

# HEALTH RISK BEHAVIORS WITHIN THE STATE OF MICHIGAN



## 2018 BEHAVIORAL RISK FACTOR SURVEY 32ND ANNUAL REPORT



GRETCHEN WHITMER, GOVERNOR | ELIZABETH HERTEL, DIRECTOR



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# 2018 Behavioral Risk Factor Survey

Health Risk Behaviors  
within the State of Michigan

[www.michigan.gov/Brfs](http://www.michigan.gov/Brfs)



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# BRFSS Methods

The Michigan Behavioral Risk Factor Survey (MiBRFS) is an annual, statewide telephone survey of Michigan adults aged 18 years and older that is conducted through a collaborative effort between the Population Health Surveillance Branch (PHSB) of the Centers for Disease Control and Prevention (CDC), the Michigan State University Institute for Public Policy and Social Research (IPPSR), and the Michigan Department of Health & Human Services (MDHHS). Michigan Behavioral Risk Factor Surveillance System (MiBRFSS) data contribute to the CDC Behavioral Risk Factor Surveillance System (BRFSS) that is conducted within every state, the District of Columbia, and several U.S. territories.

In 2018, the MiBRFS collected data from both landline and cell phone respondents. The sample of landline telephone numbers was selected using a list-assisted, random-digit-dialed methodology with a disproportionate stratification based on phone bank density, and whether or not the phone numbers were directory listed. The sample of cell phone numbers was randomly selected from dedicated cellular telephone banks sorted on the basis of area code and exchange.

A weighting methodology known as iterative proportional fitting or raking was used in 2018 to allow for the incorporation of cell phone data and to improve the accuracy of prevalence estimates based on MiBRFS data. Estimates based on this weighting methodology were weighted to adjust for the probabilities of selection and a raking adjustment factor that adjusted for the distribution of the Michigan adult population by telephone source (landline or cell phone), detailed race/ethnicity, education level, marital status, age by gender, gender by race/ethnicity, age by race/ethnicity, and renter/owner status.

Due to the BRFSS methodology changes that were implemented in 2011, the 2018 MiBRFS estimates provided within this report should only be compared to estimates from 2011-2018 and not to estimates from years prior to 2011.

Prevalence estimates and asymmetric 95% confidence intervals (95% CIs) were calculated using SAS-Callable SUDAAN (version 11.0.1), a statistical computing program that was designed for analyzing data from multistage sample surveys.<sup>1</sup> If the 95% CIs for two estimates from different subpopulations or survey years did not overlap, they were considered to be statistically different. Unless otherwise specified, respondents who answered that they did not know or refused to answer were not included in the calculation of estimates. For comparison purposes, the median estimates from all 50 states and the District of Columbia were used as national estimates.

In addition to this report, the MiBRFSS releases several additional publications each year. These publications provide statewide health estimates for Michigan adults as well as estimates among demographic and geographic subpopulations. MiBRFSS Surveillance Briefs are also published on a quarterly basis and highlight new topical data from the MiBRFSS, including data from MiBRFSS state-added questions. All of these publications can be found on the MiBRFSS website ([www.michigan.gov/brfs](http://www.michigan.gov/brfs)).

## Sample Results for the 2018 MiBRFS

The total sample size for the 2018 MiBRFS was 10,322 (landline = 2,706; cell phone = 7,616). The response rate for the landline portion of the 2018 MiBRFS was 56.3%, while the response rate for the cell phone portion of the survey was 46.6%. The overall weighted response rate (landline and cell phones combined) for the 2018 MiBRFS was 50.9%. The overall weighted U.S. median response rate for 2018 was 49.9%.<sup>2</sup>

Over the past several years, MDHHS has been able to maintain an annual MiBRFS sample size of at least 8,000 completed interviews. A larger annual sample size increases the utility of the survey by providing more precise estimates, allowing for an increased number of topics to be covered each year, and enables the calculation of estimates for more demographic and geographic subpopulations.

Number of Interviews by Survey Year  
Michigan BRFSS 2000-2018



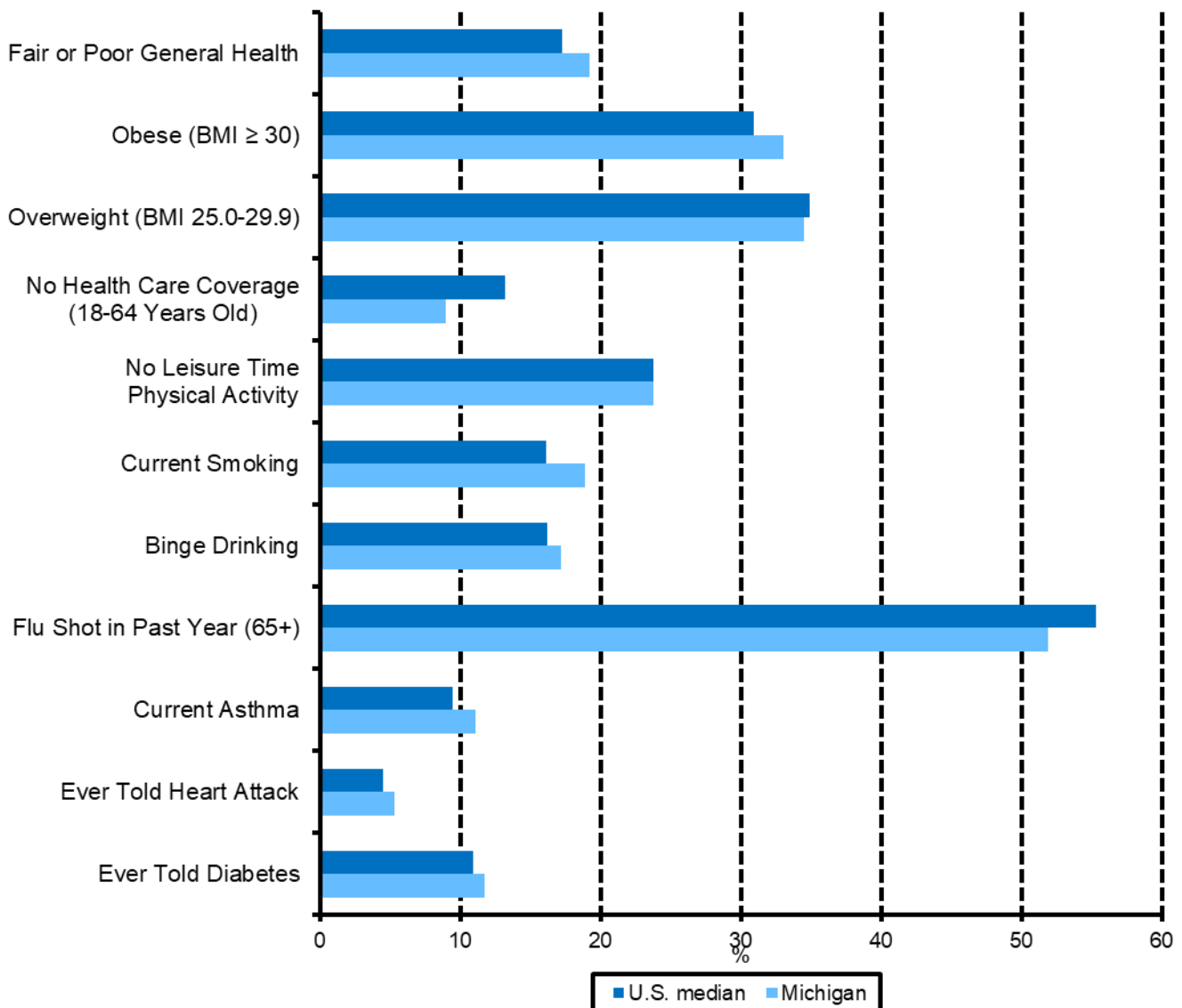


# Summary

This report presents estimates from the 2018 MiBRFS, a statewide landline and cell phone survey of Michigan residents aged 18 years and older. It is the only source of state-specific, population-based estimates of the prevalence of various health behaviors, medical conditions, and preventive health care practices among Michigan adults. The survey findings are used by public health agencies, academic institutions, nonprofit organizations, and others to develop programs that promote the health of Michigan citizens.

All of the results from the 2018 MiBRFS presented within this report have been weighted as described in the methods section and can be interpreted as prevalence estimates among the Michigan adult population. Due to the BRFSS methodology changes that took place in 2011, these estimates should only be compared to MiBRFS estimates from 2011-2018 and not to MiBRFS estimates from years prior to 2011.

**Selected Risk Factors - 2018 CDC BRFSS  
U.S. vs. Michigan**



# Summary, continued

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## Public Health Implications of Findings

A number of themes emerge from the findings of the 2018 MiBRFS that have implications for public health.

### ✦ Michigan continues to make strides in increasing access to health care coverage.

In 2018, an estimated 9.0% (95% CI: 8.2-10.0) of Michigan adults aged 18-64 years reported not having any form of health care coverage. This represents a significant decrease of 7.6 percentage points since 2012 (16.6%). From 2012 to 2018, the prevalence of no health care coverage decreased among males (2012: 18.9% vs. 2018: 11.3%) and females (2012: 14.2% vs. 2018: 6.8%), as well as White, non-Hispanic (2012: 15.1% vs. 2018: 8.1%) and Black, non-Hispanic adults (2012: 24.3% vs. 2018: 9.7%). The Healthy Michigan Plan, which was implemented on April 1, 2014, makes health care benefits available to individuals at a low cost. As the Healthy Michigan Plan continues, we hope to observe further decreases in the number of Michigan adults aged 18-64 years who report not having any form of health care coverage.

### ✦ Multiple chronic conditions continue to be a problem among Michigan adults.

In 2018, an estimated 9.8% of Michigan adults have ever been told by a doctor that they had some form of cardiovascular disease (CVD). These include heart attack (5.3%), angina or coronary heart disease (5.0%), and stroke (3.4%). Black, non-Hispanic adults had the highest prevalence of any CVD. Black, non-Hispanic adults were significantly more likely to have ever been told they had a stroke compared to White, non-Hispanic adults (5.1% and 3.0%, respectively). All three CVD measures increased in prevalence as household income decreased, and all three CVD measures were statistically more likely to be present among adults with disabilities. An estimated 12.8% of Michigan adults have ever been told that they had cancer of any type. Among adults with disabilities, 20.8% also had ever been told they had cancer, significantly greater than those with no disabilities (10.2%).

### ✦ Racial disparities in weight status among Michigan adults has decreased.

In 2018, an estimated 33.0% of Michigan adults were classified as being obese (BMI  $\geq$  30.0). In 2014, the disparity in obesity had diminished with the prevalence of obesity among Black, non-Hispanic adults (33.6%) being similar to that of White, non-Hispanic adults (30.2%). The racial disparity had reemerged in 2015 with 40.2% of Black, non-Hispanic adults reporting obesity compared to only 29.8% of White, non-Hispanic adults. However, in 2018, there is a smaller gap in prevalence of obesity between Black, non-Hispanic (40.3%) and White, non-Hispanic adults (32.4%). In addition to targeting Michigan's high burden populations, the Michigan Nutrition, Physical Activity and Obesity Program continues to develop initiatives that focus on improving nutrition and increasing physical activity among the Michigan population.

### ✦ Smoking and secondhand smoke exposure have stabilized, but more progress is needed.

In 2018, an estimated 18.9% of Michigan adults reported that they currently smoke cigarettes on a regular basis. Unfortunately, this means that one in every five Michigan adults currently smoke cigarettes. Even with the passage of the Michigan Smoke-Free Air Law on May 1, 2010, secondhand smoke exposure continues to be a problem in Michigan with an estimated 22.5% of adults reporting that they were exposed to secondhand smoke in their home or in a car within the past seven days. When focusing only on non-smokers, the prevalence of secondhand smoke exposure during the past seven days decreases to 12.7 (95% CI: 11.3-14.4). With a sustained emphasis on smoking cessation and smoke-free regulations, the MDHHS Tobacco Program anticipates that the prevalence of smoking and secondhand smoke exposure will start to decrease again within the coming years.

### ✦ E-cigarettes is an emerging issue within the state's young adult population.

In 2018, an estimated 6.0% of Michigan adults reported that they used e-cigarettes. E-cigarette usage was significantly higher than the state average among 18-24 year olds with 22.1% reporting usage (95% CI: 17.7-27.2). Among current smokers, the prevalence of e-cigarette use was 13.1% (95% CI: 10.7-16.0) compared to 3.9% (95% CI: 3.0-5.2) among never smokers.

# Summary, continued

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## Future of the Michigan Behavioral Risk Factor Survey

The target sample size for the 2019 MiBRFS is 10,530 total completed interviews. Of these 10,530 interviews, 3,156 will be completed with landline respondents, while the remaining 7,374 will be completed with cell phone respondents. The 2019 questionnaire will include approximately 100 state-added questions on numerous topics, including arthritis management, cancer survivorship, caregiving, radon awareness, binge drinking, family planning, and cognitive decline, gambling, and reactions to race. The full 2019 MiBRFS questionnaire is available on the MiBRFSS website ([www.michigan.gov/brfs](http://www.michigan.gov/brfs)).

The BRFSS continues to adapt to challenges and expand its utility. The representativeness and validity of MiBRFS estimates has been improved. For example, due to the drastic increase in the utilization of cell phone communication, the BRFSS now collects over half of the data from cell phone respondents. Furthermore, the CDC has implemented a new raking weighting methodology so that BRFSS estimates are more representative than ever before. Michigan has also expanded the utility of the MiBRFS through the following projects:

- The maintenance of a larger MiBRFS sample size will allow for more precise estimates among racial/ethnic populations, especially when multiple years of data are combined.
- Standalone BRFSS-like oversample surveys of minority subpopulations are conducted on an annual basis as funding is available. The results of these minority oversample surveys are available on the MiBRFSS website.
- Since 2005, questions have been included that randomly select one child in each household and obtain demographic characteristics of that child. This information allows us to ask health-related questions about this child and then to calculate estimates for childhood conditions, such as asthma.
- An Asthma Call-Back survey that follows up on children and adults who were identified as having asthma during the MiBRFS interview has been conducted since 2005, allowing for collection of more detailed information on asthma management, clinical care, and impact of the disease on people's lives. It is anticipated that this methodology could be useful for other subpopulations in the future.
- MiBRFSS estimates are used as progress indicators for federal grants focusing on the prevention and control of diabetes, heart disease, obesity and their associated risk factors (CDC 1422/1305).
- The MiBRFSS is a main source of data for a number of the chronic disease and health promotion indicators that are routinely updated and readily available on the MDHHS website.
- The MiBRFSS is the source for seven of the 20 indicators included within the Michigan Health and Wellness Dashboard (<https://midashboard.michigan.gov/health-and-wellness>). This project provides a quick assessment of the health and wellness of Michigan residents.
- Several BRFSS indicators are used in the Robert Wood Johnson County Health Rankings. These rankings measure the overall health of nearly all counties within the United States and rank them within states.

In conclusion, the MiBRFS continues to serve the needs of public health officials, health care providers, researchers and local and state level policy makers, while presenting a number of opportunities for expanding our understanding of the risk factors and preventive behaviors for the major causes of disease and disability in Michigan.

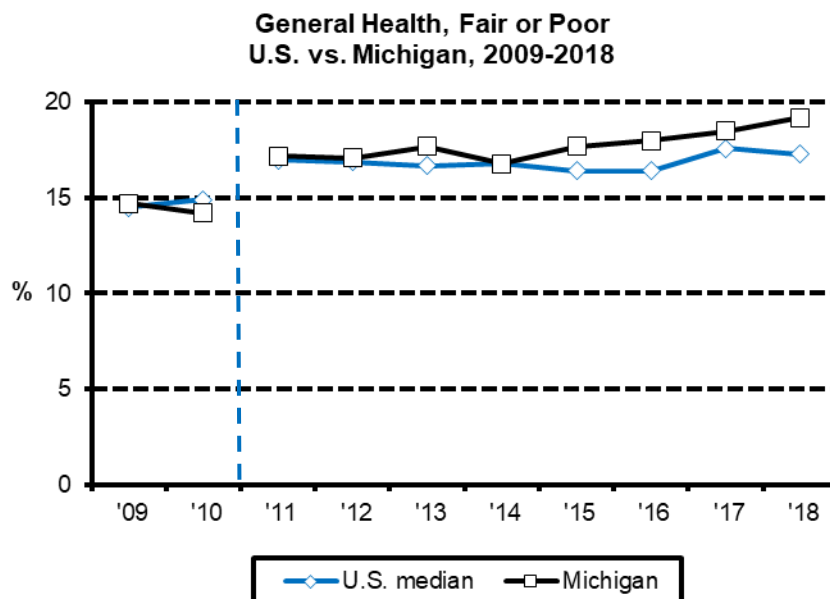
# General Health Status

Self-assessed health is a measure of how a person perceives their own health. Self-assessed health status has been validated as a useful indicator of health among different populations and allows for broad comparisons across a variety of health conditions.<sup>3</sup>

- ◆ In 2018, an estimated 19.2% of Michigan adults reported that their general health was either fair or poor.
- ◆ Fair or poor general health increased with age and decreased with increasing household income level.
- ◆ The prevalence of fair or poor general health was similar by gender and health insurance status.
- ◆ White, non-Hispanic adults (17.7%) reported a significantly lower prevalence of fair or poor general health than Black, non-Hispanic adults (25.7%).
- ◆ Adults with disabilities (45.9%) reported a significantly higher prevalence of fair to poor health than adults without disabilities (9.3%).
- ◆ The BRFSS methodology changes that were implemented in 2011 resulted in a spike in the prevalence of fair or poor general health among Michigan adults, but since these changes, the prevalence of fair to poor general health has remained within the 16%-20% range.
- ◆ In 2018, the prevalence of fair or poor general health among Michigan adults (19.2%) was higher than that of the U.S. median prevalence (17.3%).

Demographic Characteristics	General Health, Fair or Poor <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>19.2</b>	<b>(18.3-20.2)</b>
<b>Age</b>		
18 - 24	13.0	(10.4-16.2)
25 - 34	14.6	(12.3-17.4)
35 - 44	15.9	(13.5-18.6)
45 - 54	20.4	(18.0-23.0)
55 - 64	24.7	(22.4-27.1)
65 - 74	22.4	(20.0-24.9)
75 +	24.7	(21.6-28.1)
<b>Gender</b>		
Male	18.3	(16.9-19.7)
Female	20.1	(18.7-21.6)
<b>Race/Ethnicity</b>		
White, non-Hispanic	17.7	(16.6-18.8)
Black, non-Hispanic	25.7	(22.6-29.0)
Other, non-Hispanic	19.6	(15.6-24.4)
Hispanic	24.6	(19.0-31.3)
<b>Household Income</b>		
< \$20,000	41.3	(37.8-44.9)
\$20,000 - \$34,999	27.5	(24.8-30.4)
\$35,000 - \$49,999	20.6	(17.6-23.9)
\$50,000 - \$74,999	13.7	(11.5-16.4)
≥ \$75,000	7.0	(6.0-8.2)
<b>Health Insurance</b>		
Insured	19.4	(18.4-20.4)
Uninsured	17.3	(13.9-21.4)
<b>Disability Status</b>		
No disabilities	9.3	(8.4-10.2)
Adults with disabilities	45.9	(43.5-48.3)

<sup>a</sup> Among all adults, the proportion reporting that their health, in general, was either fair or poor.



