

**Crude and Age-Adjusted Estimates for Chronic Health Conditions,  
Risk Factors, Health Indicators, and Preventive Health Practices by  
Expanded Race/Ethnicity**

**State of Michigan**

**Selected Tables**

**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

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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 BRFSS data contribute to the national [Behavioral Risk Factor Surveillance System](#) (BRFSS) that is managed by the PHSB at the CDC.

The total sample size for the combined 2019-2021 MiBRFS dataset was equal to 27,212 completed interviews (both landline and cell phone). The 2019-2021 combined dataset included 21,618 White, Non-Hispanics; 2,436 Black, Non-Hispanics; 482 Asian or Other Pacific Islander, Non-Hispanics; 201 American Indian/Alaska Native, Non-Hispanics; 758 Other/Multi-racial, Non-Hispanics, 395 Arab, Non-Hispanics; and 731 Hispanics. Those with unknown race/ethnicity were excluded from this 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 BRFSS 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.

Both crude and age-adjusted<sup>‡</sup>, population-based prevalence estimates and asymmetric 95% confidence intervals were calculated for indicators of health status, health risk behaviors, clinical preventive practices, and chronic conditions among the overall adult population in Michigan, as well as for seven racial/ethnic groups. 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%. Comparisons between estimates with non-overlapping 95% confidence intervals should be considered significantly different.

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](mailto:TianY@michigan.gov).

<sup>‡</sup> Klein RJ, Schoenborn CA. Age Adjustment Using the 2000 Projected U.S. Population. *Healthy People 2010 Stat Notes*. 2001:1-10.

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.

<b>Table 1: Prevalence Estimates among the Overall Michigan Population (N = 27,212)</b>				
<b>Michigan BRFSS (2019-2021 Combined)</b>				
<b>% (95% Confidence Interval)</b>				
<b>Chronic Health Conditions</b>	<b>Crude</b>		<b>Age-Adjusted*</b>	
Ever Told Diabetes <sup>1</sup>	11.4	(10.9-11.9)	9.7	(9.3-10.2)
Ever Told Have Asthma <sup>2</sup>	16.0	(15.4-16.6)	16.5	(15.9-17.2)
Still Have Asthma <sup>3</sup>	11.2	(10.7-11.8)	11.5	(10.9-12.1)
Ever Told Chronic Obstructive Pulmonary Disease <sup>4</sup>	8.1	(7.7-8.6)	7.2	(6.8-7.6)
Ever Told Arthritis <sup>5</sup>	30.3	(29.6-30.9)	26.4	(25.8-27.1)
Ever Told Any Cardiovascular Disease <sup>6</sup>	9.7	(9.2-10.1)	8.1	(7.7-8.5)
Ever Told Cancer <sup>7</sup>	13.0	(12.5-13.5)	10.8	(10.4-11.2)
Ever Told Kidney Disease <sup>8</sup>	3.4	(3.1-3.6)	2.9	(2.7-3.2)
Ever Told Depression <sup>9</sup>	21.2	(20.5-21.9)	22.1	(21.3-22.8)
Disability <sup>10</sup>	28.9	(28.1-29.6)	27.4	(26.6-28.2)
<b>Health Risk Behaviors</b>				
No Leisure Time Physical Activity <sup>11</sup>	23.1	(22.4-23.8)	22.3	(21.6-23.1)
Fruit Consumption (< 1 Time / Day) <sup>12</sup>	40.0	(39.1-41.0)	40.6	(39.5-41.7)
Vegetable Consumption (< 1 Time / Day) <sup>13</sup>	20.1	(19.3-20.9)	20.1	(19.3-21.0)
Current Smoker <sup>14</sup>	18.0	(17.4-18.7)	19.0	(18.2-19.7)
Any Alcohol Consumption <sup>15</sup>	55.3	(54.5-56.1)	56.8	(56.0-57.7)
Heavy Drinking <sup>16</sup>	6.5	(6.1-6.9)	6.7	(6.3-7.2)
Binge Drinking <sup>17</sup>	17.2	(16.6-17.8)	18.8	(18.1-19.6)
Ever Told High Blood Pressure <sup>18</sup>	35.2	(34.4-36.1)	31.5	(30.7-32.4)
<b>Health Indicators</b>				
General Health, Fair or Poor <sup>19</sup>	16.9	(16.3-17.5)	16.0	(15.4-16.7)
Poor Physical Health on at least 14 Days in the Past Month <sup>20</sup>	12.6	(12.1-13.2)	12.0	(11.5-12.6)
Poor Mental Health on at least 14 Days in the Past Month <sup>21</sup>	15.2	(14.6-15.8)	15.8	(15.1-16.5)
Activity Limitation on at least 14 Days in the Past Month <sup>22</sup>	9.4	(9.0-9.9)	9.1	(8.6-9.6)
No Health Care Coverage (Among 18 – 64 years old) <sup>23</sup>	8.6	(8.1-9.2)	8.8	(8.2-9.4)
No Personal Health Care Provider <sup>24</sup>	13.3	(12.7-13.9)	14.7	(14.0-15.4)
No Health Care Access During Past 12 Months Due to Cost <sup>25</sup>	9.2	(8.7-9.7)	9.7	(9.2-10.3)
Obese <sup>26</sup>	35.2	(34.4-36.0)	35.3	(34.5-36.2)
<b>Preventive Health Practices</b>				
No Routine Checkup in Past Year <sup>27</sup>	22.0	(21.3-22.7)	23.8	(23.0-24.6)
Cholesterol Ever Checked <sup>28</sup>	92.6	(92.0-93.1)	91.0	(90.2-91.6)
Ever Told High Cholesterol <sup>29</sup>	34.5	(33.6-35.3)	29.4	(28.5-30.2)
Ever Had an HIV Test Among Those Aged 18 – 64 Years <sup>30</sup>	44.9	(43.8-45.9)	46.9	(45.8-47.9)
* Age-adjusted by direct method using the 2000 U.S. Census.				

