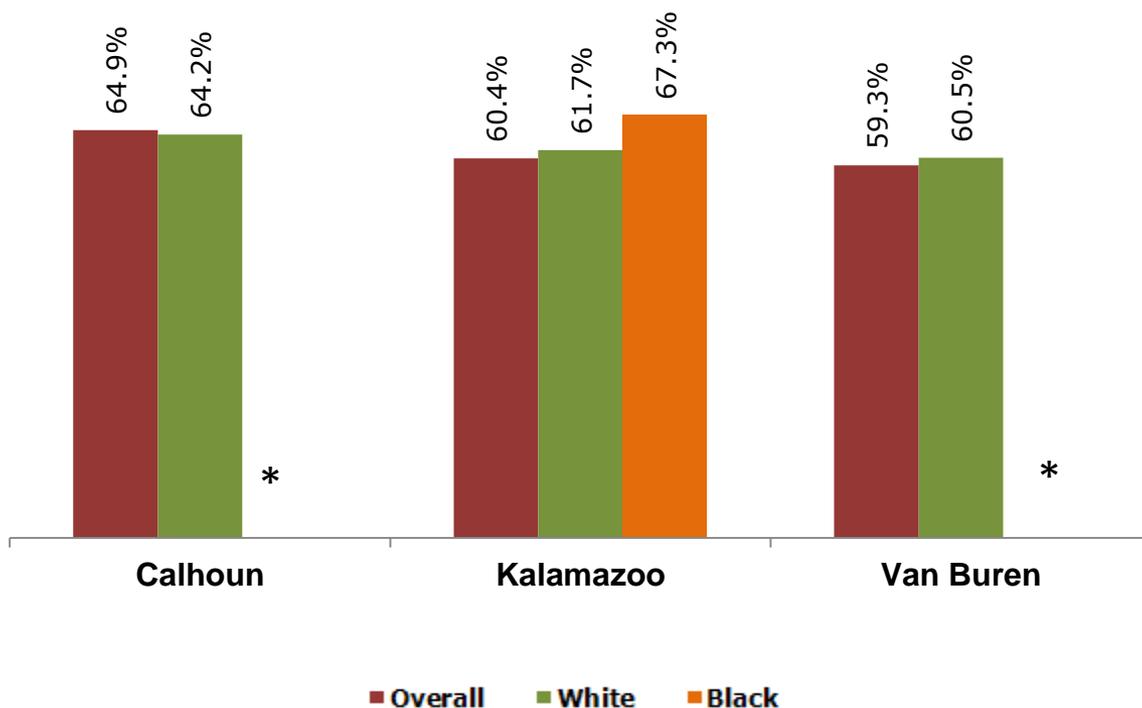


Sources: The Michigan Department of Education, The Michigan Profile for Healthy Youth (MiPHY), 9 and 11th grade (2013-2014). * The data did not meet the standards of reliability or precision. NOTE: The CDC's question related to physical activity was worded differently, and therefore can't be used for comparison.

Sexual Behaviors: Did Not Use A Condom

Indicator Definition/Overview: The proportion of sexually active (past three months) high school students that used a condom during last sexual intercourse.

Recent Sexually Active High School Students That Used A Condom During Last Sexual Intercourse, 2013



Overview:

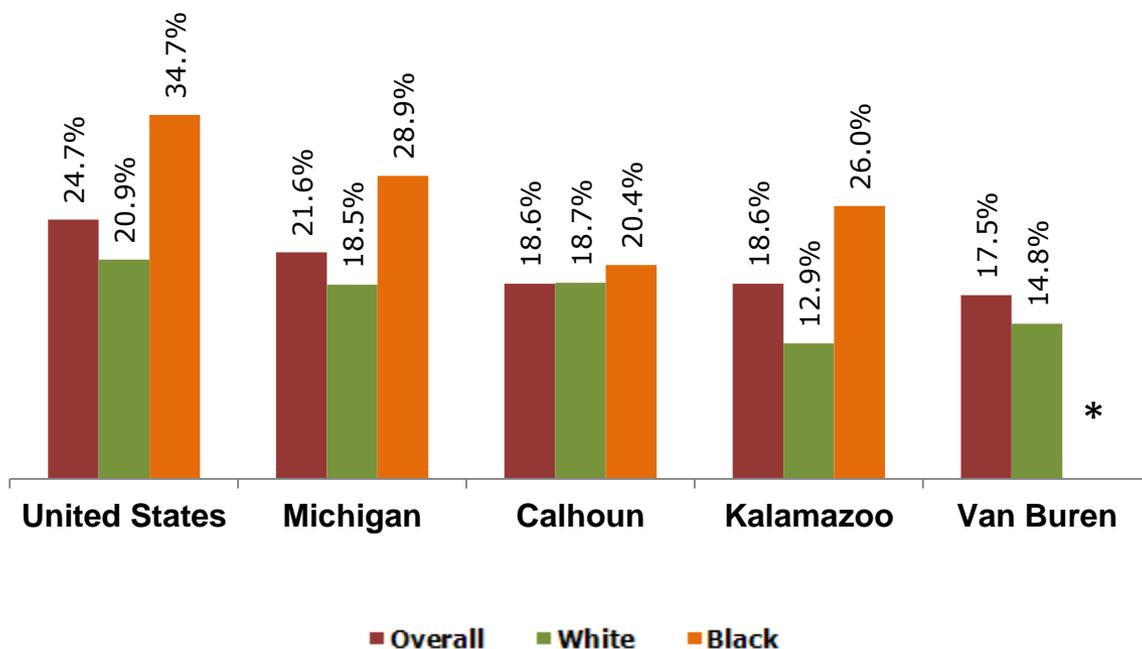
- There is no statistical difference in the percent of sexually active school students that used a condom during last sexual intercourse in Calhoun (65%), Kalamazoo (60%) and Van Buren (59%) counties.
- There is no statistical difference between Black and White sexually active school students that used a condom during last sexual intercourse in Kalamazoo County



Violence: Physical Fight One Or More Times

Indicator Definition/Overview: The proportion of high school students that were in a physical fight one or more times (during the 12 months before the survey).

**Proportion of High School Students
In A Physical Fight, 2013**



Overview:

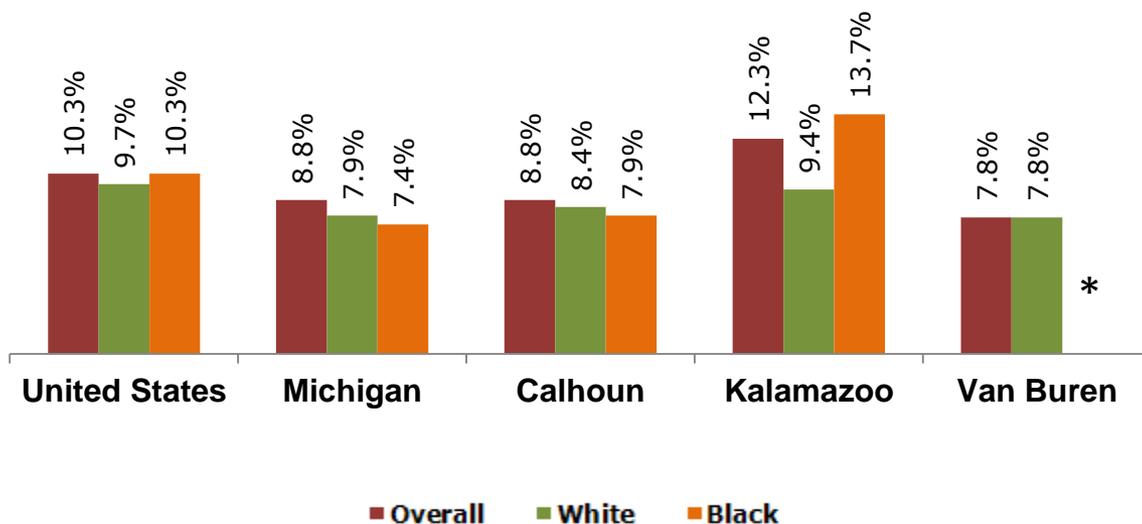
- More U.S. high school students were in a physical fight than Michigan.
- There is no statistical difference in the percent of high school students that were in a physical fight in Calhoun (19%), Kalamazoo (19%) and Van Buren (18%) counties.
- In the U.S., Michigan and Kalamazoo County, more Black students were in a physical fight than White.



Violence: Physically Dating

Indicator Definition/Overview: The proportion of high school students that were hit, slammed into something, or injured with an object or weapon on purpose by someone they were dating or going out with among students who dated (during the 12 months before the survey).

High School Students That Were Physically Hurt on Purpose, 2013



Overview:

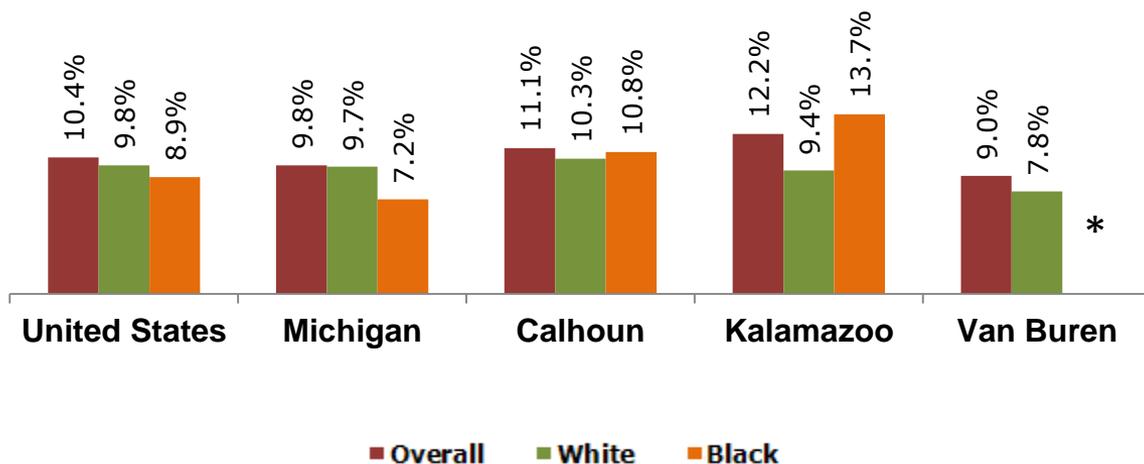
- The proportion of high school students that were hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend in the past year is higher in the U.S. (10%) than in Michigan (9%).
- The percent of high school students that were physically hurt by a date was greatest in Kalamazoo (12%), followed by Calhoun (9%) and Van Buren (8%).



Violence: Sexual Dating

Indicator Definition/Overview: The proportion of high school students that were kissed, touched, or physically forced to have sexual intercourse when they did not want to by someone they were dating or going out with among students during the last 12 months before the survey.

High School Students that Experienced Sexual Dating Violence, 2013



Overview:

- The proportion of high school students that experienced sexual dating violence is the same in the U.S. and Michigan (10%).
- There is no statistical difference in the percent of high school students that experienced sexual dating violence in Calhoun (11%), Kalamazoo (12%) and Van Buren (9%) counties.

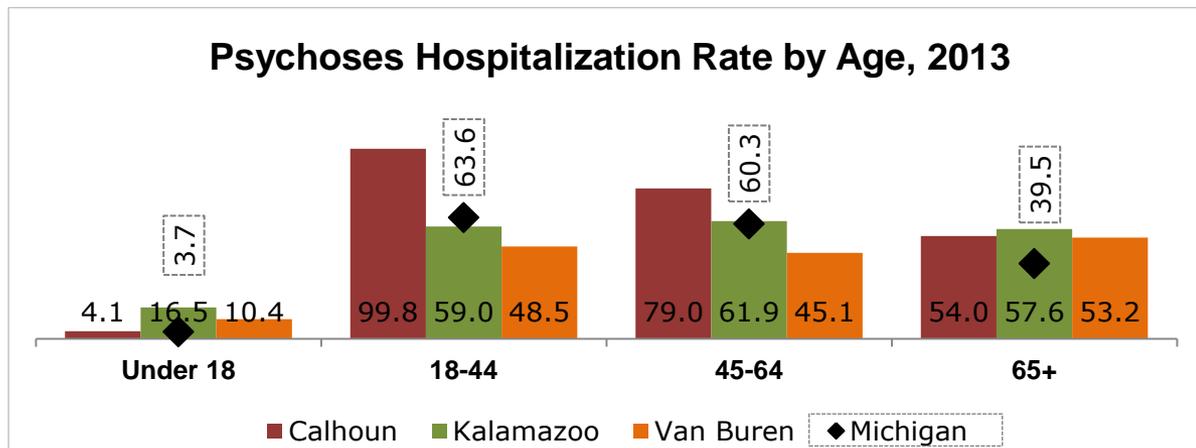
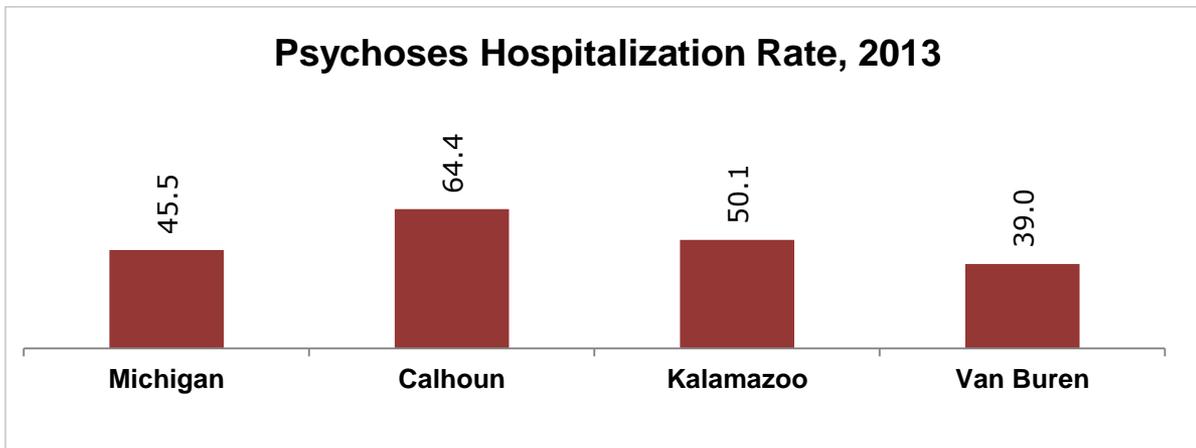


Sources: Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System (YRBSS) 9-12th grade (2013); The Michigan Department of Education, The Michigan Profile for Healthy Youth (MiPHY), 9 and 11th grade (2013-2014). * The data did not meet the standards of reliability or precision.

Health Conditions

Psychoses Hospitalization Rate

Indicator Definition/Overview: Inpatient hospital stays that were completed during the specified year. Hospitalization Rates are the number of hospitalizations per 10,000 population for the year.



Overview:

- Calhoun County’s psychoses hospitalization rate is higher than all other regions at 64.4 compared to Kalamazoo (50.1), Michigan (45.5) and Van Buren (39.0).
- For the under 18 age group, Kalamazoo’s (16.5) rate of psychoses hospitalizations was higher than Michigan (3.7).
- Calhoun County has the highest rate of psychoses hospitalization in the 18-44 age group and the 45-64 with 99.8 and 79.0 respectively. Both rates are above Michigan.
- Kalamazoo psychoses rate increased from 41.8 to 50.1 from 2010 to 2013.



Mortality: Leading Causes

Indicator Definition/Overview: The underlying cause of death, which is the condition giving rise to the chain of events leading to death.

