

**Health Indicators and Risk Estimates by
Community Health Assessment Regions
&
Local Health Departments**

State of Michigan

Selected Tables

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

2015 - 2017

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](#) that is managed by the PHSB at the CDC.

State-specific, population-based prevalence estimates (and asymmetric 95% confidence intervals) of health risk behaviors, preventive health practices, and chronic conditions are calculated using annual data sets (see Annual Tables at the [MiBRFSS website \[http://www.michigan.gov/brfs\]](http://www.michigan.gov/brfs)). However, region-specific and local health department-specific prevalence rates are usually computed using BRFSS data combined across years.

For this report, data from the 2015-2017 Michigan BRFSS were combined. The total sample sizes by year were: 10,889 in 2017, 12,024 in 2016, and 8,935 in 2015. Not all questions were included annually in the survey. The table subtitles indicate which years were used for that particular analysis.

For the 2015 through 2017 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.

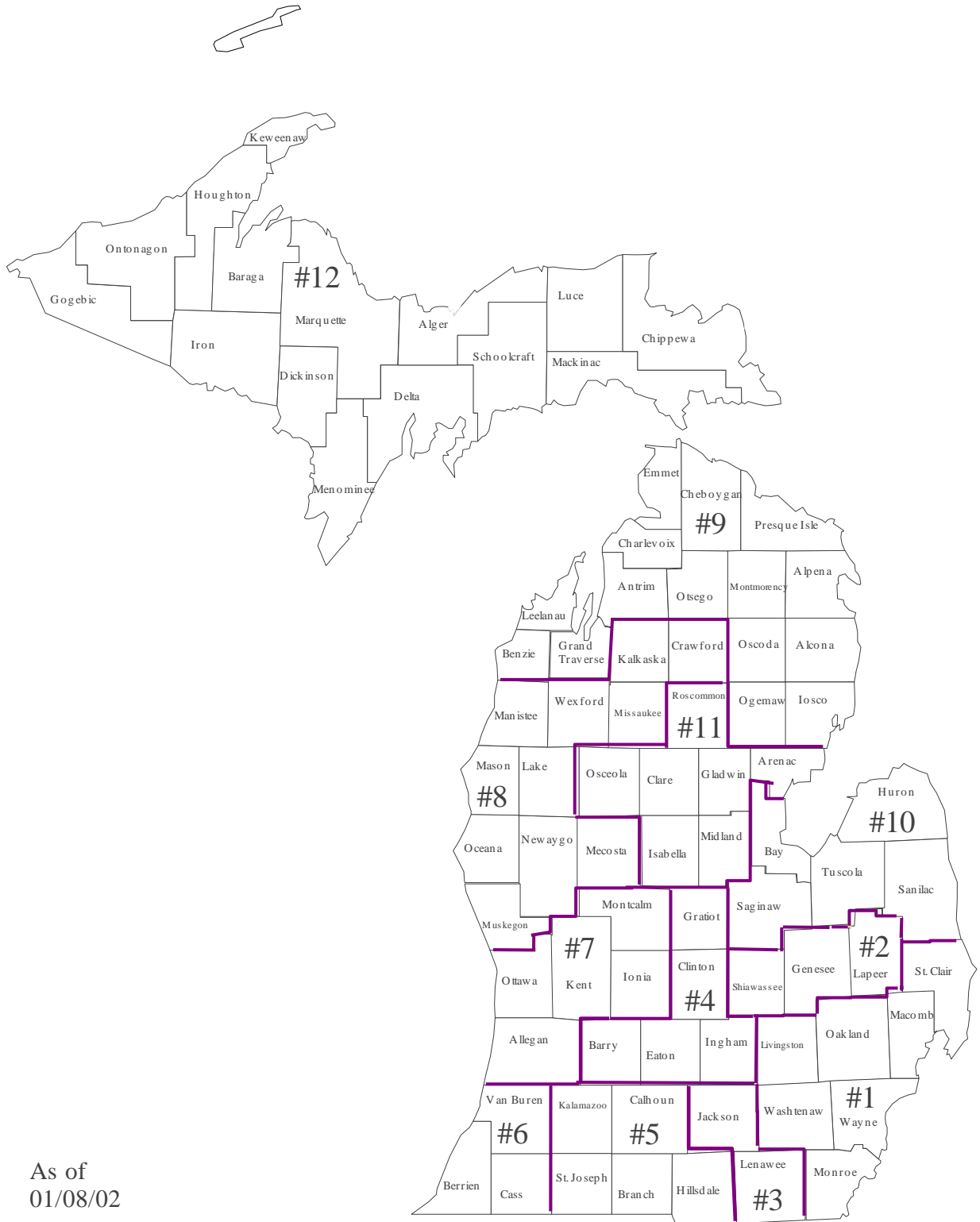
Iterative proportional fitting or raking was the weighting methodology used to make the 2015-2017 Michigan BRFSS data representative of the current Michigan adult population. Estimates based on this methodology were weighted to adjust for the probabilities of selection and a raking adjustment factor 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. No additional weighting factors were computed at the regional or local health department (LHD) level, thus the weights used might not always provide accurate regional and/or LHD estimates, particularly when regional and/or LHD demographic distributions vary greatly from that of the state.

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 at the regional and local health department level. 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.

