

**Estimates for Selected Risk Factors and Health Indicators
by Michigan Prosperity Region**

State of Michigan

**Michigan Behavioral Risk Factor Surveillance System
(Michigan BRFSS)**

2019-2021

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

Table of Contents

Introduction	3
Map of Economic Development Collaborative Regions	4
Health Status Tables	
Table 1: General Health Status	5
Table 2: Health Status on at Least 14 Days in the Past Month	6
Table 3: Mean Number of Days of Poor Physical Health, Poor Mental Health, and Activity Limitations.....	7
Table 4: Disability	8
Table 5: Weight Status	9
Table 6: Health Care Coverage Among Adults 18-64 Years Old.....	10
Table 7: Health Care Access.....	11
Risk Behaviors Tables	
Table 8: No Leisure Time Physical Activity	12
Table 9: Cigarette Smoking	13
Table 10: Current Smokers Who Attempted to Quit.....	14
Table 11: Hookah Use.....	15
Table 12: Alcohol Consumption.....	16
Table 13: Mean Number of Binge Drinking Occassions During the Past Month Among Binge Drinkers	17
Table 14: Hypertension Awareness and Medication Use	18
Clinical Preventative Practices	
Table 15: Cholesterol Screening and Awareness	19
Table 16: No Routine Checkup in Past Year.....	20
Table 17: Immunizations Among Adults Aged 65 Years and Older	21
Table 18: HIV Testing Among Adults Aged 18 - 64 Years	22
Chronic Conditions	
Table 19: Asthma Among Adults	23
Table 20: Asthma Among Children.....	24
Table 21: Chronic Obstructive Pulmonary Disease (COPD).....	25
Table 22: Arthritis.....	26
Table 23: Cardiovascular Disease.....	27
Table 24: Cancer	28
Table 25: Diabetes	29
Table 26: Kidney Disease.....	30
Table 27: Depression	31

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.

For this report, data from the 2019-2021 Michigan BRFS were combined. The total sample sizes by year were: 10,518 in 2019, 7,269 in 2020, and 9,425 in 2021. Not all questions were included annually in the survey. The table subtitles indicate which years were used for that particular analysis.

For the 2019 through 2021 Michigan Behavioral Risk Factor Surveys, the sample of land line telephone numbers that were utilized for data collection was selected using a list-assisted, random-digit-dialed methodology with a disproportionate stratification based on phone bank density, and whether or not the phone numbers were directory listed. The sample of cell phone numbers used within each survey year was randomly selected from dedicated cellular telephone banks sorted on the basis of area code and exchange within the State of Michigan.

Iterative proportional fitting or raking was the weighting methodology used to make the 2019-2021 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. No additional weighting factors were computed at the regional level, thus the weights used might not always provide accurate regional estimates, particularly when regional demographic distributions vary greatly from that of the state.

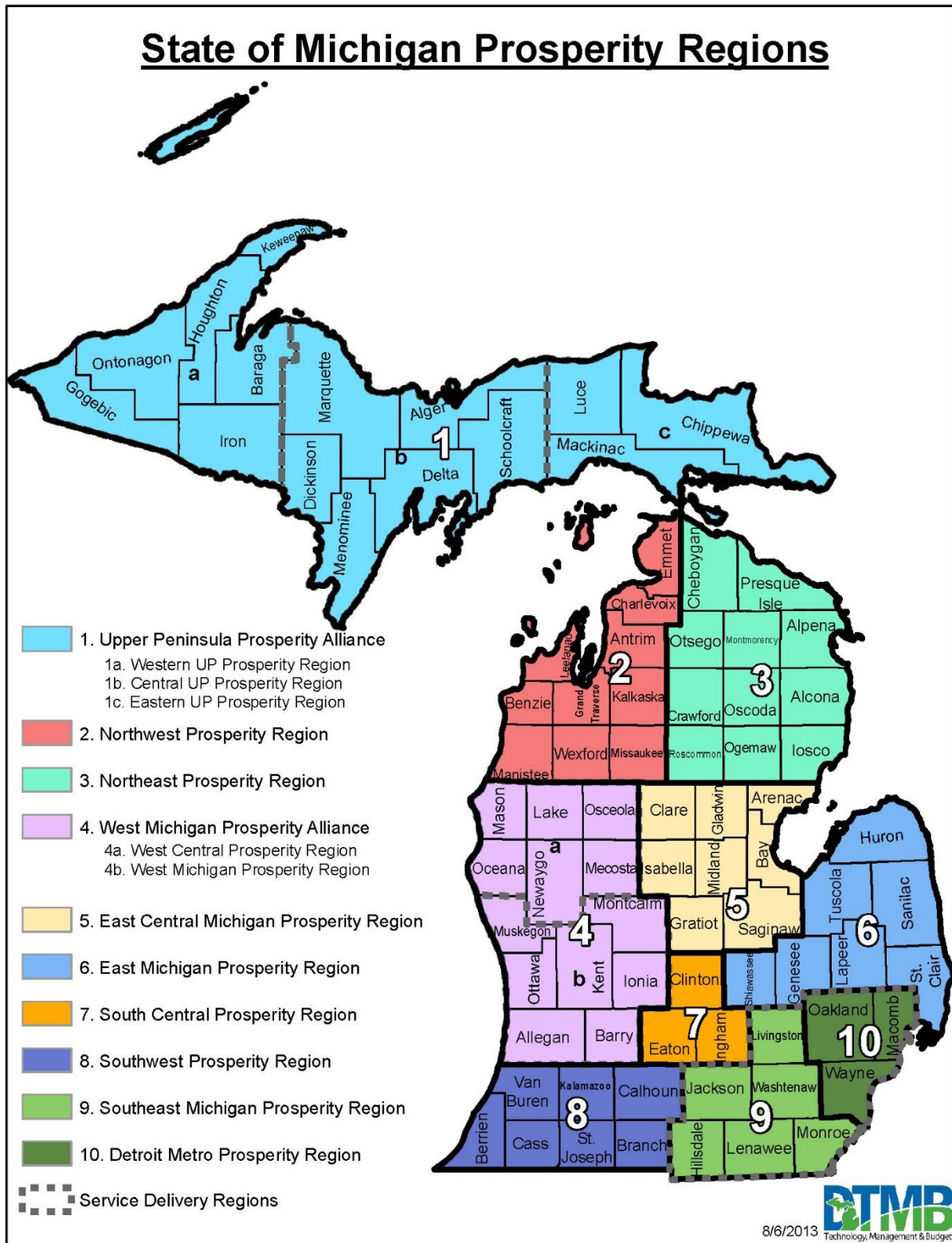
In 2021, Michigan BRFS data from 2019-2021 were analyzed by Michigan Prosperity region. A map identifying each of Michigan's ten prosperity regions is included on the following page. Population-based prevalence estimates and asymmetric confidence intervals were calculated for indicators of health status, health risk behaviors, clinical preventive practices, and chronic conditions among the adult population in Michigan. All analyses were performed in SAS-Callable SUDAAN®, a statistical computing that is 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. Methodology changes also took place in 2017 for Fruit and Vegetable Consumption; therefore, these variables were excluded from multi-year analysis.