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.

2019-2021 Michigan BRFSS Results by Expanded Race/Ethnicity  
October 2022

<b>Table 2: Prevalence Estimates among White, Non-Hispanics in Michigan (N = 21,618)</b>				
<b>Michigan BRFSS (2019-2021 Combined)</b>				
<b>% (95% Confidence Interval)</b>				
<b>Chronic Health Conditions</b>	<b>Crude</b>		<b>Age-Adjusted*</b>	
Ever Told Diabetes <sup>1</sup>	11.1	(10.6-11.6)	8.9	(8.4-9.3)
Ever Told Have Asthma <sup>2</sup>	15.7	(15.0-16.3)	16.5	(15.7-17.3)
Still Have Asthma <sup>3</sup>	10.9	(10.4-11.5)	11.3	(10.7-12.0)
Ever Told Chronic Obstructive Pulmonary Disease <sup>4</sup>	8.5	(8.0-8.9)	6.9	(6.5-7.4)
Ever Told Arthritis <sup>5</sup>	32.3	(31.6-33.1)	26.9	(26.2-27.6)
Ever Told Any Cardiovascular Disease <sup>6</sup>	9.9	(9.4-10.4)	7.6	(7.2-8.0)
Ever Told Cancer <sup>7</sup>	15.1	(14.5-15.6)	11.6	(11.1-12.1)
Ever Told Kidney Disease <sup>8</sup>	3.5	(3.2-3.8)	2.8	(2.5-3.1)
Ever Told Depression <sup>9</sup>	22.1	(21.4-22.9)	23.4	(22.6-24.3)
Disability <sup>10</sup>	28.4	(27.6-29.2)	26.2	(25.4-27.1)
<b>Health Risk Behaviors</b>				
No Leisure Time Physical Activity <sup>11</sup>	21.6	(20.8-22.3)	20.0	(19.3-20.8)
Fruit Consumption (< 1 Time / Day) <sup>12</sup>	39.5	(38.5-40.6)	40.5	(39.3-41.7)
Vegetable Consumption (< 1 Time / Day) <sup>13</sup>	18.9	(18.0-19.8)	19.0	(18.1-20.0)
Current Smoker <sup>14</sup>	17.5	(16.8-18.3)	18.9	(18.1-19.8)
Any Alcohol Consumption <sup>15</sup>	57.3	(56.4-58.2)	59.1	(58.1-60.1)
Heavy Drinking <sup>16</sup>	6.9	(6.5-7.4)	7.3	(6.8-7.9)
Binge Drinking <sup>17</sup>	17.6	(16.9-18.3)	20.0	(19.1-20.8)
Ever Told High Blood Pressure <sup>18</sup>	35.6	(34.6-36.5)	30.3	(29.4-31.2)
<b>Health Indicators</b>				
General Health, Fair or Poor <sup>19</sup>	15.8	(15.1-16.4)	14.6	(13.9-15.3)
Poor Physical Health on at least 14 Days in the Past Month <sup>20</sup>	12.7	(12.1-13.3)	12.0	(11.3-12.6)
Poor Mental Health on at least 14 Days in the Past Month <sup>21</sup>	15.1	(14.5-15.8)	16.2	(15.4-17.0)
Activity Limitation on at least 14 Days in the Past Month <sup>22</sup>	9.2	(8.7-9.7)	8.8	(8.3-9.4)
No Health Care Coverage (Among 18 – 64 years old) <sup>23</sup>	7.3	(6.7-8.0)	7.7	(7.0-8.4)
No Personal Health Care Provider <sup>24</sup>	11.8	(11.1-12.4)	13.8	(13.1-14.6)
No Health Care Access During Past 12 Months Due to Cost <sup>25</sup>	8.0	(7.5-8.5)	8.8	(8.2-9.4)
Obese <sup>26</sup>	34.6	(33.8-35.5)	34.4	(33.5-35.4)
<b>Preventive Health Practices</b>				
No Routine Checkup in Past Year <sup>27</sup>	22.1	(21.3-22.8)	25.0	(24.1-25.9)
Cholesterol Ever Checked <sup>28</sup>	93.1	(92.4-93.7)	90.6	(89.8-91.5)
Ever Told High Cholesterol <sup>29</sup>	36.1	(35.1-37.1)	29.4	(28.5-30.4)
Ever Had an HIV Test Among Those Aged 18 – 64 Years <sup>30</sup>	40.9	(39.7-42.0)	42.9	(41.7-44.2)
* Age-adjusted by direct method using the 2000 U.S. Census.				