Leading Causes of Death, 2013

Leading Cause	Michigan		Calhoun County		Kalamazoo County		Van Buren County	
	Rank	%	Rank	%	Rank	%	Rank	%
Heart Disease	1	26.1%	2	21.2%	1	21.9%	2	23.3%
Cancer	2	22.1%	1	22.0%	2	21.0%	1	23.9%
Chronic Lower Resp Dis.	3	6.0%	3	6.8%	4	5.4%	3	7.4%
Stroke	4	4.7%	6	4.1%	5	4.3%	5	4.0%
Accidents	5	4.5%	5	4.5%	3	6.1%	4	5.7%
Alzheimer's	6	3.5%	7	3.6%	7	3.3%	9	2.3%
Diabetes	7	3.1%	4	5.1%	6	3.7%	8	2.3%
Pneumonia/ Flu	8	2.0%	8	2.5%	8	2.3%	7	2.6%
Kidney Disease	9	1.8%	9	1.9%	10	1.4%	6	2.7%
Suicide	10	1.4%	10	1.6%	9	1.6%	10	0.8%

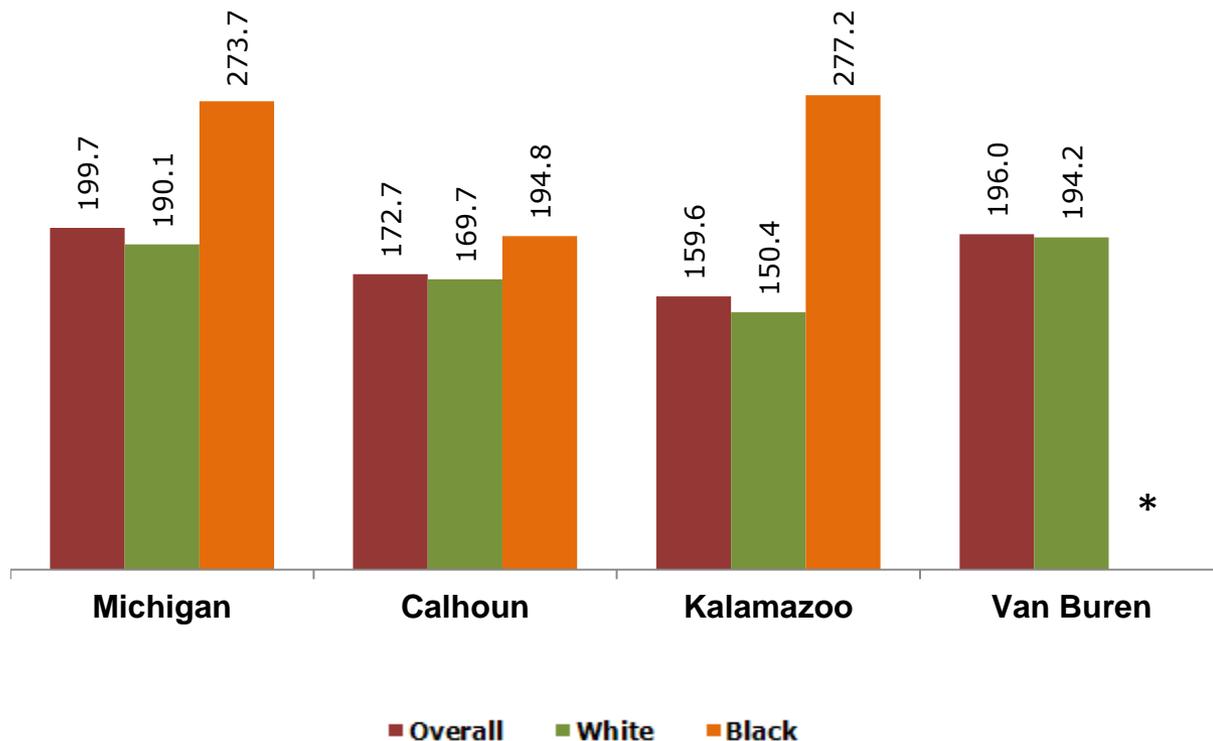
Overview:

- Nearly half of all leading causes of death are from heart disease and cancer.
- Calhoun County's top three leading causes of death are Cancer (22%), Heart Disease (21%) and Chronic Lower Respiratory Disease (7%).
- Kalamazoo County's top three leading causes of death are Heart Disease (22%), Cancer (21%) and Accidents (5%).
- Van Buren County's top three leading causes of death are Cancer (24%), Heart Disease (23%) and Chronic Lower Respiratory Disease (7%).
- No notable changes compared to previous year.

Mortality: Heart Disease Death Rates

Indicator Definition/Overview: The underlying cause of death, which is heart disease, giving rise to the chain of events leading to death. Rates are per 100,000 population.

Heart Disease Death Rates, 2013



Overview:

- Michigan’s heart disease mortality rate declined from 203.5 in 2010 to 199.7 population in 2013.
- Calhoun County’s heart disease mortality rate declined from 200.5 in 2010 to 172.7 population in 2013.
- Kalamazoo County’s heart disease mortality rate declined from 168.4 in 2010 to 159.6 in 2013.
- Van Buren County’s heart disease mortality rate increased from 222.8 in 2010 to 196.0 population in 2013.
- More Black adults have died from heart disease than White.



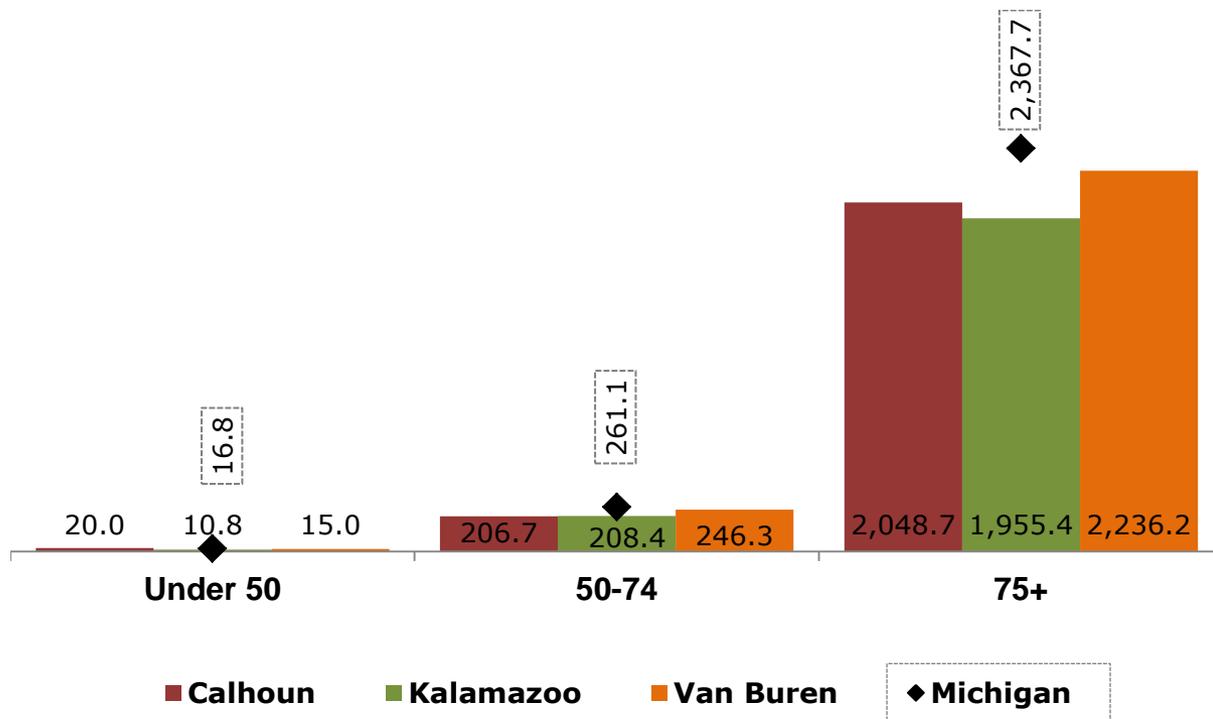
Source: 2013 Geocoded Michigan Death Registry, Division of Vital Records & Health Statistics, MDCH U.S. Division of Vital Statistics, 2013 Age-Adjusted Death Rates for Ten Leading Causes of Deaths.

* The data did not meet the standards of reliability or precision.

Mortality: Heart Disease Death Rate By Age Category

Indicator Definition/Overview: The underlying cause of death, which is heart disease, giving rise to the chain of events leading to death by age category. Rates are per 100,000 population.

Heart Disease Death Rates by Age Category, 2013



Overview:

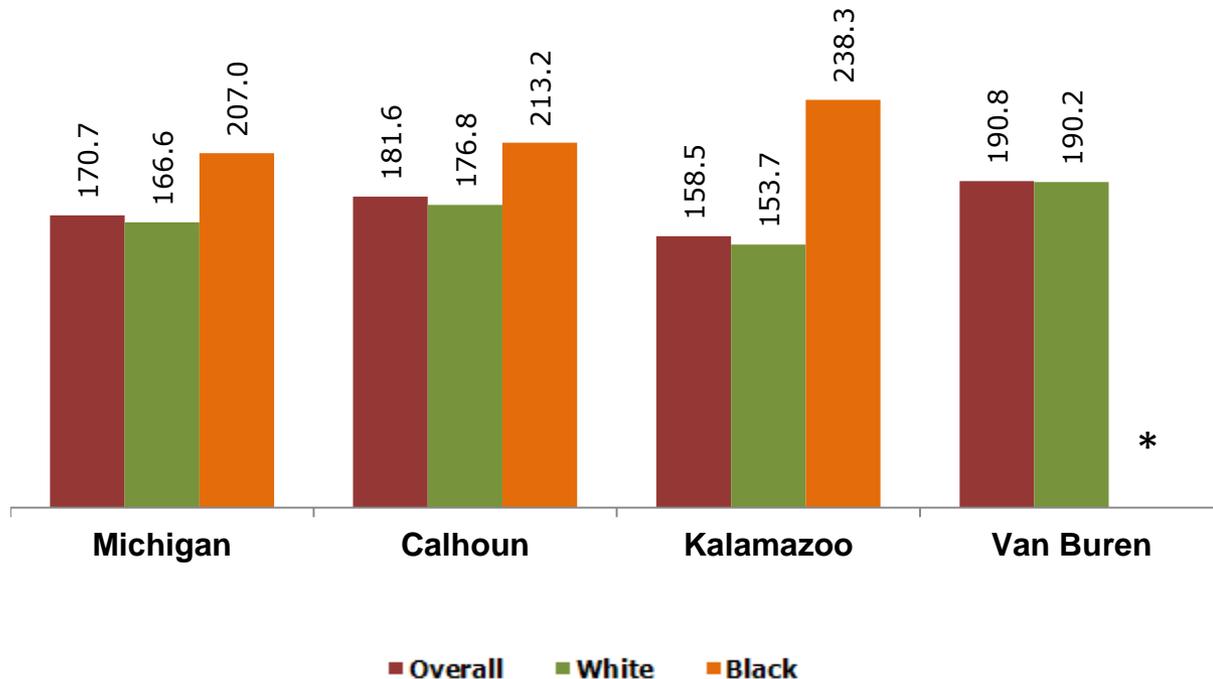
- Heart disease mortality becomes more prevalent as one ages. In Michigan, the rate for under 50 is 16.8 compared to 261.1 for those 50-74 and 2,367.7 for 75+.
- For those aged 50-74, Van Buren County has the highest rate of heart disease deaths (246.3), followed by Calhoun County (208.4) and Kalamazoo County (206.7).
- For those aged 75+, Van Buren County has the highest rate of heart disease deaths (2,236.2), followed by Calhoun County (2,048.7) and Kalamazoo County (1,955.4).



Mortality: Cancer Death Rates

Indicator Definition/Overview: The underlying cause of death, which is cancer, giving rise to the chain of events leading to death. Rates are age-adjusted and per 100,000 population.

Cancer Death Rates, 2013



Overview:

- Michigan’s cancer mortality rate declined from 182.4 deaths per 100,000 in 2010 to 170.7 in 2013.
- Calhoun County’s cancer mortality rate declined from 205.4 in 2010 to 181.6 population in 2013.
- Kalamazoo County’s cancer mortality rate declined from 178.6 in 2010 to 158.5 in 2013.
- Van Buren County’s cancer mortality rate increased from 176.1 in 2010 to 190.8 in 2013.
- More Black adults have died from cancer than White.



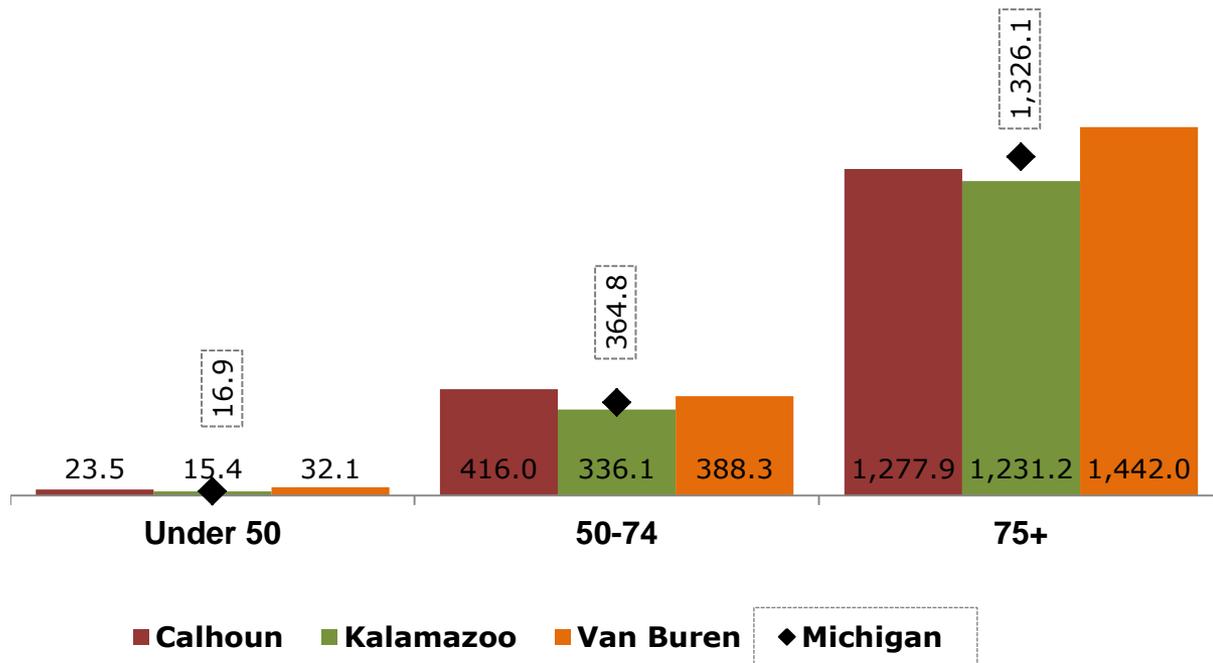
Source: 2013 Geocoded Michigan Death Registry, Division of Vital Records & Health Statistics, MDCH U.S. Division of Vital Statistics, 2013 Age-Adjusted Death Rates for Ten Leading Causes of Deaths.

* The data did not meet the standards of reliability or precision.

Mortality: Cancer Death Rate By Age Category

Indicator Definition/Overview: The underlying cause of death, which is cancer, giving rise to the chain of events leading to death by age category. Rates are per 100,000 population.

Cancer Death Rates by Age Category, 2013



Overview:

- Cancer mortality becomes more prevalent as one ages.
- For those aged 50-74, Calhoun County has the highest rate of cancer deaths (416.0), followed by Van Buren County (388.3) and Kalamazoo County (336.1).
- For those aged 75+, Van Buren County has the highest rate of heart disease deaths (1,442.0), followed by Calhoun County (1,277.9) and Kalamazoo County (1,231.2).

↓ Lower is better



Preventable Hospitalizations

Indicator Definition/Overview: Percent of all hospitalizations that were categorized as preventable. High rates of ambulatory care sensitive hospitalizations may be an indicator of a lack or failure of prevention efforts, a primary care resource shortage, poor performance of primary healthcare delivery systems, or other factors that create barriers to obtaining timely and effective care.