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

State of Michigan Prosperity Regions



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.

Table 1: Health Status by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	General Health, Fair or Poor^a	
	%	95% Confidence Interval
Michigan Total	16.9	(16.3-17.5)
Prosperity Region		
Upper Peninsula	17.8	(14.9-21.3)
Northwest	15.8	(12.9-19.1)
Northeast	18.5	(14.5-23.4)
West Michigan	15.2	(13.6-16.8)
East Central Michigan	18.5	(15.8-21.5)
East Michigan	20.4	(18.4-22.6)
South Central	15.6	(13.2-18.3)
Southwest	19.8	(17.5-22.4)
Southeast Michigan	13.8	(12.5-15.3)
Detroit Metro	17.1	(16.0-18.1)

^a Among all adults, the proportion who reported that their health, in general, was either fair or poor. (N = 27,155)

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.

**Table 2: Health Status on at Least 14 Days in the Past Month by Prosperity Region
Michigan BRFSS, 2019-2021 Combined**

	Poor Physical Health ^a		Poor Mental Health ^b		Activity Limitation ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	12.6	(12.1-13.2)	15.2	(14.6-15.8)	9.4	(9.0-9.9)
Prosperity Region						
Upper Peninsula	14.2	(11.3-17.6)	12.2	(9.6-15.4)	9.3	(7.2-12.0)
Northwest	10.8	(8.5-13.7)	15.0	(11.9-18.6)	10.4	(8.0-13.4)
Northeast	12.3	(9.3-16.2)	13.0	(10.1-16.7)	9.1	(6.2-13.0)
West Michigan	12.2	(10.8-13.8)	13.7	(12.3-15.3)	8.4	(7.4-9.6)
East Central Michigan	13.9	(11.6-16.4)	16.9	(14.3-19.9)	11.1	(9.1-13.5)
East Michigan	15.6	(13.8-17.7)	15.9	(13.9-18.0)	12.2	(10.5-14.1)
South Central	11.8	(9.8-14.2)	15.9	(13.5-18.7)	7.6	(6.0-9.5)
Southwest	13.8	(11.9-16.1)	16.6	(14.4-19.1)	10.5	(8.6-12.8)
Southeast Michigan	11.7	(10.5-13.1)	15.2	(13.7-16.9)	9.1	(7.9-10.3)
Detroit Metro	12.2	(11.3-13.1)	15.2	(14.2-16.3)	9.2	(8.4-10.1)

^a Among all adults, the proportion who reported 14 or more days of poor physical health, which includes physical illness and injury, during the past 30 days. (N = 26,690)

^b 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. (N = 26,758)

^c 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. (N = 26,925)

**Table 3: Mean Number of Days of Poor Physical Health, Poor Mental Health, and Activity Limitations by Prosperity Region
Michigan BRFSS, 2019-2021 Combined**