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Quality of Life

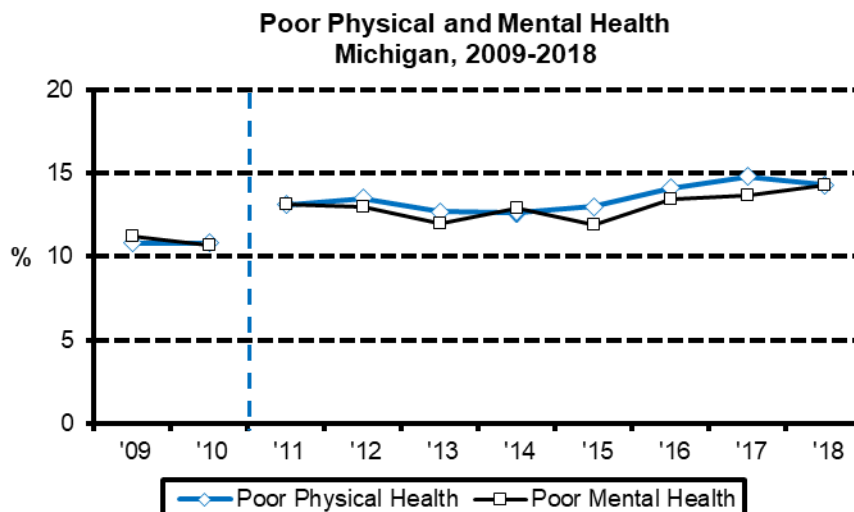
Physically and mentally unhealthy days measure the number of days within the past 30 days that individuals rate their physical and mental health as not good. Poor physical and mental health was defined as 14 or more days within the past 30 days in which the adult respondents rated their physical and mental health as not good.

- ◆ In 2018, an estimated 14.3% of Michigan adults reported poor physical health and 14.3% reported poor mental health.
- ◆ Poor physical health increased with age, while poor mental health decreased with age.
- ◆ Both poor physical health and poor mental health decreased with increasing household income level.
- ◆ Females reported higher prevalences of both poor physical health and poor mental health (15.9% and 17.0%, respectively) than males (12.7% and 11.4%, respectively).
- ◆ The prevalence of both poor physical health and poor mental health was similar by race/ethnicity.
- ◆ Adults with disabilities (40.0% and 28.3%, respectively) were more likely to have reported both poor physical health and poor mental health than adults without disabilities (5.1% and 9.1%, respectively).
- ◆ The BRFSS methodology changes that were implemented in 2011 resulted in a spike in the prevalence of poor physical and mental health among Michigan adults, but these prevalences have plateaued since 2011.

Demographic Characteristics	Poor Physical Health <sup>a</sup>		Poor Mental Health <sup>b</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>14.3</b>	<b>(13.4-15.2)</b>	<b>14.3</b>	<b>(13.4-15.2)</b>
<b>Age</b>				
18 - 24	7.5	(5.5-10.3)	22.7	(19.3-26.4)
25 - 34	7.2	(5.7-9.0)	16.7	(14.1-19.6)
35 - 44	11.7	(9.7-14.2)	15.2	(12.9-17.7)
45 - 54	16.7	(14.5-19.2)	15.2	(13.1-17.5)
55 - 64	20.9	(18.7-23.3)	14.0	(12.2-15.9)
65 - 74	18.0	(15.8-20.5)	7.7	(6.3-9.5)
75 +	19.3	(16.3-22.7)	6.2	(4.6-8.1)
<b>Gender</b>				
Male	12.7	(11.5-13.9)	11.4	(10.2-12.6)
Female	15.9	(14.6-17.2)	17.0	(15.7-18.4)
<b>Race/Ethnicity</b>				
White, non-Hispanic	14.1	(13.1-15.1)	13.9	(12.9-14.9)
Black, non-Hispanic	16.6	(14.0-19.6)	14.2	(11.8-17.1)
Other, non-Hispanic	14.7	(11.3-19.0)	15.6	(12.1-19.8)
Hispanic	9.7	(6.3-14.6)	19.7	(14.5-26.3)
<b>Household Income</b>				
< \$20,000	31.6	(28.3-35.0)	28.3	(25.2-31.6)
\$20,000 - \$34,999	18.8	(16.5-21.4)	18.4	(16.0-21.0)
\$35,000 - \$49,999	11.9	(9.8-14.3)	14.0	(11.5-16.9)
\$50,000 - \$74,999	10.4	(8.4-12.7)	10.5	(8.5-12.8)
≥ \$75,000	6.1	(5.1-7.2)	7.8	(6.6-9.3)
<b>Health Insurance</b>				
Insured	14.5	(13.7-15.5)	13.9	(13.0-14.9)
Uninsured	12.4	(9.4-16.1)	18.3	(14.8-22.5)
<b>Disability Status</b>				
No disabilities	5.1	(4.4-5.8)	9.1	(8.2-10.1)
Adults with disabilities	40.0	(37.7-42.4)	28.3	(26.1-30.5)

<sup>a</sup> Among all adults, the proportion reporting 14 or more days of poor physical health, which includes physical illness and injury, during the past 30 days.

<sup>b</sup> Among all adults, the proportion reporting 14 or more days of poor mental health, which includes stress, depression, and problems with emotions during the past 30 days.



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

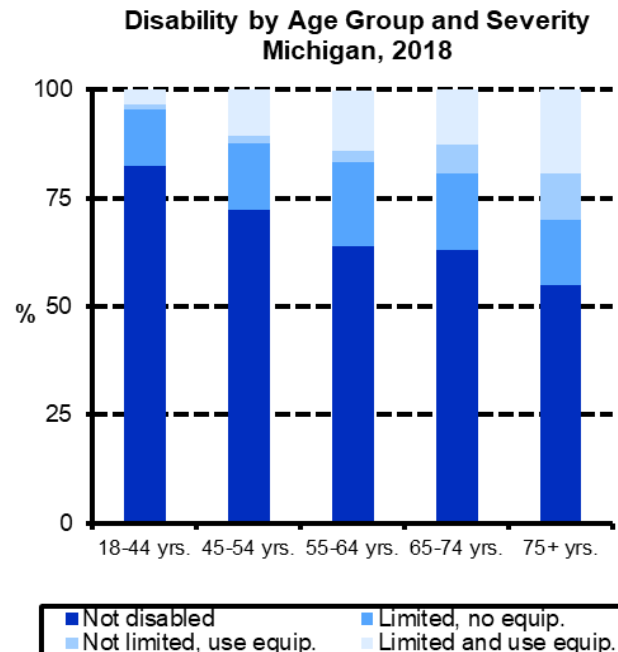
# Disability

Through the Americans with Disabilities Act, an individual with a disability is defined as a person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history of such an impairment, or a person who is perceived by others as having such an impairment.<sup>4</sup>

- ◆ In 2018, an estimated 27.7% of Michigan adults reported being disabled, which was defined as being limited in any activities because of physical, mental, or emotional problems or requiring the use of special equipment, such as a cane, a wheelchair, a special bed, or a special telephone due to a health problem.
- ◆ When looking at each component of the disability indicator, an estimated 24.6% of Michigan adults reported being limited in their activities, while 12.2% reported that they required the use of special equipment due to a health problem.
- ◆ The prevalence of disability increased with age and decreased with increasing household income level.
- ◆ Males (26.0%) reported a significantly lower prevalence of disability than females (29.4%).
- ◆ The prevalence of disability was similar by race/ethnicity.
- ◆ The prevalence of disability is significantly higher for Michigan adults with insurance.
- ◆ When assessing disability by age group and severity, Michigan adults 75 years and older reported more severe disability (i.e., both activities limited and use of special equipment) when compared to all other age groups.

Demographic Characteristics	Total Disability <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>27.7</b>	<b>(26.6-28.9)</b>
<b>Age</b>		
18 - 24	15.1	(12.2-18.6)
25 - 34	16.1	(13.5-19.1)
35 - 44	21.4	(18.5-24.6)
45 - 54	27.9	(25.2-30.8)
55 - 64	36.1	(33.5-38.7)
65 - 74	37.1	(34.3-40.0)
75 +	45.3	(41.6-49.0)
<b>Gender</b>		
Male	26.0	(24.4-27.6)
Female	29.4	(27.9-31.1)
<b>Race/Ethnicity</b>		
White, non-Hispanic	27.4	(26.2-28.7)
Black, non-Hispanic	29.0	(25.6-32.7)
Other, non-Hispanic	24.8	(20.2-30.0)
Hispanic	27.3	(21.0-34.8)
<b>Household Income</b>		
< \$20,000	54.0	(50.3-57.7)
\$20,000 - \$34,999	35.1	(32.2-38.2)
\$35,000 - \$49,999	26.6	(23.6-29.8)
\$50,000 - \$74,999	21.8	(19.2-24.7)
≥ \$75,000	14.4	(12.9-16.1)
<b>Health Insurance</b>		
Insured	28.6	(27.4-29.8)
Uninsured	18.7	(15.1-23.0)

<sup>a</sup> Among all adults, the proportion reporting being limited in any activities because of physical, mental, or emotional problems, or reporting that they required the use of special equipment (such as a cane, a wheelchair, a special bed, or a special telephone) due to a health problem.



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.



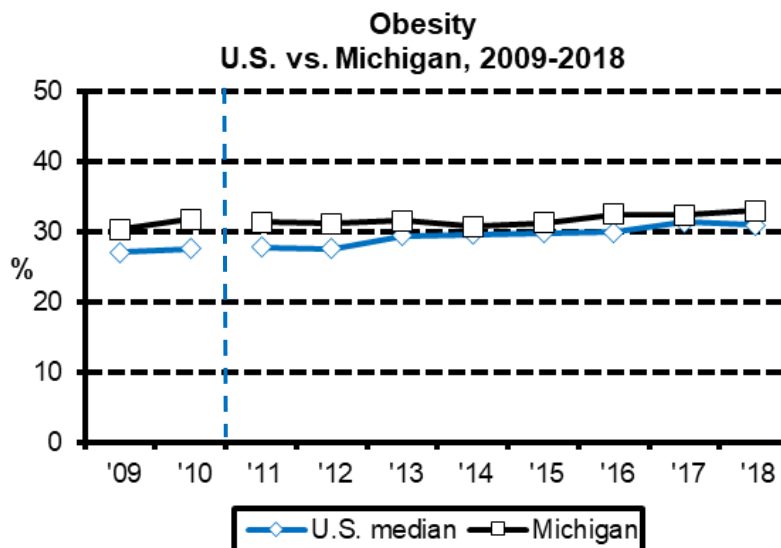
# Weight Status

Overweight and obesity have been proven to increase the risk of many diseases and health conditions such as high blood pressure, diabetes, coronary heart disease, stroke, gallbladder disease, high cholesterol, and some forms of cancer.<sup>5</sup> The medical care costs associated with adult obesity in the U.S. is projected to be in the \$150 billion range.<sup>6</sup> Overweight is defined as having a body mass index (BMI) between 25.0 and 29.9, and obesity is defined as a BMI greater than or equal to 30.0.

- ◆ In 2018, an estimated 33.0% of Michigan adults were classified as obese, with an additional 34.5% of Michigan adults being classified as overweight. The prevalence of obesity in Michigan is slightly higher than the U.S. median prevalence (30.9%), while the prevalence of overweight is comparable to that of the U.S. median (34.9%).
- ◆ The prevalence of obesity increased through the 45-54 year age group and then decreased among older age groups.
- ◆ The prevalence of obesity was similar by gender and health insurance status.
- ◆ Black, non-Hispanic adults (40.3%) reported a significantly higher prevalence of obesity than White, non-Hispanic adults (32.4%).
- ◆ Adults with disabilities (43.6%) were more likely to be classified as obese than adults without disabilities (29.1%).
- ◆ The Healthy People (HP) 2020 target for obesity among adults is set at 30.5%. In order to meet this target, the obesity prevalence among Michigan adults will need to decrease by 2.5 percentage points over the next two years.<sup>7</sup>

Demographic Characteristics	Obese <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>33.0</b>	<b>(31.8-34.2)</b>
<b>Age</b>		
18 - 24	18.9	(15.8-22.5)
25 - 34	31.4	(28.1-34.9)
35 - 44	35.9	(32.5-39.3)
45 - 54	39.2	(36.2-42.4)
55 - 64	37.8	(35.2-40.5)
65 - 74	36.2	(33.4-39.1)
75 +	27.1	(23.9-30.6)
<b>Gender</b>		
Male	31.4	(29.8-33.1)
Female	34.6	(32.9-36.4)
<b>Race/Ethnicity</b>		
White, non-Hispanic	32.4	(31.1-33.7)
Black, non-Hispanic	40.3	(36.4-44.2)
Other, non-Hispanic	21.3	(17.2-26.1)
Hispanic	35.5	(28.6-43.1)
<b>Household Income</b>		
< \$20,000	39.0	(35.5-42.7)
\$20,000 - \$34,999	36.5	(33.4-39.7)
\$35,000 - \$49,999	36.3	(32.8-40.0)
\$50,000 - \$74,999	33.3	(30.2-36.6)
≥ \$75,000	29.7	(27.7-31.8)
<b>Health Insurance</b>		
Insured	33.4	(32.1-34.6)
Uninsured	27.8	(23.4-32.7)
<b>Disability Status</b>		
No disabilities	29.1	(27.7-30.6)
Adults with disabilities	43.6	(41.2-46.0)

Note: BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in kg/(height in meters)<sup>2</sup>]. Weight and height were self-reported. Pregnant women were excluded.  
<sup>a</sup> Among all adults, the proportion of respondents whose BMI was greater than or equal to 30.0.



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# No Health Care Coverage (Among Adults 18 - 64 Years)

Adults who do not have health care coverage are less likely to access health care services and are more likely to delay getting needed medical attention.<sup>8</sup>

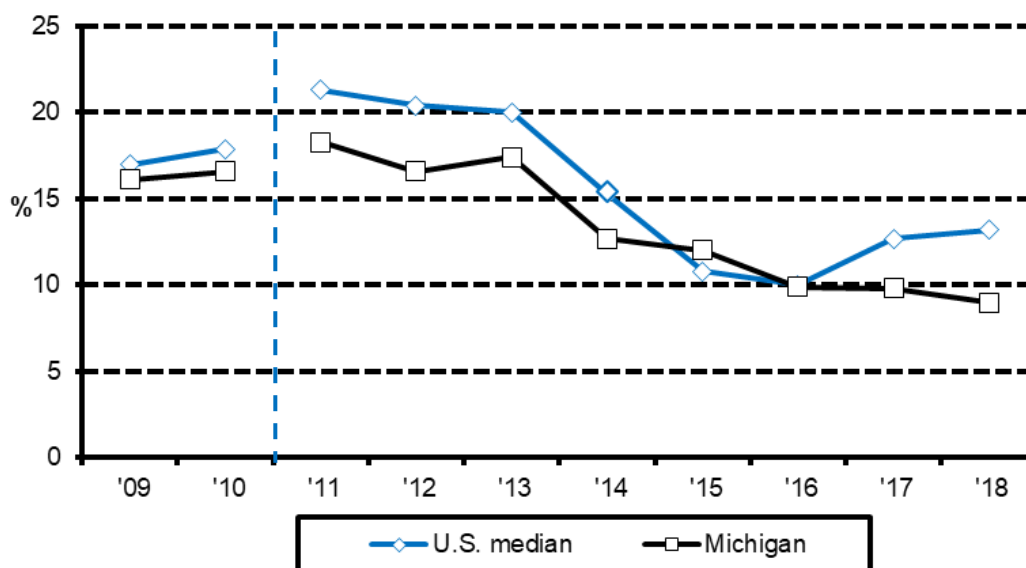
- ◆ In 2018, an estimated 9.0% of Michigan adults aged 18-64 years reported having no health care coverage. The prevalence of no health care coverage among Michigan adults 18-64 years of age is lower than the U.S. median prevalence (13.2%).
- ◆ The prevalence of no health care coverage decreased with age and increasing household income level.
- ◆ Males (11.3%) reported a significantly higher prevalence of no health care coverage than females (6.8%).
- ◆ Hispanic adults (16.3%) reported a higher prevalence of no health care coverage than White, non-Hispanic adults (8.1%).
- ◆ The prevalence of no health care coverage was lower in Michigan adults with disabilities.
- ◆ The HP 2020 target for health care coverage is to have 100% of adults insured by 2020. Since the prevalence of no health care coverage among Michigan adults 18-64 years of age is currently at 9.0%, this prevalence will need to decrease by roughly 4.5 percentage points each year in order to meet the HP 2020 goal.<sup>7</sup>

**No Health Care Coverage Among Adults 18-64 Years<sup>a</sup>**

Demographic Characteristics	%	95% Confidence Interval
<b>Total</b>	<b>9.0</b>	<b>(8.2-10.0)</b>
<b>Age</b>		
18 - 24	13.1	(10.5-16.2)
25 - 34	12.8	(10.4-15.5)
35 - 44	9.2	(7.4-11.5)
45 - 54	6.9	(5.6-8.6)
55 - 64	4.6	(3.5-5.8)
<b>Gender</b>		
Male	11.3	(10.0-12.9)
Female	6.8	(5.8-7.9)
<b>Race/Ethnicity</b>		
White, non-Hispanic	8.1	(7.2-9.2)
Black, non-Hispanic	9.7	(7.3-12.7)
Other, non-Hispanic	10.4	(7.3-14.7)
Hispanic	16.3	(11.4-22.9)
<b>Household Income</b>		
< \$20,000	12.4	(9.8-15.5)
\$20,000 - \$34,999	14.9	(12.2-18.0)
\$35,000 - \$49,999	10.9	(8.4-14.1)
\$50,000 - \$74,999	8.5	(6.4-11.2)
≥ \$75,000	3.1	(2.3-4.1)
<b>Disability Status</b>		
No disabilities	9.5	(8.4-10.6)
Adults with disabilities	6.8	(5.4-8.5)

<sup>a</sup> Among adults aged 18-64 years, the proportion who reported having no health care coverage, including health insurance, prepaid plans such as HMOs, or government plans, such as Medicare or Indian Health Services.

**No Health Care Coverage Among Adults Aged 18 to 64 Years U.S. vs. Michigan, 2009-2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.



# Limited Health Care Coverage

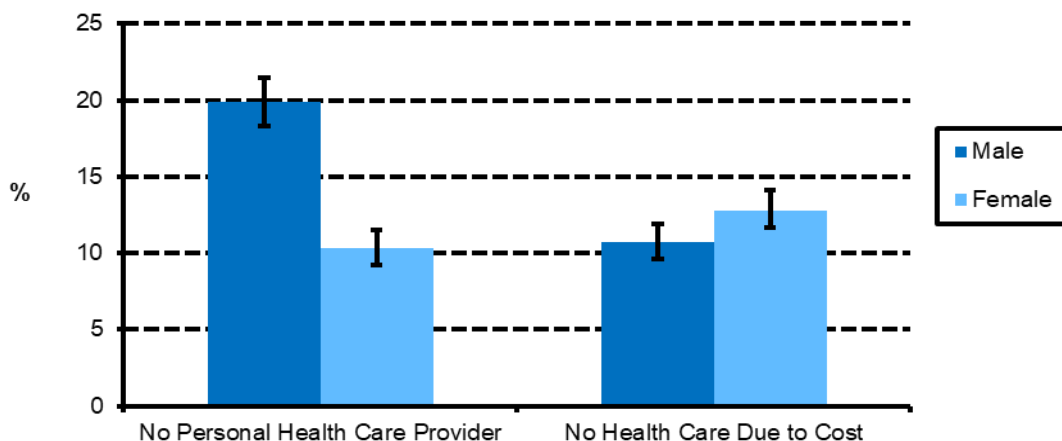
Two additional indicators related to health care access are: 1) not having a personal doctor or health care provider and 2) having had a time during the past 12 months when an individual needed to see a doctor but could not because of the cost. Increases in access to primary care have been shown to substantially improve health-related outcomes.<sup>9</sup>

- ◆ In 2018, an estimated 14.9% of Michigan adults reported not having a personal health care provider, while 11.8% reported not seeing the doctor within the past 12 months due to cost.
- ◆ The prevalences of both of these indicators decreased with age and increasing household income level.
- ◆ Males (19.9%) were more likely than females (10.3%) to not have a personal health care provider.
- ◆ Both Black, non-Hispanic (17.4%) and Hispanic adults (22.0%) were more likely than White, non-Hispanic adults (13.9%) not to have a personal health care provider.
- ◆ Black, non-Hispanic adults (16.1%) were more likely than White, non-Hispanic adults (10.5%) not to have seen a doctor within the past 12 months due to cost.
- ◆ Uninsured adults (51.8% and 34.2%, respectively) were more likely not to have a personal health care provider and not to have seen a doctor within the past 12 months due to cost when compared to insured adults (11.9% and 9.9%, respectively).