Leading Causes of Preventable Hospitalizations, 2013

Leading Cause	Michigan		Calhoun County		Kalamazoo County		Van Buren County	
	Rank	%	Rank	%	Rank	%	Rank	%
Congestive Heart Failure	1	13.1%	2	13.3%	1	13.0%	1	17.7%
Bacterial Pneumonia	2	10.4%	3	12.0%	2	12.1%	2	13.8%
Chronic Obstructive Pulmonary	3	9.8%	1	13.4%	3	8.4%	3	12.7%
Kidney/Urinary Infections	4	6.5%	5	6.5%	6	6.6%	4	6.5%
Cellulitis	5	6.5%	6	5.4%	5	6.6%	5	6.2%
Diabetes	6	5.9%	4	7.1%	4	7.0%	6	5.6%
Asthma	7	5.1%	7	3.1%	7	3.6%	7	3.6%
Grand Mal & Other Epileptic Conditions	8	3.2%	8	2.8%	8	2.5%	8	2.5%
Dehydration	9	2.0%	9	1.6%	10	1.4%	9	1.8%
Gastroenteritis	10	1.6%	10	1.3%	9	1.6%	10	1.1%
All Other		36.1%		33.4%		37.1%		28.6%
Preventable Hospitalizations as % of All Hospitalizations		20.1%		19.7%		18.7%		20.0%

Overview:

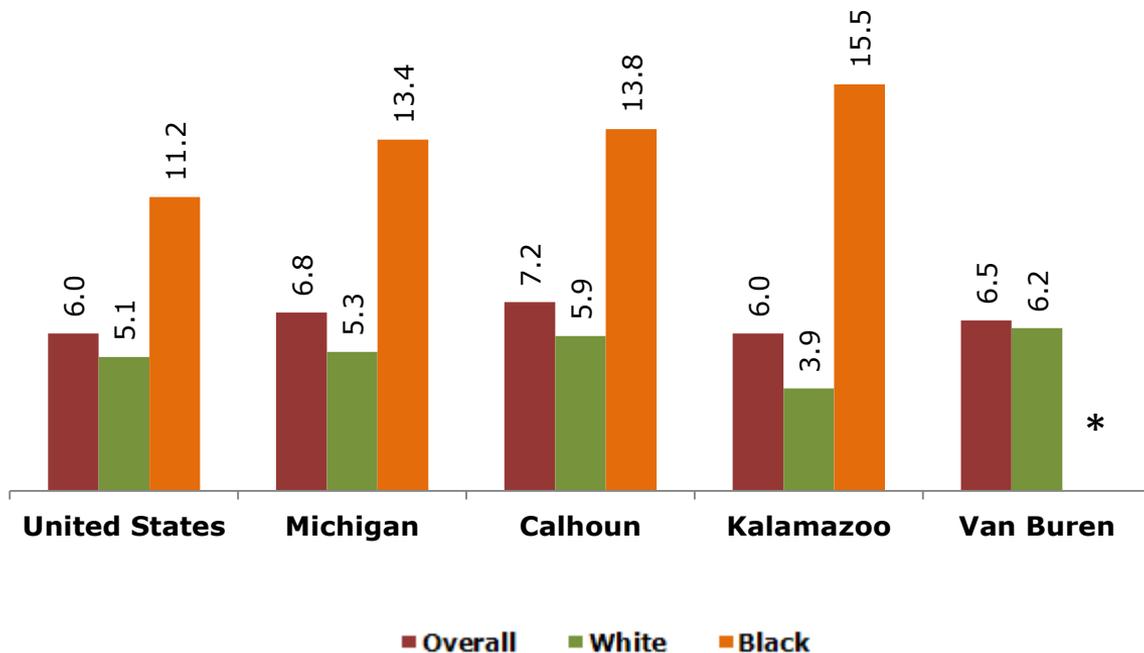
- The top three leading causes of preventable hospitalizations were the same in all regions.
- Calhoun's top leading causes of preventable hospitalizations are congestive heart failure - CHF (13%), chronic obstructive pulmonary (13%), and bacterial pneumonia (12%).
- Kalamazoo's top leading causes of preventable hospitalizations are CHF (13%), bacterial pneumonia (12%) and chronic obstructive pulmonary (8%).
- Van Buren's top leading causes of preventable hospitalizations are CHF (18%), bacterial pneumonia (14%) and chronic obstructive pulmonary (13%).



Infant Mortality

Indicator Definition/Overview: Infant mortality is a critical indicator of the overall health and welfare of Michigan and the quality and accessibility of prenatal care for women. The infant mortality rate represents the number of infant deaths before age one per 1,000 live births.

Infant Mortality, 2013



Overview:

- The infant mortality rate in Michigan (6.8) is higher than the U.S. (6.0).
- Calhoun County (7.2) has the highest infant mortality rate, followed by Van Buren (6.5) and Kalamazoo (6.0).
- There are more Black infant deaths than White in all regions.



Source: Michigan and County data: 3-year estimates (2011-2013 combined), Resident Death File. Vital Records & Health Statistics Section, Michigan Department of Community Health; Nation: 2013 only, National Vital Statistics Report (NVSR). * The data did not meet the standards of reliability or precision.

Infant Mortality – Leading Causes of Death

Indicator Definition/Overview: Leading causes of infant deaths before age one.

Infant Mortality, 2013

Leading Cause	Michigan		Calhoun Cty		Kalamazoo Cty		Van Buren Cty	
	Rank	%	Rank	%	Rank	%	Rank	%
Short gestation & unsp. low birth weight disorders	1	25.6%	1	18.2%	1	25.0%	1	50.0%
Congenital anomalies	2	23.3%	1	18.2%	2	20.8%	2	33.3%
Accident & adverse effects	3	13.1%	2	9.1%	3	12.5%	3	16.7%
Maternal complications of pregnancy	4	7.6%	1	18.2%	4	8.3%	0	0.0%
All other & ill-defines conditions from perinatal period	5	6.8%	2	9.1%	5	4.2%	0	0.0%
SIDS	6	4.5%	1	18.2%	2	20.8%	0	0.0%
Complications of placenta/ cord/ membranes	7	4.4%	0	0.0%	0	0.0%	0	0.0%
Infections specific to the perinatal period	8	3.2%	2	9.1%	0	0.0%	0	0.0%
Other resp. conditions of newborn	9	2.9%	0	0.0%	5	4.2%	0	0.0%
Respiratory distress of newborn	9	2.9%	0	0.0%	0	0.0%	0	0.0%
Neonatal hemorrhage	11	1.3%	0	0.0%	0	0.0%	0	0.0%
Intrauterine hypoxia & birth asphyxia	12	1.2%	0	0.0%	0	0.0%	0	0.0%
Pneumonia & influenza	13	1.0%	0	0.0%	0	0.0%	0	0.0%
Certain GI diseases	14	0.7%	0	0.0%	0	0.0%	0	0.0%
homicide	14	0.7%	0	0.0%	0	0.0%	0	0.0%
Remainder of infectious parasitic disease	16	0.4%	0	0.0%	5	4.2%	0	0.0%
Septicemia	17	0.3%	0	0.0%	0	0.0%	0	0.0%
Meningitis	18	0.1%	0	0.0%	0	0.0%	0	0.0%
Birth trauma	19	0.0%	0	0.0%	0	0.0%	0	0.0%
All other causes		16.1%	0	0.0%	4	8.3%	0	0.0%

Overview:

- Nearly half of Michigan's infant deaths resulted from short gestation and low birth weight disorders (26%) and congenital anomalies (23%).
- 67% of Kalamazoo's infant deaths resulted from short gestation and low birth weight disorders, congenital anomalies, and sudden infant death syndrome.
- 72% of Calhoun's infant deaths resulted from short gestation and low birth weight disorders, congenital anomalies, maternal complications, and sudden infant death syndrome.
- 83% of Van Buren's infant deaths resulted from short gestation and low birth weight disorders and congenital anomalies.

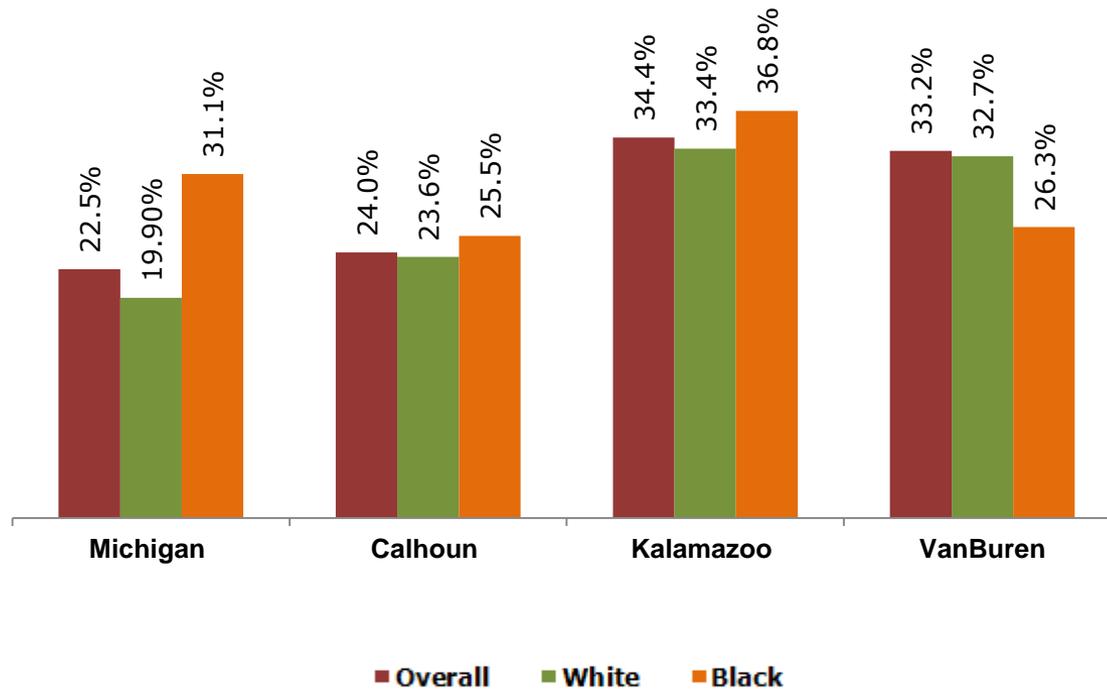
↓ Lower is better



Percent of Live Births by Level of Prenatal Care

Indicator Definition/Overview: The Kotelchuck Index is a two-factor index that utilizes two independent and distinct dimensions: Adequacy of Initiation of Prenatal Care and Adequacy of Received Services. Intermediate care is prenatal care begun by the 4th month and 50% to 79% of recommended visits were received and inadequate care is prenatal care begun after the 4th month or less than 50% of recommended visits were received.

Percent of Live Births by Combined Intermediate & Inadequate Care, 2013



Overview:

- The percent of live births from mothers that received intermediate or inadequate care in Michigan is 23%.
- Calhoun County’s percent of live births from mothers that received intermediate or inadequate care is 24%.
- Kalamazoo County’s percent of live births from mothers that received intermediate or inadequate care is 34%.
- Van Buren County’s percent of live births from mothers that received intermediate or inadequate care is 33%.

 **Higher is better**



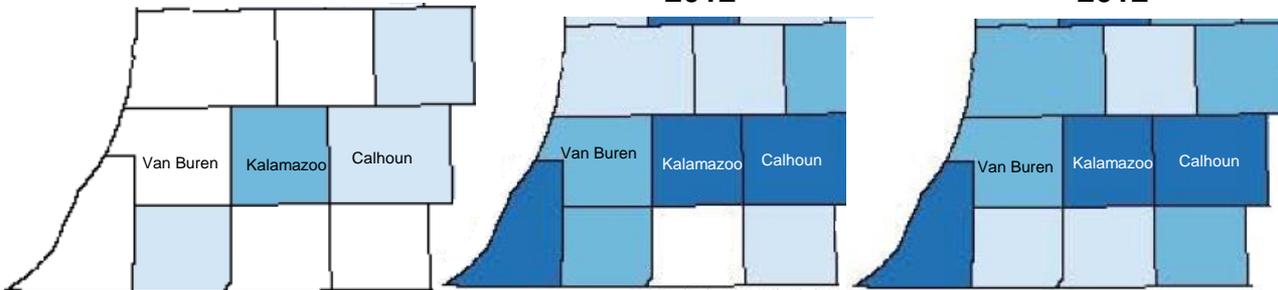
Sexually Transmitted Diseases Prevalence

Indicator Definition/Overview: The rate (per 100,000) people who have chlamydia, gonorrhea and/or primary and secondary syphilis.

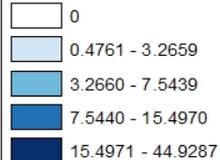
Incidence of Syphilis 2012

Incidence of Gonorrhea 2012

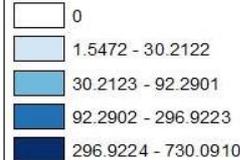
Incidence of Chlamydia 2012



Incidence per 100,000 people (Census 2010)



Incidence per 100,000 people (Census 2010)



Incidence per 100,000 people (Census 2010)



Overview:

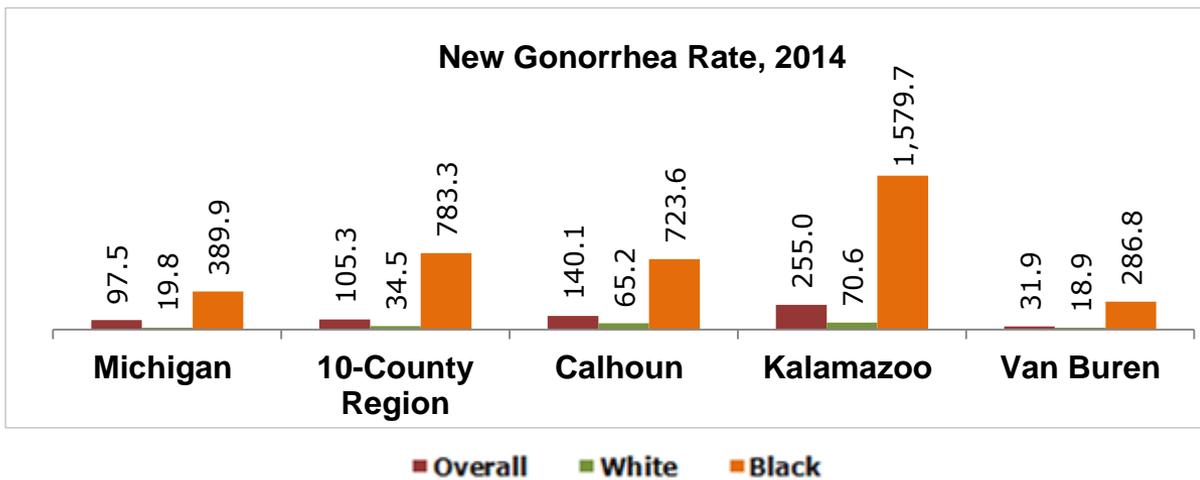
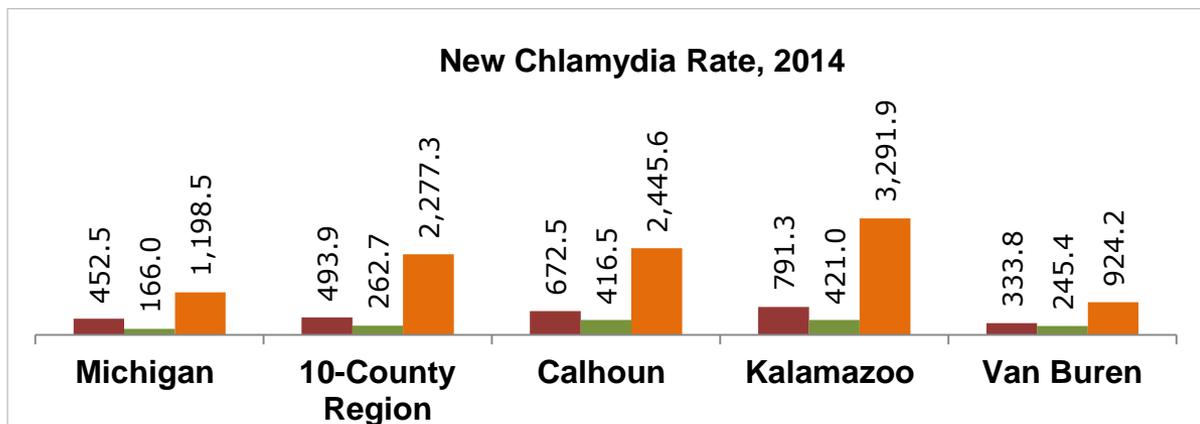
- Since 2008, reporting of primary and secondary cases of syphilis has increased. From 2012, 295 cases were reported. The majority were male (90%). Two-thirds of the cases were African American (67%).
- Michigan reported 12,770 cases of gonorrhea in 2012. The majority were in women (59%) and young adults (age 15–19 years 28%; age 20–24 years 36%). Over one-half of cases were African American (55%).
- 2012 Chlamydial infections totaled 48,727 cases. Cases were primarily female (73%) and found to be in persons 15–19 years of age (36%) and 20–24 years (39%). African Americans (38%) and Caucasians (25%) had the highest incidence of disease.

