Prevalence Estimates for Chronic Health Conditions, Risk Factors, Health Indicators, and Preventive Health Practices by Gender and Age

State of Michigan

Michigan Behavioral Risk Factor Survey

2021

Lifecourse Epidemiology and Genomics Division
Bureau of Epidemiology and Population Health
Michigan Department of Health and Human Services

Prepared by: Yan Tian
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Introduction

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

In 2021, the total sample size of completed interviews for the core survey was 9,425 (land line = 2,533; cell phone = 6,892) which consisted of 4,349 males and 5,076 females. Some of the estimates for these gender and age subgroups are relatively imprecise (i.e., have large confidence intervals) and should be used with caution. Furthermore, only comparisons between estimates with non-overlapping 95% confidence intervals should be considered significantly different.

For the 2021 Michigan BRFS, the sample of land line telephone numbers that were utilized for data collection was selected using a list-assisted, random-digit-dialed methodology with a disproportionate stratification based on phone bank density, and whether or not the phone numbers were directory listed. The sample of cell phone numbers used within the 2021 Michigan BRFS data collection process was randomly selected from dedicated cellular telephone banks sorted on the basis of area code and exchange within the State of Michigan.

Iterative proportional fitting or raking was the weighting methodology used to make the 2021 Michigan BRFS data representative of the current Michigan adult population. Estimates based on this methodology were weighted to adjust for the probabilities of selection and a raking adjustment factor that adjusted for the distribution of Michigan adults by telephone source (land line vs. cell phone), detailed race/ethnicity, education level, marital status, age by gender, gender by race/ethnicity, age by race/ethnicity, and renter/owner status.

Gender and age specific, population-based prevalence estimates and asymmetric confidence intervals were calculated for indicators of health status, health risk behaviors, clinical preventive practices, and chronic conditions among the adult population in Michigan. Respondents who refused to answer a question were removed from the denominator during the analysis of such questions. Those who responded “Don’t Know/Not Sure” were also excluded from the denominator unless indicated otherwise. All analyses were performed in SAS-Callable SUDAAN®, a statistical computing program that was designed for complex sample surveys.

In an effort to provide the most reliable information possible, prevalence estimates are suppressed if they are based on a denominator of less than 50 respondents or have a relative standard error of greater than 30%.

Due to the BRFSS methodology changes that took place in 2011, the estimates provided within the following tables should not be compared to Michigan BRFSS estimates from years prior to 2011. Due to methodology changes in 2017, Fruit and Vegetable Module data should not be compared to prior years.

If you have any questions regarding any of the estimates within the following tables, please contact Yan Tian at tiany@michigan.gov.

Table 1: Prevalence Estimates among Michigan Adult Males by Age Category
2021 Michigan BRFS

	Overall		18-44 Years		45-64 Years		65+ Years	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Health Status Indicators								
General Health, Fair or Poor[1]	14.9	(13.6-16.3)	9.7	(7.8-11.9)	17.2	(15.0-19.5)	22.3	(19.6-25.2)
Poor Physical Health on at least 14 Days in the Past Month[2]	31.5	(29.7-33.3)	31.6	(28.5-34.8)	31.0	(28.3-33.8)	32.0	(29.0-35.1)
Poor Mental Health on at least 14 Days in the Past Month[3]	12.1	(10.8-13.5)	16.3	(13.9-19.0)	10.0	(8.4-11.9)	6.5	(4.9-8.5)
Activity Limitation on at least 14 Days in the Past Month[4]	7.9	(6.9-8.9)	6.5	(5.1-8.2)	9.6	(8.0-11.5)	8.1	(6.3-10.3)
No Health Care Coverage (Among 18 – 64 Year Olds)[5]	8.5	(7.2-10.1)	10.8	(8.8-13.2)	5.4	(4.1-7.0)	---	---
Medicaid Coverage (Among All Adults)[6]	8.1	(7.0-9.3)	9.8	(7.9-12.1)	8.8	(7.1-11.0)	3.5	(2.3-5.4)
No Personal Health Care Provider[7]	13.7	(12.3-15.1)	22.2	(19.6-25.0)	8.7	(7.2-10.4)	3.9	(2.5-6.1)
No Health Care Access During Past 12 Months Due to Cost[8]	6.8	(5.9-7.9)	8.7	(7.0-10.7)	7.3	(5.8-9.1)	2.3	(1.5-3.6)
Health Risk Behaviors								
Obese[9]	33.9	(32.0-35.8)	29.7	(26.7-32.9)	40.3	(37.3-43.4)	32.9	(29.8-36.1)
No Leisure Time Physical Activity[10]	19.0	(17.6-20.6)	14.3	(12.1-16.9)	21.5	(19.1-24.0)	25.0	(22.2-28.1)
Fruit Consumption (< 1 Time / Day)[11]	42.3	(40.2-44.4)	44.3	(40.8-47.9)	42.6	(39.4-45.8)	37.9	(34.5-41.4)
Vegetable Consumption (< 1 Time / Day)[12]	21.3	(19.5-23.1)	23.0	(20.0-26.3)	19.8	(17.1-22.7)	19.9	(17.2-22.9)
Current Smoker[13]	18.2	(16.7-19.9)	19.7	(17.1-22.7)	21.0	(18.5-23.7)	11.0	(8.9-13.6)
Current E-cigarette[14]	8.6	(7.4-9.9)	16.0	(13.6-18.7)	3.5	(2.5-4.7)	--[a]	--[a]
Any Alcohol Consumption[15]	59.6	(57.6-61.5)	62.1	(58.7-65.4)	60.8	(57.8-63.8)	52.5	(49.1-55.9)
Heavy Drinking[16]	7.2	(6.1-8.4)	8.7	(6.8-11.2)	6.8	(5.3-8.7)	4.5	(3.3-6.0)
Binge Drinking[17]	20.2	(18.6-22.0)	28.3	(25.2-31.6)	17.5	(15.3-20.0)	7.9	(6.3-9.9)
Ever Told High Blood Pressure[18]	38.2	(36.4-40.0)	19.0	(16.5-21.7)	48.7	(45.7-51.6)	61.8	(58.6-64.9)