Demographic Characteristics	No Personal Health Care Provider <sup>a</sup>		No Health Care Access Due to Cost <sup>b</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>14.9</b>	<b>(14.0-15.9)</b>	<b>11.8</b>	<b>(11.0-12.7)</b>
<b>Age</b>				
18 - 24	28.6	(24.9-32.5)	14.7	(12.0-17.9)
25 - 34	29.6	(26.4-33.0)	15.9	(13.6-18.5)
35 - 44	18.6	(16.0-21.6)	14.0	(11.7-16.8)
45 - 54	10.3	(8.6-12.3)	12.0	(10.2-14.2)
55 - 64	6.1	(5.0-7.4)	10.7	(9.2-12.4)
65 - 74	4.9	(3.7-6.3)	7.0	(5.5-9.1)
75 +	4.6	(3.2-6.4)	5.7	(4.2-7.6)
<b>Gender</b>				
Male	19.9	(18.3-21.5)	10.7	(9.6-11.9)
Female	10.3	(9.2-11.5)	12.8	(11.7-14.1)
<b>Race/Ethnicity</b>				
White, non-Hispanic	13.9	(12.9-15.0)	10.5	(9.6-11.4)
Black, non-Hispanic	17.4	(14.4-20.9)	16.1	(13.4-19.3)
Other, non-Hispanic	18.6	(14.9-22.9)	16.3	(12.7-20.6)
Hispanic	22.0	(16.4-28.9)	15.0	(10.9-20.4)
<b>Household Income</b>				
< \$20,000	17.1	(14.4-20.2)	20.1	(17.1-23.4)
\$20,000 - \$34,999	20.3	(17.8-23.2)	19.4	(17.0-22.1)
\$35,000 - \$49,999	15.6	(12.9-18.7)	12.9	(10.7-15.5)
\$50,000 - \$74,999	14.5	(12.1-17.4)	9.8	(7.8-12.2)
≥ \$75,000	10.5	(9.1-12.1)	5.5	(4.4-6.7)
<b>Health Insurance</b>				
Insured	11.9	(11.0-12.8)	9.9	(9.2-10.8)
Uninsured	51.8	(46.7-56.9)	34.2	(29.6-39.0)
<b>Disability Status</b>				
No disabilities	16.9	(15.7-18.2)	9.3	(8.4-10.2)
Adults with disabilities	8.6	(7.2-10.2)	18.3	(16.5-20.4)

<sup>a</sup> Among all adults, the proportion reporting that they did not have anyone that they thought of as their personal doctor or health care provider  
<sup>b</sup> Among all adults, the proportion reporting that in the past 12 months, they could not see a doctor when they needed to due to the cost.

**Health Care Access Indicators by Gender  
Michigan, 2018**



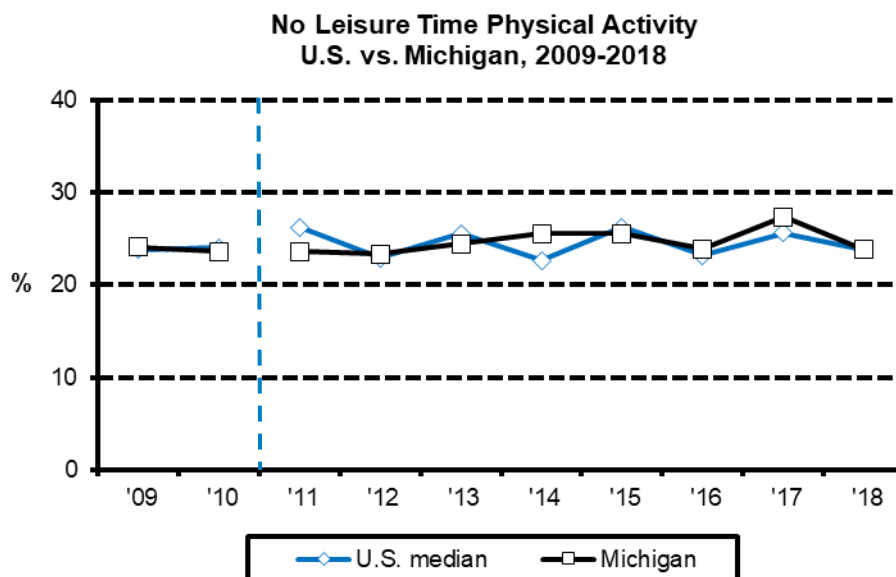
# No Leisure Time Physical Activity

Regular physical activity among adults has been shown to reduce the risk of many diseases including cardiovascular disease, diabetes, colon and breast cancers, and osteoporosis. Keeping physically active also helps to control weight, maintain healthy bones, muscles, and joints, and relieve symptoms of depression.<sup>10</sup>

- ◆ In 2018, an estimated 23.8% of Michigan adults reported no leisure time physical activity within the past month. The prevalence of no leisure time physical activity among Michigan adults is comparable to the U.S. median prevalence (23.8%) for this indicator.
- ◆ The prevalence of no leisure time physical activity increased with age and decreased with increasing household income level.
- ◆ Females (26.0%) were more likely than males (21.5%) to report no leisure time physical activity within the past month.
- ◆ White, non-Hispanic adults (22.6%) reported a significantly lower prevalence of no leisure time physical activity than Black, non-Hispanic adults (31.1%).
- ◆ The HP 2020 target for no leisure time physical activity among adults is set at 32.6%. The prevalence of no leisure time physical activity among Michigan adults is currently more than 8.8 percentage points below this goal, so if Michigan can maintain the current prevalence for this indicator the HP 2020 target will easily be met by 2020.<sup>7</sup>

Demographic Characteristics	No Leisure Time Physical Activity <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>23.8</b>	<b>(22.8-24.9)</b>
<b>Age</b>		
18 - 24	13.1	(10.7-15.9)
25 - 34	18.8	(16.1-21.9)
35 - 44	21.5	(18.8-24.5)
45 - 54	26.4	(23.7-29.2)
55 - 64	27.5	(25.2-30.0)
65 - 74	26.8	(24.3-29.5)
75 +	36.4	(32.9-40.1)
<b>Gender</b>		
Male	21.5	(20.0-23.1)
Female	26.0	(24.5-27.5)
<b>Race/Ethnicity</b>		
White, non-Hispanic	22.6	(21.4-23.8)
Black, non-Hispanic	31.1	(27.7-34.6)
Other, non-Hispanic	22.5	(18.1-27.6)
Hispanic	25.3	(19.5-32.1)
<b>Household Income</b>		
< \$20,000	40.3	(36.8-43.8)
\$20,000 - \$34,999	30.5	(27.7-33.4)
\$35,000 - \$49,999	24.6	(21.7-27.8)
\$50,000 - \$74,999	19.5	(17.0-22.4)
≥ \$75,000	12.7	(11.3-14.2)
<b>Health Insurance</b>		
Insured	23.8	(22.7-24.9)
Uninsured	24.4	(20.1-29.2)
<b>Disability Status</b>		
No disabilities	17.5	(16.3-18.7)
Adults with disabilities	40.1	(37.7-42.4)

<sup>a</sup> Among all adults, the proportion reporting they had not participated in any leisure time physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise during the past month.



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

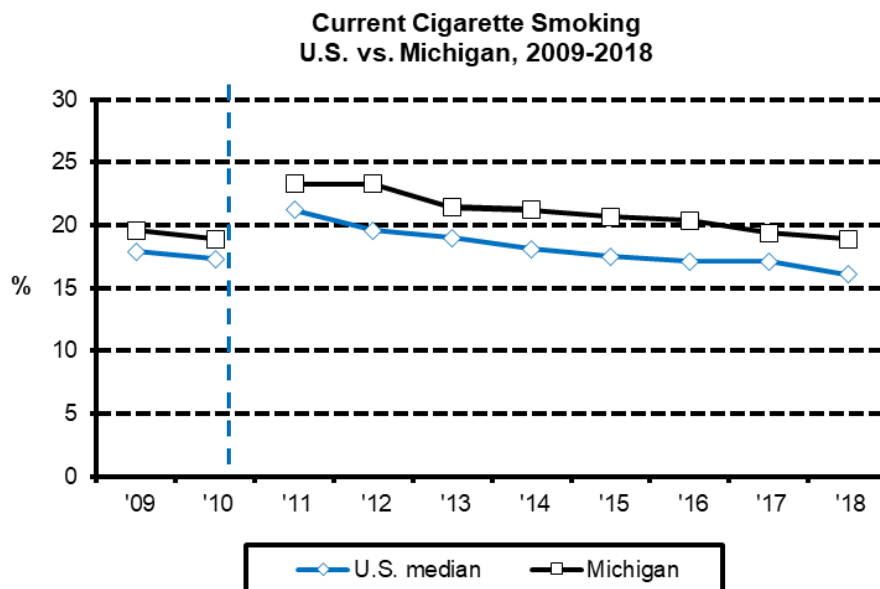
# Cigarette Smoking

Cigarette smoking is the leading cause of preventable death in the U.S., accounting for more than 480,000 deaths each year.<sup>11</sup>

- ◆ In 2018, an estimated 18.9% of Michigan adults reported that they currently smoke cigarettes on a regular basis. The prevalence of current smoking among Michigan adults was higher than the U.S. median prevalence (16.1%).
- ◆ Current smoking prevalence was highest among adults aged 25-44, and lower among both the oldest and youngest age groups.
- ◆ Current smoking decreased with increasing household income level.
- ◆ Males (21.1%) reported a higher prevalence of current smoking than females (16.9%), and White, non-Hispanic adults (17.8%) reported a lower prevalence than Black, non-Hispanic adults (22.7%).
- ◆ Adults with disabilities (27.3%) were more likely to have reported current smoking than adults without disabilities (15.9%).
- ◆ Uninsured adults (34.5%) were more likely to have reported current smoking than insured adults (17.8%).
- ◆ The HP 2020 target for current smoking among adults is set at 12.0%. In order to meet this target, the current smoking prevalence among Michigan adults will need to decrease by 6.9 percentage points during the next two years.<sup>7</sup>
- ◆ The BRFSS methodology changes that were implemented in 2011 resulted in a spike in the prevalence of current smoking among Michigan adults, but the prevalence of current smoking has declined by 2.3 percentage points since 2011.

Demographic Characteristics	Current Smoking <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>18.9</b>	<b>(17.9-19.9)</b>
<b>Age</b>		
18 - 24	12.6	(9.9-15.8)
25 - 34	27.5	(24.4-30.9)
35 - 44	27.4	(24.3-30.6)
45 - 54	20.9	(18.5-23.6)
55 - 64	20.3	(18.2-22.6)
65 - 74	11.6	(9.9-13.7)
75 +	4.7	(3.2-6.7)
<b>Gender</b>		
Male	21.1	(19.6-22.7)
Female	16.9	(15.6-18.3)
<b>Race/Ethnicity</b>		
White, non-Hispanic	17.8	(16.7-19.0)
Black, non-Hispanic	22.7	(19.6-26.1)
Other, non-Hispanic	21.8	(17.4-27.0)
Hispanic	25.9	(19.8-33.3)
<b>Household Income</b>		
< \$20,000	34.6	(31.2-38.2)
\$20,000 - \$34,999	24.7	(22.0-27.6)
\$35,000 - \$49,999	19.5	(16.6-22.8)
\$50,000 - \$74,999	15.6	(13.2-18.3)
≥ \$75,000	11.6	(10.1-13.2)
<b>Health Insurance</b>		
Insured	17.8	(16.8-18.8)
Uninsured	34.5	(29.6-39.8)
<b>Disability Status</b>		
No disabilities	15.9	(14.8-17.1)
Adults with disabilities	27.3	(25.2-29.6)

<sup>a</sup> Among all adults, the proportion reporting that they had ever smoked at least 100 cigarettes (5 packs) in their life and that they smoke cigarettes now, either every day or on some days.



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# E-Cigarette Use

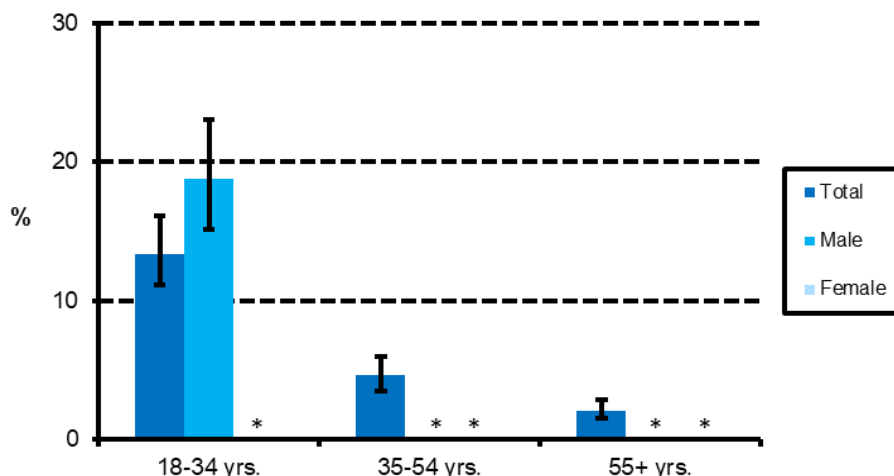
E-cigarette use (also known as “vaping”) is a form of tobacco use that is rapidly increasing among youth and young adults. While e-cigarette smoke may contain fewer toxic chemicals than regular cigarettes, they still contain many harmful substances, including nicotine, heavy metals, and chemicals that cause cancer. E-cigarettes are especially dangerous for youth, young adults, and pregnant women.<sup>12</sup>

- ◆ In 2018, an estimated 6.0% of Michigan adults reported that they currently smoke cigarettes on a regular basis. The prevalence of current e-cigarette use among Michigan adults was comparable to the U.S. median prevalence (4.6%).
- ◆ Current e-cigarette use was highest among the 18-24 year old age group (22.1%).
- ◆ The prevalence of current e-cigarette use was similar by household income level.
- ◆ Among current smokers, the prevalence of e-cigarette use is 13.1% (10.7-16.0), compared to 5.2% (4.0-6.8) among former smokers and 3.9% (3.0-5.2) among never smokers.
- ◆ Males aged 18-34 years had the highest prevalence of current e-cigarette use (18.8%).

Demographic Characteristics	Current E-Cigarette Use <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>6.0</b>	<b>(5.2-6.9)</b>
<b>Age</b>		
18 - 24	22.1	(17.7-27.2)
25 - 34	6.6	(4.8-9.1)
35 - 44	6.3	(4.4-8.9)
45 - 54	3.2	(2.0-4.9)
55 - 64	3.3	(2.2-4.9)
65 - 74	1.6	(0.9-2.8)
75 +	0.3	(0.1-2.0)
<b>Gender</b>		
Male	8.0	(6.7-9.5)
Female	4.1	(3.2-5.1)
<b>Race/Ethnicity</b>		
White, non-Hispanic	6.0	(5.1-7.0)
Black, non-Hispanic	2.9	(1.5-5.3)
Other, non-Hispanic	9.8	(6.1-15.3)
Hispanic	12.6	(6.6-22.7)
<b>Household Income</b>		
< \$20,000	6.0	(4.3-8.5)
\$20,000 - \$34,999	6.1	(4.4-8.6)
\$35,000 - \$49,999	5.8	(4.0-8.5)
\$50,000 - \$74,999	6.1	(4.2-8.9)
≥ \$75,000	5.5	(4.0-7.5)
<b>Health Insurance</b>		
Insured	5.5	(4.7-6.4)
Uninsured	13.2	(9.3-18.4)
<b>Disability Status</b>		
No disabilities	5.5	(4.6-6.6)
Adults with disabilities	7.1	(5.5-9.2)

<sup>a</sup> Among all adults, the proportion reporting that they currently use e-cigarettes or other electronic vaping products, either every day or on some days.

**Current E-Cigarette Use by Age and Gender  
Michigan, 2018**



\*Suppressed due to a denominator of < 50 and/or a relative standard error > 30%.

# Hookah Use

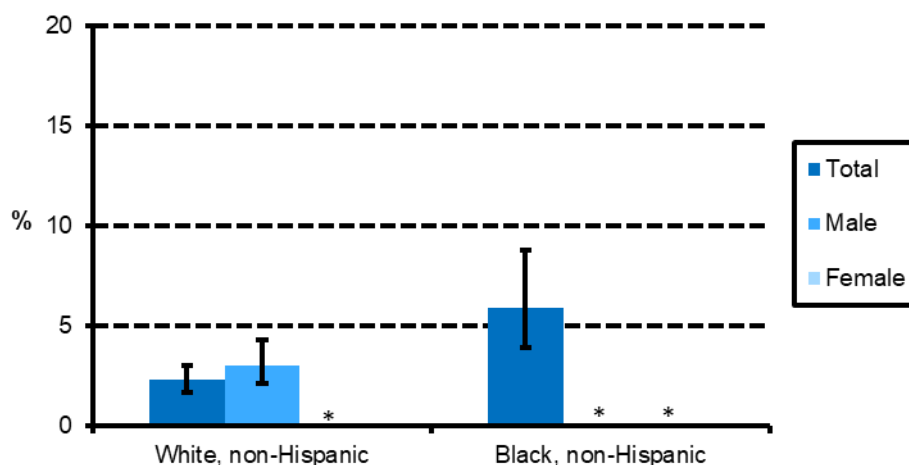
Hookah (water pipe) use has become a popular tobacco smoking method within the U.S., with increasing popularity among the college student population. Hookah use should not be considered as a safe alternative to smoking cigarettes. The charcoal used to heat the tobacco and the smoke generated from hookahs contain many toxic agents that are known to cause lung, bladder, and oral cancers.<sup>13</sup>

- ◆ In 2018, an estimated 3.1% of Michigan adults reported that they smoked tobacco using a hookah on one or more days out of the previous month.
- ◆ Current hookah use was highest among the 18-24 year old age group (7.7%).
- ◆ Males (4.0%) were more likely to report current hookah use than females (2.2%).
- ◆ The prevalence of current hookah use was similar by household income level.