	Poor Physical Health ^a		Poor Mental Health ^b		Activity Limitation ^c	
	Mean # of days	95% Confidence Interval	Mean # of days	95% Confidence Interval	Mean # of days	95% Confidence Interval
Michigan Total	3.9	(3.8-4.1)	5.0	(4.9-5.1)	3.0	(2.9-3.1)
Prosperity Region						
Upper Peninsula	4.5	(3.7-5.3)	4.4	(3.6-5.1)	2.8	(2.3-3.4)
Northwest	4.1	(3.4-4.8)	4.9	(4.1-5.8)	2.9	(2.3-3.5)
Northeast	4.1	(3.1-5.1)	4.2	(3.3-5.0)	2.8	(1.9-3.7)
West Michigan	3.7	(3.4-4.1)	4.6	(4.2-4.9)	2.7	(2.4-3.0)
East Central Michigan	4.2	(3.6-4.8)	5.7	(5.1-6.4)	3.4	(2.9-3.9)
East Michigan	4.8	(4.3-5.3)	5.3	(4.8-5.8)	3.7	(3.2-4.1)
South Central	3.7	(3.2-4.3)	5.5	(4.9-6.1)	2.6	(2.1-3.0)
Southwest	4.4	(3.8-5.0)	5.6	(5.0-6.2)	3.2	(2.7-3.6)
Southeast Michigan	3.5	(3.2-3.9)	4.9	(4.5-5.3)	2.9	(2.6-3.2)
Detroit Metro	3.8	(3.5-4.0)	5.0	(4.7-5.3)	3.0	(2.8-3.2)

^a Among all adults, the mean number of days during the past 30 days in which physical health, including illness and injury, was not good. (N = 26,690)

^b Among all adults, the mean number of days during the past 30 days in which mental health, including stress, depression, and problems with emotions, was not good. (N = 26,758)

^c Among all adults, the mean number of days during the past 30 days in which poor physical health or poor mental health kept respondent from doing their usual activities, such as self-care, work, and recreation. (N = 26,925)

Table 4: Disability by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Total Disability^a	
	%	95% Confidence Interval
Michigan Total	28.9	(28.1-29.6)
Prosperity Region		
Upper Peninsula	29.5	(25.6-33.7)
Northwest	31.5	(27.3-36.0)
Northeast	38.8	(33.4-44.5)
West Michigan	26.4	(24.5-28.4)
East Central Michigan	34.0	(30.5-37.7)
East Michigan	34.1	(31.6-36.7)
South Central	25.8	(22.9-28.9)
Southwest	33.1	(30.3-36.0)
Southeast Michigan	27.1	(25.3-29.0)
Detroit Metro	27.8	(26.5-29.0)

^a Among all adults, the proportion who reported having serious difficulty hearing, visual impairment, difficulty concentrating, remembering, or making decisions, difficulty walking or climbing stairs, difficulty dressing or bathing, or difficulty doing errands alone. (N = 26,086)

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.

**Table 5: Weight Status by Prosperity Region
Michigan BRFSS, 2019-2021 Combined**

	Obese ^a		Overweight ^b		Healthy Weight ^c		Underweight ^d	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	35.2	(34.4-36.0)	34.4	(33.6-35.2)	28.5	(27.8-29.3)	1.9	(1.6-2.2)
Prosperity Region								
Upper Peninsula	35.0	(30.8-39.4)	34.5	(30.2-39.0)	30.1	(26.1-34.4)	-- ^e	-- ^e
Northwest	31.3	(27.3-35.5)	34.6	(30.5-38.8)	32.7	(28.7-37.0)	-- ^e	-- ^e
Northeast	39.0	(33.7-44.6)	33.4	(28.3-38.8)	24.4	(19.6-29.8)	-- ^e	-- ^e
West Michigan	35.0	(33.0-37.1)	35.4	(33.4-37.5)	28.4	(26.4-30.5)	1.1	(0.8-1.6)
East Central Michigan	39.9	(36.2-43.7)	32.4	(29.1-36.0)	24.4	(21.3-27.8)	3.3	(1.8-5.8)
East Michigan	40.3	(37.7-43.1)	33.4	(30.9-36.1)	24.2	(21.8-26.7)	2.0	(1.4-3.1)
South Central	33.1	(29.8-36.5)	34.9	(31.4-38.5)	30.9	(27.5-34.4)	-- ^e	-- ^e
Southwest	37.3	(34.4-40.3)	33.8	(31.1-36.7)	27.6	(25.0-30.4)	1.2	(0.7-2.1)
Southeast Michigan	33.4	(31.5-35.5)	33.9	(31.9-35.9)	31.2	(29.2-33.2)	1.5	(0.9-2.2)
Detroit Metro	34.6	(33.2-35.9)	34.9	(33.5-36.2)	28.4	(27.2-29.8)	2.1	(1.7-2.7)

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. (N = 24,934)

^a Among all adults, the proportion of respondents whose BMI was greater than or equal to 30.0.

^b Among all adults, the proportion of respondents whose BMI was greater than or equal to 25.0, but less than 30.0.

^c Among all adults, the proportion of respondents whose BMI was greater than or equal to 18.5, but less than 25.0.

^d Among all adults, the proportion of respondents whose BMI was less than 18.5.