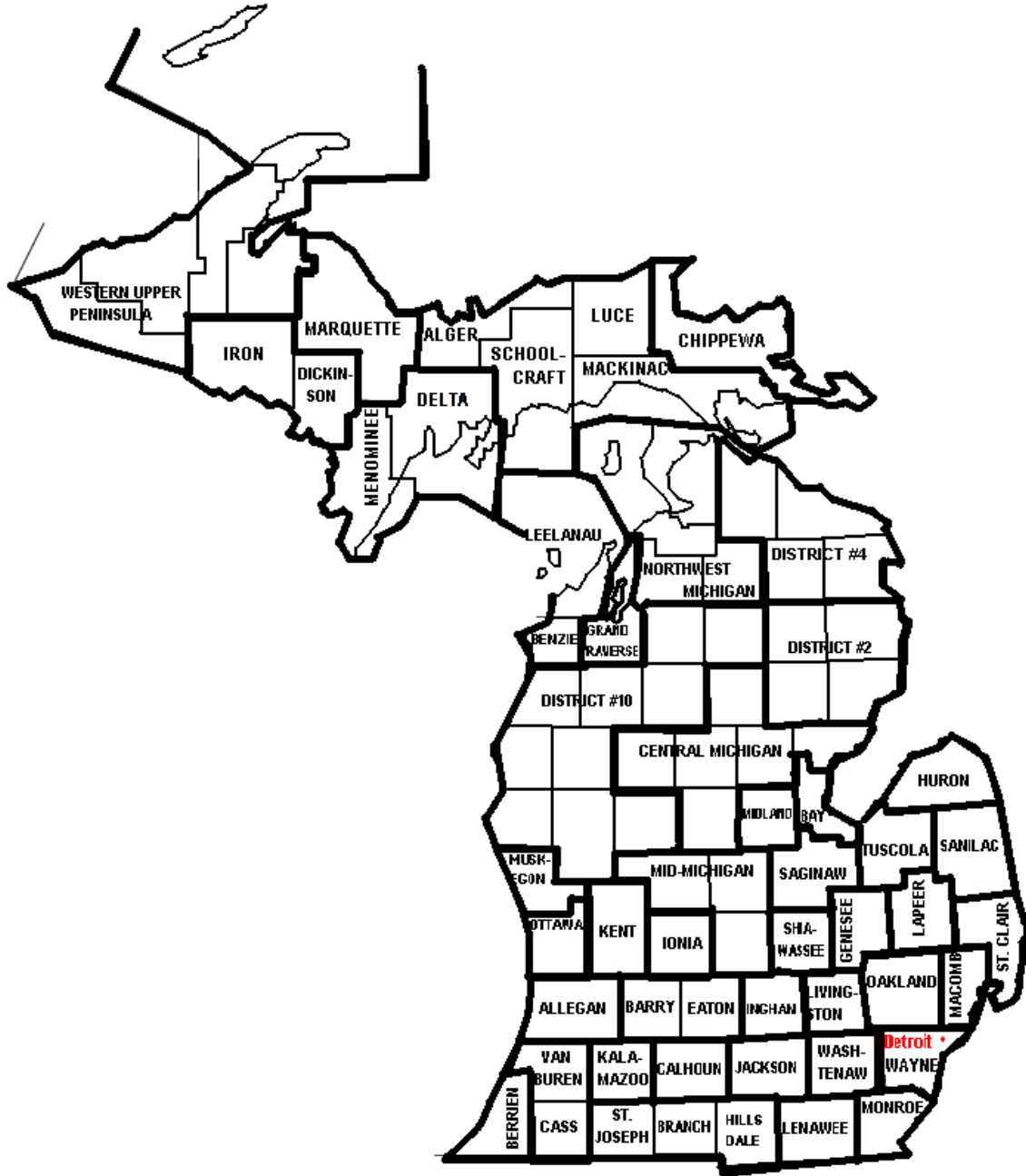
If you have any questions regarding any of the estimates within the following tables, please contact Allison Murad at murada@michigan.gov.

Community Health Assessment and Improvement Regions State of Michigan



As of
01/08/02

Local Health Departments State of Michigan



2015-2017 Michigan BRFSS Regional & Local Health Department Estimates
August 2019