Demographic Characteristics	Current Hookah Use <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>3.1</b>	<b>(2.5-3.8)</b>
<b>Age</b>		
18 - 24	7.7	(5.1-11.6)
25 - 34	4.1	(2.7-6.2)
35 - 44	4.2	(2.6-6.6)
45 - 54	2.2	(1.3-3.6)
55 - 64	1.9	(1.2-3.1)
65 - 74	-- <sup>b</sup>	-- <sup>b</sup>
75 +	-- <sup>b</sup>	-- <sup>b</sup>
<b>Gender</b>		
Male	4.0	(3.1-5.2)
Female	2.2	(1.6-3.0)
<b>Race/Ethnicity</b>		
White, non-Hispanic	2.3	(1.7-3.0)
Black, non-Hispanic	5.9	(3.9-8.8)
Other, non-Hispanic	6.8	(3.9-11.6)
Hispanic	-- <sup>b</sup>	-- <sup>b</sup>
<b>Household Income</b>		
< \$20,000	3.2	(2.0-5.3)
\$20,000 - \$34,999	4.4	(2.9-6.7)
\$35,000 - \$49,999	3.5	(2.1-5.7)
\$50,000 - \$74,999	3.1	(1.8-5.3)
≥ \$75,000	2.8	(1.8-4.3)
<b>Health Insurance</b>		
Insured	2.9	(2.4-3.7)
Uninsured	-- <sup>b</sup>	-- <sup>b</sup>
<b>Disability Status</b>		
No disabilities	3.2	(2.5-4.1)
Adults with disabilities	-- <sup>b</sup>	-- <sup>b</sup>

<sup>a</sup> Among all adults, the proportion reporting smoking tobacco using a hookah, narghile, or water pipe on one or more days during the previous thirty days.  
<sup>b</sup> Suppressed due to a denominator of < 50 and/or a relative standard error > 30%.

**Current Hookah Use by Race and Gender  
Michigan, 2018**



\*Suppressed due to a denominator of < 50 and/or a relative standard error > 30%.

# Secondhand Smoke Exposure

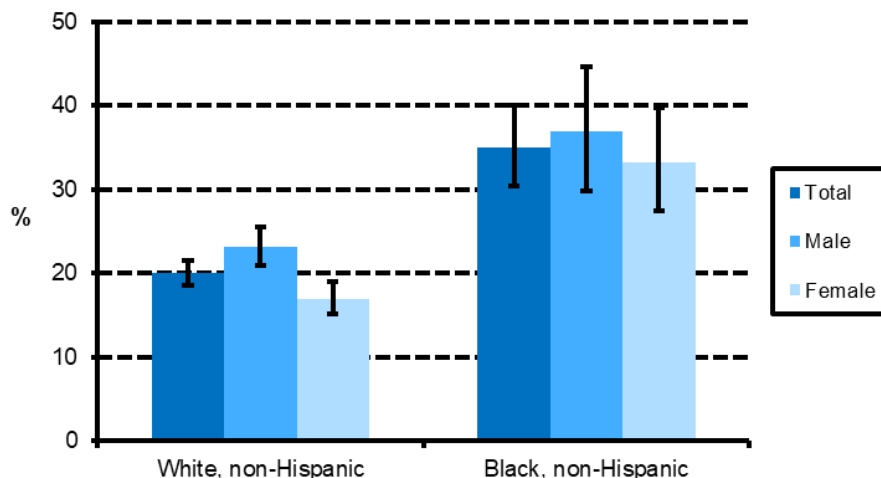
Among adults who have never smoked, secondhand smoke exposure causes an estimated 34,000 heart disease deaths and 7,300 lung cancer deaths within the U.S. each year.<sup>11</sup>

- ◆ In 2018, an estimated 22.5% of Michigan adults reported that they were exposed to secondhand smoke in their home or car within the past seven days.
- ◆ Secondhand smoke exposure decreased with both increasing age and household income level.
- ◆ Males (25.4%) were more likely than females (19.8%) to report secondhand smoke exposure.
- ◆ Black, non-Hispanic adults (35.0%) reported a significantly higher prevalence of secondhand smoke exposure than White, non-Hispanic adults (20.0%).
- ◆ Uninsured adults and adults with disabilities (38.7% and 30.6%, respectively) were more likely to have reported recent secondhand smoke exposure than insured adults and adults without disabilities (21.3% and 19.3%, respectively).
- ◆ White, non-Hispanic females reported the lowest prevalence of recent secondhand smoke exposure at 17.0%, while Black, non-Hispanic males reported the highest prevalence (36.9%).

Demographic Characteristics	Secondhand Smoke Exposure <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>22.5</b>	<b>(21.2-23.9)</b>
<b>Age</b>		
18 - 24	29.2	(24.4-34.4)
25 - 34	31.6	(27.3-36.2)
35 - 44	25.9	(22.0-30.1)
45 - 54	23.0	(19.9-26.5)
55 - 64	23.8	(20.9-26.9)
65 - 74	12.9	(10.6-15.6)
75 +	7.0	(5.1-9.7)
<b>Gender</b>		
Male	25.4	(23.3-27.6)
Female	19.8	(18.0-21.7)
<b>Race/Ethnicity</b>		
White, non-Hispanic	20.0	(18.6-21.6)
Black, non-Hispanic	35.0	(30.4-40.0)
Other, non-Hispanic	27.9	(21.7-35.0)
Hispanic	27.9	(20.2-37.0)
<b>Household Income</b>		
< \$20,000	41.8	(37.2-46.4)
\$20,000 - \$34,999	32.0	(28.3-35.9)
\$35,000 - \$49,999	22.6	(18.7-26.9)
\$50,000 - \$74,999	19.3	(16.0-23.2)
≥ \$75,000	10.8	(9.0-12.8)
<b>Health Insurance</b>		
Insured	21.3	(19.9-22.7)
Uninsured	38.7	(32.2-45.6)
<b>Disability Status</b>		
No disabilities	19.3	(17.8-21.0)
Adults with disabilities	30.6	(27.9-33.5)

<sup>a</sup> Among all adults, the proportion reporting being exposed to secondhand smoke in their home or a car within the past seven days.

**Secondhand Smoke Exposure by Race and Gender  
Michigan, 2018**





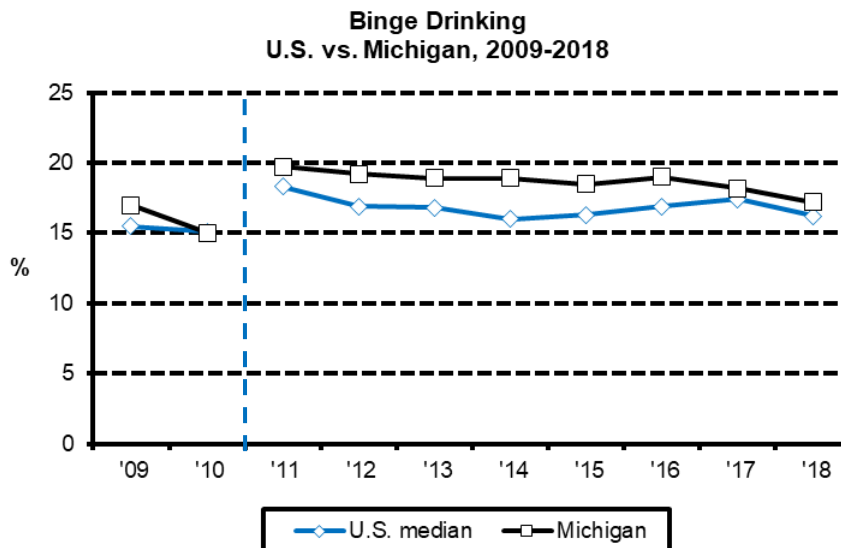
# Alcohol Consumption

Excessive alcohol use contributes to approximately 88,000 deaths each year within the U.S.<sup>14</sup> Binge drinking is defined as consuming five or more alcoholic drinks per occasion (for men) or four or more alcoholic drinks per occasion (for women) at least once in the past month. Heavy drinking is defined as consuming an average of more than two alcoholic drinks per day for men or more than one alcoholic drink per day for women in the past month.

- ◆ In 2018, an estimated 55.7% (95% CI: 54.4-56.9) of Michigan adults reported some form of alcohol consumption within the past month. Furthermore, an estimated 17.2% of Michigan adults reported binge drinking on at least one occasion within the past month, and 6.0% (95% CI: 5.5-6.6) reported heavy drinking over the past month.
- ◆ Both binge drinking and heavy drinking are more prevalent within the younger age groups and decrease significantly within the older age groups.
- ◆ The prevalence of binge drinking is highest within the 25-34 year old age group (26.8%), followed by the 18-24 year old (26.1%) and 35-44 year old (21.2%) age groups.
- ◆ Males (22.3%) reported a significantly higher prevalence of binge drinking than females (12.3%).
- ◆ The prevalence of binge drinking is significantly higher in White, non-Hispanic adults (17.7%) than in Black, non-Hispanic adults (13.4%).
- ◆ Adults with disabilities (11.7%) reported a significantly lower prevalence of binge drinking than adults without disabilities (19.9%).
- ◆ The prevalence of binge drinking among Michigan adults has decreased slightly since the BRFSS methodology changes in 2011, but remains higher than the U.S. median prevalence (16.2%).

Demographic Characteristics	Binge Drinking <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>17.2</b>	<b>(16.2-18.2)</b>
<b>Age</b>		
18 - 24	26.1	(22.6-29.9)
25 - 34	26.8	(23.9-30.0)
35 - 44	21.2	(18.6-24.1)
45 - 54	18.7	(16.5-21.2)
55 - 64	13.2	(11.6-15.1)
65 - 74	6.9	(5.6-8.4)
75 +	2.8	(1.8-4.2)
<b>Gender</b>		
Male	22.3	(20.8-23.9)
Female	12.3	(11.3-13.5)
<b>Race/Ethnicity</b>		
White, non-Hispanic	17.7	(16.6-18.8)
Black, non-Hispanic	13.4	(10.9-16.3)
Other, non-Hispanic	15.3	(11.7-19.8)
Hispanic	21.9	(16.2-28.9)
<b>Household Income</b>		
< \$20,000	12.7	(10.4-15.4)
\$20,000 - \$34,999	14.5	(12.4-17.0)
\$35,000 - \$49,999	17.6	(14.7-20.9)
\$50,000 - \$74,999	19.3	(16.8-22.1)
≥ \$75,000	23.3	(21.4-25.4)
<b>Health Insurance</b>		
Insured	16.7	(15.7-17.7)
Uninsured	24.4	(20.3-29.1)
<b>Disability Status</b>		
No disabilities	19.9	(18.7-21.2)
Adults with disabilities	11.7	(10.2-13.5)

<sup>a</sup> Among all adults, the proportion reporting consumption of five or more drinks per occasion (for males) or four or more drinks per occasion (for women) at least once in the previous month.



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

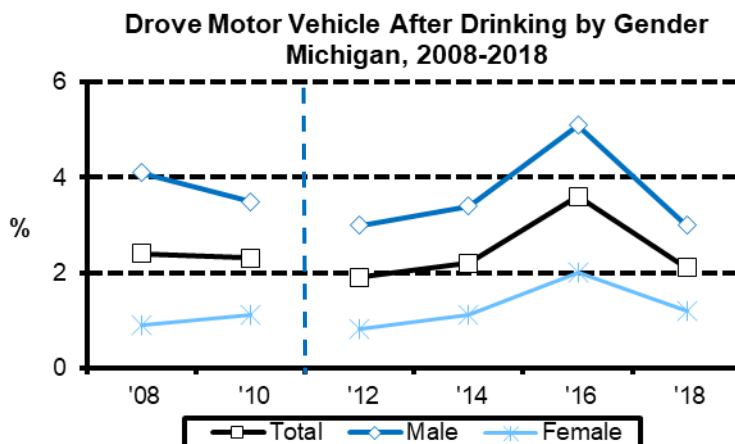
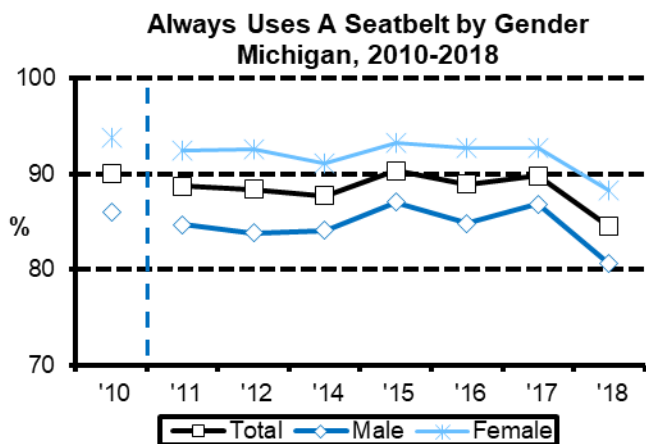
# Motor Vehicle Safety

Seatbelt use has been proven to save lives and prevent injuries. In 2018, 22,697 people died in the U.S. in motor vehicle traffic crashes, of which only 53.0% were restrained. In 2017, seat belts saved an estimated 14,955 lives among motor vehicle occupants 5 years of age and older within the United States.<sup>15, 16</sup>

- ◆ In 2018, an estimated 84.5% of Michigan adults reported always using their seat belt when driving or riding in a car.
- ◆ Seatbelt use increased slightly with age and with increasing household income.
- ◆ Males reported a significantly lower prevalence of seatbelt use (80.6% vs. 88.3%) compared to females.
- ◆ The prevalence of seatbelt use is significantly lower in Hispanic adults (78.1%) than in White, non-Hispanic adults (86.1%).
- ◆ Adults with health insurance (85.1%) were more likely than uninsured adults (76.7%) to always wear their seatbelt.
- ◆ The prevalence of seatbelt use among Michigan adults has remained steady since the BRFSS methodology changes in 2011, and is consistently higher among females than males.
- ◆ Since the BRFSS methodology changes in 2011, the prevalence of driving a motor vehicle after drinking among Michigan adults has increased and is higher among males than females.

Demographic Characteristics	Always Uses a Seatbelt <sup>a</sup>		Drove Motor Vehicle After Drinking <sup>b</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>84.5</b>	<b>(83.6-85.4)</b>	<b>2.1</b>	<b>(1.7-2.5)</b>
<b>Age</b>				
18 - 24	73.3	(69.5-76.8)	2.9	(1.8-4.5)
25 - 34	81.2	(78.3-83.7)	3.1	(2.1-4.7)
35 - 44	83.5	(80.8-85.9)	1.4	(0.8-2.4)
45 - 54	85.1	(82.7-87.3)	2.1	(1.4-3.1)
55 - 64	90.0	(88.4-91.4)	2.1	(1.5-2.9)
65 - 74	90.2	(88.3-91.9)	1.6	(1.0-2.4)
75 +	89.1	(86.6-91.1)	-- <sup>c</sup>	-- <sup>c</sup>
<b>Gender</b>				
Male	80.6	(79.1-82.1)	3.0	(2.4-3.7)
Female	88.3	(87.1-89.4)	1.2	(0.9-1.7)
<b>Race/Ethnicity</b>				
White, non-Hispanic	86.1	(85.0-87.0)	2.2	(1.8-2.6)
Black, non-Hispanic	80.2	(77.0-83.1)	1.6	(0.9-2.9)
Other, non-Hispanic	83.3	(79.0-86.8)	-- <sup>c</sup>	-- <sup>c</sup>
Hispanic	78.1	(70.9-83.9)	-- <sup>c</sup>	-- <sup>c</sup>
<b>Household Income</b>				
< \$20,000	83.2	(80.2-85.8)	-- <sup>c</sup>	-- <sup>c</sup>
\$20,000 - \$34,999	85.9	(83.5-88.0)	1.9	(1.3-2.8)
\$35,000 - \$49,999	83.9	(80.8-86.6)	1.9	(1.1-3.2)
\$50,000 - \$74,999	87.4	(85.0-89.6)	2.3	(1.5-3.6)
≥ \$75,000	88.2	(86.5-89.6)	2.9	(2.2-3.8)
<b>Health Insurance</b>				
Insured	85.1	(84.1-86.0)	2.0	(1.6-2.4)
Uninsured	76.7	(72.2-80.7)	-- <sup>c</sup>	-- <sup>c</sup>
<b>Disability Status</b>				
No disabilities	86.3	(85.2-87.3)	2.2	(1.8-2.7)
Adults with disabilities	89.1	(87.5-90.6)	-- <sup>c</sup>	-- <sup>c</sup>

<sup>a</sup> Among all adults, the proportion reporting that they always used a seatbelt within driving or riding in a car.  
<sup>b</sup> Among adults who reporting drinking any alcohol within the past 30 days, the proportion who reported that they had driven when they'd had too much to drink at least once in the previous month.  
<sup>c</sup> Suppressed due to a denominator of < 50 and/or a relative standard error > 30%.



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.



# Routine Checkup in Past Year

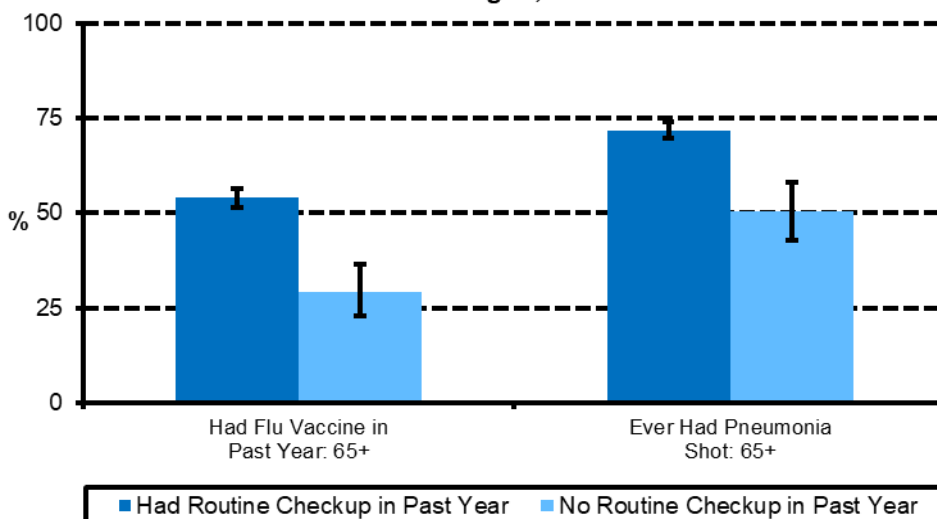
A yearly routine checkup is a great way to remain proactive about one's health. The benefits of having an annual checkup include early diagnosis and treatment of existing conditions and prevention of future medical problems.<sup>17</sup>

- ◆ In 2018, an estimated 79.5% of Michigan adults reported having a routine medical checkup within the past year.
- ◆ The prevalence of having a routine checkup within the past year increased with age.
- ◆ Males (75.4%) reported a significantly lower prevalence of having a routine checkup within the past year than females (83.5%).
- ◆ White, non-Hispanic adults (78.9%) and Hispanic adults (74.2%) reported a significantly lower prevalence of having had a routine checkup within the past year than did Black, non-Hispanic adults (83.8%).
- ◆ Insured adults and adults with disabilities (82.1% and 86.7%, respectively) were more likely to have had a routine checkup within the past year than uninsured adults and adults without disabilities (46.6% and 77.0%, respectively).
- ◆ Michigan adults 65+ years who had a routine checkup within the past year were more likely to have had a flu vaccine within the past year [54.0% vs. 29.2%], and to have ever had a pneumonia vaccine [71.9% vs. 50.4%] when compared to those who had not had a routine checkup within the past year.