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.

<b>Table 3: Prevalence Estimates among Black, Non-Hispanics in Michigan (N = 2,436)</b>				
<b>Michigan BRFSS (2019-2021 Combined)</b>				
<b>% (95% Confidence Interval)</b>				
<b>Chronic Health Conditions</b>	<b>Crude</b>		<b>Age-Adjusted*</b>	
Ever Told Diabetes <sup>1</sup>	15.9	(14.2-17.8)	14.5	(12.9-16.2)
Ever Told Have Asthma <sup>2</sup>	18.9	(17.0-20.9)	18.5	(16.6-20.6)
Still Have Asthma <sup>3</sup>	14.4	(12.8-16.2)	14.0	(12.4-15.8)
Ever Told Chronic Obstructive Pulmonary Disease <sup>4</sup>	7.7	(6.5-9.1)	7.4	(6.2-8.8)
Ever Told Arthritis <sup>5</sup>	29.6	(27.4-31.8)	26.9	(25.0-28.9)
Ever Told Any Cardiovascular Disease <sup>6</sup>	10.6	(9.2-12.2)	9.9	(8.6-11.4)
Ever Told Cancer <sup>7</sup>	6.8	(5.7-8.1)	6.4	(5.4-7.6)
Ever Told Kidney Disease <sup>8</sup>	3.6	(2.8-4.5)	3.4	(2.7-4.2)
Ever Told Depression <sup>9</sup>	17.1	(15.4-19.1)	17.6	(15.7-19.7)
Disability <sup>10</sup>	32.7	(30.3-35.1)	32.3	(29.9-34.9)
<b>Health Risk Behaviors</b>				
No Leisure Time Physical Activity <sup>11</sup>	31.8	(29.5-34.2)	32.0	(29.6-34.6)
Fruit Consumption (< 1 Time / Day) <sup>12</sup>	40.8	(37.8-43.9)	41.1	(37.9-44.4)
Vegetable Consumption (< 1 Time / Day) <sup>13</sup>	28.1	(25.3-31.1)	28.0	(25.0-31.2)
Current Smoker <sup>14</sup>	20.1	(18.0-22.3)	20.2	(18.1-22.5)
Any Alcohol Consumption <sup>15</sup>	49.9	(47.3-52.4)	50.8	(48.1-53.5)
Heavy Drinking <sup>16</sup>	4.3	(3.3-5.5)	4.5	(3.5-5.9)
Binge Drinking <sup>17</sup>	14.6	(12.8-16.6)	15.6	(13.6-17.8)
Ever Told High Blood Pressure <sup>18</sup>	43.8	(41.0-46.6)	40.7	(38.1-43.4)
<b>Health Indicators</b>				
General Health, Fair or Poor <sup>19</sup>	24.1	(22.1-26.3)	23.5	(21.5-25.7)
Poor Physical Health on at least 14 Days in the Past Month <sup>20</sup>	12.7	(11.1-14.5)	12.1	(10.6-13.9)
Poor Mental Health on at least 14 Days in the Past Month <sup>21</sup>	15.2	(13.5-17.1)	15.6	(13.8-17.6)
Activity Limitation on at least 14 Days in the Past Month <sup>22</sup>	10.2	(8.8-11.8)	10.0	(8.6-11.7)
No Health Care Coverage (Among 18 – 64 years old) <sup>23</sup>	10.4	(8.7-12.3)	10.6	(8.8-12.7)
No Personal Health Care Provider <sup>24</sup>	15.8	(14.0-17.9)	17.1	(15.1-19.4)
No Health Care Access During Past 12 Months Due to Cost <sup>25</sup>	10.9	(9.5-12.6)	11.2	(9.6-12.9)
Obese <sup>26</sup>	42.6	(40.1-45.2)	42.7	(40.1-45.4)
<b>Preventive Health Practices</b>				
No Routine Checkup in Past Year <sup>27</sup>	16.7	(14.8-18.7)	17.2	(15.2-19.4)
Cholesterol Ever Checked <sup>28</sup>	93.0	(91.1-94.4)	91.9	(89.7-93.7)
Ever Told High Cholesterol <sup>29</sup>	33.4	(30.6-36.2)	30.0	(27.5-32.6)
Ever Had an HIV Test Among Those Aged 18 – 64 Years <sup>30</sup>	68.0	(65.0-70.8)	68.9	(65.9-71.7)
* Age-adjusted by direct method using the 2000 U.S. Census.				