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

Table 6: Health Care Coverage Among Adults 18-64 Years Old by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	No Health Care Coverage^a (Among 18 - 64 year olds)	
	%	95% Confidence Interval
Michigan Total	8.6	(8.1-9.2)
Prosperity Region		
Upper Peninsula	10.1	(7.2-13.8)
Northwest	15.4	(10.0-23.2)
Northeast	9.7	(6.0-15.1)
West Michigan	8.9	(7.5-10.6)
East Central Michigan	9.2	(6.9-12.1)
East Michigan	8.4	(6.7-10.3)
South Central	8.1	(6.0-10.8)
Southwest	7.8	(6.1-9.9)
Southeast Michigan	6.8	(5.6-8.2)
Detroit Metro	7.8	(6.9-8.8)
^a 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. (N = 16,506)		

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.

Table 7: Health Care Access by Prosperity Region Michigan BRFSS, 2019-2021 Combined				
	No Personal Health Care Provider^a		No Health Care Access During Past 12 Months Due to Cost^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	13.3	(12.7-13.9)	9.2	(8.7-9.7)
Prosperity Region				
Upper Peninsula	11.7	(9.2-14.7)	7.4	(5.5-9.9)
Northwest	15.5	(11.4-20.8)	7.3	(5.4-9.8)
Northeast	10.6	(7.7-14.4)	8.3	(5.7-11.8)
West Michigan	11.2	(9.7-12.8)	9.5	(8.2-10.9)
East Central Michigan	16.3	(13.5-19.6)	11.1	(8.9-13.8)
East Michigan	11.9	(10.1-14.0)	9.8	(8.3-11.6)
South Central	16.5	(13.8-19.5)	9.1	(7.3-11.4)
Southwest	13.2	(11.2-15.5)	8.5	(6.9-10.6)
Southeast Michigan	12.8	(11.4-14.3)	8.0	(6.9-9.3)
Detroit Metro	12.4	(11.4-13.4)	9.2	(8.4-10.0)
^a 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. (N = 27,000)				
^b 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. (N = 27,141)				

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.

Table 8: No Leisure Time Physical Activity by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	No Leisure Time Physical Activity^a	
	%	95% Confidence Interval
Michigan Total	23.1	(22.4-23.8)
Prosperity Region		
Upper Peninsula	24.1	(20.7-27.9)
Northwest	23.4	(19.1-28.3)
Northeast	31.1	(26.1-36.5)
West Michigan	20.7	(19.1-22.4)
East Central Michigan	24.7	(21.8-27.9)
East Michigan	28.6	(26.3-31.1)
South Central	21.0	(18.2-24.0)
Southwest	24.0	(21.6-26.5)
Southeast Michigan	20.7	(19.0-22.4)
Detroit Metro	23.0	(21.8-24.2)

^a 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 during the past month. (N = 26,856)

**Table 9: Cigarette Smoking by Prosperity Region
Michigan BRFSS, 2019-2021 Combined**

	Current Smoking ^a		Former Smoking ^b		Never Smoked	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	18.0	(17.4-18.7)	26.5	(25.8-27.2)	55.5	(54.7-56.3)
Prosperity Region						
Upper Peninsula	20.6	(17.1-24.5)	28.8	(25.2-32.8)	50.6	(46.3-54.8)
Northwest	17.7	(14.5-21.4)	30.8	(26.9-35.0)	51.5	(46.8-56.2)
Northeast	23.3	(18.5-28.9)	31.6	(26.7-36.9)	45.1	(39.7-50.7)
West Michigan	17.4	(15.6-19.4)	25.3	(23.6-27.1)	57.2	(55.1-59.4)
East Central Michigan	22.9	(19.8-26.3)	27.7	(24.4-31.3)	49.3	(45.6-53.1)
East Michigan	21.6	(19.3-24.0)	29.9	(27.5-32.4)	48.6	(45.9-51.3)
South Central	15.1	(12.6-17.9)	25.5	(22.6-28.7)	59.4	(55.8-62.8)
Southwest	21.2	(18.6-24.1)	27.8	(25.3-30.4)	51.0	(48.0-53.9)
Southeast Michigan	15.5	(13.9-17.2)	26.3	(24.5-28.1)	58.2	(56.2-60.3)
Detroit Metro	17.1	(16.0-18.3)	25.6	(24.4-26.8)	57.3	(55.9-58.7)

^a 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. (N = 26,040)

^b Among all adults, the proportion who reported that they had ever smoked at least 100 cigarettes (5 packs) in their life, but they do not smoke cigarettes now. (N = 26,040)

Table 10: Current Smokers Who Attempted to Quit by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Tried to Quit Smoking One Day or Longer in Past Year^a	
	%	95% Confidence Interval
Michigan Total	57.5	(55.3-59.7)
Prosperity Region		
Upper Peninsula	53.9	(43.0-64.4)
Northwest	52.6	(41.4-63.6)
Northeast	43.1	(30.8-56.3)
West Michigan	55.8	(49.3-62.1)
East Central Michigan	60.4	(51.7-68.5)
East Michigan	57.6	(51.2-63.9)
South Central	60.3	(50.3-69.4)
Southwest	57.3	(49.3-64.9)
Southeast Michigan	49.0	(42.9-55.1)
Detroit Metro	62.5	(58.6-66.2)

^a Among current smokers, the proportion who reported that during the past 12 months, they had tried to quit smoking for one day or longer. (N = 3,355)

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.