| Table 1: Health Status Michigan BRFSS, 2015-2017 Combined | | | |
|--|---|-------------|------------------------------------|
| Geographic Area | General Health, Fair or Poor^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,792 | 18.1 | (17.5-18.6) |
| Region 1 | 12,742 | 18.2 | (17.3-19.1) |
| Livingston | 817 | 10.6 | (8.1-13.9) |
| Macomb | 2,061 | 20.1 | (18.0-22.3) |
| Monroe | 385 | 17.0 | (13.1-21.8) |
| Oakland | 3,369 | 13.6 | (12.2-15.1) |
| St. Clair | 414 | 19.7 | (15.6-24.6) |
| Washtenaw | 1,175 | 12.6 | (10.2-15.4) |
| City of Detroit | 1,541 | 30.1 | (27.3-33.1) |
| Wayne exc. Detroit | 2,906 | 18.3 | (16.6-20.1) |
| Region 2 | 1,977 | 21.6 | (19.4-24.0) |
| Genesee | 1,435 | 23.3 | (20.6-26.2) |
| Lapeer | 247 | 17.3 | (12.6-23.3) |
| Shiawassee | 275 | 18.1 | (13.0-24.7) |
| Region 3 | 1,491 | 20.3 | (17.3-23.7) |
| Jackson | 1,141 | 17.7 | (14.8-21.0) |
| Lenawee | 318 | 24.4 | (18.5-31.5) |
| Region 4 | 1,871 | 17.0 | (14.9-19.3) |
| Barry-Eaton | 547 | 20.5 | (16.4-25.3) |
| Mid-Michigan ^b | 572 | 17.3 | (13.8-21.5) |
| Ingham | 936 | 16.1 | (13.3-19.3) |
| Region 5 | 1,583 | 18.1 | (16.0-20.5) |
| Branch-Hillsdale-St. Joseph | 444 | 20.0 | (15.8-24.8) |
| Calhoun | 377 | 17.6 | (13.7-22.4) |
| Kalamazoo | 735 | 17.8 | (14.7-21.4) |
| Region 6 | 764 | 18.0 | (14.9-21.6) |
| Van Buren-Cass | 312 | 24.5 | (19.1-30.9) |
| Berrien | 422 | 13.6 | (10.4-17.5) |
| Region 7 | 3,256 | 14.2 | (12.8-15.8) |
| Allegan | 347 | 14.8 | (11.2-19.3) |
| Ionia | 202 | 18.1 | (11.9-26.5) |
| Kent | 1,701 | 13.5 | (11.5-15.7) |
| Mid-Michigan ^b | 572 | 17.3 | (13.8-21.5) |
| Ottawa | 758 | 12.4 | (9.8-15.6) |

2015-2017 Michigan BRFSS Regional & Local Health Department Estimates
August 2019

| Table 1 Cont'd | | | |
|---------------------------------|---|-------------|------------------------------------|
| Geographic Area | General Health, Fair or Poor^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,792 | 18.1 | (17.5-18.6) |
| Region 8 | 2,298 | 20.1 | (17.8-22.6) |
| District #10 | 1,117 | 19.7 | (16.8-22.9) |
| Muskegon | 1,114 | 20.7 | (17.2-24.6) |
| Region 9 | 1,597 | 20.1 | (17.6-22.8) |
| District #2 | 232 | 24.9 | (18.1-33.2) |
| District #4 | 257 | 23.7 | (18.0-30.7) |
| Northwest Michigan | 470 | 21.3 | (16.7-26.7) |
| Benzie-Leelanau | 215 | 17.3 | (11.6-24.9) |
| Grand Traverse | 398 | 12.5 | (8.9-17.2) |
| Region 10 | 1,536 | 18.0 | (15.7-20.4) |
| Bay | 321 | 13.4 | (9.9-18.0) |
| Huron | 122 | 13.2 | (8.2-20.5) |
| Saginaw | 737 | 21.2 | (17.4-25.5) |
| Sanilac | 147 | 16.6 | (10.9-24.5) |
| Tuscola | 175 | 20.7 | (14.8-28.3) |
| Region 11 | 1,010 | 19.9 | (16.9-23.2) |
| Central Michigan | 597 | 23.1 | (19.2-27.5) |
| Midland | 302 | 14.9 | (10.6-20.6) |
| Region 12 | 1,114 | 18.8 | (16.1-21.8) |
| Luce-Mackinac-Alger-Schoolcraft | 149 | 21.6 | (15.2-29.9) |
| Western Upper Peninsula | 232 | 16.8 | (11.5-23.8) |
| Delta-Menominee | 215 | 23.5 | (17.1-31.4) |
| Chippewa | 142 | 22.4 | (15.2-31.9) |
| Dickinson-Iron | 133 | 19.7 | (12.4-29.8) |
| Marquette | 221 | 13.8 | (9.1-20.5) |

^a The proportion of adults who reported that their health, in general, was either fair or poor.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

| Table 2: Poor Physical Health on at Least 14 Days in the Past Month Michigan BRFSS, 2015-2017 Combined | | | |
|---|---|-----------------|--------------------------------|
| Geographic Area | Poor Physical Health^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,394 | 9.3 | (8.9-9.7) |
| Region 1 | 12,586 | 9.2 | (8.6-9.9) |
| Livingston | 807 | 9.7 | (6.9-13.3) |
| Macomb | 2,039 | 11.1 | (9.5-12.9) |
| Monroe | 383 | 14.3 | (9.8-20.3) |
| Oakland | 3,328 | 6.6 | (5.6-7.8) |
| St. Clair | 407 | 10.5 | (7.6-14.3) |
| Washtenaw | 1,163 | 6.5 | (4.9-8.7) |
| City of Detroit | 1,513 | 11.7 | (9.9-13.9) |
| Wayne exc. Detroit | 2,872 | 9.2 | (8.0-10.6) |
| Region 2 | 1,943 | 11.2 | (9.5-13.1) |
| Genesee | 1,404 | 10.8 | (8.8-13.1) |
| Lapeer | 242 | 10.0 | (6.3-15.6) |
| Shiawassee | 277 | 13.8 | (9.2-20.1) |
| Region 3 | 1,466 | 9.1 | (7.2-11.5) |
| Jackson | 1,123 | 7.7 | (5.7-10.3) |
| Lenawee | 311 | 11.9 | (8.1-17.1) |
| Region 4 | 1,848 | 9.1 | (7.5-10.9) |
| Barry-Eaton | 541 | 7.0 | (4.8-10.0) |
| Mid-Michigan ^b | 567 | 10.2 | (7.4-13.9) |
| Ingham | 922 | 9.5 | (7.3-12.2) |
| Region 5 | 1,564 | 9.2 | (7.6-11.2) |
| Branch-Hillsdale-St. Joseph | 441 | 12.2 | (8.5-17.1) |
| Calhoun | 371 | 10.1 | (6.9-14.5) |
| Kalamazoo | 725 | 7.2 | (5.3-9.6) |
| Region 6 | 751 | 10.5 | (8.0-13.6) |
| Van Buren-Cass | 305 | 11.6 | (7.9-16.7) |
| Berrien | 416 | 8.8 | (6.1-12.5) |
| Region 7 | 3,225 | 8.6 | (7.5-9.9) |
| Allegan | 339 | 10.4 | (7.0-15.2) |
| Ionia | -- ^c | -- ^c | -- ^c |
| Kent | 1,687 | 9.1 | (7.5-11.0) |
| Mid-Michigan ^b | 567 | 10.2 | (7.4-13.9) |
| Ottawa | 753 | 7.3 | (5.4-9.8) |