Lower is better



Newly Diagnosed Sexually Transmitted Disease Rate

Indicator Definition/Overview: The rate (per 100,000) people who were diagnosed with chlamydia and gonorrhea in 2014.



Overview:

- The rate of new chlamydia cases in Michigan is 452.5, compared to Kalamazoo (791.3), Calhoun (672.5) and Van Buren (333.8). New chlamydia diagnosis cases are more prevalent in Black than White.
- The rate of new gonorrhea cases in Michigan is 97.5, compared to Kalamazoo (255.0), Calhoun (140.1) and Van Buren (31.9). New gonorrhea diagnosis cases are more prevalent in Black than White.

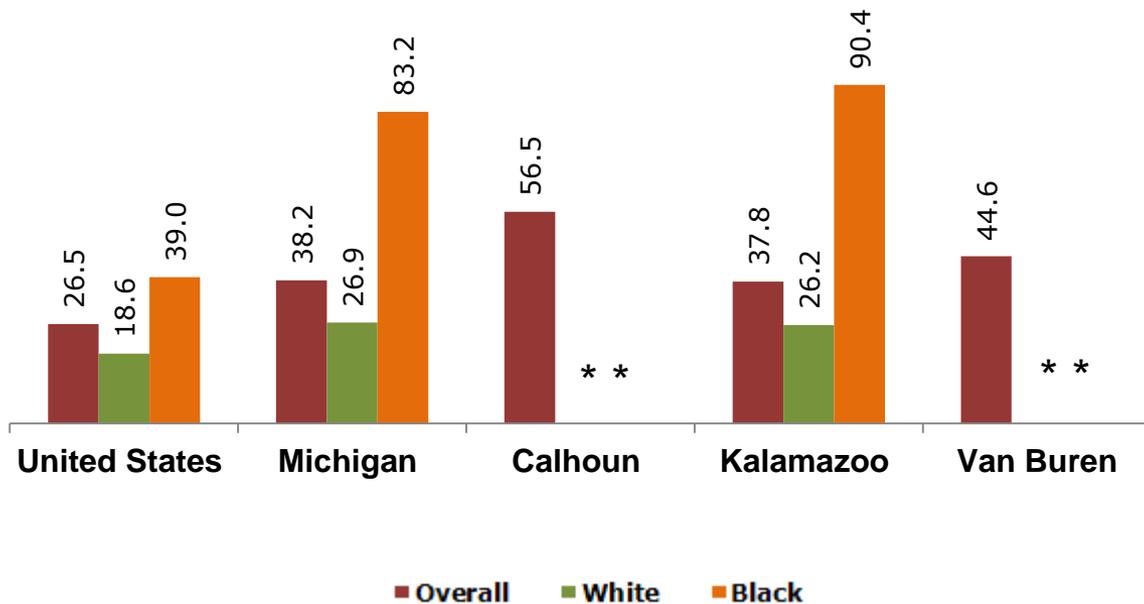


Source: Michigan Department of Community Health, Bureau of Disease Control, Prevention and Epidemiology, new diagnoses data are cases diagnosed in 2014.

Teen Pregnancy

Indicator Definition/Overview: The sum of live births. Rates are per 1,000 women, aged 15-19.

Teen Pregnancy Rate, 2013



Overview:

- Michigan’s teen pregnancy rate (38.2) is higher than the U.S. (26.5).
- Calhoun County has the highest teen pregnancy rate (56.5) followed by Van Buren County (44.6) and Kalamazoo County (37.8).
- In Michigan and the U.S., the teen pregnancy rate is higher among Black teens compared to White.
- Kalamazoo County’s rate of Black teen pregnancy is (90.4) compared to White (26.2).

↓ Lower is better



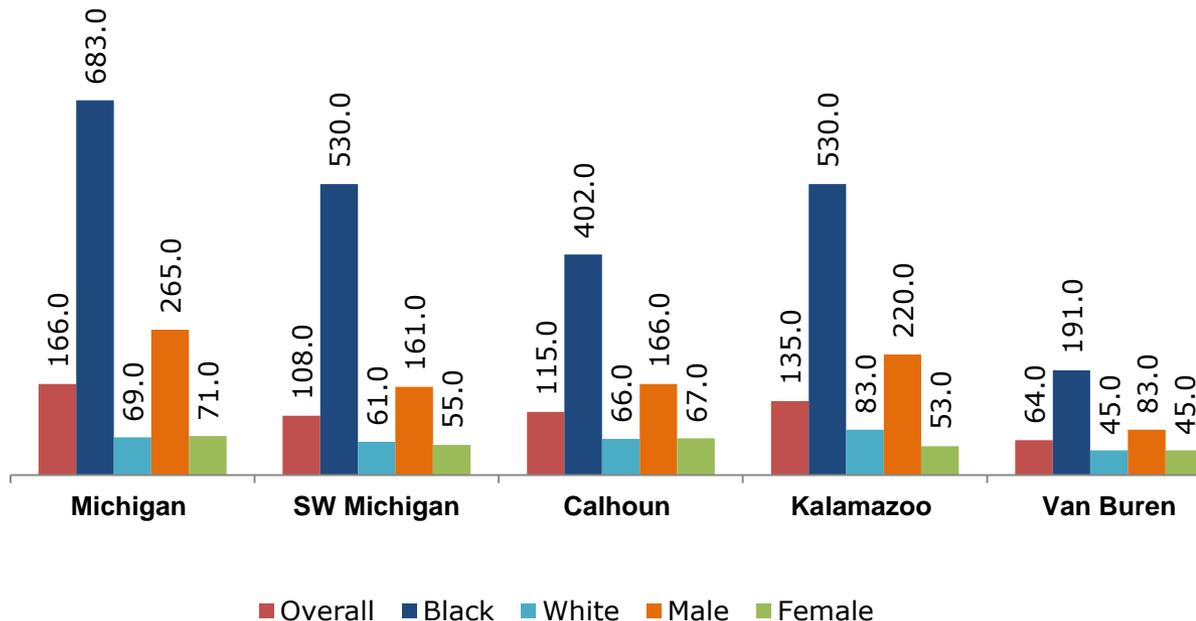
Sources: National: U.S National Vital Statistics, Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, 2013; State and County: 2013 State Natality Tables MDCH by county.

* Data is not available as it did not meet standards of reliability or precision.

HIV Prevalence Rate

Indicator Definition/Overview: Reported cases diagnosed with HIV infection while residents of Michigan, regardless of current residence, which is the national standard established by the CDC. Rates are per 100,000 people.

HIV Prevalence Rate in Michigan, 2014



Overview:

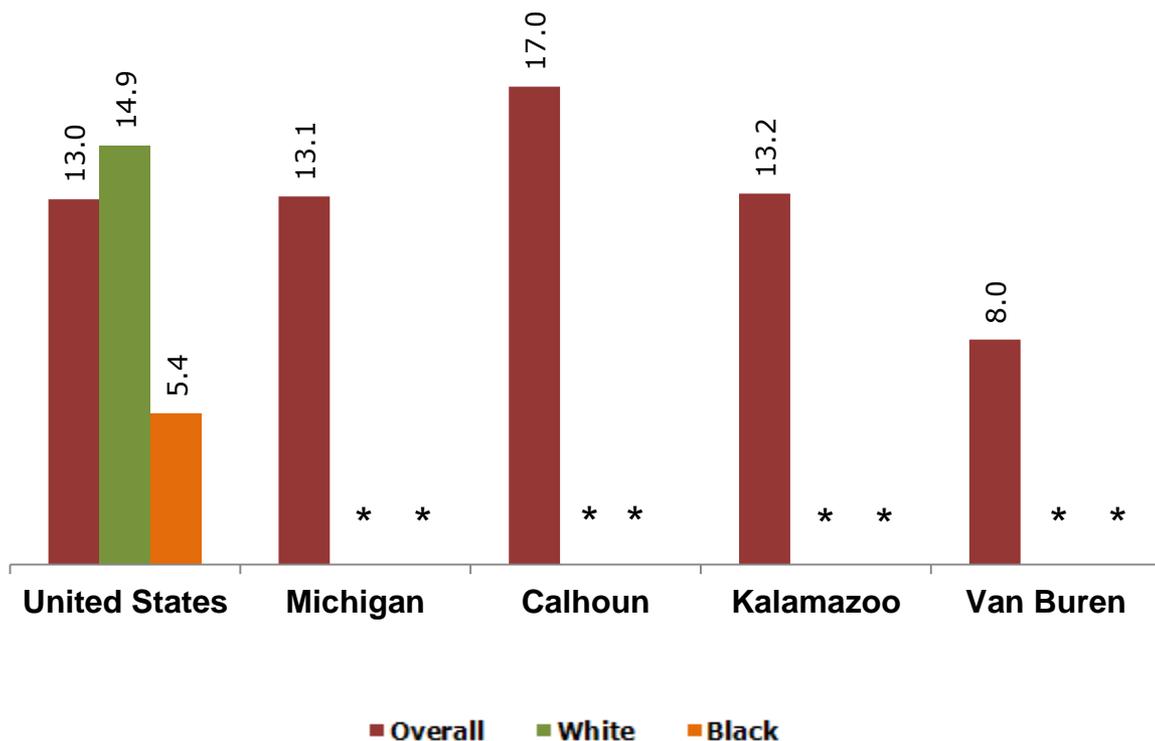
- Michigan's HIV prevalence rate is 166.0. The prevalence is higher among the Black population (683.3) and males (264.5).
- Calhoun's HIV prevalence rate is 114.9. The prevalence is higher among the Black population (402.0) and males (165.5).
- Kalamazoo's HIV prevalence rate is 134.8. The prevalence is higher among the Black population (530.0) and males (220.1).
- Van Buren's HIV prevalence rate is 63.8. The prevalence is higher among Blacks (191.2) and males (83.3).



Suicide, All Ages

Indicator Definition/Overview: The rate of intentional self-harm (suicide). Rate are per 100,000 population and age-adjusted.

Age-Adjusted Intentional Self-Harm (Suicide) Death Rate, 2013



Overview:

- The rate of death that were intentional self-harm (suicide) is about the same in Michigan (13.1) and the U.S. (13.0)
- Calhoun County has the highest suicide death rate (17.0) followed by Kalamazoo County (13.2) and Van Buren (8.0).
- In the U.S., the suicide death rate is higher among White people compared to Black.

↓ Lower is better



Sources: 2013 Michigan Death Certificate Registry, Division of Vital Records.

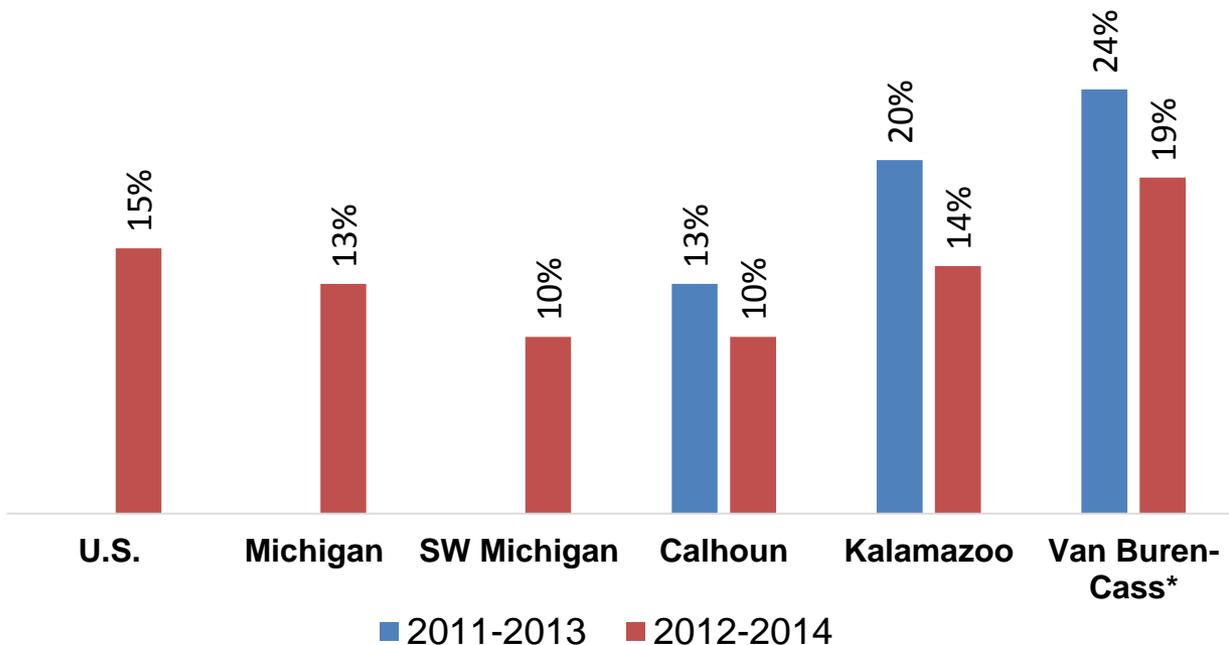
* Data is not available.

Access to Health Care

No Health Care Coverage

Indicator Definition/Overview: The proportion of adults (aged 18-64) who reported having no health care coverage, including health insurance, prepaid plans such as HMOs, or government plans, such as Medicare.

No Health Care Coverage



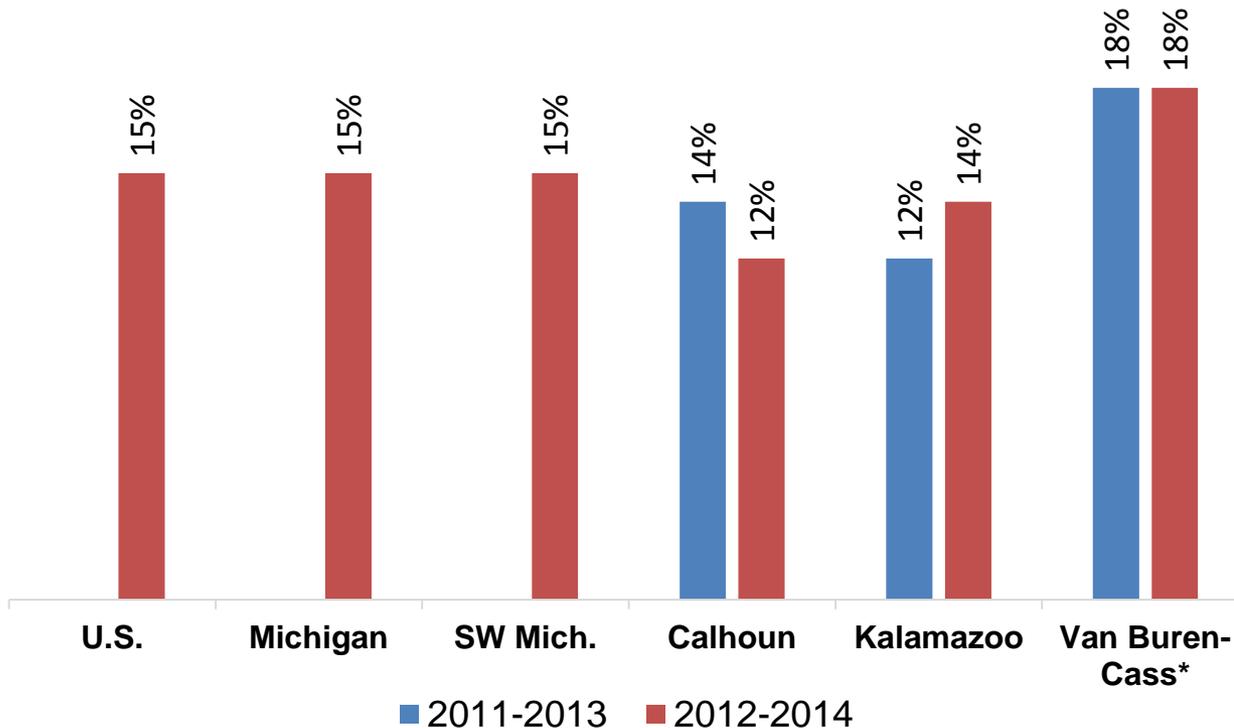
Overview:

- From the previous years' estimate, the adults reporting no coverage fell in all counties with Kalamazoo county representing the greatest reduction.
- No health care coverage remains highest in Van Buren Cass (19%) followed by Kalamazoo (14%) and Calhoun (10%).