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.

<b>Table 4: Prevalence Estimates among Asian or Other Pacific Islander, Non-Hispanics in Michigan (N = 482)</b>				
<b>Michigan BRFSS (2019-2021 Combined)</b>				
<b>% (95% Confidence Interval)</b>				
<b>Chronic Health Conditions</b>	<b>Crude</b>		<b>Age-Adjusted*</b>	
Ever Told Diabetes <sup>1</sup>	5.5	(3.5-8.5)	12.4	(8.3-18.2)
Ever Told Have Asthma <sup>2</sup>	9.7	(6.9-13.6)	8.6	(6.0-12.3)
Still Have Asthma <sup>3</sup>	5.4	(3.3-8.8)	5.1	(3.0-8.3)
Ever Told Chronic Obstructive Pulmonary Disease <sup>4</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Ever Told Arthritis <sup>5</sup>	6.9	(4.4-10.5)	13.1	(9.1-18.6)
Ever Told Any Cardiovascular Disease <sup>6</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Ever Told Cancer <sup>7</sup>	-- <sup>a</sup>	-- <sup>a</sup>	7.7	(4.5-12.9)
Ever Told Kidney Disease <sup>8</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Ever Told Depression <sup>9</sup>	9.6	(6.4-14.1)	8.0	(5.4-11.8)
Disability <sup>10</sup>	7.3	(4.8-10.9)	12.4	(8.1-18.5)
<b>Health Risk Behaviors</b>				
No Leisure Time Physical Activity <sup>11</sup>	17.2	(13.2-22.1)	18.6	(14.1-24.3)
Fruit Consumption (< 1 Time / Day) <sup>12</sup>	42.9	(35.6-50.5)	42.1	(35.3-49.2)
Vegetable Consumption (< 1 Time / Day) <sup>13</sup>	16.1	(11.7-21.7)	14.1	(9.9-19.5)
Current Smoker <sup>14</sup>	6.6	(4.0-10.7)	6.6	(4.0-10.7)
Any Alcohol Consumption <sup>15</sup>	43.8	(38.0-49.7)	41.3	(35.5-47.3)
Heavy Drinking <sup>16</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Binge Drinking <sup>17</sup>	11.7	(8.0-16.8)	9.8	(6.6-14.2)
Ever Told High Blood Pressure <sup>18</sup>	13.0	(9.3-17.8)	21.5	(15.7-28.8)
<b>Health Indicators</b>				
General Health, Fair or Poor <sup>19</sup>	6.7	(4.1-10.8)	6.2	(3.8-9.9)
Poor Physical Health on at least 14 Days in the Past Month <sup>20</sup>	11.7	(8.3-16.2)	5.2	(3.1-8.7)
Poor Mental Health on at least 14 Days in the Past Month <sup>21</sup>	5.6	(3.4-9.1)	8.8	(5.4-14.0)
Activity Limitation on at least 14 Days in the Past Month <sup>22</sup>	3.9	(2.3-6.4)	3.4	(1.9-6.1)
No Health Care Coverage (Among 18 – 64 years old) <sup>23</sup>	6.8	(4.4-10.4)	6.3	(3.9-9.9)
No Personal Health Care Provider <sup>24</sup>	20.1	(15.9-25.0)	14.6	(11.5-18.4)
No Health Care Access During Past 12 Months Due to Cost <sup>25</sup>	8.2	(5.3-12.5)	8.0	(5.2-12.1)
Obese <sup>26</sup>	9.2	(6.5-12.9)	9.5	(6.6-13.5)
<b>Preventive Health Practices</b>				
No Routine Checkup in Past Year <sup>27</sup>	30.0	(24.9-35.5)	25.9	(21.3-31.1)
Cholesterol Ever Checked <sup>28</sup>	91.5	(87.0-94.5)	94.2	(91.4-96.1)
Ever Told High Cholesterol <sup>29</sup>	19.1	(14.1-25.4)	25.4	(19.1-32.8)
Ever Had an HIV Test Among Those Aged 18 – 64 Years <sup>30</sup>	20.7	(16.2-26.0)	21.8	(17.2-27.3)

\* Age-adjusted by direct method using the 2000 U.S. Census.

<sup>a</sup> 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.