2015-2017 Michigan BRFSS Regional & Local Health Department Estimates
August 2019

| Table 2 Cont'd | | | |
|---------------------------------|---|-----------------|--------------------------------|
| Geographic Area | Poor Physical Health^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,394 | 9.3 | (8.9-9.7) |
| Region 8 | 2,267 | 11.2 | (9.5-13.2) |
| District #10 | 1,102 | 11.9 | (9.6-14.8) |
| Muskegon | 1,100 | 10.6 | (8.2-13.6) |
| Region 9 | 1,583 | 8.0 | (6.5-9.8) |
| District #2 | 230 | 7.0 | (4.0-12.1) |
| District #4 | 255 | 10.3 | (6.6-15.6) |
| Northwest Michigan | 465 | 10.4 | (7.4-14.4) |
| Benzie-Leelanau | -- ^c | -- ^c | -- ^c |
| Grand Traverse | 395 | 5.7 | (3.5-9.0) |
| Region 10 | 1,513 | 9.8 | (8.0-11.9) |
| Bay | 319 | 5.4 | (3.4-8.7) |
| Huron | 121 | 8.3 | (4.6-14.6) |
| Saginaw | 723 | 10.2 | (7.4-13.8) |
| Sanilac | 143 | 14.1 | (7.7-24.4) |
| Tuscola | 173 | 13.5 | (8.7-20.5) |
| Region 11 | 996 | 8.6 | (6.6-11.0) |
| Central Michigan | 585 | 8.9 | (6.4-12.1) |
| Midland | 301 | 9.6 | (6.1-14.7) |
| Region 12 | 1,107 | 9.8 | (7.7-12.4) |
| Luce-Mackinac-Alger-Schoolcraft | -- ^c | -- ^c | -- ^c |
| Western Upper Peninsula | -- ^c | -- ^c | -- ^c |
| Delta-Menominee | 215 | 11.0 | (6.6-17.7) |
| Chippewa | 142 | 14.2 | (8.2-23.6) |
| Dickinson-Iron | -- ^c | -- ^c | -- ^c |
| Marquette | 220 | 9.1 | (5.2-15.6) |

^a The proportion of adults who reported 14 or more days, out of the previous 30, on which their physical health was not good, which includes physical illness and injury.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

2015-2017 Michigan BRFSS Regional & Local Health Department Estimates
August 2019

| Table 3: Poor Mental Health on at Least 14 Days in the Past Month Michigan BRFSS, 2015-2017 Combined | | | |
|---|---------------------------------------|------------|--------------------------------|
| Geographic Area | Poor Mental Health^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,461 | 8.5 | (8.1-8.9) |
| Region 1 | 12,620 | 8.8 | (8.2-9.5) |
| Livingston | 810 | 7.4 | (5.3-10.2) |
| Macomb | 2,047 | 8.2 | (6.9-9.9) |
| Monroe | 381 | 11.1 | (6.8-17.7) |
| Oakland | 3,339 | 6.9 | (5.8-8.1) |
| St. Clair | 410 | 6.8 | (4.6-10.0) |
| Washtenaw | 1,167 | 9.8 | (7.7-12.6) |
| City of Detroit | 1,519 | 11.6 | (9.8-13.8) |
| Wayne exc. Detroit | 2,873 | 10.0 | (8.6-11.7) |
| Region 2 | 1,957 | 10.0 | (8.4-11.9) |
| Genesee | 1,415 | 9.9 | (8.0-12.2) |
| Lapeer | 247 | 9.5 | (6.1-14.6) |
| Shiawassee | 275 | 10.4 | (6.3-16.9) |
| Region 3 | 1,474 | 8.6 | (6.7-11.0) |
| Jackson | 1,128 | 10.3 | (7.7-13.7) |
| Lenawee | 314 | 5.7 | (3.3-9.5) |
| Region 4 | 1,852 | 8.8 | (7.3-10.7) |
| Barry-Eaton | 538 | 7.5 | (5.2-10.8) |
| Mid-Michigan ^b | 567 | 6.5 | (4.2-9.9) |
| Ingham | 929 | 9.9 | (7.6-12.7) |
| Region 5 | 1,557 | 9.4 | (7.6-11.5) |
| Branch-Hillsdale-St. Joseph | 437 | 9.9 | (6.5-14.7) |
| Calhoun | 371 | 11.3 | (7.8-16.2) |
| Kalamazoo | 722 | 8.4 | (6.1-11.4) |
| Region 6 | 755 | 9.6 | (7.1-12.8) |
| Van Buren-Cass | 307 | 8.5 | (5.3-13.4) |
| Berrien | 418 | 9.4 | (6.3-13.6) |
| Region 7 | 3,221 | 7.2 | (6.1-8.3) |
| Allegan | 342 | 8.5 | (5.7-12.5) |
| Ionia | 200 | 8.8 | (4.8-15.4) |
| Kent | 1,682 | 6.8 | (5.5-8.4) |
| Mid-Michigan ^b | 567 | 6.5 | (4.2-9.9) |
| Ottawa | 751 | 8.5 | (6.2-11.6) |