No Health Care Access During Past 12 Months Due to Costs

Indicator Definition: The proportion of adults who reported they did not access health care during the past 12 months due to costs.

No Health Care Access During Past 12 Months Due to Costs



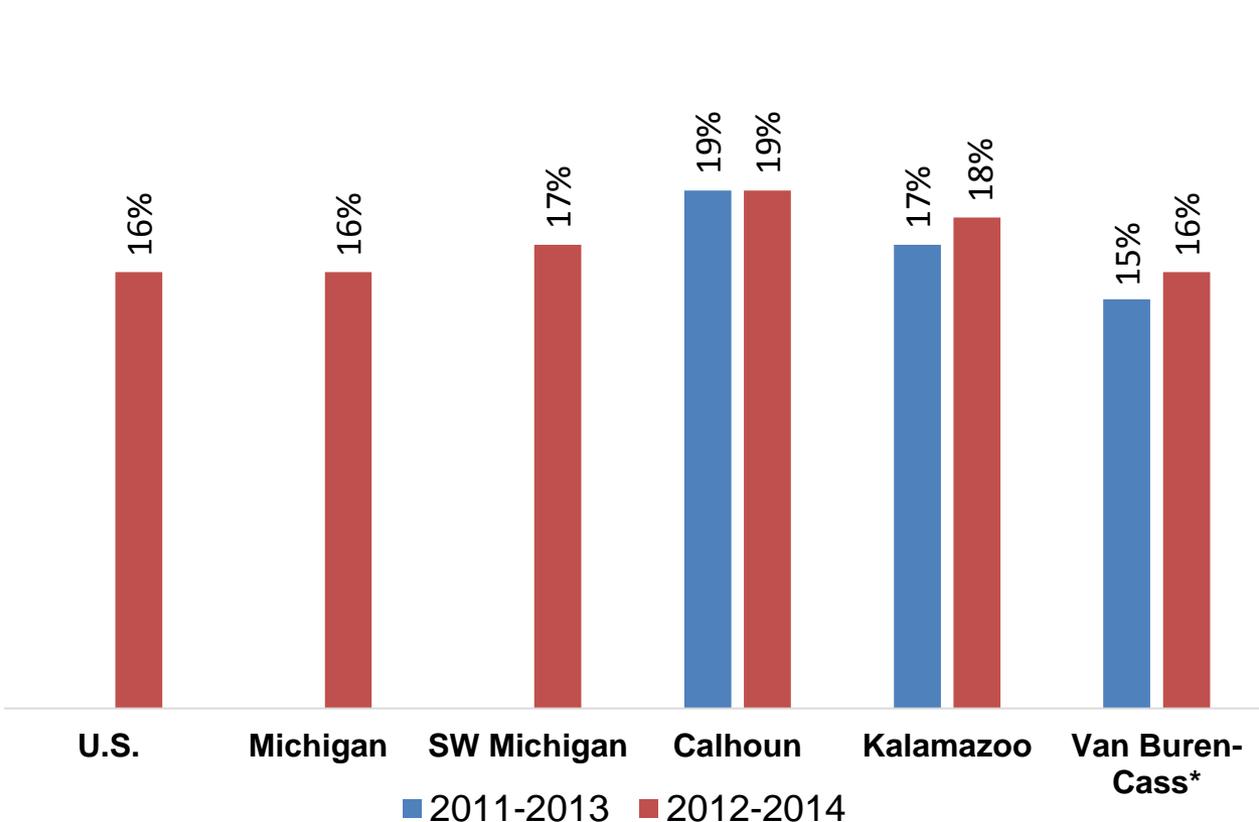
Overview:

- 14-15% of U.S., Michigan, Southwest Michigan, and Kalamazoo County adults did not access health care during the past 12 months due to costs
- Van Buren County has the highest proportion (18%) followed by Kalamazoo (14%) and Calhoun (12%) of adults that did not access health care during the past 12 months due to costs.

No Personal Doctor or Health Care Provider

Indicator Definition: The proportion who reported that they did not have anyone that they thought of as their personal doctor or health care provider.

No Personal Doctor or Health Provider



Overview:

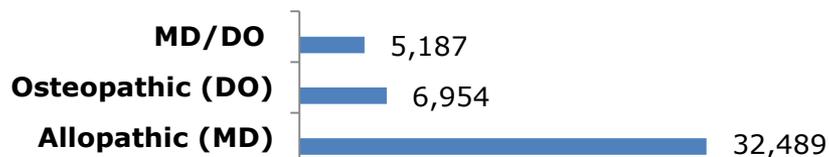
- 16% of U.S. and Michigan adults do not have personal doctor or health care provider.
- SW Michigan, Calhoun, Kalamazoo, and Van Buren-Cass counties have a similar proportion of adults that did not have a personal doctor or health care provider, ranging from 16-19%.

Sources: Michigan Department of Community Health, combined 3-year estimates (2011-2013,2012-2014), 2014 MiBRFS Tables and CDC 2014 BRFSS. SW Michigan consists of the following Michigan counties: Van Buren, Kalamazoo, Calhoun, Berrien, Cass, St. Joseph and Branch. *Van Buren-Cass includes both counties that share a local health department.

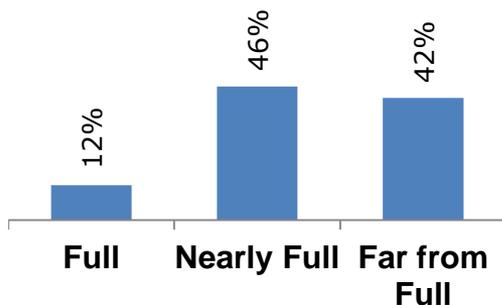
Physician Capacity, Michigan

Indicator Definition: Michigan physician supply is based on the number of physicians licensed in the state of Michigan. Active physicians include physicians that are providing patient care in Michigan or working in Michigan with no time in patient care.

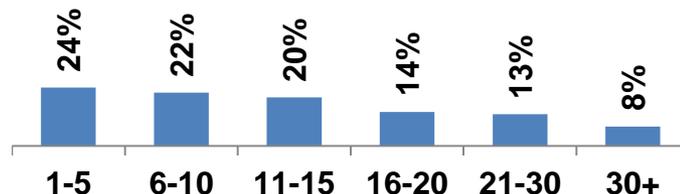
Michigan Physician Supply, 2012



Practice Capacity of Active Physicians, 2012



Active Physician Plans to Continue Practicing (Years), 2012



Overview:

- The total number of physicians licensed in Michigan was 44,717. Of these, 71% are active.
- About 12% of physician practices are full and not accepting any new patients; 46% are nearly full and are only accepting a few new patients and 42% is far from full and can accept many new patients.
- 46% of active physicians plan to practice medicine for only one to ten more years. About 21% of active physicians plan to continue practicing medicine for 21 or more years.

Section 3

Primary Data Analysis

- Community Survey
- Focus Groups
- Key Informant Interviews

Community Health Needs Survey Methodology

Bronson conducted a survey from December 2015 to September 2016. Area residents were notified of the survey's availability in a variety of ways including: news release to media outlets, a link on Bronson Healthcare's website (www.bronsonhealth.com) and employee intranet, and information provided to community organizations.

Respondents accessed the survey via the website link or via a hard copy format. Respondents were asked a series of questions pertaining to health needs and barriers to accessing quality healthcare in their community. The results are based on 3,190 completed surveys. Note that the results are based on a self-selected sample of respondents and may not be fully representative of the population. Results were analyzed regionally and by county. Results are presented regionally unless differences were noted through county analysis.

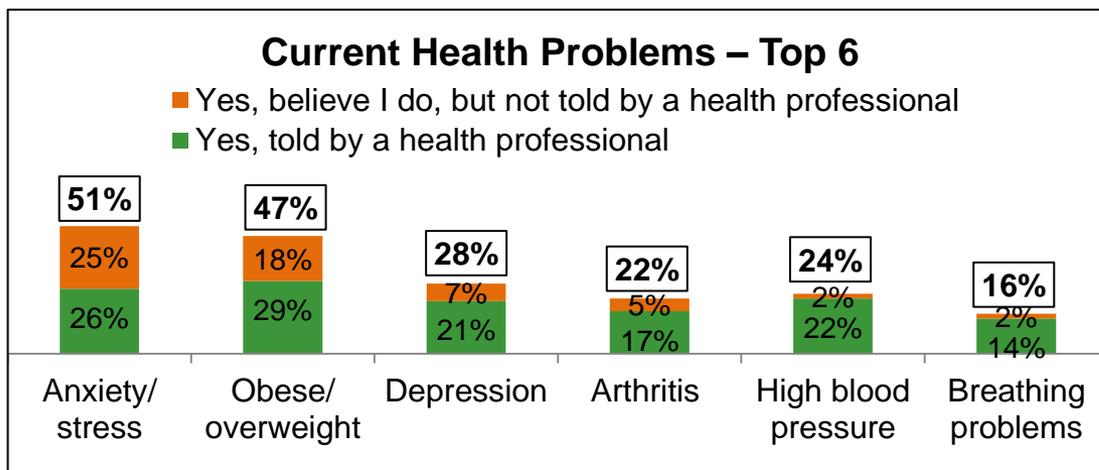
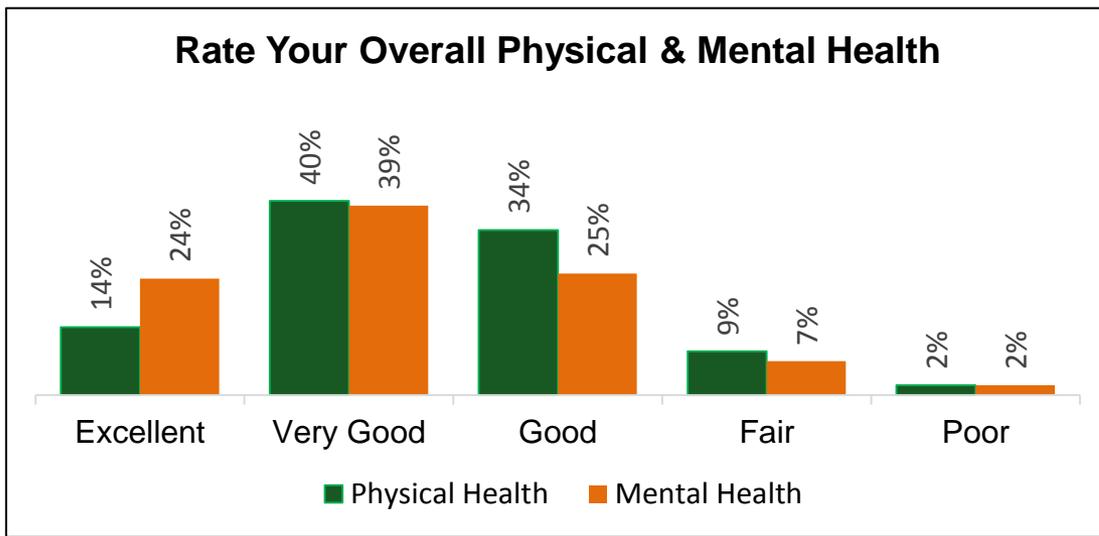
Electronic Link Circulation (Organizations where electronic survey was promoted)

- Diversity & Inclusion Council
- KPEP
- Salvation Army
- Van Buren Human Services Council
- Van Buren Great Start Collaborative
- Kalamazoo COC
- United Way
- Kalamazoo Mental Health & Substance Abuse
- Vine Neighborhood Association
- The Coordinating Council
- Battle Creek Health Foundation
- Battle Creek Regional Health Alliance
- Van Buren Community Mental Health Employees
- Bronson Battle Creek Hospital
- Bronson Methodist Hospital
- Bronson Lakeview Hospital
- Oaklawn Hospital
- Portage Library
- Loaves & Fishes
- Douglass Center

Paper Survey Circulation (Organizations who distributed and collected paper surveys)

- Battle Creek Medical Leadership Team
- Catholic Charities
- Community Healing Center
- Community Healthcare Connections
- Comstock Community Center
- Fountain Center
- Kalamazoo Family Health Center
- Kalamazoo Gospel Mission
- Prevention Works
- Salvation Army
- Samaritas
- Senior Services
- SHARE Center
- Summit Pointe
- The Coordinating Council
- Urban League
- Valley Family Church
- Van Buren Community Mental Health Consumers
- YMCA

Community Health Needs Survey Highlights



1. Overall Health

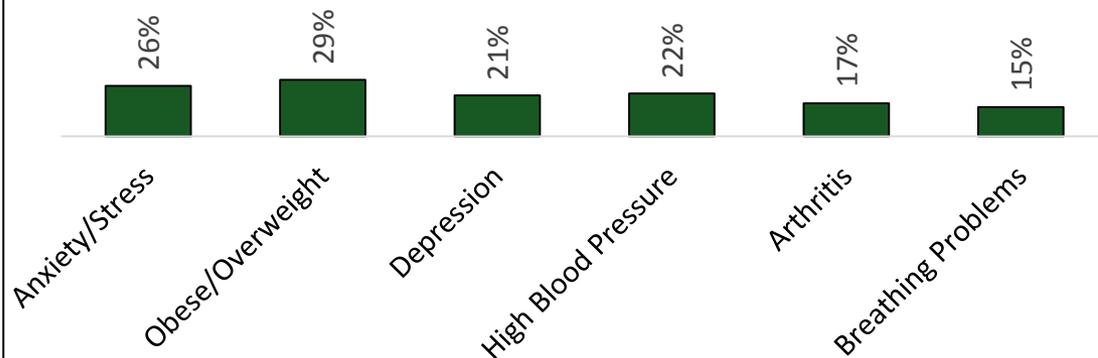
- 11% of respondents rated their physical health as fair or poor and 54% as very good or excellent.
- 9% rated their mental health as fair or poor and 63% health as excellent or very good.

2. Current Health Problems

- Respondents were asked to identify current health problems, including problems diagnosed by a care provider and those they believe they have but have not been diagnosed by a provider.
- 51% of respondents indicated anxiety/stress as a current health problem, followed by weight problems (47%), depression (28%), arthritis (22%), high blood pressure (24%), and breathing problems (16%)

Community Health Needs Survey Highlights

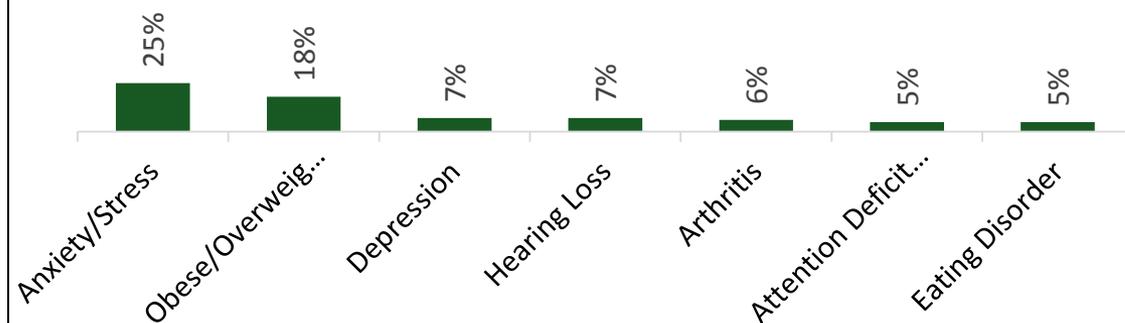
Current Health Problems – “Yes, I was told by a health profession”



Current Health Problems cont.