<b>Table 5: Prevalence Estimates among American Indian / Alaskan Native, Non-Hispanics in Michigan (N = 201)</b>				
<b>Michigan BRFSS (2019-2021 Combined)</b>				
<b>% (95% Confidence Interval)</b>				
<b>Chronic Health Conditions</b>	<b>Crude</b>		<b>Age-Adjusted*</b>	
Ever Told Diabetes <sup>1</sup>	14.1	(9.1-21.1)	12.0	(7.8-18.0)
Ever Told Have Asthma <sup>2</sup>	27.5	(19.8-36.8)	25.9	(18.7-34.7)
Still Have Asthma <sup>3</sup>	22.1	(15.0-31.2)	22.1	(15.1-31.2)
Ever Told Chronic Obstructive Pulmonary Disease <sup>4</sup>	16.6	(10.6-25.0)	15.4	(9.8-23.3)
Ever Told Arthritis <sup>5</sup>	43.2	(34.4-52.5)	34.5	(27.4-42.3)
Ever Told Any Cardiovascular Disease <sup>6</sup>	17.1	(11.4-24.8)	15.4	(10.3-22.3)
Ever Told Cancer <sup>7</sup>	12.8	(8.3-19.2)	8.4	(5.2-13.5)
Ever Told Kidney Disease <sup>8</sup>	--a	--a	--a	--a
Ever Told Depression <sup>9</sup>	26.8	(19.3-36.0)	29.1	(20.6-39.3)
Disability <sup>10</sup>	49.6	(40.3-58.9)	46.3	(36.8-56.1)
<b>Health Risk Behaviors</b>				
No Leisure Time Physical Activity <sup>11</sup>	26.2	(19.2-34.6)	25.8	(18.9-34.0)
Fruit Consumption (< 1 Time / Day) <sup>12</sup>	41.1	(30.3-52.8)	40.2	(29.9-51.5)
Vegetable Consumption (< 1 Time / Day) <sup>13</sup>	22.1	(13.8-33.3)	24.0	(16.0-34.4)
Current Smoker <sup>14</sup>	35.5	(27.1-44.9)	33.4	(24.9-43.3)
Any Alcohol Consumption <sup>15</sup>	41.9	(33.2-51.3)	41.9	(32.7-51.7)
Heavy Drinking <sup>16</sup>	--a	--a	--a	--a
Binge Drinking <sup>17</sup>	18.5	(11.8-27.8)	21.2	(13.8-31.1)
Ever Told High Blood Pressure <sup>18</sup>	41.1	(31.5-51.4)	35.7	(27.0-45.5)
<b>Health Indicators</b>				
General Health, Fair or Poor <sup>19</sup>	29.1	(21.4-38.3)	26.3	(19.4-34.7)
Poor Physical Health on at least 14 Days in the Past Month <sup>20</sup>	28.0	(19.9-38.0)	24.0	(16.5-33.5)
Poor Mental Health on at least 14 Days in the Past Month <sup>21</sup>	23.0	(15.2-33.3)	24.8	(16.9-34.7)
Activity Limitation on at least 14 Days in the Past Month <sup>22</sup>	23.3	(15.9-32.9)	22.3	(14.9-32.0)
No Health Care Coverage (Among 18 – 64 years old) <sup>23</sup>	11.3	(6.5-18.9)	13.4	(7.7-22.3)
No Personal Health Care Provider <sup>24</sup>	18.4	(12.8-25.8)	21.5	(14.9-30.0)
No Health Care Access During Past 12 Months Due to Cost <sup>25</sup>	15.7	(10.8-22.4)	17.9	(12.3-25.5)
Obese <sup>26</sup>	33.0	(24.8-42.4)	29.1	(21.6-37.9)
<b>Preventive Health Practices</b>				
No Routine Checkup in Past Year <sup>27</sup>	24.1	(17.0-33.1)	26.7	(18.7-36.5)
Cholesterol Ever Checked <sup>28</sup>	--a	--a	--a	--a
Ever Told High Cholesterol <sup>29</sup>	41.0	(30.6-52.3)	34.1	(25.2-44.3)
Ever Had an HIV Test Among Those Aged 18 – 64 Years <sup>30</sup>	62.7	(51.3-72.9)	66.1	(55.2-75.5)
* Age-adjusted by direct method using the 2000 U.S. Census.				
<sup>a</sup> 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.