Demographic Characteristics	Had a Routine Checkup Within The Past Year <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>79.5</b>	<b>(78.5-80.6)</b>
<b>Age</b>		
18 - 24	73.5	(69.6-77.0)
25 - 34	64.5	(61.0-67.8)
35 - 44	73.8	(70.7-76.6)
45 - 54	80.5	(78.1-82.8)
55 - 64	85.0	(83.0-86.8)
65 - 74	91.9	(90.3-93.3)
75 +	92.4	(90.2-94.1)
<b>Gender</b>		
Male	75.4	(73.7-77.0)
Female	83.5	(82.1-84.8)
<b>Race/Ethnicity</b>		
White, non-Hispanic	78.9	(77.7-80.0)
Black, non-Hispanic	83.8	(80.5-86.6)
Other, non-Hispanic	80.4	(75.7-84.4)
Hispanic	74.2	(67.5-79.9)
<b>Household Income</b>		
< \$20,000	79.0	(75.8-81.9)
\$20,000 - \$34,999	79.3	(76.5-81.9)
\$35,000 - \$49,999	79.4	(76.1-82.3)
\$50,000 - \$74,999	77.6	(74.5-80.3)
≥ \$75,000	80.3	(78.4-82.1)
<b>Health Insurance</b>		
Insured	82.1	(81.1-83.1)
Uninsured	46.6	(41.4-51.7)
<b>Disability Status</b>		
No disabilities	77.0	(75.6-78.3)
Adults with disabilities	86.7	(84.8-88.3)

<sup>a</sup> Among all adults, the proportion reporting a routine medical checkup within the past year.

**Health Screenings and Immunizations by Routine Checkup Status Michigan, 2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Breast Cancer Screening

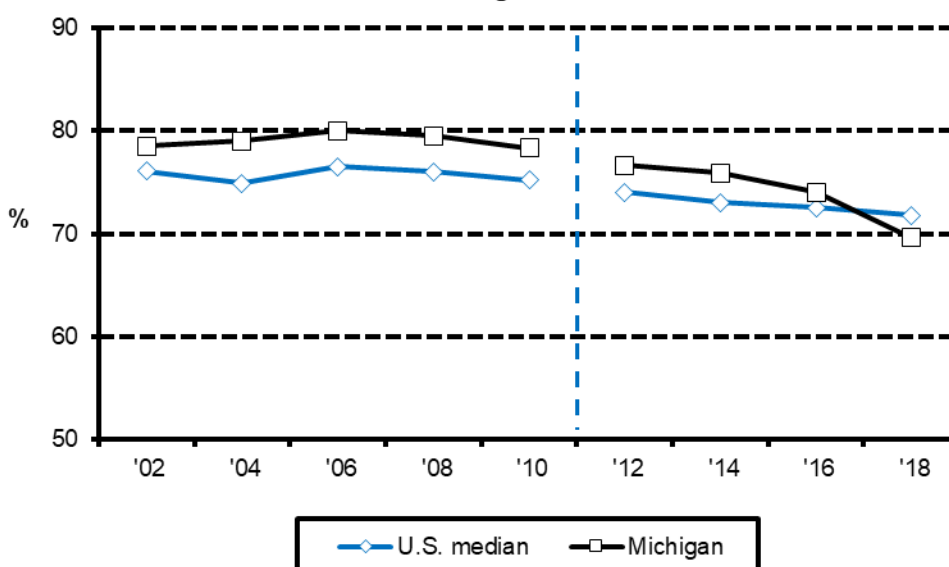
Breast cancer is currently the second leading cause of cancer deaths among women within the United States.<sup>18</sup> In 2018, there were 1,488 deaths among Michigan women due to breast cancer.<sup>19</sup> Early detection of breast cancer can occur through the use of screening tools such as mammography and clinical breast exams.

- ◆ In 2018, an estimated 69.6% of Michigan women 40 years and older reported having a mammogram within the past two years.
- ◆ Breast cancer screening measures increased with household income level, but were similar by race/ethnicity.
- ◆ Insured adults (70.7%) were more likely than uninsured adults (41.3%) to have reported receiving a mammogram within the past two years.
- ◆ The HP 2020 target for having received a mammogram within the past two years among women aged 40 years and older is set at 81.1%.<sup>7</sup> The prevalence for this indicator among Michigan women 40 years and older (69.6%) will need to increase by 11.5 percentage points during the next two years in order to meet HP 2020 target.
- ◆ In 2018, the prevalence of having had a mammogram within the past two years among Michigan women 40 years and older is slightly lower than the U.S. median prevalence for this indicator.

Demographic Characteristics	Had Mammogram in Past Two Years <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>69.6</b>	<b>(67.7-71.4)</b>
<b>Age</b>		
40 - 49	59.6	(54.9-64.1)
50 - 59	74.2	(70.5-77.6)
60 - 69	77.6	(74.3-80.6)
70 +	64.9	(61.3-68.4)
<b>Race/Ethnicity</b>		
White, non-Hispanic	69.9	(67.8-71.9)
Black, non-Hispanic	68.6	(62.4-74.2)
Other, non-Hispanic	68.6	(56.9-78.4)
Hispanic	76.5	(63.0-86.1)
<b>Household Income</b>		
< \$20,000	65.8	(60.3-71.0)
\$20,000 - \$34,999	65.4	(60.5-70.0)
\$35,000 - \$49,999	70.6	(65.1-75.6)
\$50,000 - \$74,999	74.3	(69.2-78.7)
≥ \$75,000	77.8	(74.5-80.7)
<b>Health Insurance</b>		
Insured	70.7	(68.8-72.6)
Uninsured	41.3	(31.4-52.0)
<b>Disability Status</b>		
No disabilities	72.4	(70.0-74.7)
Adults with disabilities	68.7	(65.4-71.8)

<sup>a</sup> Among women aged 40 years and older, the proportion who reported having a mammogram in the past two years.

**Had a Mammogram in the Past Two Years Among Women Aged 40 Years and Older U.S. vs. Michigan, 2002-2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Cervical Cancer Screening

Current guidelines for cervical cancer screening recommend that women 21 to 65 years of age receive a Pap test at least every three years. Women 30 to 65 years of age can also choose to lengthen their testing interval by having a Pap test and HPV testing combined every five years.<sup>20</sup>

- ◆ In 2018, an estimated 89.8% of Michigan women aged 18 years and older reported ever having a Pap test, while 73.3% reported having a Pap test within the past three years.
- ◆ The prevalence of appropriate cervical cancer screening increased with age until falling off in the oldest age group.
- ◆ White, non-Hispanic adults (71.5%) reported a significantly lower prevalence of having appropriate cervical cancer screening than did Black, non-Hispanic adults (82.5%).
- ◆ The prevalence of appropriate cervical cancer screening increased with household income level.
- ◆ Insured women (74.7%) were more likely to report appropriate cervical cancer screening than uninsured women (51.7%).
- ◆ The HP 2020 target for the proportion of women 21 to 65 years of age who have received a Pap test within the past three years is set at 84.5%.<sup>7</sup> The prevalence of this indicator among Michigan women aged 21 to 65 years will need to increase by 11.2 percentage point within two years in order to meet the HP 2020 target.

Demographic Characteristics	Ever had a Pap Test <sup>a</sup>		Had Appropriately Timed Pap Test <sup>b</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>89.8</b>	<b>(88.3-91.1)</b>	<b>73.3</b>	<b>(71.4-75.1)</b>
<b>Age</b>				
18 - 29	63.3	(58.4-67.9)	59.3	(54.4-64.0)
30 - 39	97.4	(95.6-98.5)	89.3	(85.5-92.2)
40 - 49	-- <sup>c</sup>	-- <sup>c</sup>	86.2	(82.5-89.3)
50 - 59	-- <sup>c</sup>	-- <sup>c</sup>	84.8	(81.2-87.8)
60 - 69	-- <sup>c</sup>	-- <sup>c</sup>	73.6	(69.1-77.6)
70 +	94.3	(90.2-96.7)	39.0	(34.1-44.2)
<b>Race/Ethnicity</b>				
White, non-Hispanic	90.2	(88.4-91.7)	71.5	(69.3-73.6)
Black, non-Hispanic	92.6	(89.0-95.1)	82.5	(77.8-86.3)
Other, non-Hispanic	82.6	(73.8-89.0)	71.4	(61.9-79.4)
Hispanic	83.1	(70.8-90.8)	77.7	(65.5-86.5)
<b>Household Income</b>				
< \$20,000	91.7	(87.9-94.4)	71.9	(66.6-76.6)
\$20,000 - \$34,999	88.1	(83.9-91.3)	69.3	(64.4-73.8)
\$35,000 - \$49,999	93.3	(88.1-96.4)	71.7	(65.7-77.0)
\$50,000 - \$74,999	91.4	(86.7-94.6)	74.9	(69.6-79.5)
≥ \$75,000	92.8	(90.2-94.7)	81.5	(78.3-84.4)
<b>Health Insurance</b>				
Insured	90.4	(88.9-91.8)	74.7	(72.8-76.5)
Uninsured	82.2	(73.3-88.7)	51.7	(42.8-60.5)
<b>Disability Status</b>				
No disabilities	88.9	(87.0-90.6)	74.7	(72.4-76.8)
Adults with disabilities	92.6	(89.7-94.7)	68.8	(64.8-72.5)

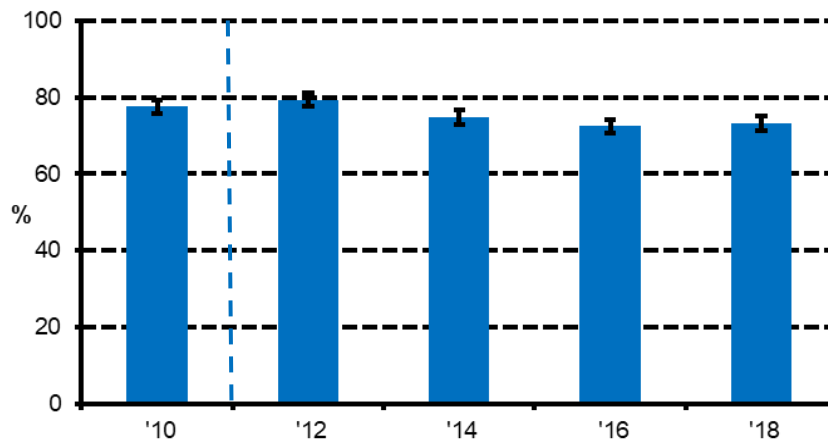
Note: Data includes diagnostic tests and excludes women who have had a hysterectomy.

<sup>a</sup> Among women aged 18 years and older, the proportion who reported ever having a Pap test.

<sup>b</sup> Among women aged 18 years and older, the proportion who reported having a Pap test within the previous three years.

<sup>c</sup> Suppressed due to a denominator of < 50 and/or a relative standard error > 30%.

**Had a Pap Test in the Past Three Years  
Among Women Aged 18 Years and Older  
Michigan, 2010-2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Prostate Cancer Screening

Prostate cancer is the second leading cause of cancer deaths among males in Michigan; there were 1,001 deaths in 2018 (18.6 deaths per 100,000 male population, age adjusted).<sup>19</sup>

- ◆ In 2018, an estimated 53.4% of Michigan men aged 50 years and older reported discussing the advantages of a Prostate-Specific Antigen (PSA) test with their doctor, while 33.5% reported having had a PSA test within the past year.
- ◆ The prevalence of having had a PSA test within the past year increased with age and household income level.
- ◆ The prevalence of having a PSA test within the past year was similar by race/ethnicity and disability status.
- ◆ Prior to the 2011 BRFSS methodology changes, the prevalence of receiving a PSA test within the past year among Michigan men 50 years and older was stable over time. The BRFSS methodology changes caused the PSA testing prevalence to take a significant decline in 2012. Since 2012, the prevalence of receiving a PSA test within the past year has remained similar to the prevalence in 2012 and 2014, and then decreased from 2014 to 2018.

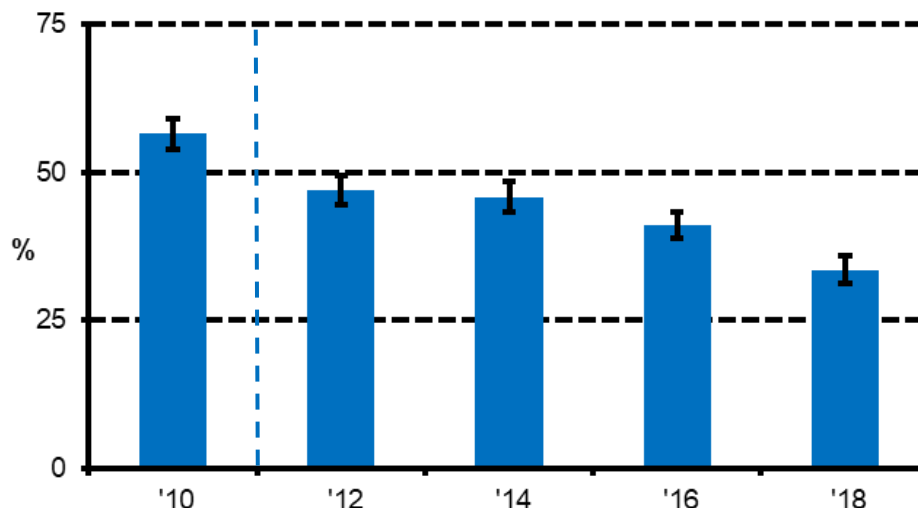
Demographic Characteristics	Ever Discussed Advantages of PSA Test With Doctor <sup>a</sup>		Had PSA Test in Past Year <sup>b</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>53.4</b>	<b>(51.0-55.9)</b>	<b>33.5</b>	<b>(31.2-35.9)</b>
<b>Age</b>				
50 - 59	42.5	(38.4-46.6)	24.4	(20.9-28.2)
60 - 69	58.2	(54.2-62.2)	36.1	(32.2-40.1)
70 +	61.3	(56.8-65.6)	42.4	(38.0-46.9)
<b>Race/Ethnicity</b>				
White, non-Hispanic	53.5	(50.9-56.2)	34.6	(32.1-37.1)
Black, non-Hispanic	57.2	(48.4-65.6)	32.2	(24.6-41.0)
Other, non-Hispanic	42.4	(31.1-54.5)	23.6	(15.0-35.1)
Hispanic	30.1	(16.2-49.1)	-- <sup>e</sup>	-- <sup>e</sup>
<b>Household Income</b>				
< \$20,000	37.9	(30.9-45.4)	21.5	(16.0-28.2)
\$20,000 - \$34,999	40.1	(34.3-46.3)	22.2	(17.5-27.8)
\$35,000 - \$49,999	55.9	(49.1-62.4)	38.3	(31.9-45.1)
\$50,000 - \$74,999	59.9	(53.3-66.1)	38.8	(32.3-45.7)
≥ \$75,000	63.3	(59.2-67.1)	39.7	(35.8-43.7)
<b>Health Insurance</b>				
Insured	54.4	(51.9-56.9)	34.2	(31.9-36.7)
Uninsured	28.4	(18.0-41.6)	16.8	(9.1-28.8)
<b>Disability Status</b>				
No disabilities	55.5	(52.4-58.5)	35.7	(32.8-38.7)
Adults with disabilities	50.4	(46.2-54.6)	30.0	(26.3-34.1)

<sup>a</sup> Among men aged 50 years and older, the proportion ever discussing the advantages of a PSA test with a doctor, nurse, or other health professional.

<sup>b</sup> Among men aged 50 years and older, the proportion who reported having a PSA test within the past year.

<sup>c</sup> Suppressed due to a denominator of < 50 and/or a relative standard error > 30%.

**Had a PSA Test in the Past Year  
Among Men Aged 50 Years and Older  
Michigan, 2010-2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Colorectal Cancer Screening

In 2018, colorectal cancer was the second leading cause of cancer-related deaths in Michigan with 1,717 deaths.<sup>19</sup> Fecal occult blood tests, sigmoidoscopy, and colonoscopy are screening procedures that are performed to detect colorectal cancer in the early stages. Appropriate colorectal cancer screening consists of a fecal occult blood test within the past year, a sigmoidoscopy within the past five years, or a colonoscopy within the past 10 years.

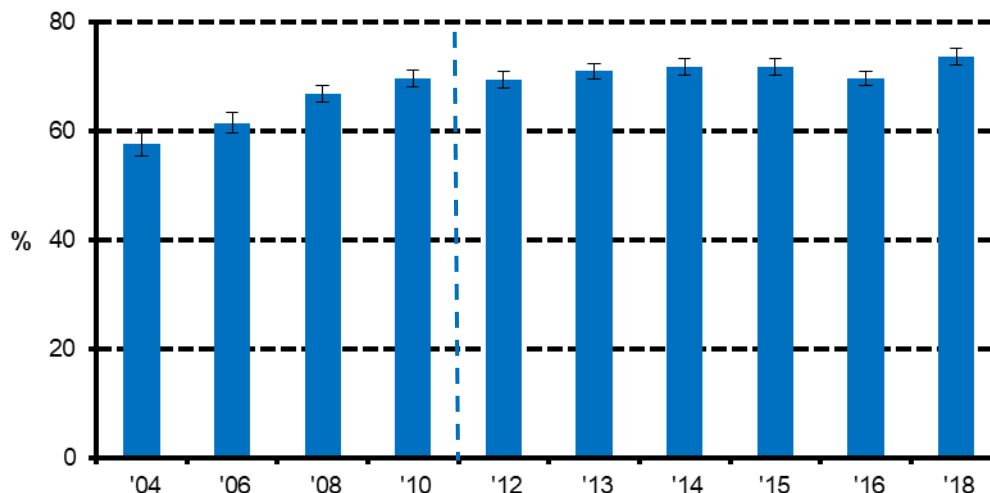
- ◆ In 2018, an estimated 58.1% of Michigan adults aged 50 years and older reported having a sigmoidoscopy or colonoscopy within the past five years, while 73.6% reported appropriate colorectal cancer screening.
- ◆ The prevalence of appropriate colorectal cancer screening was similar by gender and race/ethnicity, but increased with household income level.
- ◆ Insured adults (74.7%) were more likely than uninsured adults (44.0%) to have reported receiving appropriate colorectal cancer screening.
- ◆ The prevalence of appropriate colorectal cancer screening among Michigan adults 50 years and older has remained stable since the 2011 BRFSS methodology changes.

Demographic Characteristics	Had Sigmoidoscopy or Colonoscopy in Past 5 Years <sup>a</sup>		Had Appropriate Colorectal Cancer Screening <sup>b</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>58.1</b>	<b>(56.5-59.7)</b>	<b>73.6</b>	<b>(72.1-75.1)</b>
<b>Age</b>				
50 - 59	55.5	(52.6-58.4)	66.7	(63.9-69.4)
60 - 69	61.2	(58.5-63.8)	77.8	(75.3-80.0)
70 +	57.6	(54.8-60.4)	76.9	(74.3-79.3)
<b>Gender</b>				
Male	59.6	(57.3-62.0)	73.8	(71.6-76.0)
Female	56.8	(54.6-59.0)	73.4	(71.3-75.4)
<b>Race/Ethnicity</b>				
White, non-Hispanic	58.2	(56.5-60.0)	74.3	(72.7-75.8)
Black, non-Hispanic	59.0	(53.2-64.5)	69.2	(63.5-74.4)
Other, non-Hispanic	51.1	(41.9-60.3)	67.7	(58.4-75.8)
Hispanic	48.3	(35.4-61.4)	69.5	(54.5-81.3)
<b>Household Income</b>				
< \$20,000	51.4	(46.5-56.2)	64.9	(60.2-69.3)
\$20,000 - \$34,999	54.8	(50.7-58.9)	69.0	(64.8-72.8)
\$35,000 - \$49,999	57.8	(53.3-62.2)	75.9	(71.8-79.5)
\$50,000 - \$74,999	61.6	(57.2-65.8)	79.1	(75.0-82.6)
≥ \$75,000	62.0	(59.1-64.8)	77.2	(74.6-79.7)
<b>Health Insurance</b>				
Insured	58.8	(57.2-60.5)	74.7	(73.2-76.2)
Uninsured	39.1	(30.3-48.6)	44.0	(34.9-53.5)
<b>Disability Status</b>				
No disabilities	57.9	(55.8-59.9)	73.6	(71.7-75.5)
Adults with disabilities	58.5	(55.7-61.2)	73.6	(71.0-76.0)

<sup>a</sup> Among adults aged 50 years and older, the proportion reporting having a sigmoidoscopy or colonoscopy within the past five years.