Table 11: Current Hookah Use by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Current Hookah Use^a	
	%	95% Confidence Interval
Michigan Total	2.7	(2.3-3.1)
Prosperity Region		
Upper Peninsula	--b	--b
Northwest	--b	--b
Northeast	--b	--b
West Michigan	2.6	(1.8-3.7)
East Central Michigan	2.0	(1.2-3.4)
East Michigan	1.8	(1.0-3.1)
South Central	--b	--b
Southwest	2.4	(1.4-3.9)
Southeast Michigan	1.7	(1.2-2.4)
Detroit Metro	3.6	(2.9-4.4)

^a Among all adults, the proportion who reported smoking tobacco using a hookah, narghile, or water pipe on one or more days during the previous thirty day. (N = 15,562)

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

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.

Table 12: Alcohol Consumption by Prosperity Region
Michigan BRFSS, 2019-2021 Combined

	Any Alcohol in Past Month ^a		Heavy Drinking ^b		Binge Drinking ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	55.3	(54.5-56.1)	6.5	(6.1-6.9)	17.2	(16.6-17.8)
Prosperity Region						
Upper Peninsula	57.4	(53.1-61.6)	9.7	(7.3-12.9)	22.3	(18.7-26.3)
Northwest	57.8	(53.0-62.5)	7.2	(5.4-9.5)	15.7	(13.0-19.0)
Northeast	48.1	(42.5-53.6)	8.0	(5.4-11.7)	15.5	(11.8-20.0)
West Michigan	55.9	(53.7-58.0)	7.3	(6.1-8.6)	16.8	(15.2-18.5)
East Central Michigan	51.3	(47.5-55.0)	6.1	(4.7-7.9)	16.9	(14.0-20.2)
East Michigan	52.1	(49.4-54.8)	6.2	(4.9-7.6)	17.4	(15.3-19.8)
South Central	57.7	(54.1-61.2)	5.9	(4.5-7.6)	20.9	(18.1-24.1)
Southwest	53.2	(50.2-56.1)	7.0	(5.6-8.7)	15.7	(13.6-18.1)
Southeast Michigan	57.9	(55.8-59.9)	7.1	(6.0-8.4)	16.8	(15.2-18.6)
Detroit Metro	56.2	(54.8-57.6)	5.6	(5.0-6.3)	16.7	(15.7-17.9)

^a Among all adults, the proportion who reported consuming at least one drink of any alcoholic beverage in the previous month. (N = 25,881)

^b 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. (N = 25,657)

^c 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. (N = 25,674)

Table 13: Mean Number of Binge Drinking Occasions during the Past Month among Binge Drinkers by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Number of Binge Drinking Occasions^a	
	Mean	95% Confidence Interval
Michigan Total	4.9	(4.6-5.2)
Prosperity Region		
Upper Peninsula	5.8	(4.4-7.3)
Northwest	5.7	(4.2-7.3)
Northeast	7.2	(4.0-10.3)
West Michigan	5.7	(4.7-6.8)
East Central Michigan	4.9	(3.8-6.1)
East Michigan	4.7	(3.7-5.6)
South Central	4	(3.2-4.9)
Southwest	5.2	(4.1-6.3)
Southeast Michigan	4.9	(4.0-5.8)
Detroit Metro	4.3	(3.9-4.8)
^a Among adults who binge drank in the past month, the mean number of times during which five or more alcoholic beverages (for men) or four or more (for women) were consumed during the past month. (N = 3,650)		

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.

**Table 14: Hypertension Awareness and Medication Use by Prosperity Region
Michigan BRFSS, 2019 and 2021 Combined**

	Ever Told HBP ^a		Taking BP Medication ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	35.2	(34.4-36.1)	77.9	(76.6-79.2)
Prosperity Region				
Upper Peninsula	36.3	(31.7-41.1)	79.8	(72.8-85.3)
Northwest	35.7	(31.7-40.0)	75.4	(68.5-81.1)
Northeast	40.4	(34.3-46.8)	82.2	(74.3-88.1)
West Michigan	32.9	(30.8-35.1)	74.2	(70.2-77.9)
East Central Michigan	38.7	(34.9-42.7)	77.2	(70.4-82.8)
East Michigan	40.2	(37.4-43.2)	83.2	(79.5-86.3)
South Central	33.2	(29.6-37.0)	75.2	(68.5-80.9)
Southwest	38.4	(35.2-41.8)	76.9	(71.3-81.8)
Southeast Michigan	32.2	(30.1-34.3)	80.0	(76.3-83.2)
Detroit Metro	35.8	(34.3-37.2)	79.2	(77.0-81.4)

^a 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. (N = 19,863)

^b Among adults who were ever told that they had HBP, the proportion that reported they were currently taking blood pressure (BP) medicines for their HBP. (N = 8,038)

Table 15: Cholesterol Screening and Awareness by Prosperity Region
Michigan BRFSS, 2019 and 2021 Combined