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

Table 1 Cont'd								
	Overall		**18-44 Years**		**45-64 Years**		**65+ Years**	
	%	**95% Confidence Interval**	**%**	**95% Confidence Interval**	**%**	**95% Confidence Interval**	**%**	**95% Confidence Interval**
Clinical Preventive Health Practices								
No Routine Checkup in Past Year[19]	26.9	(25.1-28.7)	39.1	(35.9-42.4)	21.1	(18.9-23.5)	10.7	(8.9-13.0)
Cholesterol Ever Checked[20]	90.0	(88.6-91.3)	80.4	(77.3-83.1)	96.7	(95.4-97.7)	97.9	(96.1-98.9)
Ever Told High Cholesterol[21]	38.5	(36.6-40.5)	19.6	(16.8-22.8)	47.1	(44.0-50.2)	54.5	(51.2-57.8)
Ever Had an HIV Test (Among 18 – 64 Year Olds)[22]	39.0	(36.6-41.4)	37.6	(34.2-41.0)	41.0	(37.8-44.4)	---	---
Chronic Health Conditions								
Ever Told Asthma[23]	13.9	(12.5-15.4)	18.9	(16.2-21.8)	10.2	(8.6-12.1)	9.2	(7.5-11.2)
Still Have Asthma[24]	8.2	(7.1-9.4)	10.0	(8.0-12.4)	6.7	(5.4-8.3)	6.8	(5.3-8.6)
Ever Told Chronic Obstructive Pulmonary Disease[25]	6.8	(5.9-7.8)	3.1	(2.1-4.5)	8.2	(6.6-10.0)	12.3	(10.2-14.6)
Ever Told Arthritis[26]	25.6	(24.1-27.3)	10.3	(8.4-12.5)	31.3	(28.5-34.1)	48.7	(45.5-52.0)
Ever Told Any Cardiovascular Disease[27]	10.9	(9.9-12.0)	2.9	(1.9-4.2)	11.0	(9.2-13.0)	27.4	(24.6-30.4)
Ever Told Cancer[28]	11.1	(10.2-12.1)	1.8	(1.1-3.0)	9.5	(8.0-11.2)	32.5	(29.6-35.4)
Ever Told Diabetes[29]	11.3	(10.2-12.4)	3.2	(2.2-4.5)	14.6	(12.6-16.9)	22.9	(20.3-25.8)
Ever Told Kidney Disease[30]	3.2	(2.6-3.9)	--[a]	--[a]	2.2	(1.5-3.2)	8.8	(7.1-10.8)
Ever Told Depression[31]	16.3	(14.9-17.9)	20.3	(17.7-23.2)	13.7	(11.9-15.8)	12.0	(10.0-14.3)