<sup>b</sup> Among adults aged 50 years and older, the proportion reporting having a fecal occult blood test within the past year, a sigmoidoscopy within the past five years, or a colonoscopy within the past ten years.

**Appropriate Colorectal Cancer Screening  
Among Adults Aged 50 Years and Older  
Michigan, 2004-2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Oral Health

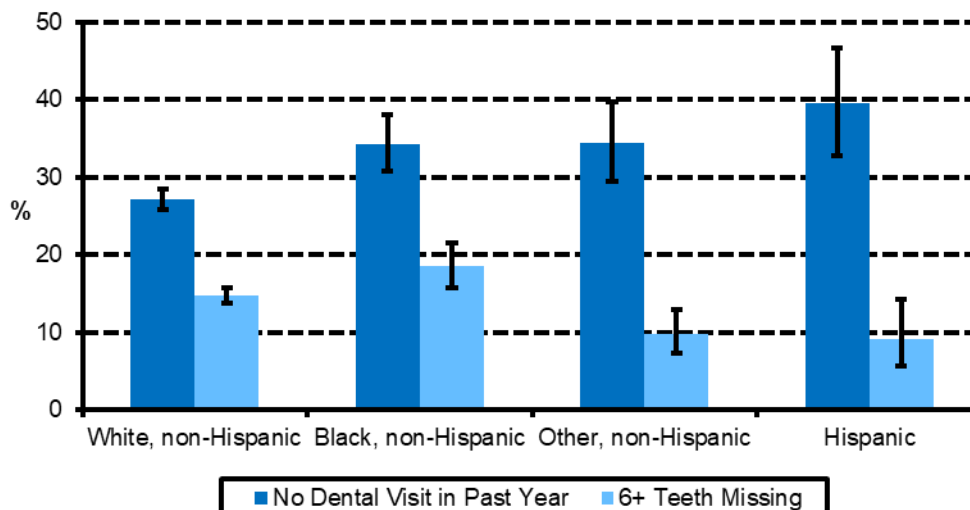
Oral health is an important part of one's general health and quality of life. Regular dental care includes preventive dental services such as teeth cleaning, and permits early diagnosis and treatment of tooth decay and periodontal diseases.<sup>23</sup>

- ◆ In 2018, an estimated 29.0% of Michigan adults reported not having had a dental visit within the past year.
- ◆ With exception of the 25-34 years age group, the prevalence of not having had a dental visit within the past year was similar by age.
- ◆ The prevalence of not having had a dental visit within the past year decreased with increasing household income.
- ◆ Males (31.3%) were more likely to have reported not having a dental visit within the past year compared to females (26.8%).
- ◆ Black, non-Hispanic adults (34.3%) reported a higher prevalence of no dental visit within the past year than White, non-Hispanic adults (27.1%).
- ◆ Uninsured adults and disabled adults (55.4% and 37.8%, respectively) were more likely to have not had a dental visit within the past year compared to insured adults and non-disabled adults (26.9% and 25.4%, respectively).
- ◆ The prevalence of having six or more teeth missing was greater among Black, non-Hispanic adults (18.5%) than both White, non-Hispanics (14.7%) and Hispanic adults (9.1%).

Demographic Characteristics	No Dental Visit in Past Year <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>29.0</b>	<b>(27.8-30.2)</b>
<b>Age</b>		
18 - 24	26.3	(22.9-30.1)
25 - 34	38.3	(34.8-41.9)
35 - 44	30.0	(26.9-33.2)
45 - 54	27.3	(24.6-30.1)
55 - 64	26.3	(24.1-28.7)
65 - 74	25.6	(23.0-28.3)
75 +	29.7	(26.4-33.3)
<b>Gender</b>		
Male	31.3	(29.6-33.1)
Female	26.8	(25.2-28.4)
<b>Race/Ethnicity</b>		
White, non-Hispanic	27.1	(25.8-28.4)
Black, non-Hispanic	34.3	(30.8-38.1)
Other, non-Hispanic	34.4	(29.4-39.8)
Hispanic	39.5	(32.7-46.7)
<b>Household Income</b>		
< \$20,000	49.9	(46.2-53.6)
\$20,000 - \$34,999	40.4	(37.4-43.6)
\$35,000 - \$49,999	29.8	(26.6-33.2)
\$50,000 - \$74,999	23.6	(20.8-26.7)
≥ \$75,000	14.9	(13.3-16.7)
<b>Health Insurance</b>		
Insured	26.9	(25.8-28.1)
Uninsured	55.4	(50.2-60.5)
<b>Disability Status</b>		
No disabilities	25.4	(24.0-26.8)
Adults with disabilities	37.8	(35.4-40.2)

<sup>a</sup> Among all adults, the proportion who reported that they had not visited a dentist or dental clinic for any reason in the previous year.

**Oral Health Risk Factors by Race/Ethnicity  
Michigan, 2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.



# Immunizations Among Adults 65 Years of Age and Older

Adult immunizations against influenza and pneumococcal disease are important health indicators that need to be routinely monitored since morbidity and mortality are associated with both of these diseases within different demographic groups.<sup>22</sup>

- ◆ In 2018, an estimated 51.9% of Michigan adults ages 65 years and older reported receiving a flu vaccine within the past year, while an estimated 70.0% of this population reported ever receiving a pneumonia vaccine.
- ◆ The prevalence of both having a flu vaccine in the past year and ever having a pneumonia vaccine were similar by gender.
- ◆ White, non-Hispanic adults (53.5% and 72.5%, respectively) were more likely than Black, non-Hispanic adults (38.4% and 52.4%, respectively) to have had a flu vaccine in the past year and to ever have received a pneumonia vaccine.
- ◆ Adults with disabilities (54.9% and 77.6%, respectively) were more likely to have had a flu vaccine the past year and to ever have received a pneumonia vaccine than adults without disabilities (49.9% and 66.5%, respectively).

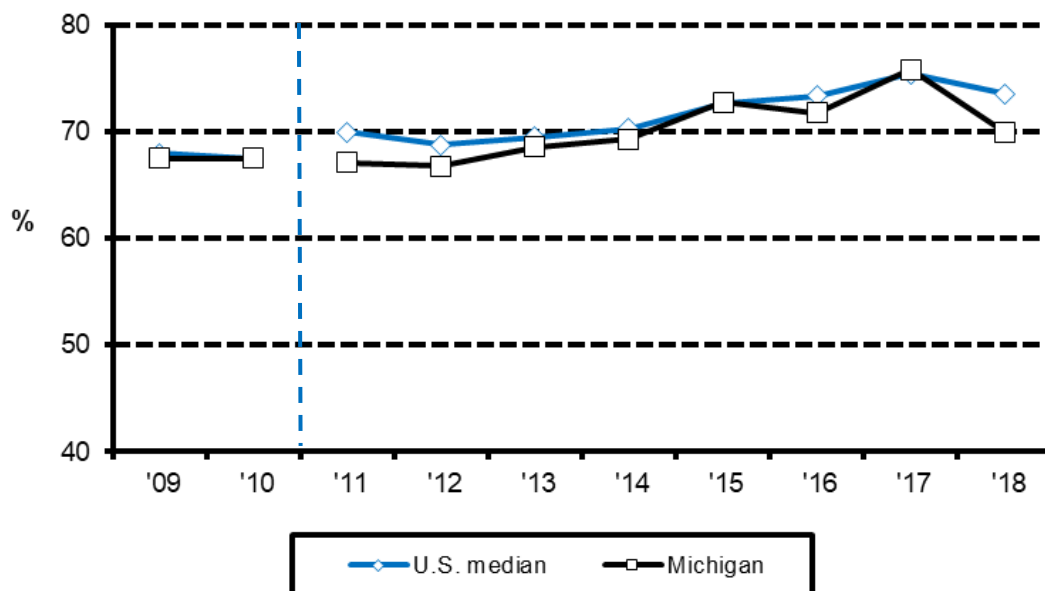
Demographic Characteristics	Had Flu Vaccine in Past Year <sup>a</sup>		Ever Had Pneumonia Vaccine <sup>b</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>51.9</b>	<b>(49.6-54.1)</b>	<b>70.0</b>	<b>(67.8-72.1)</b>
<b>Age</b>				
65 - 74	49.8	(47.0-52.7)	66.5	(63.5-69.3)
75 +	54.8	(51.1-58.5)	75.0	(71.8-78.0)
<b>Gender</b>				
Male	52.0	(48.5-55.5)	67.9	(64.5-71.2)
Female	51.7	(48.7-54.7)	71.6	(68.8-74.3)
<b>Race/Ethnicity</b>				
White, non-Hispanic	53.5	(51.0-55.9)	72.5	(70.3-74.6)
Black, non-Hispanic	38.4	(30.3-47.2)	52.4	(43.7-60.9)
Other, non-Hispanic	43.5	(30.5-57.6)	69.6	(55.0-81.1)
Hispanic	52.7	(28.4-75.8)	-- <sup>c</sup>	-- <sup>c</sup>
<b>Household Income</b>				
< \$20,000	46.7	(39.7-53.7)	63.5	(56.2-70.2)
\$20,000 - \$34,999	47.2	(41.9-52.5)	70.5	(65.1-75.5)
\$35,000 - \$49,999	58.9	(53.5-64.1)	73.5	(68.3-78.0)
\$50,000 - \$74,999	55.1	(48.7-61.3)	75.3	(69.6-80.3)
≥ \$75,000	55.8	(51.0-60.5)	73.2	(68.7-77.3)
<b>Disability Status</b>				
No disabilities	49.9	(46.9-52.8)	66.5	(63.7-69.3)
Adults with disabilities	54.9	(51.1-58.6)	77.6	(74.3-80.6)

<sup>a</sup> Among adults aged 65 years and older, the proportion reporting that they had a flu vaccine, either by injection in the arm or sprayed in the nose during the past 12 months.

<sup>b</sup> Among adults aged 65 years and older, the proportion reporting that they ever had a pneumococcal vaccine.

<sup>c</sup> Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

**Ever Had a Pneumococcal Vaccination  
Among Adults Aged 65 Years and Older  
U.S. vs. Michigan, 2009-2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# HIV Testing

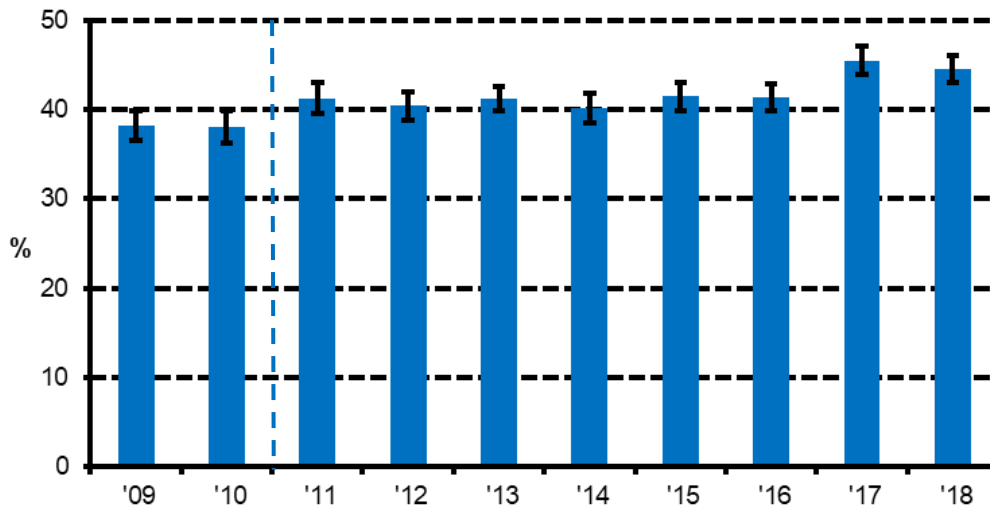
Early awareness of an HIV infection through HIV testing can prevent further spread of the disease, and an early start on antiretroviral therapy can increase the quality of life among those who are living with HIV/AIDS.<sup>23</sup>

- ◆ In 2018, an estimated 44.6% of Michigan adults reported ever being tested for HIV.
- ◆ Females (50.2%) reported a significantly higher prevalence of HIV testing than males (39.0%).
- ◆ Black, non-Hispanic adults (73.2%) reported a significantly higher prevalence of HIV testing than both White, non-Hispanic (39.4%) and Hispanic adults (50.9%).
- ◆ The prevalence of HIV testing decreased with increasing household income level.
- ◆ Adults with disabilities (53.8%) were more likely to have been tested for HIV than adults without disabilities (42.0%).
- ◆ Since the BRFSS methodology changes that were implemented in 2011, the prevalence of HIV testing among Michigan adult has remained stable from 2011 to 2016, and then increased from 2016 to 2018.

Demographic Characteristics	Ever Had an HIV Test <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>44.6</b>	<b>(43.1-46.1)</b>
<b>Age</b>		
18 - 24	24.4	(20.9-28.2)
25 - 34	53.1	(49.5-56.7)
35 - 44	59.3	(55.9-62.7)
45 - 54	49.7	(46.6-52.8)
55 - 64	35.2	(32.7-37.8)
<b>Gender</b>		
Male	39.0	(36.9-41.1)
Female	50.2	(48.0-52.3)
<b>Race/Ethnicity</b>		
White, non-Hispanic	39.4	(37.7-41.1)
Black, non-Hispanic	73.2	(69.0-77.1)
Other, non-Hispanic	36.5	(31.0-42.2)
Hispanic	50.9	(43.0-58.7)
<b>Household Income</b>		
< \$20,000	57.8	(53.5-62.1)
\$20,000 - \$34,999	51.8	(47.8-55.7)
\$35,000 - \$49,999	42.8	(38.2-47.6)
\$50,000 - \$74,999	41.8	(38.0-45.8)
≥ \$75,000	41.8	(39.3-44.3)
<b>Health Insurance</b>		
Insured	44.8	(43.2-46.4)
Uninsured	44.4	(39.0-49.8)
<b>Disability Status</b>		
No disabilities	42.0	(40.3-43.8)
Adults with disabilities	53.8	(50.6-56.9)

<sup>a</sup> Among adults aged 18-64 years, the proportion reporting that they ever had been tested for HIV, apart from tests that were part of a blood donation.

**Ever Had an HIV Test  
Among Adults Aged 18-64 Years  
Michigan, 2009-2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.



# Asthma in Adults

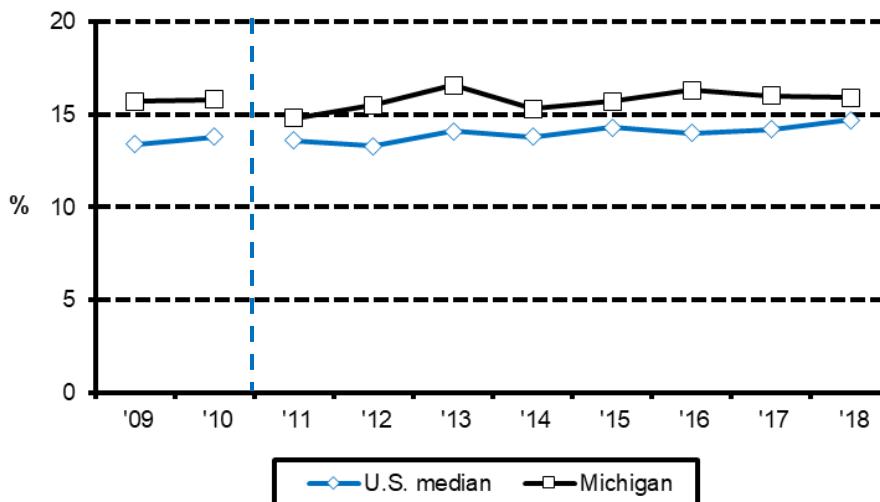
Asthma is a chronic inflammatory disorder of the lungs, characterized by wheezing, coughing, difficulty breathing, and chest tightness. Allergies, a family history of asthma or allergy, low birth weight, and exposure to tobacco smoke are just a few of the potential risk factors that are associated with the development of asthma.<sup>24</sup>

- ◆ In 2018, an estimated 15.9% of Michigan adults reported that they were ever diagnosed with asthma and 11.1% reported that they currently have asthma.
- ◆ The prevalence of both lifetime and current asthma decreased with age and increasing household income level.
- ◆ Females reported a significantly higher prevalence than males for both lifetime (18.0% vs. 13.7%) and current asthma (13.9% and 8.3%).
- ◆ Black, non-Hispanic adults reported significantly higher prevalences for both lifetime and current asthma (21.4% and 15.9%, respectively) than White, non-Hispanic adults (15.1% and 10.3%, respectively).
- ◆ Adults with disabilities reported a significantly higher prevalence than adults without disabilities for both lifetime (23.5% vs. 12.9%) and current asthma (19.1% vs. 8.0%).
- ◆ In 2018, the prevalence of ever being diagnosed with asthma among Michigan adults (15.9%) was higher than the U.S. median prevalence (14.7%).

Demographic Characteristics	Lifetime Asthma <sup>a</sup>		Current Asthma <sup>b</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>15.9</b>	<b>(15.0-16.9)</b>	<b>11.1</b>	<b>(10.4-12.0)</b>
<b>Age</b>				
18 - 24	20.0	(17.0-23.5)	13.9	(11.2-17.0)
25 - 34	18.4	(15.8-21.2)	10.5	(8.5-12.8)
35 - 44	17.2	(14.7-19.9)	11.7	(9.6-14.1)
45 - 54	16.6	(14.4-19.0)	12.4	(10.5-14.6)
55 - 64	14.2	(12.4-16.0)	11.0	(9.5-12.7)
65 - 74	12.6	(10.9-14.5)	9.2	(7.8-10.9)
75 +	10.5	(8.3-13.1)	7.5	(5.5-9.9)
<b>Gender</b>				
Male	13.7	(12.5-15.1)	8.3	(7.3-9.4)
Female	18.0	(16.7-19.4)	13.9	(12.7-15.1)
<b>Race/Ethnicity</b>				
White, non-Hispanic	15.1	(14.1-16.1)	10.3	(9.4-11.2)
Black, non-Hispanic	21.4	(18.4-24.8)	15.9	(13.3-18.9)
Other, non-Hispanic	15.4	(12.1-19.4)	11.0	(8.2-14.5)
Hispanic	16.3	(11.6-22.4)	11.8	(7.7-17.6)
<b>Household Income</b>				
< \$20,000	23.0	(20.0-26.4)	18.2	(15.4-21.3)
\$20,000 - \$34,999	18.0	(15.7-20.6)	13.6	(11.5-15.9)
\$35,000 - \$49,999	13.7	(11.3-16.4)	9.0	(7.1-11.2)
\$50,000 - \$74,999	12.3	(10.3-14.7)	6.9	(5.4-8.7)
≥ \$75,000	13.7	(12.2-15.3)	8.3	(7.2-9.7)
<b>Health Insurance</b>				
Insured	16.1	(15.2-17.1)	11.4	(10.6-12.3)
Uninsured	14.3	(11.2-17.9)	8.0	(5.8-10.9)
<b>Disability Status</b>				
No disabilities	12.9	(12.0-14.0)	8.0	(7.2-8.9)
Adults with disabilities	23.5	(21.5-25.7)	19.1	(17.2-21.2)

<sup>a</sup> Among all adults, the proportion reporting that they were ever told by a doctor, nurse, or other health care professional that they had asthma.  
<sup>b</sup> Among all adults, the proportion reporting that they still have asthma.