	Cholesterol Ever Checked ^a		Checked Within Past Five Years ^b		Ever Told High Cholesterol ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	92.6	(92.0-93.1)	89.1	(88.4-89.7)	34.5	(33.6-35.3)
Prosperity Region						
Upper Peninsula	88.5	(83.4-92.2)	81.8	(76.6-86.1)	37.5	(32.6-42.7)
Northwest	92.4	(89.1-94.8)	87.3	(83.2-90.5)	35.5	(31.2-40.1)
Northeast	91.8	(87.2-94.8)	88.5	(83.5-92.2)	44.3	(37.6-51.2)
West Michigan	92.7	(90.9-94.1)	88.5	(86.4-90.3)	33.1	(31.0-35.4)
East Central Michigan	92.2	(89.1-94.5)	86.9	(83.3-89.9)	35.9	(32.0-39.9)
East Michigan	91.6	(89.3-93.4)	88.6	(86.1-90.6)	38.6	(35.6-41.6)
South Central	90.0	(86.4-92.7)	87.4	(83.7-90.3)	33.2	(29.6-37.1)
Southwest	90.1	(87.2-92.4)	87.0	(84.0-89.5)	34.6	(31.4-37.8)
Southeast Michigan	91.9	(90.0-93.4)	88.1	(86.1-89.8)	30.4	(28.3-32.5)
Detroit Metro	95.1	(94.2-95.8)	92.5	(91.5-93.4)	35.1	(33.6-36.6)

^a Among all adults, the proportion who reported ever having had their blood cholesterol checked. (N = 18,594)

^b Among all adults, the proportion who reported that they have had their blood cholesterol checked within the past five years. (N = 18,594)

^c 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. (N = 18,208)

Table 16: No Routine Checkup in Past Year by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Had No Routine Checkup in Past Year^a	
	%	95% Confidence Interval
Michigan Total	22.0	(21.3-22.7)
Prosperity Region		
Upper Peninsula	22.1	(18.7-26.0)
Northwest	22.5	(18.0-27.8)
Northeast	17.1	(13.4-21.6)
West Michigan	23.3	(21.5-25.3)
East Central Michigan	23.6	(20.6-26.9)
East Michigan	21.9	(19.6-24.3)
South Central	22.7	(19.8-26.0)
Southwest	23.4	(20.9-26.1)
Southeast Michigan	25.3	(23.5-27.2)
Detroit Metro	19.8	(18.7-21.0)

^a Among all adults, the proportion who reported that they did not have a routine checkup in the past year. (N = 26,913)

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.

**Table 17: Immunizations among Adults Aged 65 Years and Older
by Prosperity Region
Michigan BRFSS, 2019-2021 Combined**

	Had Flu Vaccine in Past Year ^a		Ever Had Pneumonia Vaccine ^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	67.5	(66.2-68.8)	72.1	(70.8-73.4)
Prosperity Region				
Upper Peninsula	63.1	(56.3-69.5)	73.1	(66.0-79.2)
Northwest	73.6	(66.9-79.3)	68.3	(60.7-75.1)
Northeast	58.7	(49.2-67.6)	74.9	(66.7-81.7)
West Michigan	69.2	(66.2-72.1)	75.3	(72.3-78.1)
East Central Michigan	64.7	(58.6-70.5)	70.0	(63.8-75.6)
East Michigan	63.3	(58.9-67.5)	67.7	(63.4-71.8)
South Central	76.5	(71.3-81.0)	81.8	(76.8-85.9)
Southwest	70.8	(66.5-74.8)	72.1	(67.6-76.2)
Southeast Michigan	68.2	(65.1-71.1)	74.5	(71.5-77.2)
Detroit Metro	67.8	(65.5-70.1)	71.2	(68.8-73.5)

^a Among adults aged 65 years and older, the proportion who reported that they had a flu vaccine, either by an injection in the arm or sprayed in the nose during the past 12 months. (N = 9,348)

^b Among adults aged 65 years and older, the proportion who reported that they ever had a pneumococcal vaccine. (N = 9,058)

**Table 18: HIV Testing among Adults Aged 18 - 64 Years
by Prosperity Region
Michigan BRFSS, 2019-2021 Combined**

	Ever Had an HIV Test ^a	
	%	95% Confidence Interval
Michigan Total	44.9	(43.8-45.9)
Prosperity Region		
Upper Peninsula	40.3	(35.0-45.9)
Northwest	35.8	(30.4-41.5)
Northeast	41.6	(34.5-49.1)
West Michigan	41.7	(39.0-44.4)
East Central Michigan	41.3	(36.5-46.2)
East Michigan	42.0	(38.7-45.4)
South Central	44.9	(40.6-49.3)
Southwest	48.9	(45.1-52.7)
Southeast Michigan	44.5	(41.9-47.1)
Detroit Metro	48.4	(46.6-50.2)

^a 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. (N = 14,890)

Table 19: Asthma among Adults by Prosperity Region Michigan BRFSS, 2019-2021 Combined				
	Lifetime Asthma Prevalence^a		Current Asthma Prevalence^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	16.0	(15.4-16.6)	11.2	(10.7-11.8)
Prosperity Region				
Upper Peninsula	14.0	(11.4-17.1)	9.1	(7.1-11.5)
Northwest	17.1	(12.9-22.2)	12.3	(8.4-17.5)
Northeast	16.0	(12.3-20.6)	12.0	(8.7-16.2)
West Michigan	15.4	(13.9-17.0)	10.1	(8.9-11.4)
East Central Michigan	14.5	(11.9-17.5)	10.9	(8.6-13.8)
East Michigan	17.1	(15.1-19.2)	12.5	(10.8-14.4)
South Central	17.5	(15.1-20.3)	12.0	(10.0-14.3)
Southwest	15.7	(13.6-18.1)	11.5	(9.6-13.6)
Southeast Michigan	16.0	(14.5-17.6)	11.5	(10.3-13.0)
Detroit Metro	16.8	(15.8-17.9)	11.8	(10.9-12.7)
^a 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. (N = 27,113)				
^b Among all adults, the proportion who reported that they still had asthma. (N = 26,968)				

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.