- Diagnosed health problems mirrored the combined list with obese/overweight the health problem cited by the greatest percent (29%) of respondents.
- Undiagnosed health problems were the same as diagnosed for the top three responses, but included hearing loss (7%), arthritis (6%), attention deficit disorder (5%) and eating disorder (5%), problems that were not in the top six cited on the diagnosed and undiagnosed combined lists.

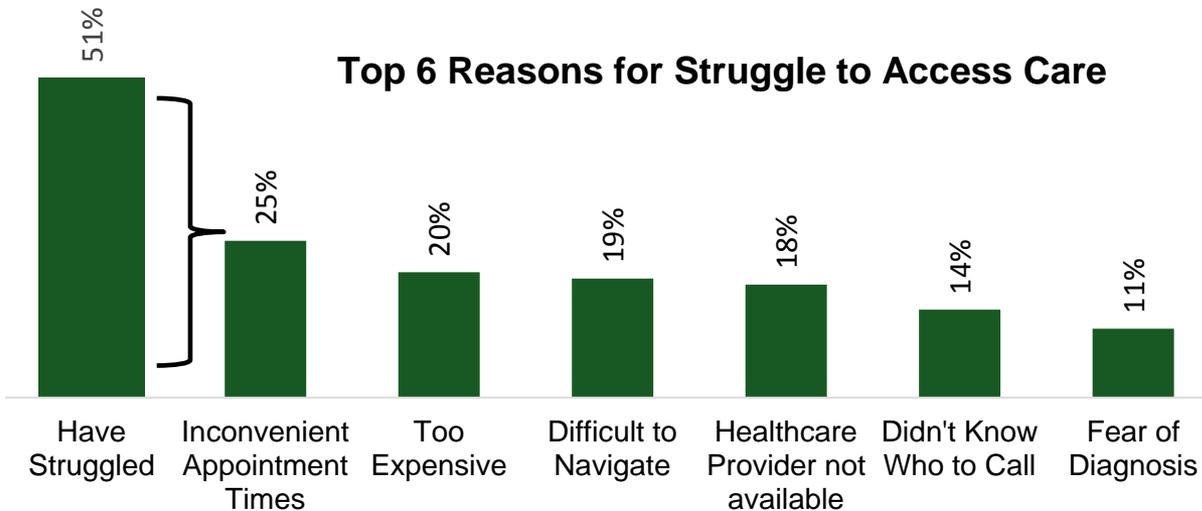
Current Health Problems – “I believe I have this but not told by a health professional”



Community Health Needs Survey Highlights

Have Struggled to Access Healthcare – Kalamazoo County

Top 6 Reasons for Struggle to Access Care



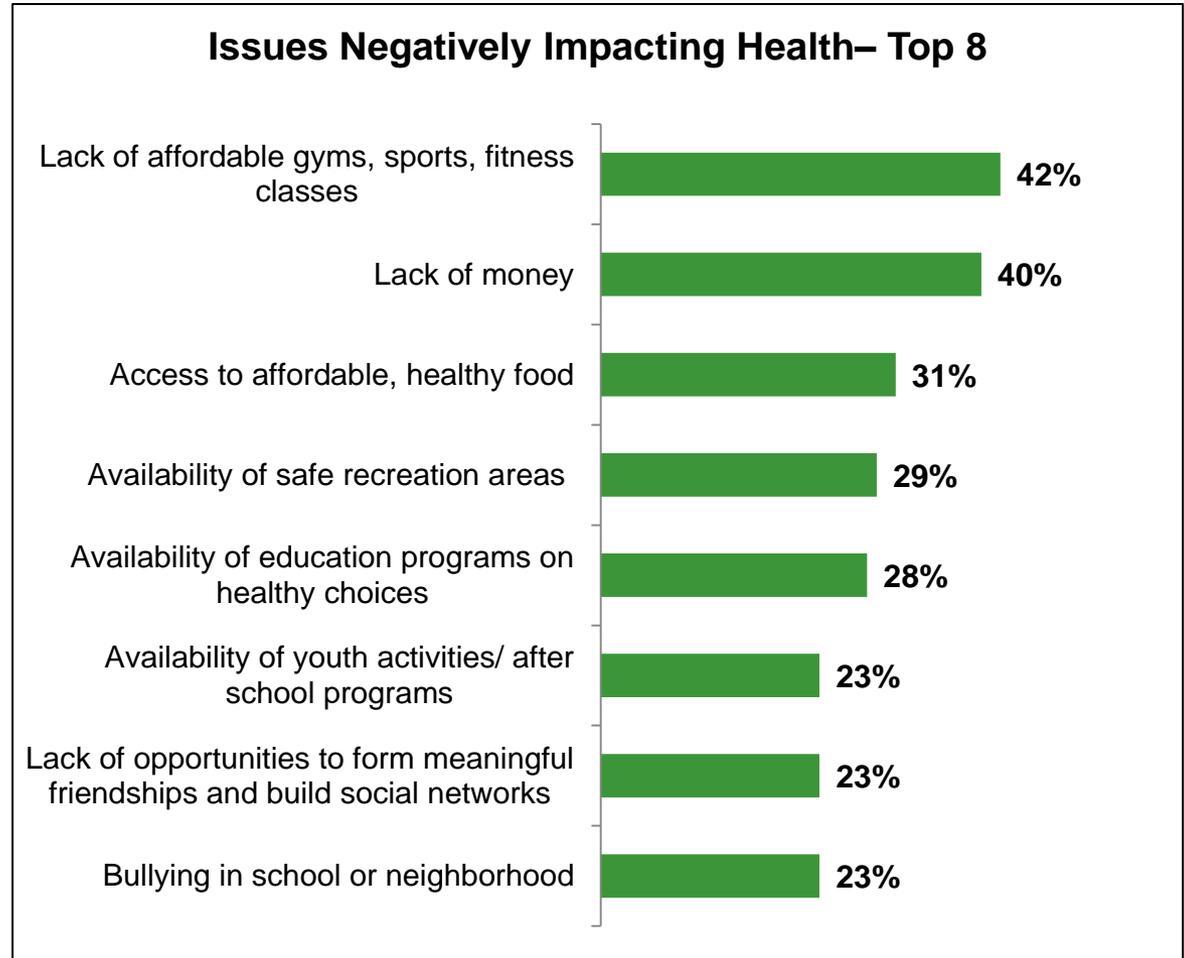
3. Accessing Healthcare

- Respondents were asked to identify the struggles they experienced when accessing healthcare.
- 51% of Kalamazoo County respondents indicated they have struggled to access care.
- The top reasons include: inconvenient appointment times, too expensive, difficult to navigate healthcare system, healthcare provider not available, and they didn't know who to call for help.
- Fear of diagnosis was the sixth most cited reason to not access care.

Community Health Needs Survey Highlights (continued)

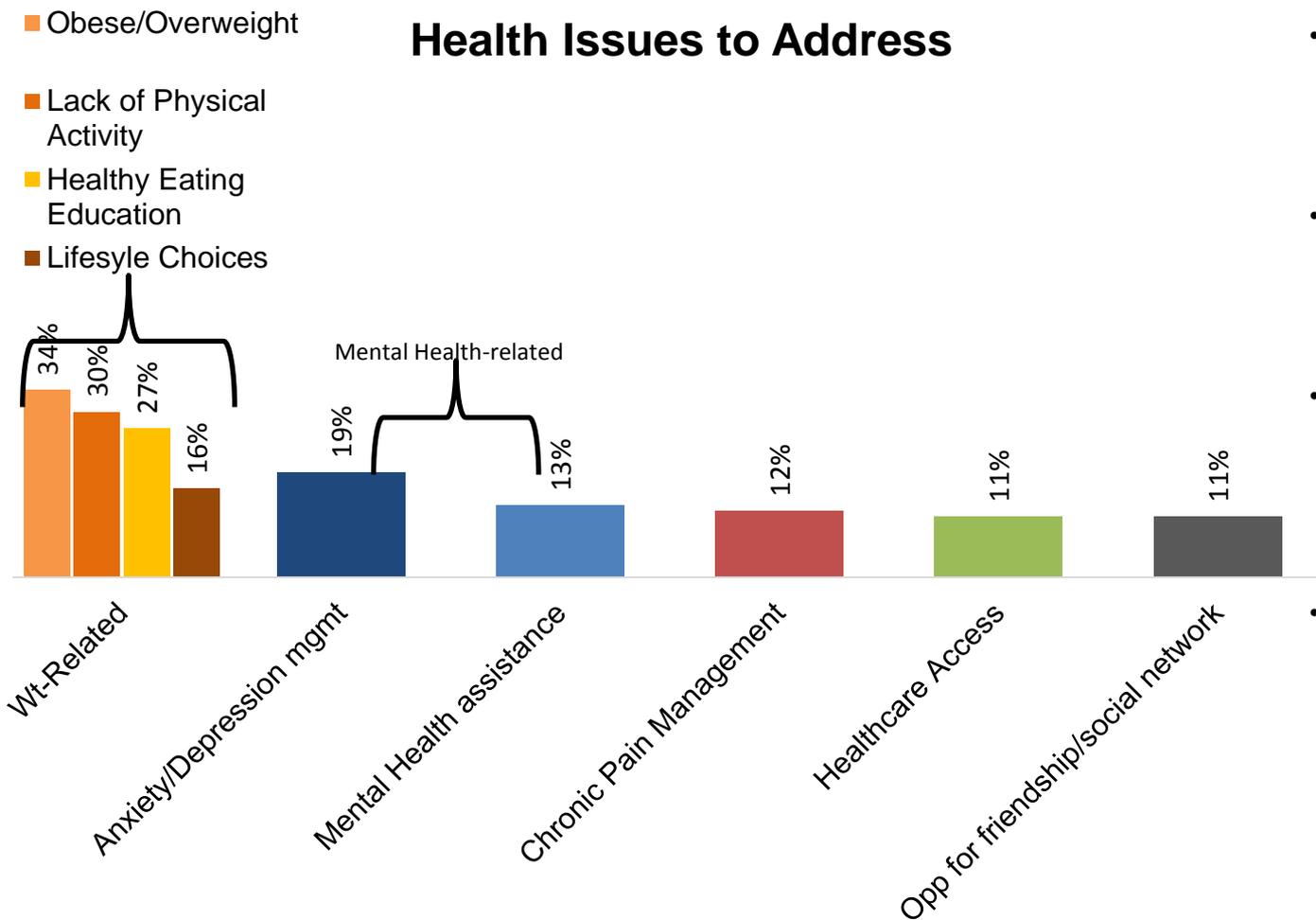
4. Issues Negatively Impacting Health

- Respondents were asked to select issues that negatively impact their health.
- Respondents indicated the lack of affordable gyms, sports, and fitness classes as the top issue (42%) that negatively impacted their health followed by lack of money (40%) and access to affordable, healthy food (31%).



Community Health Needs Survey Highlights

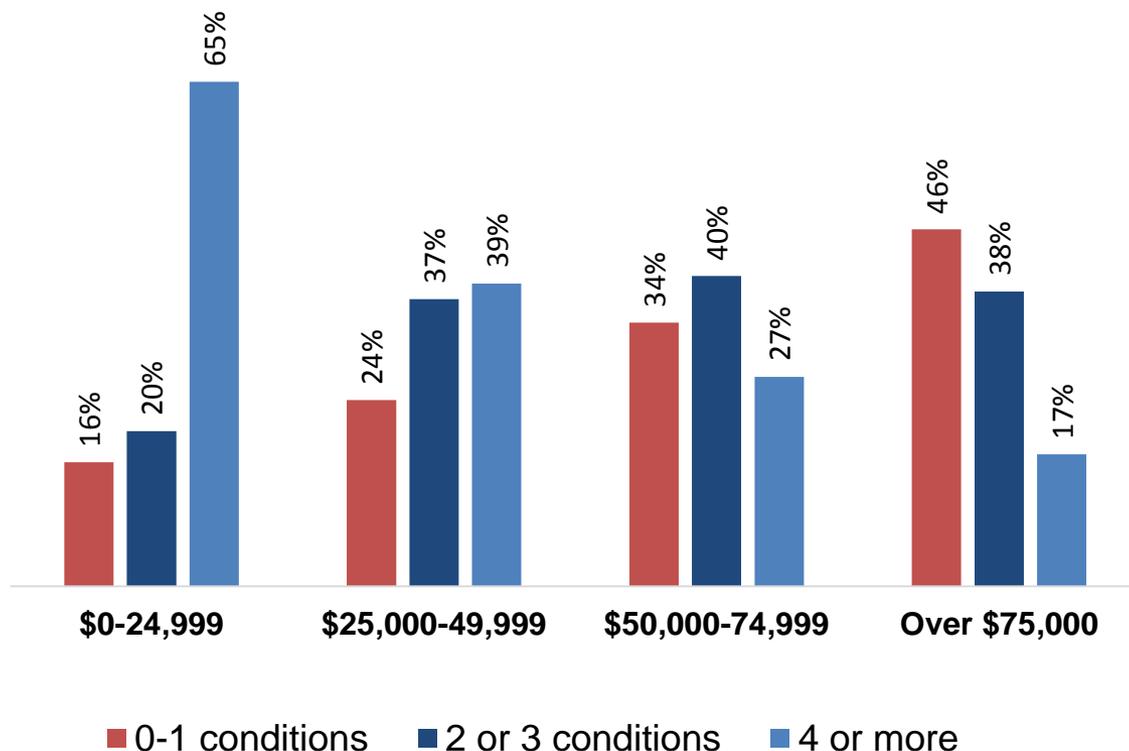
5. Health Issues to Address



- Respondents were asked to select up to 4 issues they believe need to be addressed to improve their health.
- Four of the top five most frequently selected answers were related to weight reduction and healthy lifestyle
- Mental Health related issues including anxiety and depression managements and mental health and behavioral assistance were priority issues selected.
- Chronic pain management, opportunities to build friendships and social networks, and healthcare access were highly ranked priority issues.

Community Health Needs Survey Highlights

Number Co-Morbid Conditions by Annual Household Income

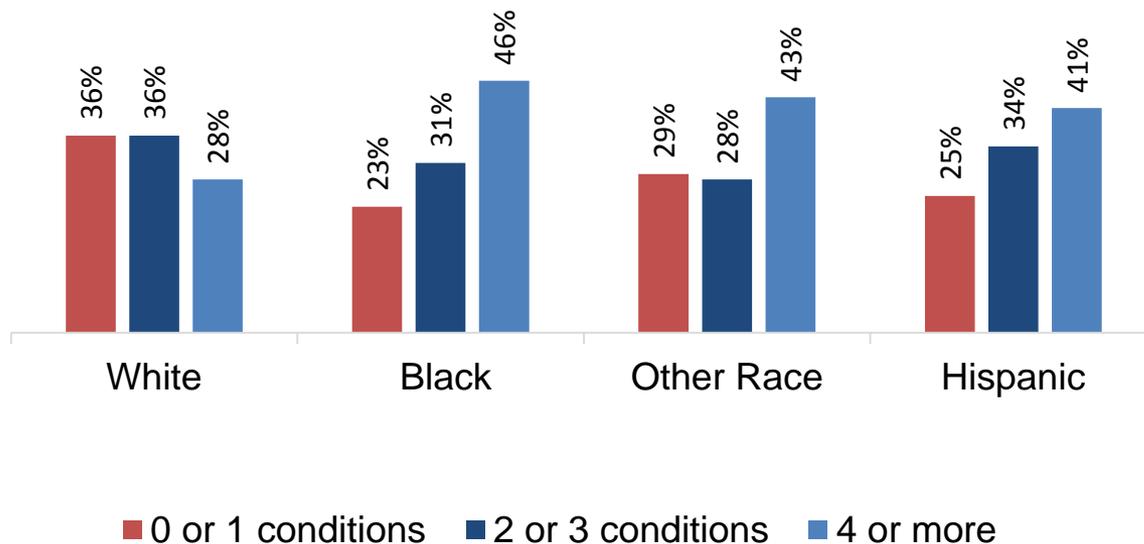


6. Health Disparity

- 65% of the survey respondents who reported incomes of less than \$25,000 also reported having four or more health conditions. 17% of survey respondents with incomes greater than \$75,000 reported four or more conditions.
- 46% of survey respondents who reported incomes greater than \$75,000 had 0-1 chronic conditions compared to 16% of those reporting less than \$24,999.