**Lifetime Adult Asthma  
U.S. vs. Michigan, 2009-2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Asthma in Children

Although asthma can affect people of all ages, in most cases it begins during childhood. More than 22 million people in the U.S. are known to have asthma, and about six million of these people are children. Children with a family history of asthma and allergy are at a higher risk of developing asthma during childhood.<sup>25</sup>

- ◆ Based on proxy information provided by the adult respondent, the estimated proportion of Michigan children aged 0-17 years who were ever told by a doctor that they had asthma for 2018 was 12.5%, and an estimated 8.6% currently have asthma.
- ◆ The prevalence of lifetime asthma increased with age, and the prevalence of current asthma increased with age until 10-14 years of age and then dropped slightly within the 15-17 year-old age group.
- ◆ The prevalence of both lifetime and current asthma among children decreased with increasing household income level, but increased slightly in the \$35,000-\$49,999 household income group.
- ◆ The prevalence of both lifetime and current asthma for Black, non-Hispanic children (18.3% and 15.1%, respectively) was significantly higher than for White, non-Hispanic children (10.8% and 6.8%, respectively).
- ◆ White, non-Hispanic boys (13.5%) were more likely to report lifetime asthma than White, non-Hispanic girls (8.2%).

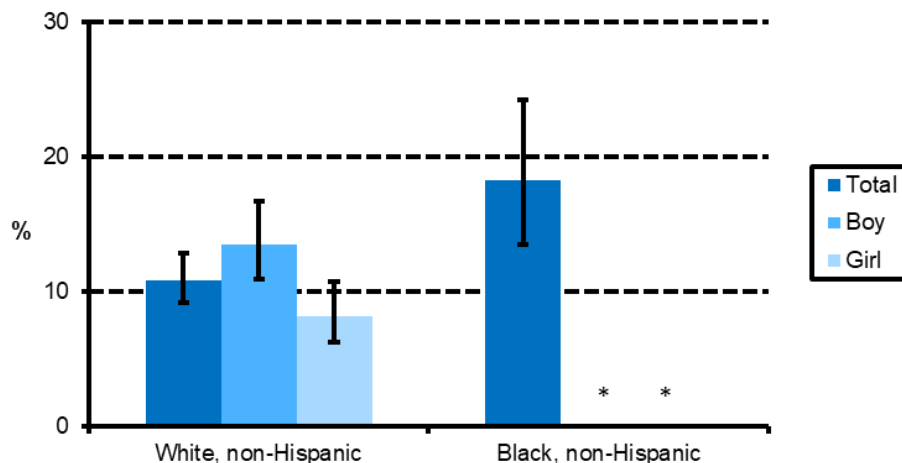
Demographic Characteristics	Lifetime Asthma <sup>a</sup>		Current Asthma <sup>b</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>12.5</b>	<b>(10.9-14.2)</b>	<b>8.6</b>	<b>(7.2-10.2)</b>
<b>Age</b>				
0 - 4	4.6	(2.7-7.7)	4.1	(2.3-7.2)
5 - 9	12.4	(9.3-16.4)	8.9	(6.2-12.6)
10 - 14	16.9	(13.6-20.9)	11.6	(8.8-15.2)
15 - 17	19.2	(15.4-23.6)	10.8	(7.8-14.6)
<b>Gender</b>				
Boy	15.7	(13.3-18.5)	11.3	(9.2-13.9)
Girl	9.2	(7.4-11.5)	5.8	(4.4-7.7)
<b>Race/Ethnicity</b>				
White, non-Hispanic	10.8	(9.2-12.8)	6.8	(5.4-8.5)
Black, non-Hispanic	18.3	(13.5-24.2)	15.1	(10.7-20.9)
Other, non-Hispanic	12.7	(8.4-18.7)	8.3	(5.0-13.4)
Hispanic	10.0	(5.7-16.9)	-- <sup>c</sup>	-- <sup>c</sup>
<b>Household Income</b>				
< \$20,000	19.8	(14.2-26.8)	16.0	(10.9-22.7)
\$20,000 - \$34,999	11.4	(7.9-16.3)	8.4	(5.4-12.8)
\$35,000 - \$49,999	16.1	(11.0-23.0)	12.2	(7.6-19.1)
\$50,000 - \$74,999	14.1	(9.9-19.9)	10.7	(7.1-15.7)
≥ \$75,000	9.6	(7.6-12.0)	5.2	(3.8-7.2)

<sup>a</sup> Estimated proportion of Michigan children aged 0-17 years ever told by a doctor, nurse, or other health care professional that they had asthma, using proxy information from the adult respondent.

<sup>b</sup> Estimated proportion of Michigan children aged 0-17 years who still have asthma, using proxy information from the adult respondent.

<sup>c</sup> Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

**Lifetime Child Asthma by Race and Gender  
Michigan, 2018**



\*Suppressed due to a denominator of < 50 and/or a relative standard error > 30%.

Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Chronic Obstructive Pulmonary Disease (COPD)

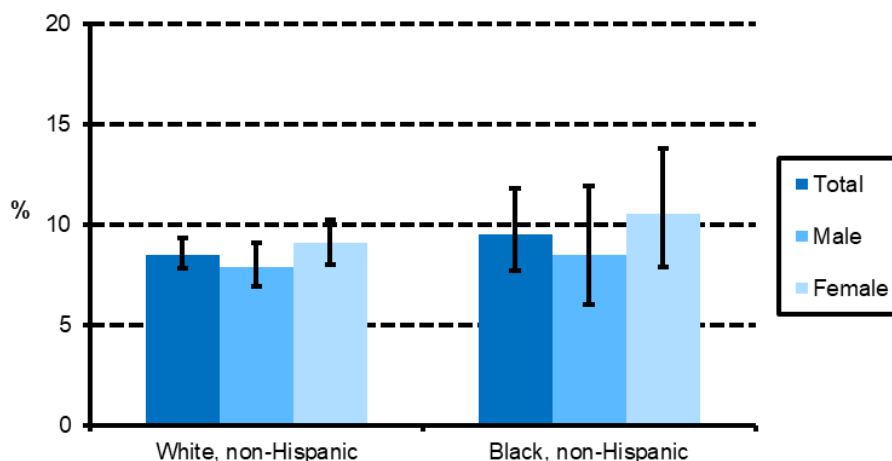
Chronic obstructive pulmonary disease (COPD) is a progressive disease that usually results in coughing, wheezing, shortness of breath, chest tightness, and other symptoms. Cigarette smoking is the leading cause of COPD.<sup>26</sup>

- ◆ In 2018, an estimated 8.6% of Michigan adults reported ever being told by a doctor that they had COPD.
- ◆ The prevalence of COPD increased with age and decreased with increasing household income level.
- ◆ The prevalence of COPD was similar by gender.
- ◆ The prevalence of COPD was similar by race/ethnicity.
- ◆ Adults with disabilities (21.4%) were more likely to have been diagnosed with COPD than adults without disabilities (4.0%).
- ◆ The prevalence of COPD was similar by gender for both White, non-Hispanic and Black, non-Hispanic adults.
- ◆ In 2018, the prevalence of COPD among Michigan adults (8.6%) was higher than the U.S. median prevalence (6.6%).

Demographic Characteristics	Ever Told COPD, Emphysema, or Chronic Bronchitis <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>8.6</b>	<b>(8.0-9.3)</b>
<b>Age</b>		
18 - 24	-- <sup>c</sup>	-- <sup>c</sup>
25 - 34	2.4	(1.6-3.5)
35 - 44	5.4	(3.9-7.3)
45 - 54	10.0	(8.1-12.1)
55 - 64	14.4	(12.6-16.5)
65 - 74	14.9	(13.0-17.1)
75 +	13.2	(10.8-16.0)
<b>Gender</b>		
Male	7.8	(6.9-8.8)
Female	9.4	(8.5-10.5)
<b>Race/Ethnicity</b>		
White, non-Hispanic	8.5	(7.8-9.3)
Black, non-Hispanic	9.5	(7.7-11.8)
Other, non-Hispanic	8.6	(6.1-12.1)
Hispanic	6.8	(4.1-11.2)
<b>Household Income</b>		
< \$20,000	18.6	(16.0-21.5)
\$20,000 - \$34,999	13.0	(11.1-15.2)
\$35,000 - \$49,999	7.8	(6.2-9.8)
\$50,000 - \$74,999	5.5	(4.2-7.1)
≥ \$75,000	3.0	(2.4-3.8)
<b>Health Insurance</b>		
Insured	8.9	(8.2-9.7)
Uninsured	5.1	(3.5-7.4)
<b>Disability Status</b>		
No disabilities	4.0	(3.5-4.6)
Adults with disabilities	21.4	(19.5-23.5)

<sup>a</sup> Among all adults, the proportion reporting ever being told by a doctor that they had chronic obstructive pulmonary disease (COPD), emphysema or chronic bronchitis.

**COPD by Race and Gender  
Michigan, 2018**



# Arthritis

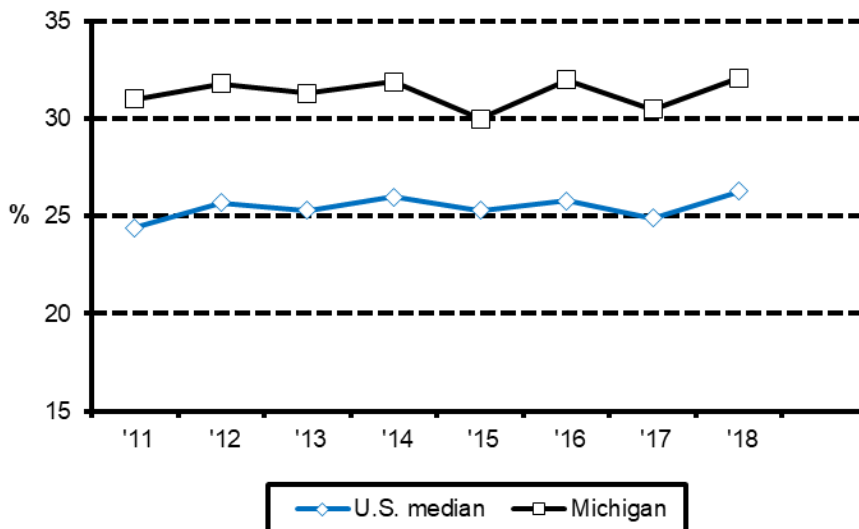
Arthritis and rheumatism are the leading causes of disability within the U.S. These conditions have been diagnosed in over 54 million U.S. adults.<sup>27</sup>

- ◆ In 2018, an estimated 32.1% of Michigan adults reported ever being told by a doctor that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.
- ◆ Females (36.3%) reported a significantly higher prevalence of arthritis than males (27.5%).
- ◆ Hispanic adults (23.5%) reported a lower prevalence of arthritis than White, non-Hispanic adults (33.2%) and Black, non-Hispanic adults (30.8%).
- ◆ The prevalence of arthritis increased with age and decreased with increasing household income level.
- ◆ Uninsured adults (18.9%) were less likely to have been diagnosed with arthritis than insured adults (33.2%), while adults with disabilities (62.6%) were more likely to have been diagnosed than adults without disabilities (21.1%).
- ◆ In 2018, the prevalence of arthritis among Michigan adults (32.1%) was significantly higher than the U.S. median prevalence (26.3%).

Demographic Characteristics	Ever Told Arthritis <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>32.1</b>	<b>(31.0-33.2)</b>
<b>Age</b>		
18 - 24	5.2	(3.6-7.5)
25 - 34	11.7	(9.6-14.2)
35 - 44	21.8	(19.0-24.8)
45 - 54	31.9	(29.1-34.8)
55 - 64	47.1	(44.5-49.8)
65 - 74	55.2	(52.3-58.1)
75 +	60.1	(56.5-63.6)
<b>Gender</b>		
Male	27.5	(26.0-29.1)
Female	36.3	(34.7-38.0)
<b>Race/Ethnicity</b>		
White, non-Hispanic	33.2	(32.0-34.5)
Black, non-Hispanic	30.8	(27.4-34.4)
Other, non-Hispanic	23.8	(19.7-28.5)
Hispanic	23.5	(18.2-29.8)
<b>Household Income</b>		
< \$20,000	46.3	(42.7-50.0)
\$20,000 - \$34,999	37.7	(34.8-40.7)
\$35,000 - \$49,999	34.9	(31.6-38.3)
\$50,000 - \$74,999	31.0	(28.0-34.0)
≥ \$75,000	21.6	(20.0-23.4)
<b>Health Insurance</b>		
Insured	33.2	(32.1-34.4)
Uninsured	18.9	(15.4-22.9)
<b>Disability Status</b>		
No disabilities	21.1	(19.9-22.2)
Adults with disabilities	62.6	(60.2-65.0)

<sup>a</sup> Among all adults, the proportion reporting ever being told by a doctor that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.

**Ever Told Arthritis  
U.S. vs. Michigan, 2011-2018**



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Cardiovascular Disease

Heart disease and stroke are the first leading causes of death in both Michigan and the U.S.<sup>28</sup>

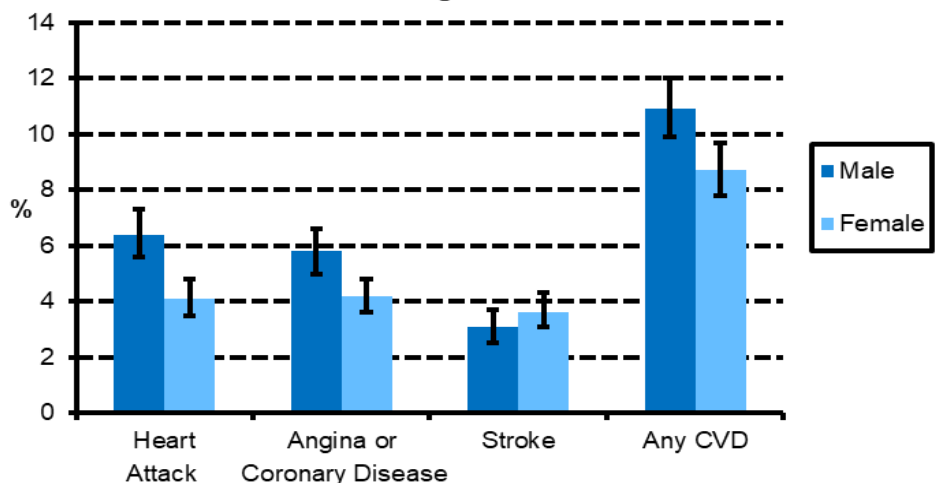
- ◆ In 2018, an estimated 5.3% of Michigan adults had ever been told by a doctor that they had a heart attack, 5.0% had ever been told they had angina or coronary heart disease, and 3.4% had ever been told they had a stroke.
- ◆ When combining all three measures into one indicator, an estimated 9.8% of Michigan adults have ever been told by a doctor that they had some form of cardiovascular disease.
- ◆ The prevalence of all three diseases increased with age and decreased with increasing household income level.
- ◆ Males reported higher prevalences than females for heart attack and coronary heart disease, but not stroke.
- ◆ The prevalences of heart attack and coronary heart disease were similar by race/ethnicity. However, Black, non-Hispanic adults (5.1%) reported a significantly higher prevalence of stroke than White, non-Hispanic adults (3.0%).
- ◆ Adults with disabilities were more likely to have been diagnosed with each of the three diseases when compared to adults without disabilities.
- ◆ In 2018, the prevalence of heart attack (5.3%), coronary heart disease (5.0%), and stroke (3.4%) among Michigan adults were all comparable to the U.S. median prevalence (heart attack: 4.5%; coronary heart disease: 4.3%; and stroke: 3.4%).

Demographic Characteristics	Ever Told Heart Attack <sup>a</sup>		Ever Told Angina or Coronary Heart Disease <sup>b</sup>		Ever Told Stroke <sup>c</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>5.3</b>	<b>(4.7-5.8)</b>	<b>5.0</b>	<b>(4.5-5.5)</b>	<b>3.4</b>	<b>(3.0-3.8)</b>
<b>Age</b>						
18 - 34	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	0.8	(0.4-1.4)
35 - 44	1.7	(0.9-3.1)	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>
45 - 54	4.0	(2.9-5.4)	3.2	(2.2-4.6)	3.5	(2.5-4.9)
55 - 64	7.9	(6.5-9.5)	6.9	(5.7-8.4)	3.6	(2.8-4.6)
65 - 74	11.0	(9.2-13.1)	11.1	(9.4-13.2)	6.3	(4.9-8.0)
75 +	15.2	(12.6-18.3)	16.7	(14.1-19.7)	9.5	(7.6-11.8)
<b>Gender</b>						
Male	6.4	(5.6-7.3)	5.8	(5.0-6.6)	3.1	(2.5-3.7)
Female	4.1	(3.5-4.8)	4.2	(3.6-4.8)	3.6	(3.1-4.3)
<b>Race/Ethnicity</b>						
White, non-Hispanic	5.3	(4.7-5.9)	5.2	(4.7-5.8)	3.0	(2.6-3.5)
Black, non-Hispanic	5.3	(3.9-7.3)	4.5	(3.1-6.4)	5.1	(3.8-6.9)
Other, non-Hispanic	5.6	(3.5-9.0)	3.8	(2.3-6.2)	-- <sup>d</sup>	-- <sup>d</sup>
Hispanic	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>
<b>Household Income</b>						
< \$20,000	9.7	(7.6-12.3)	8.2	(6.3-10.6)	6.6	(5.1-8.6)
\$20,000 - \$34,999	7.5	(6.1-9.1)	5.9	(4.8-7.2)	5.1	(4.0-6.5)
\$35,000 - \$49,999	5.9	(4.5-7.7)	5.7	(4.4-7.3)	2.4	(1.7-3.4)
\$50,000 - \$74,999	5.0	(3.8-6.6)	5.2	(3.9-6.9)	2.4	(1.5-3.8)
≥ \$75,000	2.5	(1.9-3.2)	3.0	(2.4-3.8)	1.2	(0.8-1.6)
<b>Health Insurance</b>						
Insured	5.5	(5.0-6.1)	5.2	(4.7-5.7)	3.4	(3.0-3.9)
Uninsured	1.8	(1.0-3.1)	2.3	(1.1-4.8)	2.3	(1.2-4.6)
<b>Disability Status</b>						
No disabilities	3.2	(2.8-3.8)	3.0	(2.6-3.5)	1.7	(1.4-2.1)
Adults with disabilities	10.8	(9.4-12.4)	10.1	(8.9-11.6)	7.8	(6.6-9.1)

Among all adults, the proportion ever told by a doctor that: <sup>a</sup> they had a heart attack or myocardial infarction, <sup>b</sup> they had angina or coronary heart disease, or <sup>c</sup> they had a stroke.