2015-2017 Michigan BRFSS Regional & Local Health Department Estimates
August 2019

| Table 3 Cont'd | | | |
|---------------------------------|---------------------------------------|-----------------|--------------------------------|
| Geographic Area | Poor Mental Health^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,461 | 8.5 | (8.1-8.9) |
| Region 8 | 2,278 | 9.6 | (7.8-11.8) |
| District #10 | 1,110 | 9.2 | (7.0-12.0) |
| Muskegon | 1,101 | 10.5 | (7.2-15.0) |
| Region 9 | 1,581 | 6.3 | (4.9-7.9) |
| District #2 | -- ^c | -- ^c | -- ^c |
| District #4 | -- ^c | -- ^c | -- ^c |
| Northwest Michigan | 465 | 8.8 | (6.1-12.7) |
| Benzie-Leelanau | -- ^c | -- ^c | -- ^c |
| Grand Traverse | 393 | 6.1 | (3.7-9.9) |
| Region 10 | 1,520 | 8.2 | (6.4-10.4) |
| Bay | 314 | 6.7 | (3.8-11.6) |
| Huron | -- ^c | -- ^c | -- ^c |
| Saginaw | -- ^c | -- ^c | -- ^c |
| Sanilac | -- ^c | -- ^c | -- ^c |
| Tuscola | 172 | 7.2 | (4.0-12.7) |
| Region 11 | 999 | 7.3 | (5.4-9.8) |
| Central Michigan | 588 | 7.7 | (5.3-11.2) |
| Midland | 301 | 6.5 | (3.7-11.2) |
| Region 12 | 1,103 | 7.6 | (5.6-10.2) |
| Luce-Mackinac-Alger-Schoolcraft | 148 | 9.9 | (5.4-17.6) |
| Western Upper Peninsula | -- ^c | -- ^c | -- ^c |
| Delta-Menominee | -- ^c | -- ^c | -- ^c |
| Chippewa | -- ^c | -- ^c | -- ^c |
| Dickinson-Iron | -- ^c | -- ^c | -- ^c |
| Marquette | -- ^c | -- ^c | -- ^c |

^a The proportion of adults who reported 14 or more days, out of the previous 30, on which their mental health was not good, which includes stress, depression, and problems with emotions.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

2015-2017 Michigan BRFSS Regional & Local Health Department Estimates
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| Table 4: Activity Limitation on at Least 14 Days in the Past Month Michigan BRFSS, 2015-2017 Combined | | | |
|--|--|------------|--------------------------------|
| Geographic Area | Activity Limitation^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,565 | 9.8 | (9.4-10.3) |
| Region 1 | 12,667 | 10.0 | (9.4-10.7) |
| Livingston | 813 | 7.2 | (5.1-9.9) |
| Macomb | 2,041 | 11.3 | (9.7-13.2) |
| Monroe | 379 | 10.6 | (6.4-16.9) |
| Oakland | 3,358 | 8.0 | (6.8-9.3) |
| St. Clair | 416 | 9.7 | (7.1-13.1) |
| Washtenaw | 1,170 | 7.1 | (5.3-9.4) |
| City of Detroit | 1,528 | 15.3 | (13.2-17.7) |
| Wayne exc. Detroit | 2,888 | 9.9 | (8.6-11.3) |
| Region 2 | 1,965 | 12.7 | (10.9-14.7) |
| Genesee | 1,421 | 13.1 | (11.0-15.6) |
| Lapeer | 246 | 7.1 | (4.1-11.9) |
| Shiawassee | 278 | 15.3 | (10.5-21.7) |
| Region 3 | 1,476 | 9.1 | (7.4-11.2) |
| Jackson | 1,132 | 8.5 | (6.6-10.8) |
| Lenawee | 312 | 10.0 | (6.8-14.5) |
| Region 4 | 1,849 | 8.7 | (7.2-10.5) |
| Barry-Eaton | 542 | 8.3 | (5.8-11.8) |
| Mid-Michigan ^b | 563 | 7.9 | (5.4-11.4) |
| Ingham | 925 | 9.1 | (7.1-11.7) |
| Region 5 | 1,572 | 9.7 | (8.0-11.7) |
| Branch-Hillsdale-St. Joseph | 442 | 14.2 | (10.5-19.0) |
| Calhoun | 374 | 11.6 | (8.1-16.3) |
| Kalamazoo | 729 | 6.2 | (4.5-8.5) |
| Region 6 | 758 | 10.3 | (8.0-13.2) |
| Van Buren-Cass | 308 | 12.9 | (9.0-18.2) |
| Berrien | 420 | 9.1 | (6.3-13.0) |
| Region 7 | 3,228 | 7.8 | (6.7-9.1) |
| Allegan | 343 | 8.3 | (5.7-12.1) |
| Ionia | 201 | 6.8 | (3.7-12.1) |
| Kent | 1,693 | 8.3 | (6.7-10.2) |
| Mid-Michigan ^b | 563 | 7.9 | (5.4-11.4) |
| Ottawa | 746 | 7.0 | (5.0-9.6) |