Community Health Needs Survey Highlights

Number Co-Morbid Conditions by Race/Ethnicity

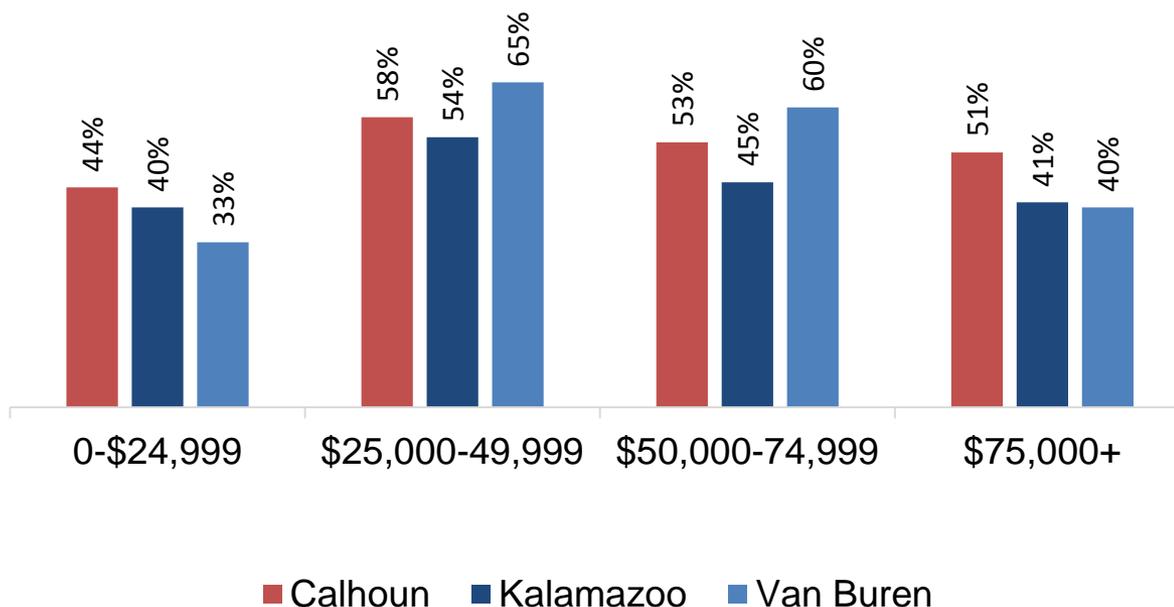


Health Disparity cont.

- The percent of respondents with four or more health conditions was the largest among Black (46%), Other Race (43%), and Hispanic (41%) respondents.
- Four or more conditions was the smallest category for Whites (28%).

Community Health Needs Survey Highlights

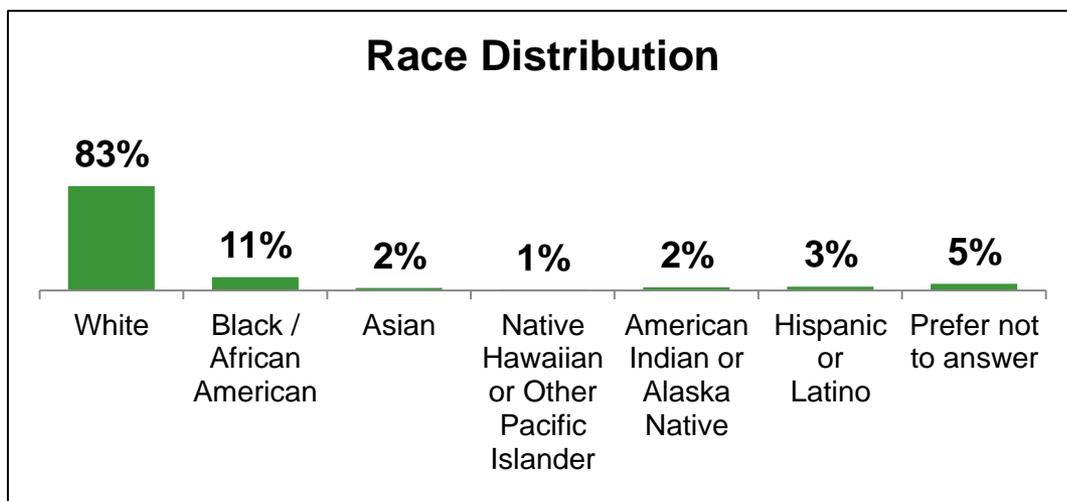
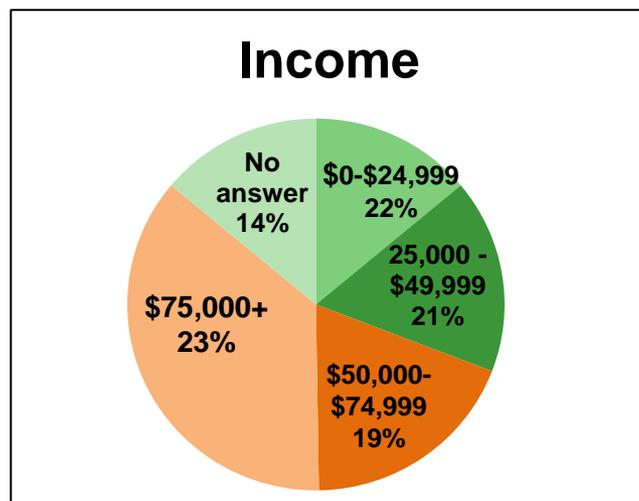
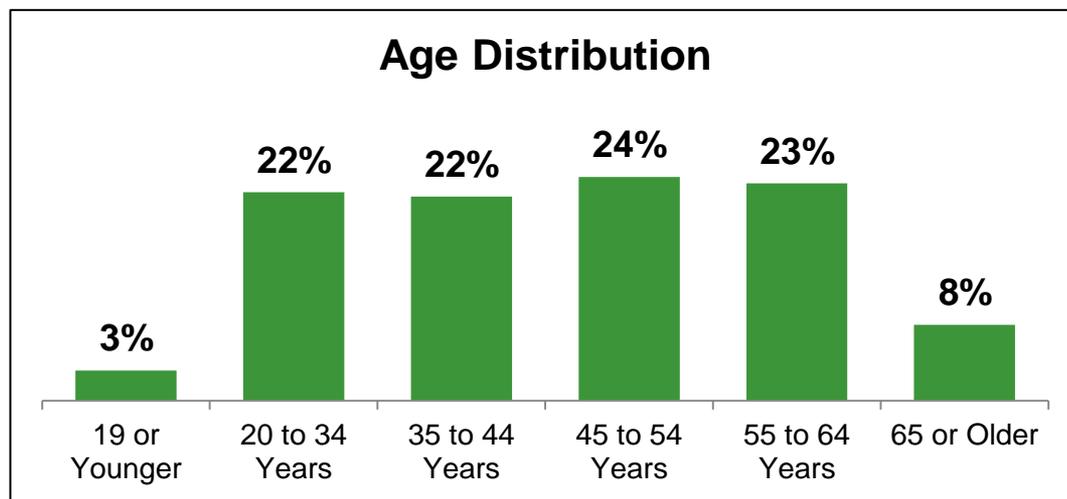
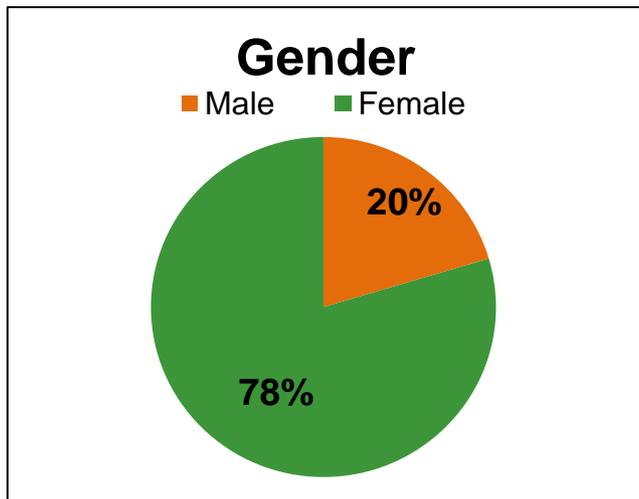
Percent Told by Provider They Are Overweight or Obese, by Household Income



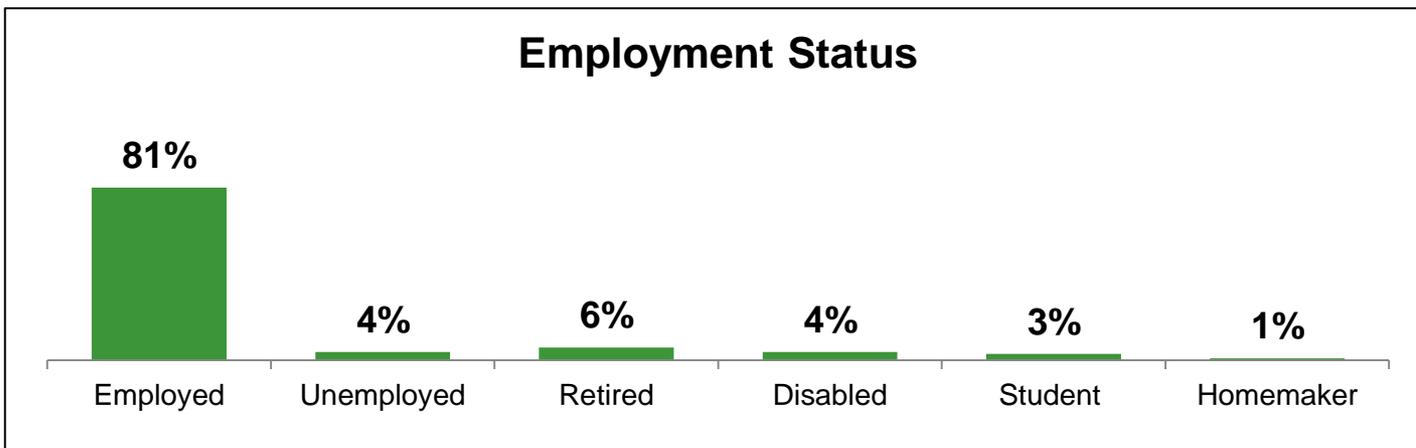
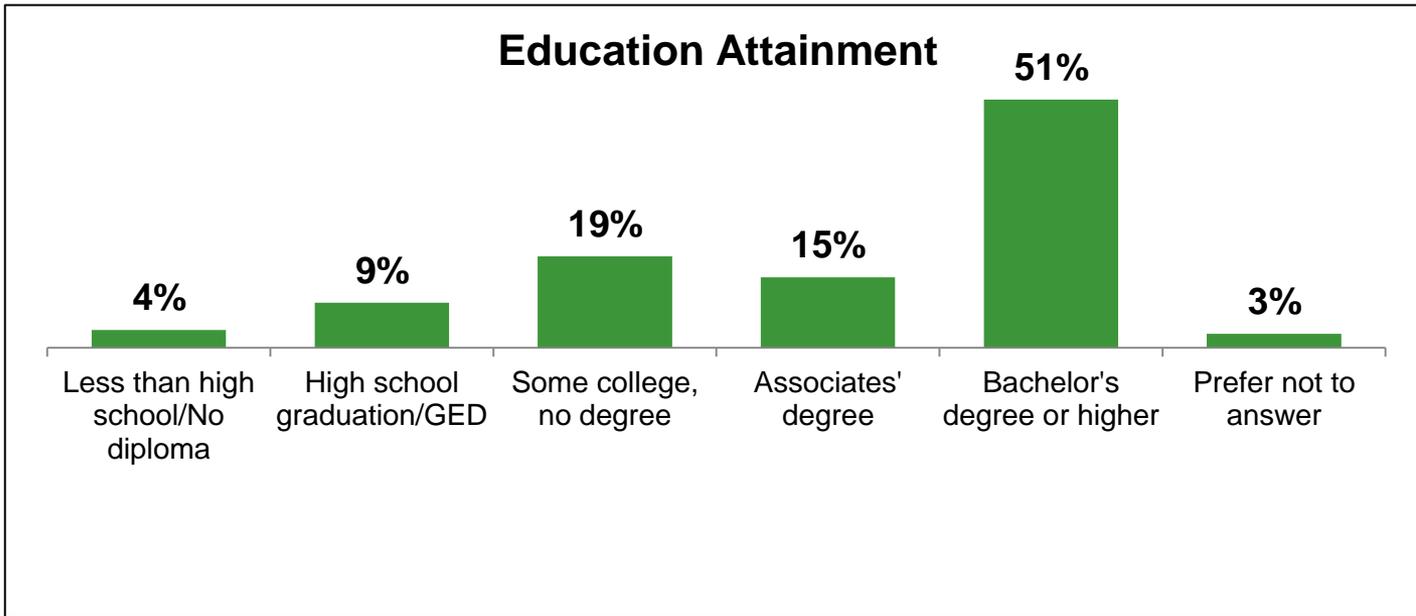
7. Overweight/Obesity

- Respondents with household income of \$25,000-49,999 made up the greatest proportion told they were overweight or obese for all counties, followed by respondents with income \$50,000-74,999.
- Those respondents with highest and lowest household income were least likely to report being told they are overweight or obese.

Community Health Needs Survey Demographics



Community Health Needs Survey Demographics



Focus Group Methodology

In an effort to gain deeper insight into community health needs, particularly among vulnerable populations, Bronson conducted a series of professionally and independently facilitated focus groups. A focus group is a form of qualitative research in which a group of people are asked about their perceptions, opinions and beliefs regarding an issue or issues of interest. The objectives of the focus group were:

- Gather information about the health needs of the community.
- Discuss the barriers and challenges that impact the health of the community.
- Explore opportunities to improve the health of the community.

Participants were identified and invited to focus groups with the assistance of agencies that work with community members with an effort to have broad representation inclusive of vulnerable populations.

- Older adults, seniors, and low income: Comstock Community Center
- Men with children: Fatherhood Network
- Intro to Disabilities 101 Class: Western Michigan University

The number of participants in each group averaged 18. The focus group discussions were facilitated by the Drumm Agency. At the beginning of each focus group, objectives were reviewed along with the role of the facilitator, ground rules, and how the information gathered will be used and shared. The discussion began with an ice-breaker question about what participants do to be healthy followed by a Strengths, Weakness, Opportunities and Threats (SWOT) interactive activity. Notes were taken as participants discussed their thoughts during the SWOT analysis. At the close, participants were asked to identify the 3 most important priority areas for future focus.

Focus Group: Summary of Results

The focus groups provided a wealth of information as to the strengths, weaknesses, opportunities, and threats related to achieving and maintaining positive health. Analysis of this data concluded that themes were common among the feedback of all groups with very little variation by region or targeted population.