<b>Table 6: Prevalence Estimates among Other/Multi-Racial, Non-Hispanics in Michigan (N = 758)</b>				
<b>Michigan BRFSS (2019-2021 Combined)</b>				
<b>% (95% Confidence Interval)</b>				
<b>Chronic Health Conditions</b>	<b>Crude</b>		<b>Age-Adjusted*</b>	
Ever Told Diabetes <sup>1</sup>	10.5	(7.8-14.0)	12.3	(9.3-16.0)
Ever Told Have Asthma <sup>2</sup>	21.3	(17.7-25.4)	21.5	(18.0-25.5)
Still Have Asthma <sup>3</sup>	13.6	(10.8-16.9)	14.0	(11.1-17.4)
Ever Told Chronic Obstructive Pulmonary Disease <sup>4</sup>	16.6	(10.6-25.0)	10.1	(7.7-13.2)
Ever Told Arthritis <sup>5</sup>	27.6	(23.8-31.8)	30.8	(27.2-34.6)
Ever Told Any Cardiovascular Disease <sup>6</sup>	9.6	(7.2-12.8)	11.5	(8.9-14.7)
Ever Told Cancer <sup>7</sup>	7.8	(5.9-10.3)	9.3	(7.1-12.1)
Ever Told Kidney Disease <sup>8</sup>	3.5	(2.4-5.2)	4.0	(2.7-5.8)
Ever Told Depression <sup>9</sup>	25.8	(21.9-30.0)	24.9	(21.4-28.7)
Disability <sup>10</sup>	37.6	(33.1-42.4)	38.0	(33.9-42.2)
<b>Health Risk Behaviors</b>				
No Leisure Time Physical Activity <sup>11</sup>	25.2	(21.3-29.5)	26.7	(22.9-30.8)
Fruit Consumption (< 1 Time / Day) <sup>12</sup>	39.8	(34.6-45.2)	39.9	(34.9-45.1)
Vegetable Consumption (< 1 Time / Day) <sup>13</sup>	18.9	(14.8-23.9)	19.2	(15.2-23.9)
Current Smoker <sup>14</sup>	24.0	(20.1-28.4)	24.4	(20.6-28.6)
Any Alcohol Consumption <sup>15</sup>	50.5	(45.7-55.2)	48.7	(44.2-53.2)
Heavy Drinking <sup>16</sup>	6.9	(4.8-9.9)	6.7	(4.6-9.6)
Binge Drinking <sup>17</sup>	20.9	(17.0-25.4)	19.0	(15.7-22.9)
Ever Told High Blood Pressure <sup>18</sup>	32.9	(28.3-37.9)	35.4	(30.9-40.1)
<b>Health Indicators</b>				
General Health, Fair or Poor <sup>19</sup>	20.9	(17.3-25.0)	22.6	(19.0-26.7)
Poor Physical Health on at least 14 Days in the Past Month <sup>20</sup>	13.3	(10.5-16.6)	14.8	(11.8-18.4)
Poor Mental Health on at least 14 Days in the Past Month <sup>21</sup>	21.0	(17.3-25.2)	20.6	(17.2-24.4)
Activity Limitation on at least 14 Days in the Past Month <sup>22</sup>	13.7	(10.7-17.4)	14.2	(11.3-17.7)
No Health Care Coverage (Among 18 – 64 years old) <sup>23</sup>	11.2	(8.5-14.5)	11.3	(8.5-14.8)
No Personal Health Care Provider <sup>24</sup>	17.7	(14.5-21.5)	16.2	(13.2-19.6)
No Health Care Access During Past 12 Months Due to Cost <sup>25</sup>	17.7	(14.5-21.5)	16.7	(13.7-20.3)
Obese <sup>26</sup>	36.6	(32.1-41.3)	36.8	(32.5-41.4)
<b>Preventive Health Practices</b>				
No Routine Checkup in Past Year <sup>27</sup>	25.8	(22.0-30.1)	24.8	(21.0-29.0)
Cholesterol Ever Checked <sup>28</sup>	85.0	(79.8-89.1)	86.9	(82.4-90.4)
Ever Told High Cholesterol <sup>29</sup>	30.3	(25.4-35.8)	31.4	(26.6-36.6)
Ever Had an HIV Test Among Those Aged 18 – 64 Years <sup>30</sup>	59.4	(54.0-64.5)	61.4	(56.3-66.2)

\* Age-adjusted by direct method using the 2000 U.S. Census.

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.