2015-2017 Michigan BRFSS Regional & Local Health Department Estimates
August 2019

| Table 4 Cont'd | | | |
|---------------------------------|--|------------|--------------------------------|
| Geographic Area | Activity Limitation^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,565 | 9.8 | (9.4-10.3) |
| Region 8 | 2,284 | 10.9 | (9.2-12.8) |
| District #10 | 1,109 | 11.6 | (9.3-14.3) |
| Muskegon | 1,109 | 10.6 | (8.4-13.3) |
| Region 9 | 1,594 | 9.5 | (7.8-11.5) |
| District #2 | 233 | 9.9 | (5.9-16.1) |
| District #4 | 255 | 12.4 | (8.1-18.7) |
| Northwest Michigan | 468 | 9.9 | (7.0-13.8) |
| Benzie-Leelanau | 215 | 12.6 | (7.8-19.6) |
| Grand Traverse | 398 | 5.3 | (3.3-8.4) |
| Region 10 | 1,526 | 10.6 | (8.6-12.9) |
| Bay | 318 | 11.3 | (7.0-17.7) |
| Huron | 122 | 9.8 | (5.7-16.4) |
| Saginaw | 732 | 8.8 | (6.5-11.9) |
| Sanilac | 147 | 15.6 | (9.0-25.7) |
| Tuscola | 173 | 10.2 | (6.0-16.8) |
| Region 11 | 1,004 | 9.7 | (7.7-12.1) |
| Central Michigan | 592 | 9.8 | (7.3-13.0) |
| Midland | 302 | 10.6 | (6.9-16.0) |
| Region 12 | 1,103 | 10.6 | (8.5-13.0) |
| Luce-Mackinac-Alger-Schoolcraft | 147 | 12.1 | (7.5-19.0) |
| Western Upper Peninsula | 229 | 8.7 | (5.2-14.0) |
| Delta-Menominee | 213 | 12.0 | (7.4-18.7) |
| Chippewa | 142 | 13.5 | (7.6-22.7) |
| Dickinson-Iron | 129 | 12.8 | (7.1-21.9) |
| Marquette | 221 | 8.3 | (4.7-14.2) |

^a The proportion of adults who reported 14 or more days, out of the previous 30, on which either poor physical health or poor mental health kept them from doing their usual activities, such as self-care, work, and recreation.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

| Table 5: Disability Michigan BRFS, 2015-2017 Combined | | | |
|--|-------------------------------|-------------|--------------------------------|
| Geographic Area | Disability^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 30,531 | 26.3 | (25.6-26.9) |
| Region 1 | 12,388 | 26.1 | (25.2-27.1) |
| Livingston | 798 | 20.8 | (17.2-25.0) |
| Macomb | 2,007 | 28.2 | (25.9-30.7) |
| Monroe | 373 | 30.4 | (24.8-36.6) |
| Oakland | 3,297 | 21.1 | (19.5-22.9) |
| St. Clair | 409 | 28.1 | (23.5-33.3) |
| Washtenaw | 1,146 | 24.7 | (21.7-28.1) |
| City of Detroit | 1,486 | 33.4 | (30.5-36.4) |
| Wayne exc. Detroit | 2,849 | 26.7 | (24.8-28.8) |
| Region 2 | 1,917 | 28.8 | (26.4-31.4) |
| Genesee | 1,397 | 29.7 | (26.8-32.7) |
| Lapeer | 244 | 26.3 | (20.6-33.0) |
| Shiawassee | 270 | 28.0 | (21.9-35.1) |
| Region 3 | 1,434 | 26.6 | (23.6-30.0) |
| Jackson | 1,116 | 26.2 | (22.7-30.1) |
| Lenawee | 315 | 27.5 | (22.1-33.7) |
| Region 4 | 1,807 | 24.1 | (21.7-26.7) |
| Barry-Eaton | 531 | 25.5 | (21.1-30.4) |
| Mid-Michigan ^b | 560 | 22.5 | (18.5-27.1) |
| Ingham | 912 | 24.8 | (21.5-28.5) |
| Region 5 | 1,523 | 26.6 | (24.0-29.3) |
| Branch-Hillsdale-St. Joseph | 428 | 26.2 | (21.4-31.6) |
| Calhoun | 371 | 31.2 | (25.9-37.1) |
| Kalamazoo | 717 | 24.3 | (20.8-28.2) |
| Region 6 | 705 | 28.6 | (24.7-32.7) |
| Van Buren-Cass | 290 | 32.9 | (26.9-39.5) |
| Berrien | 404 | 26.2 | (21.3-31.9) |
| Region 7 | 3,150 | 22.2 | (20.5-23.9) |
| Allegan | 335 | 23.5 | (18.8-28.8) |
| Ionia | 199 | 22.6 | (16.6-30.0) |
| Kent | 1,654 | 21.2 | (19.0-23.7) |
| Mid-Michigan ^b | 560 | 22.5 | (18.5-27.1) |
| Ottawa | 740 | 22.4 | (19.1-26.2) |