Table 20: Asthma among Children by Prosperity Region Michigan BRFSS, 2019-2021 Combined				
	Lifetime Asthma Prevalence^a		Current Asthma Prevalence^b	
	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	11.2	(10.2-12.4)	7.7	(6.8-8.8)
Prosperity Region				
Upper Peninsula	-- ^c	-- ^c	-- ^c	-- ^c
Northwest	5.8	(3.2-10.2)	-- ^c	-- ^c
Northeast	-- ^c	-- ^c	-- ^c	-- ^c
West Michigan	9.4	(7.2-12.2)	7.0	(5.1-9.4)
East Central Michigan	8.7	(5.7-13.1)	5.8	(3.3-9.9)
East Michigan	15.2	(11.5-20.0)	10.3	(7.0-14.9)
South Central	14.6	(10.0-20.7)	9.8	(6.1-15.3)
Southwest	10.2	(6.9-14.8)	7.7	(4.8-12.1)
Southeast Michigan	10.2	(8.1-12.8)	7.0	(5.3-9.3)
Detroit Metro	12.4	(10.5-14.6)	8.2	(6.7-10.0)
^a Estimated proportion of Michigan children aged 0-17 years who were ever told by a doctor, nurse or other health professional that they had asthma, using proxy information from the adult respondent. (N = 5,180). ^b Estimated proportion of Michigan children aged 0-17 years who still have asthma, using proxy information from the adult respondent. (N = 5,157) ^c Suppressed due to a denominator < 50 and/or a relative standard error > 30%.				

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.

Table 21: Chronic Obstructive Pulmonary Disease (COPD) by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Ever Told COPD, Emphysema or Chronic Bronchitis^a	
	%	95% Confidence Interval
Michigan Total	8.1	(7.7-8.6)
Prosperity Region		
Upper Peninsula	8.6	(6.5-11.3)
Northwest	7.0	(5.3-9.3)
Northeast	15.8	(12.0-20.5)
West Michigan	6.7	(5.8-7.6)
East Central Michigan	10.4	(8.4-12.9)
East Michigan	10.6	(9.1-12.2)
South Central	6.9	(5.4-8.8)
Southwest	8.3	(6.8-10.1)
Southeast Michigan	7.4	(6.5-8.5)
Detroit Metro	8.0	(7.3-8.7)
^a 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. (N = 27,078)		

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.

Table 22: Arthritis by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Ever Told Arthritis^a	
	%	95% Confidence Interval
Michigan Total	30.3	(29.6-30.9)
Prosperity Region		
Upper Peninsula	36.3	(32.4-40.4)
Northwest	29.9	(26.3-33.8)
Northeast	40.9	(35.7-46.2)
West Michigan	28.8	(27.1-30.6)
East Central Michigan	32.4	(29.2-35.7)
East Michigan	36.5	(34.1-39.0)
South Central	30.6	(27.7-33.7)
Southwest	31.8	(29.2-34.4)
Southeast Michigan	29.1	(27.4-30.9)
Detroit Metro	29.7	(28.5-30.9)

^a 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. (N = 27,034)

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.

Table 23: Cardiovascular Disease by Prosperity Region
Michigan BRFSS, 2019-2021 Combined

	Ever Told Heart Attack ^a		Had Told Angina or Coronary Heart Disease ^b		Ever Told Stroke ^c		Ever Told Any Cardiovascular Disease ^d	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	4.7	(4.4-5.1)	4.6	(4.3-4.9)	3.6	(3.4-3.9)	9.7	(9.2-10.1)
Prosperity Region								
Upper Peninsula	6.1	(4.5-8.3)	7.6	(5.3-10.7)	3.4	(2.3-5.0)	12.7	(9.9-16.0)
Northwest	5.8	(4.3-7.8)	4.5	(3.2-6.2)	3.0	(2.1-4.3)	10.8	(8.8-13.2)
Northeast	7.1	(4.9-10.3)	5.6	(3.8-8.3)	7.4	(4.9-10.9)	15.5	(12.0-19.7)
West Michigan	3.7	(3.1-4.4)	3.6	(3.1-4.3)	2.9	(2.4-3.5)	7.6	(6.7-8.5)
East Central Michigan	6.5	(4.8-8.6)	4.4	(3.3-5.8)	3.4	(2.5-4.7)	10.9	(8.9-13.2)
East Michigan	5.5	(4.5-6.7)	5.3	(4.4-6.5)	5.0	(4.0-6.2)	11.1	(9.7-12.7)
South Central	5.0	(3.7-6.8)	3.9	(3.0-5.2)	3.0	(2.2-4.2)	9.4	(7.6-11.5)
Southwest	5.7	(4.5-7.1)	5.1	(4.1-6.3)	3.8	(2.9-4.9)	10.6	(9.1-12.4)
Southeast Michigan	4.2	(3.5-5.0)	4.3	(3.7-5.1)	3.4	(2.8-4.1)	9.1	(8.1-10.2)
Detroit Metro	4.5	(4.0-5.1)	4.9	(4.4-5.5)	3.7	(3.2-4.2)	9.8	(9.0-10.6)

Among all adults, the proportion who had ever been told by a doctor that...