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

Table 2: Prevalence Estimates among Michigan Adult Females by Age Category 2021 Michigan BRFS								
	Overall		18-44 Years		45-64 Years		65+ Years	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Health Status Indicators								
General Health, Fair or Poor[1]	17.4	(16.1-18.8)	12.4	(10.4-14.7)	20.0	(17.8-22.4)	22.4	(19.8-25.2)
Poor Physical Health on at least 14 Days in the Past Month[2]	37.2	(35.5-39.0)	35.5	(32.5-38.7)	38.8	(36.0-41.5)	38.0	(35.1-41.0)
Poor Mental Health on at least 14 Days in the Past Month[3]	18.7	(17.3-20.2)	24.8	(22.1-27.8)	18.4	(16.3-20.6)	9.1	(7.4-11.1)
Activity Limitation on at least 14 Days in the Past Month[4]	11.2	(10.1-12.5)	10.5	(8.7-12.7)	13.0	(11.2-15.1)	10.2	(8.4-12.2)
No Health Care Coverage (Among 18 – 64 Year Olds)[5]	4.0	(3.2-4.9)	4.8	(3.5-6.4)	2.9	(2.2-3.9)	---	---
Medicaid Coverage (Among All Adults)[6]	15.7	(14.2-17.3)	25.5	(22.5-28.7)	13.7	(11.8-16.0)	2.4	(1.6-3.5)
No Personal Health Care Provider[7]	8.3	(7.3-9.5)	14.5	(12.3-17.1)	4.6	(3.7-5.8)	3.0	(2.1-4.1)
No Health Care Access During Past 12 Months Due to Cost[8]	8.9	(7.8-10.1)	13.1	(11.0-15.5)	7.8	(6.5-9.4)	3.3	(2.0-5.4)
Health Risk Behaviors								
Obese[9]	34.9	(33.0-36.8)	34.2	(30.9-37.6)	39.7	(36.7-42.7)	30.1	(27.4-32.9)
No Leisure Time Physical Activity[10]	27.0	(25.4-28.6)	21.5	(18.8-24.4)	28.2	(25.6-30.8)	34.4	(31.6-37.2)
Fruit Consumption (< 1 Time / Day)[11]	37.7	(35.8-39.6)	42.4	(38.9-46.0)	36.5	(33.7-39.5)	31.7	(28.9-34.7)
Vegetable Consumption (< 1 Time / Day)[12]	17.8	(16.3-19.4)	18.5	(15.9-21.5)	16.8	(14.7-19.2)	17.8	(15.4-20.6)
Current Smoker[13]	15.9	(14.5-17.3)	16.1	(13.8-18.8)	19.3	(17.0-21.8)	11.0	(9.0-13.4)
Current E-cigarette[14]	6.6	(5.6-7.8)	12.1	(9.9-14.8)	3.4	(2.5-4.7)	1.8	(1.1-3.0)
Any Alcohol Consumption[15]	48.0	(46.1-49.8)	53.2	(49.8-56.5)	49.1	(46.2-51.9)	38.1	(35.2-41.0)
Heavy Drinking[16]	5.8	(5.0-6.7)	6.6	(5.2-8.4)	6.3	(5.0-7.8)	3.8	(2.8-5.2)
Binge Drinking[17]	12.3	(11.0-13.6)	18.4	(15.8-21.2)	10.9	(9.3-12.8)	4.1	(3.1-5.6)
Ever Told High Blood Pressure[18]	32.6	(31.0-34.2)	13.1	(11.2-15.4)	37.3	(34.7-40.1)	58.4	(55.4-61.3)

Table 2 Cont'd								
	Overall		**18-44 Years**		**45-64 Years**		**65+ Years**	
	%	**95% Confidence Interval**	**%**	**95% Confidence Interval**	**%**	**95% Confidence Interval**	**%**	**95% Confidence Interval**
Clinical Preventive Health Practices								
No Routine Checkup in Past Year[19]	18.7	(17.3-20.2)	26.7	(23.9-29.7)	16.9	(14.9-19.0)	8.3	(6.9-10.0)
Cholesterol Ever Checked[20]	92.4	(91.2-93.5)	83.2	(80.2-85.8)	97.9	(97.0-98.6)	98.5	(97.5-99.2)
Ever Told High Cholesterol[21]	35.3	(33.6-37.1)	18.1	(15.5-21.1)	37.6	(34.8-40.4)	53.2	(50.1-56.2)
Ever Had an HIV Test (Among 18 – 64 Year Olds)[22]	49.4	(47.0-51.8)	52.6	(49.0-56.1)	45.2	(42.2-48.3)	---	---
Chronic Health Conditions								
Ever Told Asthma[23]	18.6	(17.2-20.0)	20.3	(17.9-23.1)	20.6	(18.4-23.1)	13.1	(11.2-15.1)
Still Have Asthma[24]	14.7	(13.4-16.0)	15.6	(13.4-18.1)	16.6	(14.5-18.9)	10.6	(9.0-12.5)
Ever Told Chronic Obstructive Pulmonary Disease[25]	8.6	(7.7-9.6)	3.7	(2.7-5.2)	11.1	(9.5-13.1)	13.4	(11.5-15.5)
Ever Told Arthritis[26]	33.9	(32.3-35.5)	11.3	(9.5-13.3)	43.2	(40.4-46.0)	58.8	(55.9-61.7)
Ever Told Any Cardiovascular Disease[27]	8.4	(7.6-9.4)	2.0	(1.2-3.3)	8.8	(7.3-10.7)	18.5	(16.3-20.8)
Ever Told Cancer[28]	14.9	(13.8-16.1)	4.2	(3.1-5.7)	16.2	(14.3-18.4)	30.9	(28.4-33.6)
Ever Told Diabetes[29]	10.3	(9.3-11.4)	2.9	(2.0-4.0)	13.8	(11.8-16.0)	18.2	(15.9-20.8)
Ever Told Kidney Disease[30]	3.6	(3.1-4.3)	1.1	(0.6-1.9)	3.9	(3.0-5.0)	7.6	(6.2-9.2)
Ever Told Depression[31]	28.6	(27.0-30.3)	36.0	(32.9-39.2)	27.3	(24.9-29.8)	18.1	(16.0-20.4)