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| Table 5 Cont'd | | | |
|---------------------------------|-------------------------------|-------------|--------------------------------|
| Geographic Area | Disability^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 30,531 | 26.3 | (25.6-26.9) |
| Region 8 | 2,226 | 28.5 | (26.0-31.1) |
| District #10 | 1,097 | 28.9 | (25.7-32.4) |
| Muskegon | 1,091 | 28.7 | (25.2-32.6) |
| Region 9 | 1,545 | 28.5 | (25.7-31.5) |
| District #2 | 227 | 33.2 | (26.1-41.2) |
| District #4 | 252 | 32.5 | (26.0-39.8) |
| Northwest Michigan | 458 | 24.9 | (20.4-30.0) |
| Benzie-Leelanau | 214 | 27.7 | (20.0-37.0) |
| Grand Traverse | 389 | 24.9 | (19.7-31.0) |
| Region 10 | 1,489 | 28.7 | (25.7-31.9) |
| Bay | 318 | 29.0 | (22.2-36.8) |
| Huron | 121 | 20.0 | (13.7-28.1) |
| Saginaw | 720 | 28.5 | (24.1-33.3) |
| Sanilac | 144 | 30.3 | (22.0-40.1) |
| Tuscola | 170 | 33.4 | (25.7-42.1) |
| Region 11 | 896 | 30.4 | (26.9-34.2) |
| Central Michigan | 576 | 34.1 | (29.5-39.0) |
| Midland | 293 | 25.2 | (19.9-31.4) |
| Region 12 | 1,069 | 27.6 | (24.5-31.1) |
| Luce-Mackinac-Alger-Schoolcraft | 148 | 34.6 | (26.2-44.2) |
| Western Upper Peninsula | 227 | 22.6 | (16.6-30.0) |
| Delta-Menominee | 209 | 27.9 | (21.1-35.9) |
| Chippewa | 140 | 29.8 | (21.1-40.2) |
| Dickinson-Iron | 129 | 26.8 | (18.2-37.6) |
| Marquette | 216 | 26.9 | (20.2-34.8) |

^a The proportion of adults who reported being limited in any activities because of physical, mental, or emotional problems, or reported that they required use of special equipment (such as a cane, a wheelchair, a special bed, or a special telephone) due to a health problem.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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| Table 6: Weight Status | | | | | | | |
|---|--------------------|--------------------------|--------------------------------|-------------------------------|--------------------------------|-----------------------------------|--------------------------------|
| Michigan BRFSS, 2015-2017 Combined | | | | | | | |
| Geographic Area | Sample Size | Obese^a | | Overweight^b | | Healthy Weight^c | |
| | N | % | 95% Confidence Interval | % | 95% Confidence Interval | % | 95% Confidence Interval |
| Michigan Total | 29,588 | 32.0 | (31.3-32.7) | 35.0 | (34.3-35.7) | 31.3 | (30.6-31.9) |
| Region 1 | 11,890 | 30.6 | (29.5-31.6) | 35.8 | (34.7-36.9) | 31.8 | (30.7-32.8) |
| Livingston | 769 | 24.7 | (20.7-29.1) | 38.7 | (33.9-43.7) | 36.0 | (31.1-41.3) |
| Macomb | 1,923 | 31.8 | (29.3-34.4) | 35.9 | (33.3-38.7) | 30.1 | (27.6-32.7) |
| Monroe | 351 | 39.5 | (33.3-46.1) | 37.3 | (31.4-43.7) | 22.8 | (18.0-28.4) |
| Oakland | 3,139 | 25.4 | (23.5-27.4) | 38.3 | (36.2-40.5) | 34.6 | (32.5-36.6) |
| St. Clair | 394 | 34.8 | (29.4-40.6) | 37.4 | (31.8-43.4) | 26.6 | (21.7-32.2) |
| Washtenaw | 1,124 | 24.6 | (21.6-28.0) | 33.8 | (30.4-37.5) | 39.8 | (36.1-43.5) |
| City of Detroit | 1,421 | 40.1 | (36.9-43.3) | 32.3 | (29.3-35.4) | 26.3 | (23.5-29.3) |
| Wayne exc. Detroit | 2,711 | 31.6 | (29.6-33.8) | 34.4 | (32.3-36.7) | 31.3 | (29.2-33.6) |
| Region 2 | 1,839 | 34.3 | (31.7-37.0) | 35.3 | (32.7-38.1) | 28.6 | (26.2-31.2) |
| Genesee | 1,325 | 33.4 | (30.4-36.6) | 36.2 | (33.0-39.5) | 28.4 | (25.5-31.5) |
| Lapeer | 236 | 35.0 | (28.3-42.3) | 28.9 | (23.0-35.7) | 34.5 | (27.9-41.8) |
| Shiawassee | 259 | 38.8 | (31.7-46.4) | 35.8 | (28.9-43.3) | 24.8 | (18.9-31.9) |
| Region 3 | 1,389 | 39.0 | (35.3-42.9) | 31.8 | (28.3-35.4) | 27.5 | (24.2-31.1) |
| Jackson | 1,325 | 33.4 | (30.4-36.6) | 36.2 | (33.0-39.5) | 28.4 | (25.5-31.5) |
| Lenawee | 236 | 35.0 | (28.3-42.3) | 28.9 | (23.0-35.7) | 34.5 | (27.9-41.8) |
| Region 4 | 1,745 | 33.6 | (30.9-36.5) | 33.6 | (30.8-36.4) | 31.3 | (28.6-34.2) |
| Barry-Eaton | 512 | 35.8 | (30.8-41.2) | 37.3 | (32.2-42.7) | 26.6 | (22.1-31.6) |
| Mid-Michigan ^d | 532 | 35.7 | (30.7-41.0) | 30.3 | (25.6-35.5) | 32.5 | (27.0-38.6) |
| Ingham | 875 | 30.9 | (27.2-34.9) | 32.1 | (28.3-36.1) | 34.8 | (31.0-38.9) |
| Region 5 | 1,490 | 33.2 | (30.3-36.1) | 33.5 | (30.6-36.5) | 31.7 | (28.7-34.8) |
| Branch-Hillsdale-St. Joseph | 418 | 38.3 | (32.5-44.4) | 31.7 | (26.3-37.5) | 29.3 | (24.0-35.2) |
| Calhoun | 353 | 33.0 | (27.4-39.2) | 34.2 | (28.7-40.2) | 31.9 | (26.0-38.5) |
| Kalamazoo | 692 | 30.3 | (26.4-34.5) | 34.5 | (30.3-38.9) | 32.6 | (28.3-37.2) |
| Region 6 | 713 | 34.6 | (30.4-39.0) | 31.4 | (27.3-35.8) | 31.9 | (27.9-36.2) |
| Van Buren-Cass | 286 | 37.1 | (30.7-44.1) | 30.6 | (24.8-37.1) | 30.0 | (23.9-36.8) |
| Berrien | 398 | 33.3 | (27.9-39.2) | 31.6 | (25.9-38.0) | 32.9 | (27.5-38.7) |
| Region 7 | 3,041 | 29.8 | (27.8-31.9) | 34.1 | (32.0-36.2) | 34.5 | (32.3-36.7) |
| Allegan | 320 | 32.6 | (26.9-38.9) | 37.1 | (30.9-43.7) | 28.2 | (22.9-34.1) |
| Ionia | 190 | 36.2 | (28.6-44.7) | 32.0 | (24.7-40.4) | 31.7 | (24.1-40.5) |
| Kent | 1,592 | 29.5 | (26.7-32.4) | 34.6 | (31.7-37.6) | 34.1 | (31.1-37.1) |
| Mid-Michigan ^d | 532 | 35.7 | (30.7-41.0) | 30.3 | (25.6-35.5) | 32.5 | (27.0-38.6) |
| Ottawa | 704 | 27.3 | (23.4-31.6) | 33.9 | (29.8-38.3) | 37.9 | (33.4-42.5) |