<b>Table 7: Prevalence Estimates among Arab, Non-Hispanics in Michigan (N = 395)</b>				
<b>Michigan BRFSS (2019-2021 Combined)</b>				
<b>% (95% Confidence Interval)</b>				
<b>Chronic Health Conditions</b>	<b>Crude</b>		<b>Age-Adjusted*</b>	
Ever Told Diabetes <sup>1</sup>	5.5	(3.4-8.7)	7.9	(5.1-11.8)
Ever Told Have Asthma <sup>2</sup>	12.0	(8.2-17.2)	12.2	(8.5-17.3)
Still Have Asthma <sup>3</sup>	7.7	(5.0-11.7)	8.2	(5.3-12.5)
Ever Told Chronic Obstructive Pulmonary Disease <sup>4</sup>	5.9	(3.5-9.7)	7.1	(4.4-11.2)
Ever Told Arthritis <sup>5</sup>	12.3	(9.2-16.2)	17.5	(13.6-22.2)
Ever Told Any Cardiovascular Disease <sup>6</sup>	5.5	(3.5-8.5)	7.7	(5.1-11.4)
Ever Told Cancer <sup>7</sup>	6.9	(4.7-10.1)	9.9	(7.1-13.6)
Ever Told Kidney Disease <sup>8</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Ever Told Depression <sup>9</sup>	13.6	(9.8-18.6)	13.8	(9.8-19.1)
Disability <sup>10</sup>	18.2	(13.8-23.6)	20.1	(15.5-25.7)
<b>Health Risk Behaviors</b>				
No Leisure Time Physical Activity <sup>11</sup>	27.9	(22.2-34.4)	30.8	(25.2-37.1)
Fruit Consumption (< 1 Time / Day) <sup>12</sup>	33.7	(26.7-41.5)	30.6	(24.2-37.9)
Vegetable Consumption (< 1 Time / Day) <sup>13</sup>	17.1	(11.9-23.9)	15.9	(11.4-21.9)
Current Smoker <sup>14</sup>	15.5	(11.2-20.9)	16.2	(11.9-21.6)
Any Alcohol Consumption <sup>15</sup>	39.2	(33.0-45.7)	40.0	(33.9-46.4)
Heavy Drinking <sup>16</sup>	4.9	(2.8-8.5)	4.5	(2.7-7.6)
Binge Drinking <sup>17</sup>	9.4	(6.3-13.8)	8.0	(5.4-11.7)
Ever Told High Blood Pressure <sup>18</sup>	19.4	(14.5-25.4)	22.5	(17.6-28.2)
<b>Health Indicators</b>				
General Health, Fair or Poor <sup>19</sup>	12.2	(8.6-16.9)	13.9	(9.8-19.2)
Poor Physical Health on at least 14 Days in the Past Month <sup>20</sup>	11.1	(7.2-16.7)	12.1	(8.4-17.3)
Poor Mental Health on at least 14 Days in the Past Month <sup>21</sup>	14.2	(9.8-20.1)	13.7	(9.8-18.7)
Activity Limitation on at least 14 Days in the Past Month <sup>22</sup>	8.8	(5.9-13.1)	9.2	(6.2-13.6)
No Health Care Coverage (Among 18 – 64 years old) <sup>23</sup>	13.0	(8.8-18.8)	10.6	(7.3-15.0)
No Personal Health Care Provider <sup>24</sup>	17.2	(12.7-22.8)	14.4	(10.6-19.2)
No Health Care Access During Past 12 Months Due to Cost <sup>25</sup>	14.0	(10.1-19.3)	13.5	(9.7-18.4)
Obese <sup>26</sup>	25.2	(19.8-31.5)	29.9	(24.4-36.0)
<b>Preventive Health Practices</b>				
No Routine Checkup in Past Year <sup>27</sup>	20.6	(15.9-26.2)	18.7	(14.4-23.8)
Cholesterol Ever Checked <sup>28</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Ever Told High Cholesterol <sup>29</sup>	29.8	(23.4-37.1)	31.4	(25.3-38.3)
Ever Had an HIV Test Among Those Aged 18 – 64 Years <sup>30</sup>	34.9	(27.8-42.7)	38.5	(31.5-46.1)

\* Age-adjusted by direct method using the 2000 U.S. Census.

<sup>a</sup> 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.