Keys to Health

- Ability to read & write
- Accessible biking and walking paths
- Access to healthy food & farmers markets
- Cooking classes and education for parents
- Drinking appropriate amounts of water
- Education attainment
- Positive mental outlook
- Positive mental outlook
- Rewarding career and job prospects
- Social connections, spirituality, support systems, family ties and strong friendships
- Volunteering, giving of self, and opportunity to help others

Barriers to Health

- Affordable quality housing
- Coordination of care and management of medical expenses
- Gaps in insurance coverage related to vision, hearing, and prescription related services
- Lack of sufficient sleep
- Lifestyle related issues: procrastination, excessive screen time, poor eating habits, sedentary lifestyle, busy schedules
- Michigan weather preventing activity in the winter
- Transportation barriers-lack of public transport and safe, handicap-accessible walking paths and sidewalks
- Unhealthy relationships and lack of social and community connections

Key Informant Interviews Methodology

Key informant interviews assessed stakeholder perceptions of the county's health status and unmet needs. These interviews were intended to learn the opinions of individuals likely to be knowledgeable about the community.

13 key informant interviews were conducted between January 7, 2016 and January 31, 2016. . All interviews were conducted by Remnant Mwanahiba M.D. Interviewees were determined based on their a) specialized knowledge or expertise in public health, b) their affiliation with local government, schools and industry or c) their involvement with or knowledge of underserved and minority populations. In most instances, interviews were conducted at the interviewees' workplace. Questions used for interviews were informed by the questionnaire used by the National Association of County and City Health Officials.

All interviewees were asked to address the following questions:

- In a broad sense, how would you rate the health of Kalamazoo County?
- How does the health of the County now compare to the health in past years? If there has been a change what factors have contributed to the change?
- Is there a group/s of people that you feel may have worse health than others?
- What are the most pressing health concerns for Kalamazoo County?
- What needs to be done to improve the health of Kalamazoo County?
- What resources are available to help address the health challenges of the County?
- What barriers exist to improving the health of Kalamazoo County?
- What role do you feel your organization can play in improving the health of the County?

The key informant interviews were transcribed and key themes were identified for inclusion in this report.

Key Informant Interviews: Participants

Name	Title	Organization	Area of Knowledge/Population
Lisa Marshall	Director	Sindecuse Medical Center	College Students
Larry Schaffer	Manager	City of Portage	Portage City Residents
Grace Lubwama	CEO	YWCA	Vulnerable, Low Income, At-risk women, Minority
Rachel	Villanueva	Gospel Mission Homeless Shelter	Minority, Vulnerable, Homeless, Low-Income
Yasaman	Back	Kalamazoo Health Department	Epidemiology/ Kalamazoo county residents
Jeff Patton	CEO	KCMHSAS	Underserved, vulnerable, policy, public health
Gitti Rossi	Leader	Loy Norrix High School Childcare Center	Teen mothers and fathers
Dale Anderson	Owner	Confections with Convictions	Juvenile offenders
Lisa Fuller	CEO	Senior Services	Seniors, low income
Michelle Smith	Clinical Nurse Leader	Bronson Methodist Hospital Emergency Department	Medical, frequent users, low income, homeless
Dr. Bill Mayer	CEO	Federation Care Network	Public Health, Health Policy
Lisa Ailstock	Director, Student Health	Kalamazoo College	Health, college students
Thomas Harwood	Deputy Superintendent	KRESA	Education, K-12 Students

Key Informant Interviews: Key Themes

The key informant interviews were transcribed and key themes were identified for inclusion in this report.

- Improved collaboration among stakeholders is needed; less competition and more execution of planned strategies. There is a need for common, focused and evidence based collaborations to tackle the issues—there are numerous organizations in the community that could make an impact if they rallied around a common cause in a focused manner with measured outcomes.
- Sustained funding is needed for programs that have proven effective as opposed to 'pulling the plug' on funding once goals have been met; this leads to a recurrence of previously solved problems. Work needs to be done around sustainability of programs.
- Minority, low income populations, homeless individuals, and those suffering from mental health issues suffer from significant health disparities, work should be focused on root causes and reducing this disparity with a need for more cultural competence among health providers and staff on non-profit organizations. This includes a broader understanding of challenges facing these individuals with grace provided for missed appointment and lack of individual follow-up.
- There is a need to recruit more healthcare providers in the county--primary care physicians, specialist physicians, mental health providers and dental health practitioners. Regionally there is a need for more providers to accept Medicaid. There was also an identified need to diversify the healthcare workforce in the county so as to better reach out to minority populations.
- Employer buy-in is needed; employers need to see the benefit of promoting a healthier workforce by offering better insurance, allowing time off of work for doctor's visits etc., with the understanding that a healthier workforce is a more productive workforce--employers have to be viewed as part of a collaboration aimed at improving health and the overall well being of the region.
- Better care for the elderly and more options that allow elderly to stay in their homes as opposed to having to live in long term care facilities.
- Leaders in the community need to have the will to tackle, follow-through, and support through action community issues that are challenging the region.

Appendix

Appendix

- A. CHNA Report Methodology
- B. Health Terms Glossary, Data Sources and Limitations
- C. Health Facilities and Other Resources
- D. Acknowledgments

Appendix A

Appendix A: CHNA Report Methodology

Report Methodology

The following seven-step process was developed and used to conduct the assessment:

- 1. Plan and Prepare:** Determine who will participate in the assessment process, plan for community engagement, engage hospital board and executive leadership, determine how the community health needs assessment will be conducted, identify and obtain available resources, and develop a preliminary time line.
- 2. Determine Scope and Approach:** Determine the purpose and needs of the assessment, and revisit the resources and time line.
- 3. Define the Market Served:** Determine the targeted geographic market for the assessment. This was restricted to the county level since geographic distinctions, such as county lines, are more stable over time than ZIP code level market areas. The area, defined by county, represents where 50%+ of the hospital's patients reside (Section 1).
- 4. Collect Data:** Several publically available secondary resources and associated limitations were identified and used (see Appendix B). Primary research was obtained through interviews and focus group discussions (Appendix C).
- 5. Analyze Data:** Analyze and interpret the data, identify disparities, identify and understand causal factors.
- 6. Prioritize Needs:** Determine whether a need is significant based on analysis, apply prioritization criteria and identify health need(s) that will be addressed.
- 7. Document and Disseminate Results:** Write the assessment report that includes graphs displaying the data and disseminate results widely.

Appendix B

Appendix B: Health Terms Glossary, Data Sources and Limitations

Glossary of Select Health Terms

Angina/Coronary Artery Disease: A condition that reduces the blood flow through the coronary arteries to the heart muscle and typically results in chest pain or heart damage.

Arthritis: Inflammation of joints due to infectious, metabolic, or constitutional causes.

Asthma: A chronic lung disorder that is marked by recurring episodes of airway obstruction manifested by labored breathing accompanied especially by wheezing and coughing and by a sense of constriction in the chest, and that is triggered by hyperreactivity to various stimuli.

Cancer: Malignant tumor of potentially unlimited growth that expands locally by invasion and systemically by metastasis.

Chlamydia: A bacterium of the genus Chlamydia.

Diabetes: A variable disorder of carbohydrate metabolism caused by a combination of hereditary and environmental factors and usually characterized by inadequate secretion or utilization of insulin, by excessive urine production, by excessive amounts of sugar in the blood and urine, and by thirst, hunger, and loss of weight.

Gonorrhea: A contagious inflammation of the genital mucous membrane caused by the gonococcus.

Heart Attack: an acute episode of heart disease marked by the death or damage of heart muscle due to insufficient blood supply to the heart muscle usually as a result of a coronary thrombosis or a coronary occlusion and that is characterized especially by chest pain.

HIV: Any of several retroviruses and especially HIV-1 that infect and destroy helper T cells of the immune system causing the marked reduction in their numbers that is diagnostic of AIDS.

Psychoses: serious mental disorder (as schizophrenia) characterized by defective or lost contact with reality often with hallucinations or delusions.

Stroke: Sudden diminution or loss of consciousness, sensation, and voluntary motion caused by rupture or obstruction (as by a clot) of a blood vessel of the brain.

Syphilis: a chronic contagious usually venereal and often congenital disease that is caused by a spirochete of the genus Treponema (T. pallidum) and if left untreated produces chancres, rashes, and systemic lesions in a clinical course with three stages continued over many years.

Data Sources and Limitations

Section	Data Source	Data Year(s)	Data Limitations
1 Service Area	Michigan Inpatient Data Base (MIDB)	2014	No limitations identified
2 Demographics	U.S. Census Bureau, American Community Survey; http://www.census.gov/acs/www/	2011-2013 3-Yr Estimates	Data is based on a sample and are subject to sampling variability. 36 months of collected data (2011-2013) was used as it was more precise than 1-year, more current than 5-year and provided an opportunity to examine smaller geographies .
3 Social & Economic Factors	U.S. Census Bureau, American Community Survey; http://www.census.gov/acs/www/	2011-2013 3-Yr Estimates	Data is based on a sample and are subject to sampling variability. 36 months of collected data (2011-2013) was used as it was more precise than 1-year, more current than 5-year and provided an opportunity to examine smaller geographies .
	Michigan Coalition Against Homelessness and the US. Department of Housing and Urban Development	2015	Michigan Coalition Against Homelessness provides average daily census from when a person arrives to the agency to seek services. Counts are based on agency location. The average is based on three point-in-time samples taken in January, March and May 2015.
4 Environmental Factors	2015 County Health Rankings http://www.countyhealthrankings.org/#app/	Various by Question (2003-2013)	Data is based on a sample and are subject to sampling variability.

Data Sources and Limitations

Section	Data Source	Data Year(s)	Data Limitations
5. Health Risk Indicators - Adult	Michigan Department of Community Health: Michigan BRFSS Regional and Local Health Department Tables; http://michigan.gov/mdch/0,4612,7-132-2945_5104_5279_39424_39427-134707--,00.html	2011-2013 2012-2014	Used to obtain county-level data using 3-year combined dataset to maximize sample size. Not all questions were included annually. Estimates were adjusted for age, sex, and race at the state level. County level data by race, age and gender was not available.
	U.S. Data: Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data, http://apps.nccd.cdc.gov/BRFSS/	2014	Used to obtain National and Michigan data, overall and by race. Only annual data available.
6. Health Risk Indicators - Youth	Centers for Disease Control and Prevention. Youth Risk Behavior Survey, www.cdc.gov/yrbs	2013	The sample is designed to be representative of students in grades 9-12 in the U.S. and does not necessarily include students from every state. Caution should be used when analyzing race subgroups due to the small numbers. County-level identifiers are not available in the national data file.
	Michigan Profile for Health Youth (MiPHY), https://mdoe.state.mi.us/MIPHYADMIN/reports/CountyReport.aspx	2014-2015	The MiPHY was completed by 7, 9, and 11th grade students in Michigan and reflects student survey responses from high schools that voluntarily participated in a particular county and may not be representative of all high school students in the county. Race/ethnicity was assessed through use of questions taken directly from the CDC's Youth Risk Behavior Survey. Students can select more than one race option. Results of any category are suppressed if less than 10 valid student responses are available.

Data Sources and Limitations (continued)

Section	Data Source	Data Year(s)	Data Limitations/Notes	
7	Health Conditions	Michigan Department of Community Health, Bureau of Disease Control, Prevention and Epidemiology, custom report produced internally, not publically available.	2014	Counts and rates for specific counties by race and sex are not available (N/A) due to small cell numbers. Rates are not reported on <10 cases.
		Division for Vital Records and Health Statistics, Michigan Department of Community Health http://www.michigan.gov/mdch/0,4612,7-132-2944_4669--_00.html	2013	Some county-level data, overall and by race, was not available due to sample size. When possible, 3-year rates where used to improve reliability.
		Michigan Department of Community Health, Reportable Infectious Diseases in Michigan	2013-2015	Disease rates were calculated with population estimates provided by the US Bureau of Census. Only confirmed and probable cases of disease were included in the demographic statistics.
		National Vital Statistics, Division of Reproductive Health, National Center for Chronic Disease Prevention and Health http://www.cdc.gov/TeenPregnancy/AboutTeenPreg.htm	2013	None identified.
		2011 State Natality Tables MDCH by county, http://www.mdch.state.mi.us/pha/osr/Index.asp?Id=2&MainFile=MainNat.htm&BookMark=	2013	Race was not consistently available at the county level due to sample size.
8	Access to Health Care	Michigan Department of Community Health: Michigan BRFSS Regional and Local Health Department Tables; http://michigan.gov/mdch/0,4612,7-132-2945_5104_5279_39424_39427-134707--_00.html	2011-2013 2012-2014	Used to obtain county-level data using 3-yr combined dataset to maximize sample size. Not all questions were included annually. Estimates were adjusted for age, sex, and race at the state level. County level data by race, age and gender was not available.
		U.S. Data: Centers for Disease Control and Prevention (CDC). Behavioral Risk Factor Surveillance System Survey Data, http://apps.nccd.cdc.gov/BRFSS/	2014	Used to obtain National and Michigan data, overall and by race. Only annual data available; 2010 data not available for select measures. Not all questions matched the CDC BRFSS.
		Michigan Department of Community Health, Survey of Physicians, 2012 Findings.	2012	The responses include fully and partially completed surveys; this means that the sample size for individual variables will differ and the margin of error may change slightly.

Appendix C

Appendix C: Health Facilities and Other Resources

Michigan Health Care Resources

- [Free or Low Cost Primary Care from a Doctor or Nurse:](#) This section has information on primary care clinics that will help people with low income or no health insurance.
- [Free or Low Cost Mental Health Care:](#) This section can help you contact your local Community Mental Health Agency and other places offering mental health care.
- [Free or Low Cost Care from a Dentist:](#) This section has information on how to find a dentist that treats low income people, elderly people, or people with special needs.
- [Free or Low Cost Prescription Medication:](#) This section has information on low cost prescription drugs.
- [Free or Low Cost Testing and Treatment for Sexually-Transmitted Infections:](#) This section can help you locate your local health department or other clinics with free or low cost testing and treatment for sexually-transmitted infections.
- [Free or Low Cost Family Planning Services:](#) This section has information on family planning services and clinics.
- [Free or Low Cost Testing and Treatment for Breast or Cervical Cancer:](#) This section can help low income women get tests or treatment for breast or cervical cancer
- [Help with a Chronic Disease:](#) This section has links to information on managing chronic diseases like diabetes or heart disease.
- [Help with Disabilities:](#) This section has information about health care coverage for persons with disabilities.
- [Hospital or Emergency Care:](#) This section can help you find a hospital near you.
- [Help with Substance Abuse or Problem Gambling:](#) This site offers information on how to get help with substance abuse or gambling problems.
- [Services for Children & Teens:](#) information about what health care coverage is available for children and teens.
- [Services for Seniors:](#) information about health care coverage available for seniors.
- [Services for Pregnant Women:](#) information about health care coverage available to pregnant women.
- [Other Sources for Help with Health Care:](#) This section has links that may help if you can't find your answer above.

Additional Health Care Resources

- [Children's Special Health Care Services](#)
- [Women, Infants, & Children \(WIC\)](#)
- [Public Health Administration](#)
- [Family Planning Services](#)
- [MDCH - Oral Health](#)
- [Mental Health and Substance Abuse Administration](#)
- [DLEG - Office of Financial and Insurance Regulation](#)
- [Department of Human Services](#)
- [Assistance Programs in Michigan](#)
- [Medicaid](#)
- [ZIAD Healthcare](#)
- [Where to Find Care](#)
- [Family-to-Family Health Information & Education Center](#)
- [Michigan Dental Association](#)
- [Free Clinics of Michigan](#)
- [Michigan Health and Hospital Association](#)
- [Michigan Primary Care Association](#)
- [United Way 2-1-1](#)
- [Michigan Association of Community Mental Health Boards](#)

Appendix D

Appendix D: Acknowledgments

Acknowledgments

This report was prepared by Bronson Community Health in partnership with many community agencies. Bronson wishes to thank residents throughout the Southwest Michigan region who provided their time and insight in helping to identify the most important health needs in our community. This includes healthcare consumers, healthcare professionals, community leaders, government officials, working people, retirees, educators, community organization staff, and others. This assessment would not have been possible without broad community participation and partnership with agencies that assisted in supporting the process through deployment of surveys, hosting focus groups, providing staff for key informant interviews, and funding for the assessment.

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