Appendix: Definitions

[1] Among all adults, the proportion who reported that their health, in general, was either fair or poor.
[2] Among all adults, the proportion who reported 14 or more days of poor physical health, which includes physic illness and injury, during the past 30 days.
[3] Among all adults, the proportion who reported 14 or more days of poor mental health, which includes stress, depression, and problems with emotions, during the past 30 days.
[4] Among all adults, the proportion who reported 14 or more days in the past 30 days in which either poor physical health or poor mental health kept respondents from doing their usual activities, such as self-care, work, and recreation.
[5] 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.
[6] Among all adults, the proportion who reported having Medicaid health care coverage, which includes those who had Medicaid only as well as those who had both Medicaid and Medicare.
[7] Among all adults, the proportion who reported that they did not have anyone that they thought of as their personal doctor or health care provider.
[8] Among all adults, the proportion who reported that in the past 12 months, they could not see a doctor when they needed to due to the cost.
[9] Note: BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in kg/(height in meters)^2]. Weight and height were self-reported. Pregnant women were excluded. Among all adults, the proportion of respondents whose BMI was greater than or equal to 30.0.
[10] Among all adults, the proportion who reported not participating in any leisure time physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise during the past month.
[11] Among all adults, the proportion whose total reported consumption of fruits (including juice) was less than one time per day.
[12] Among all adults, the proportion whose total reported consumption of vegetables was less than one time per day.
[13] Among all adults, the proportion who reported 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.
[14] Among all adults, the proportion who reported that they currently use e-cigarettes or other electronic vaping products, either every day or on some days.
[15] Among all adults, the proportion who reported consuming at least one drink of any alcoholic beverage in the previous month.
[16] Among all adults, the proportion who reported consuming an average of more than two alcoholic drinks per day for men or more than one per day for women in the previous month.
[17] Among all adults, the proportion who reported consuming five or more drinks per occasion (for men) or 4 or more drinks per occasion (for women) at least once in the previous month.
[18] Among all adults, the proportion who reported that they were ever told by a doctor that they had high blood pressure (HBP). Women who had HBP only during pregnancy and adults who were borderline hypertensive were considered to not have been diagnosed.
[19] Among all adults, the proportion who reported that they did not have a routine checkup in the past year.
[20] Among all adults, the proportion who reported ever having had their blood cholesterol checked.
[21] Among adults who ever had their blood cholesterol checked, the proportion who reported that a doctor, nurse, or other health professional had told them that their cholesterol was high.
[22] Among adults aged 18 - 64 years, the proportion who reported that they ever had been tested for HIV, apart from tests that were part of a blood donation. Don't know was considered a valid response to this question.
[23] Among all adults, the proportion who reported that they were ever told by a doctor, nurse, or other health care professional that they had asthma.
[24] Among all adults, the proportion who reported that they still had asthma.
[25] Among all adults, the proportion who reported ever being told by a doctor that they had chronic obstructive pulmonary disease (COPD), emphysema or chronic bronchitis.
[26] Among all adults, the proportion who reported ever being told by a doctor that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.
[27] Among all adults, the proportion who had ever been told by a doctor that they had a heart attack, coronary heart disease or a stroke.
[28] Among all adults, the proportion who reported ever being told by a doctor that they had skin cancer or any other type of cancer.
[29] Among all adults, the proportion who reported 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.
[30] Among all adults, the proportion who reported ever being told by a doctor that they had kidney disease.

Due to significant BRFSS methodology changes that took place in 2011, the estimates within these tables should not be compared to Michigan BRFSS estimates from prior to 2011.

[31] Among all adults, the proportion who reported ever being told by a doctor that they had a depressive disorder including depression, major depression, dysthymia, or minor depression.