<b>Table 8: Prevalence Estimates among Hispanics in Michigan (N = 731)</b>				
<b>Michigan BRFSS (2019-2021 Combined)</b>				
<b>% (95% Confidence Interval)</b>				
<b>Chronic Health Conditions</b>	<b>Crude</b>		<b>Age-Adjusted*</b>	
Ever Told Diabetes <sup>1</sup>	8.4	(6.3-11.0)	11.6	(8.9-14.9)
Ever Told Have Asthma <sup>2</sup>	16.8	(13.6-20.7)	16.7	(13.5-20.5)
Still Have Asthma <sup>3</sup>	10.7	(8.3-13.7)	11.5	(8.8-14.8)
Ever Told Chronic Obstructive Pulmonary Disease <sup>4</sup>	6.6	(4.8-9.2)	8.3	(6.0-11.5)
Ever Told Arthritis <sup>5</sup>	16.7	(13.8-20.2)	23.0	(19.4-27.0)
Ever Told Any Cardiovascular Disease <sup>6</sup>	6.9	(5.0-9.5)	8.9	(6.6-12.0)
Ever Told Cancer <sup>7</sup>	6.7	(4.8-9.3)	7.8	(5.6-10.6)
Ever Told Kidney Disease <sup>8</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>	-- <sup>a</sup>
Ever Told Depression <sup>9</sup>	25.7	(21.6-30.2)	24.8	(21.0-29.0)
Disability <sup>10</sup>	32.4	(28.1-37.0)	34.1	(29.6-38.9)
<b>Health Risk Behaviors</b>				
No Leisure Time Physical Activity <sup>11</sup>	22.6	(19.0-26.5)	25.6	(21.6-30.0)
Fruit Consumption (< 1 Time / Day) <sup>12</sup>	45.7	(40.0-51.4)	42.9	(37.5-48.5)
Vegetable Consumption (< 1 Time / Day) <sup>13</sup>	23.4	(18.8-28.7)	22.1	(17.9-27.0)
Current Smoker <sup>14</sup>	20.6	(17.0-24.8)	20.2	(16.8-24.1)
Any Alcohol Consumption <sup>15</sup>	56.7	(52.0-61.4)	54.4	(49.9-58.9)
Heavy Drinking <sup>16</sup>	6.8	(4.7-9.6)	6.0	(4.2-8.4)
Binge Drinking <sup>17</sup>	23.9	(19.8-28.5)	20.3	(16.9-24.2)
Ever Told High Blood Pressure <sup>18</sup>	23.5	(19.3-28.2)	30.5	(25.8-35.5)
<b>Health Indicators</b>				
General Health, Fair or Poor <sup>19</sup>	16.1	(13.1-19.7)	19.3	(15.7-23.5)
Poor Physical Health on at least 14 Days in the Past Month <sup>20</sup>	11.6	(9.1-14.8)	14.4	(11.2-18.3)
Poor Mental Health on at least 14 Days in the Past Month <sup>21</sup>	16.8	(13.7-20.5)	17.4	(14.0-21.3)
Activity Limitation on at least 14 Days in the Past Month <sup>22</sup>	8.5	(6.4-11.2)	10.2	(7.4-13.8)
No Health Care Coverage (Among 18 – 64 years old) <sup>23</sup>	17.3	(14.0-21.3)	16.7	(13.4-20.6)
No Personal Health Care Provider <sup>24</sup>	22.4	(18.7-26.6)	17.1	(14.3-20.4)
No Health Care Access During Past 12 Months Due to Cost <sup>25</sup>	15.8	(12.7-19.5)	14.0	(11.1-17.4)
Obese <sup>26</sup>	43.2	(38.4-48.2)	45.8	(41.0-50.6)
<b>Preventive Health Practices</b>				
No Routine Checkup in Past Year <sup>27</sup>	28.6	(24.7-32.9)	25.4	(21.8-29.3)
Cholesterol Ever Checked <sup>28</sup>	85.7	(80.7-89.6)	89.7	(86.2-92.5)
Ever Told High Cholesterol <sup>29</sup>	20.1	(16.0-24.9)	23.8	(19.4-28.8)
Ever Had an HIV Test Among Those Aged 18 – 64 Years <sup>30</sup>	49.7	(44.5-54.9)	52.3	(47.3-57.2)
* Age-adjusted by direct method using the 2000 U.S. Census.				
<sup>a</sup> 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.

## **Appendix: Definitions**

- <sup>1</sup> Among all adults, the proportion who reported that they were ever told by a doctor that they have diabetes. Women who had diabetes only during pregnancy and adults who were diagnosed with pre-diabetes were considered to not have been diagnosed with diabetes.
- <sup>2</sup> 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.
- <sup>3</sup> Among all adults, the proportion who reported that they still had asthma.
- <sup>4</sup> 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.
- <sup>5</sup> Among all adults, the proportion who reported ever being told by a health care professional that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.
- <sup>6</sup> 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.
- <sup>7</sup> Among all adults, the proportion who reported ever being told by a doctor that they had skin cancer or any other type of cancer.
- <sup>8</sup> Among all adults, the proportion who reported ever being told by a doctor that they had kidney disease.
- <sup>9</sup> 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.
- <sup>10</sup> 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.
- <sup>11</sup> 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.
- <sup>12</sup> Among all adults, the proportion whose total reported consumption of fruits (including juice) was less than one time per day (2019 and 2021 combined).
- <sup>13</sup> Among all adults, the proportion whose total reported consumption of vegetables was less than one time per day (2019 and 2021 combined).
- <sup>14</sup> Among all adults, the proportion who reported that they had ever smoked at least 100 cigarettes (five packs) in their life and that they smoke cigarettes now, either every day or on some days.
- <sup>15</sup> Among all adults, the proportion who reported consuming at least one drink of any alcoholic beverage in the previous month.
- <sup>16</sup> Among all adults, the proportion who reported consuming on average more than two alcoholic beverages per day for men or more than one alcoholic beverage per day for women.
- <sup>17</sup> 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.
- <sup>18</sup> 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 (2019 and 2021 combined).
- <sup>19</sup> Among all adults, the proportion who reported that their health, in general, was either fair or poor.
- <sup>20</sup> 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.
- <sup>21</sup> 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.
- <sup>22</sup> 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 them from doing their usual activities, such as self-care, work, and recreation.
- <sup>23</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.
- <sup>24</sup> 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.
- <sup>25</sup> Among all adults, the proportion who reported that in the past 12 months that there was a time when they could not see a doctor when they needed to due to the cost.
- <sup>26</sup> 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

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

<sup>27</sup> Among all adults, the proportion who reported that they did not have a routine checkup in the past year.

<sup>28</sup> Among all adults, the proportion who reported ever having had their blood cholesterol checked (2019 and 2021 combined).

<sup>29</sup> 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 (2019 and 2021 combined).

<sup>30</sup> 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. Note: "Don't know" was considered a valid response.