<sup>d</sup> Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

**Cardiovascular Disease by Gender  
Michigan, 2018**



# Cancer

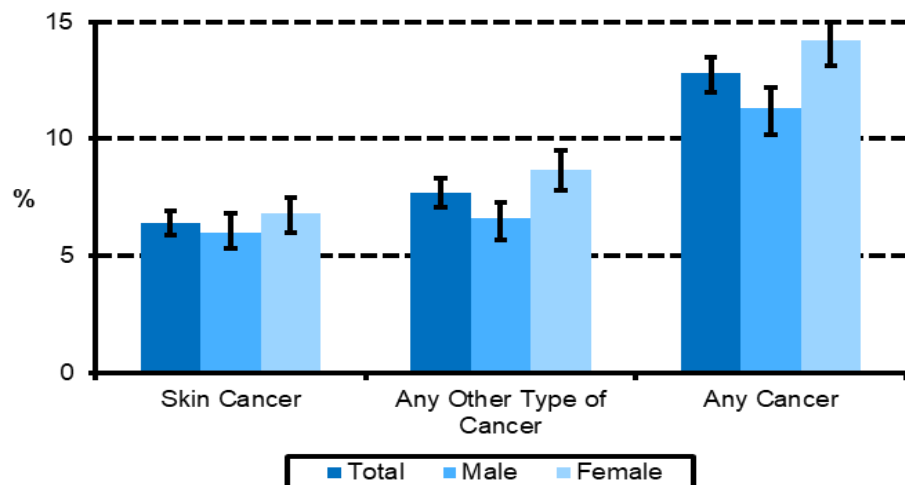
Cancer is the second leading cause of death in both Michigan and the U.S.<sup>30</sup> There are more than 100 different types of cancer and there are nearly 1.8 million new cases of cancer expected in 2020. By 2040, the expected number of new cases per year will rise to roughly 29.5 million.<sup>29</sup>

- ◆ In 2018, an estimated 6.4% of Michigan adults had ever been told by a doctor that they had skin cancer, and 7.7% reported ever being diagnosed with a type of cancer other than skin cancer.
- ◆ When combining these two measures into one indicator, an estimated 12.8% of Michigan adults had ever been told by a doctor that they had some form of cancer.
- ◆ Females (14.2%) were more likely than males (11.3%) to report ever being diagnosed with cancer.
- ◆ White, non-Hispanic adults (14.9%) reported a significantly higher prevalence of cancer than Black, non-Hispanic adults (6.1%) and Hispanic adults (5.0%).
- ◆ Adults with disabilities reported higher cancer prevalences than adults without disabilities.
- ◆ In 2018, the prevalence for skin cancer among Michigan adults (6.4%) was comparable to the U.S. median prevalence (6.4%). The prevalence for other types of cancer (7.7%) was slightly higher than the U.S. median prevalence (7.1%).

Demographic Characteristics	Ever Told Skin Cancer <sup>a</sup>		Ever Told Any Other Types of Cancer <sup>b</sup>		Ever Told Cancer <sup>c</sup>	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
<b>Total</b>	<b>6.4</b>	<b>(5.9-6.9)</b>	<b>7.7</b>	<b>(7.1-8.3)</b>	<b>12.8</b>	<b>(12.1-13.6)</b>
<b>Age</b>						
18 - 34	-- <sup>d</sup>	-- <sup>d</sup>	1.0	(0.6-1.7)	1.3	(0.8-2.1)
35 - 44	1.7	(1.1-2.7)	2.9	(2.0-4.3)	4.6	(3.4-6.2)
45 - 54	4.3	(3.3-5.6)	5.0	(3.9-6.3)	8.8	(7.3-10.5)
55 - 64	8.8	(7.4-10.4)	11.0	(9.5-12.7)	18.6	(16.7-20.8)
65 - 74	12.1	(10.5-13.9)	16.6	(14.7-18.8)	25.5	(23.2-28.0)
75 +	24.8	(21.8-28.2)	21.5	(18.7-24.6)	40.0	(36.5-43.6)
<b>Gender</b>						
Male	6.0	(5.2-6.7)	6.6	(5.9-7.5)	11.3	(10.4-12.4)
Female	6.8	(6.1-7.6)	8.7	(7.9-9.6)	14.2	(13.1-15.3)
<b>Race/Ethnicity</b>						
White, non-Hispanic	8.0	(7.4-8.7)	8.5	(7.8-9.2)	14.9	(14.0-15.8)
Black, non-Hispanic	-- <sup>d</sup>	-- <sup>d</sup>	5.8	(4.3-7.7)	6.1	(4.5-8.0)
Other, non-Hispanic	-- <sup>d</sup>	-- <sup>d</sup>	3.9	(2.5-5.9)	5.3	(3.6-7.7)
Hispanic	-- <sup>d</sup>	-- <sup>d</sup>	4.1	(2.4-6.9)	5.0	(3.1-8.0)
<b>Household Income</b>						
< \$20,000	4.7	(3.4-6.4)	9.2	(7.5-11.2)	12.9	(10.8-15.3)
\$20,000 - \$34,999	5.9	(4.8-7.2)	8.8	(7.3-10.5)	13.4	(11.6-15.4)
\$35,000 - \$49,999	7.6	(6.1-9.4)	8.7	(7.1-10.6)	14.7	(12.6-17.0)
\$50,000 - \$74,999	6.7	(5.3-8.4)	8.4	(6.8-10.5)	13.4	(11.4-15.8)
≥ \$75,000	6.6	(5.7-7.6)	5.6	(4.8-6.5)	11.0	(9.8-12.2)
<b>Health Insurance</b>						
Insured	6.7	(6.2-7.3)	8.2	(7.6-8.9)	13.6	(12.8-14.4)
Uninsured	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	-- <sup>d</sup>	4.5	(2.9-6.9)
<b>Disability Status</b>						
No disabilities	5.5	(5.0-6.1)	5.6	(5.0-6.3)	10.2	(9.4-11.0)
Adults with disabilities	9.2	(8.0-10.6)	13.8	(12.4-15.4)	20.8	(19.1-22.7)

Among all adults, the proportion ever told by a doctor that: <sup>a</sup> they had skin cancer, <sup>b</sup> they had a form of cancer other than skin cancer, or <sup>c</sup> they had skin cancer or any other type of cancer.  
<sup>d</sup> Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

**Ever Told Cancer by Gender Michigan, 2018**





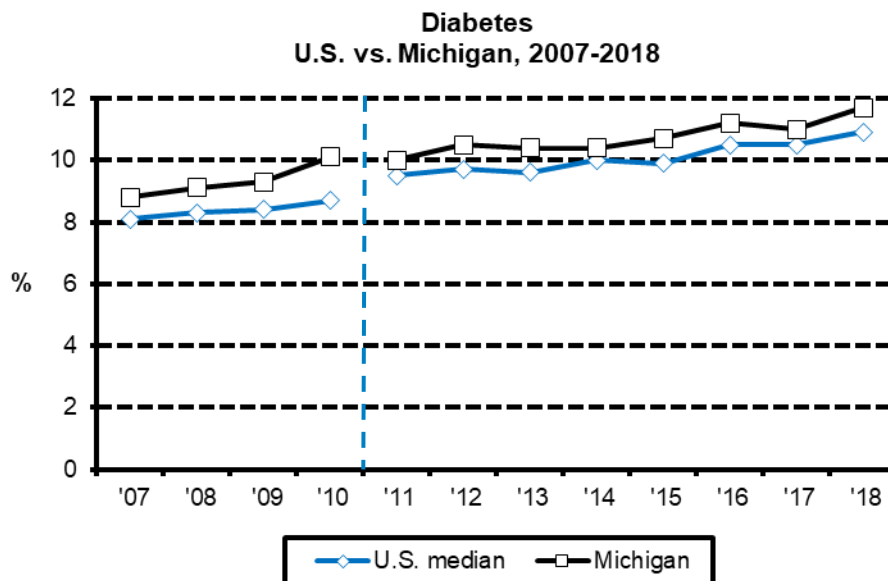
# Diabetes

In 2018, diabetes was the seventh leading cause of death in both Michigan and the U.S.<sup>28</sup> Obesity, poor diet, physical inactivity, and high blood pressure are just a few of the known risk factors that are associated with the development of diabetes.<sup>30</sup>

- ◆ In 2018, an estimated 11.7% of Michigan adults reported ever being told by a doctor that they had diabetes.
- ◆ The prevalence of diabetes increased with age and decreased with increasing household income level.
- ◆ The prevalence of diabetes was similar by gender.
- ◆ The prevalence of diabetes was higher among Black, non-Hispanic adults (15.3%) compared to White, non-Hispanic adults (11.3%).
- ◆ Uninsured adults (5.9%) were less likely to have been diagnosed with diabetes than insured adults (12.2%), while adults with disabilities (21.4%) were more likely to have been diagnosed than adults without disabilities (8.1%).
- ◆ Obese (20.2% [95% CI: 18.5-22.0]) and overweight (10.3% [95% CI: 9.1-11.7]) adults reported significantly higher lifetime prevalences of diabetes than healthy weight adults (4.3% [95% CI: 3.5-5.2]).
- ◆ Prior to the BRFSS methodology changes that were implemented in 2011, the prevalence of diabetes among Michigan adults was increasing slightly over time. From 2011 to 2018, the prevalence of diabetes slightly went up.
- ◆ In 2018, the prevalence of diabetes among Michigan adults (11.7%) was slightly higher than the U.S. median prevalence (10.9%).

Demographic Characteristics	Ever Told Diabetes <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>11.7</b>	<b>(10.9-12.5)</b>
<b>Age</b>		
18 - 24	2.1	(1.2-3.8)
25 - 34	2.5	(1.6-4.0)
35 - 44	4.8	(3.5-6.5)
45 - 54	11.2	(9.3-13.5)
55 - 64	18.6	(16.5-20.8)
65 - 74	22.3	(19.8-24.9)
75 +	24.9	(21.8-28.4)
<b>Gender</b>		
Male	12.3	(11.2-13.6)
Female	11.0	(10.0-12.1)
<b>Race/Ethnicity</b>		
White, non-Hispanic	11.3	(10.5-12.2)
Black, non-Hispanic	15.3	(12.9-18.2)
Other, non-Hispanic	9.8	(7.1-13.4)
Hispanic	11.0	(7.4-15.8)
<b>Household Income</b>		
< \$20,000	18.0	(15.4-21.0)
\$20,000 - \$34,999	13.9	(11.9-16.2)
\$35,000 - \$49,999	13.2	(11.0-15.8)
\$50,000 - \$74,999	10.0	(8.2-12.2)
≥ \$75,000	7.2	(6.2-8.4)
<b>Health Insurance</b>		
Insured	12.2	(11.4-13.1)
Uninsured	5.9	(4.0-8.7)
<b>Disability Status</b>		
No disabilities	8.1	(7.3-8.9)
Adults with disabilities	21.4	(19.5-23.4)

<sup>a</sup> Among all adults, the proportion reporting that they were ever told by a doctor that they had diabetes. Adults told they have prediabetes and women who had diabetes only during pregnancy were classified as not having been diagnosed.



Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.

# Kidney Disease

Kidney disease is a condition in which the kidneys are damaged and cannot filter blood properly. Adults with diabetes or hypertension are at increased risk of kidney disease. Kidney disease is also a risk factor for the development of cardiovascular disease.<sup>31</sup>

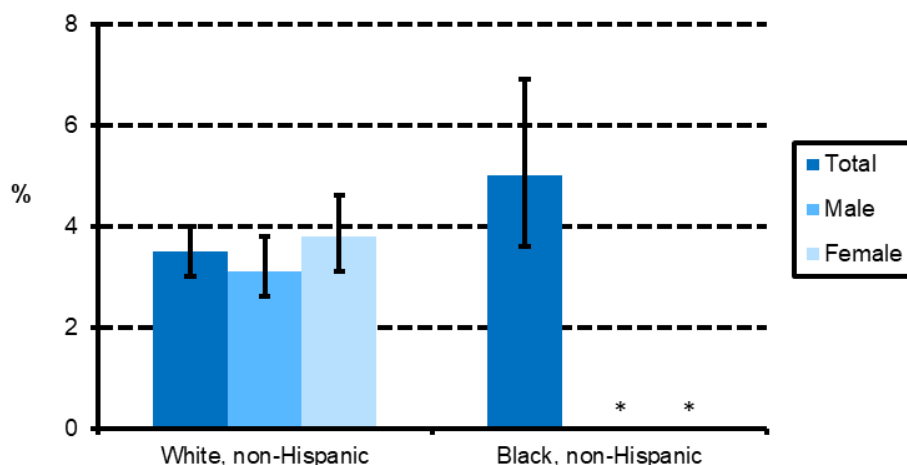
- ◆ In 2018, an estimated 3.5% of Michigan adults reported ever being told by a doctor that they had kidney disease.
- ◆ The prevalence of kidney disease increased with age and decreased with increasing household income level.
- ◆ The prevalence of kidney disease was similar by gender and by race/ethnicity.
- ◆ Adults with disabilities (7.3%) were more likely to have been diagnosed with kidney disease than adults without disabilities (2.1%).
- ◆ The prevalence of kidney disease was similar by gender for White, non-Hispanic adults.
- ◆ Michigan adults with diabetes (12.5% [95% CI: 10.2-15.2]) were over five times more likely to have been diagnosed with kidney disease than adults without diabetes (2.3% [95% CI: 2.0-2.7]).
- ◆ In 2018, the prevalence of kidney disease among Michigan adults (3.5%) was slightly higher than the U.S. median prevalence (2.9%).

Demographic Characteristics	Ever Told Kidney Disease <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>3.5</b>	<b>(3.1-4.0)</b>
<b>Age</b>		
18 - 24	-- <sup>b</sup>	-- <sup>b</sup>
25 - 34	-- <sup>b</sup>	---
35 - 44	1.0	(0.6-1.9)
45 - 54	3.1	(2.2-4.3)
55 - 64	4.9	(3.7-6.4)
65 - 74	6.3	(5.0-7.9)
75 +	9.3	(7.4-11.7)
<b>Gender</b>		
Male	3.4	(2.8-4.1)
Female	3.6	(3.0-4.2)
<b>Race/Ethnicity</b>		
White, non-Hispanic	3.5	(3.0-4.0)
Black, non-Hispanic	5.0	(3.6-6.9)
Other, non-Hispanic	-- <sup>b</sup>	-- <sup>b</sup>
Hispanic	-- <sup>b</sup>	-- <sup>b</sup>
<b>Household Income</b>		
< \$20,000	5.4	(4.1-7.0)
\$20,000 - \$34,999	4.8	(3.7-6.3)
\$35,000 - \$49,999	3.9	(2.7-5.5)
\$50,000 - \$74,999	2.5	(1.6-3.8)
≥ \$75,000	2.5	(1.9-3.2)
<b>Health Insurance</b>		
Insured	3.7	(3.3-4.2)
Uninsured	-- <sup>b</sup>	-- <sup>b</sup>
<b>Disability Status</b>		
No disabilities	2.1	(1.7-2.6)
Adults with disabilities	7.3	(6.3-8.6)

<sup>a</sup> Among all adults, the proportion reporting ever being told by a doctor that they had kidney disease.

<sup>b</sup> Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

**Kidney Disease by Race and Gender  
Michigan, 2018**



\*Suppressed due to a denominator of < 50 and/or a relative standard error > 30%.

Due to methodology changes that took place in 2011, BRFSS estimates from 2011 and moving forward cannot be compared to BRFSS estimates from 2010 and earlier.



# Depression

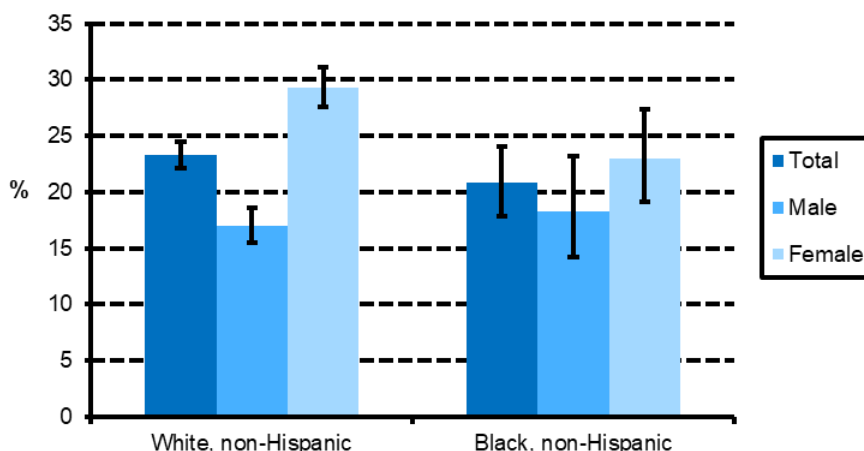
Depression is a common and treatable medical disorder that is more common among individuals with chronic conditions such as obesity, diabetes, and arthritis.<sup>32</sup>

- ◆ In 2018, an estimated 23.2% of Michigan adults reported ever being told by a doctor that they had a depressive disorder including depression, major depression, dysthymia, or minor depression.
- ◆ The prevalence of depression decreased with age and increasing household income level.
- ◆ Females (28.5%) reported a significantly higher prevalence of depression than males (17.5%).
- ◆ The prevalence of depression was similar by race/ethnicity and insurance status.
- ◆ Adults with disabilities (43.5%) were more likely to have been diagnosed with depression than adults without disabilities (15.5%).
- ◆ White, non-Hispanic females (29.3%) reported a significantly higher prevalence of depression than White, non-Hispanic males (17.0%).
- ◆ In 2018, the prevalence of depression among Michigan adults (23.2%) was higher than the U.S. median prevalence (19.6%).

Demographic Characteristics	Ever Told Depression <sup>a</sup>	
	%	95% Confidence Interval
<b>Total</b>	<b>23.2</b>	<b>(22.1-24.2)</b>
<b>Age</b>		
18 - 24	28.0	(24.5-31.9)
25 - 34	27.0	(24.0-30.2)
35 - 44	23.2	(20.5-26.2)
45 - 54	24.2	(21.8-26.9)
55 - 64	24.4	(22.1-26.7)
65 - 74	19.5	(17.4-21.8)
75 +	12.4	(10.2-15.1)
<b>Gender</b>		
Male	17.5	(16.2-19.0)
Female	28.5	(27.0-30.1)
<b>Race/Ethnicity</b>		
White, non-Hispanic	23.3	(22.1-24.5)
Black, non-Hispanic	20.8	(17.9-24.0)
Other, non-Hispanic	22.9	(18.8-27.5)
Hispanic	29.1	(23.1-36.0)
<b>Household Income</b>		
< \$20,000	41.6	(38.1-45.2)
\$20,000 - \$34,999	27.8	(25.1-30.7)
\$35,000 - \$49,999	22.1	(19.2-25.3)
\$50,000 - \$74,999	18.7	(16.4-21.3)
≥ \$75,000	15.4	(13.8-17.1)
<b>Health Insurance</b>		
Insured	23.2	(22.1-24.3)
Uninsured	24.2	(20.2-28.7)
<b>Disability Status</b>		
No disabilities	15.5	(14.5-16.7)
Adults with disabilities	43.5	(41.1-45.9)

<sup>a</sup> Among all adults, the proportion reporting ever being told by a doctor that they had a depressive disorder including depression, major depression, dysthymia, or minor depression.

**Depression by Race and Gender  
Michigan, 2018**



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