^a they had a heart attack or myocardial infarction (N = 27,058)

^b they had angina or coronary heart disease (N = 26,975)

^c they had a stroke. (N = 27,132)

^d they had a heart attack, coronary heart disease or a stroke. (N = 26,935)

Table 24: Cancer by Prosperity Region
Michigan BRFSS, 2019-2021 Combined

	Ever Told Skin Cancer ^a		Ever Told Any Other Types of Cancer ^b		Ever Told Cancer ^c	
	%	95% Confidence Interval	%	95% Confidence Interval	%	95% Confidence Interval
Michigan Total	6.4	(6.1-6.7)	8.0	(7.7-8.4)	13.0	(12.5-13.5)
Prosperity Region						
Upper Peninsula	7.1	(5.4-9.2)	10.4	(7.9-13.5)	15.4	(12.6-18.7)
Northwest	8.1	(6.4-10.1)	9.3	(7.3-11.9)	15.9	(13.3-18.9)
Northeast	7.7	(5.5-10.7)	7.6	(5.5-10.5)	14.2	(11.2-18.0)
West Michigan	7.0	(6.3-7.8)	7.1	(6.3-8.0)	12.6	(11.6-13.7)
East Central Michigan	6.2	(5.0-7.7)	9.9	(8.2-11.8)	14.3	(12.3-16.6)
East Michigan	6.7	(5.7-7.9)	9.4	(8.1-11.0)	14.5	(12.8-16.2)
South Central	6.5	(5.3-8.0)	7.3	(5.9-9.0)	12.0	(10.3-14.0)
Southwest	7.3	(6.1-8.6)	8.7	(7.3-10.4)	14.2	(12.4-16.1)
Southeast Michigan	7.2	(6.4-8.1)	8.7	(7.7-9.8)	14.4	(13.1-15.7)
Detroit Metro	5.8	(5.3-6.4)	7.7	(7.1-8.4)	12.2	(11.5-13.1)

^a Among all adults, the proportion who reported ever being told by a doctor that they had skin cancer. (N = 27,132)
^b Among all adults, the proportion who reported ever being told by a doctor that they had a form of cancer other than skin cancer. (N = 27,131)
^c Among all adults, the proportion who reported ever being told by a doctor that they had skin cancer or any other type of cancer. (N = 27,091)

Table 25: Diabetes by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Ever Told Diabetes^a	
	%	95% Confidence Interval
Michigan Total	11.4	(10.9-11.9)
Prosperity Region		
Upper Peninsula	12.4	(9.7-15.6)
Northwest	9.6	(7.7-12.0)
Northeast	15.2	(11.8-19.3)
West Michigan	10.9	(9.8-12.2)
East Central Michigan	13.5	(11.4-16.0)
East Michigan	13.4	(11.8-15.2)
South Central	10.4	(8.6-12.5)
Southwest	11.8	(10.2-13.6)
Southeast Michigan	10.3	(9.2-11.5)
Detroit Metro	11.5	(10.7-12.4)
^a 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. (N = 27,150)		

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.

Table 26: Kidney Disease by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Ever Told Kidney Disease^a	
	%	95% Confidence Interval
Michigan Total	3.4	(3.1-3.6)
Prosperity Region		
Upper Peninsula	3.1	(1.9-5.0)
Northwest	3.7	(2.3-5.7)
Northeast	3.7	(2.3-5.9)
West Michigan	3.0	(2.5-3.6)
East Central Michigan	3.1	(2.2-4.2)
East Michigan	4.6	(3.7-5.7)
South Central	2.6	(1.8-3.7)
Southwest	4.4	(3.5-5.5)
Southeast Michigan	3.7	(3.0-4.5)
Detroit Metro	3.1	(2.7-3.6)

^a Among all adults, the proportion who reported ever being told by a doctor that they had kidney disease. (N = 27,117)

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.

Table 27: Depression by Prosperity Region Michigan BRFSS, 2019-2021 Combined		
	Ever Told Depression^a	
	%	95% Confidence Interval
Michigan Total	21.2	(20.5-21.9)
Prosperity Region		
Upper Peninsula	20.9	(17.6-24.6)
Northwest	20.0	(17.0-23.4)
Northeast	20.7	(16.8-25.2)
West Michigan	22.6	(20.8-24.6)
East Central Michigan	24.2	(21.0-27.6)
East Michigan	23.3	(21.1-25.8)
South Central	21.8	(19.1-24.7)
Southwest	24.5	(21.9-27.2)
Southeast Michigan	22.8	(21.1-24.6)
Detroit Metro	19.0	(17.9-20.1)
^a 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. (N = 27,055)		

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.