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Table 6 Cont'd

| Geographic Area | Sample Size | Obese ^a | | Overweight ^b | | Healthy Weight ^c | |
|---------------------------------|---------------|--------------------|--------------------|-------------------------|--------------------|-----------------------------|--------------------|
| | | N | % | 95% Confidence Interval | % | 95% Confidence Interval | % |
| Michigan Total | 29,588 | 32.0 | (31.3-32.7) | 35.0 | (34.3-35.7) | 31.3 | (30.6-31.9) |
| Region 8 | 2,147 | 31.9 | (29.2-34.6) | 35.7 | (32.9-38.6) | 31.1 | (28.3-34.1) |
| District #10 | 1,049 | 32.0 | (28.6-35.7) | 37.8 | (34.0-41.8) | 29.2 | (25.7-33.0) |
| Muskegon | 1,034 | 33.9 | (29.7-38.4) | 32.6 | (28.6-36.9) | 31.4 | (26.8-36.4) |
| Region 9 | 1,514 | 34.1 | (31.1-37.2) | 36.7 | (33.6-39.8) | 28.0 | (25.2-30.9) |
| District #2 | 225 | 40.5 | (32.9-48.6) | 31.3 | (24.6-38.9) | 26.8 | (20.3-34.6) |
| District #4 | 241 | 39.4 | (32.2-47.1) | 35.5 | (28.6-43.1) | 23.5 | (18.0-30.0) |
| Northwest Michigan | 447 | 29.4 | (24.5-34.8) | 41.1 | (35.5-46.9) | 27.9 | (23.3-33.0) |
| Benzie-Leelanau | 203 | 34.0 | (26.3-42.8) | 35.2 | (27.7-43.5) | 29.3 | (21.5-38.6) |
| Grand Traverse | 375 | 29.0 | (23.7-35.0) | 38.2 | (32.2-44.7) | 32.6 | (26.6-39.2) |
| Region 10 | 1,431 | 35.6 | (32.5-38.9) | 36.3 | (33.1-39.6) | 26.8 | (23.8-30.0) |
| Bay | 307 | 34.7 | (27.9-42.3) | 38.1 | (30.8-46.0) | 26.5 | (20.4-33.6) |
| Huron | 114 | 34.4 | (25.6-44.5) | 33.6 | (24.6-44.0) | 30.4 | (20.8-42.1) |
| Saginaw | 680 | 36.5 | (31.8-41.5) | 35.5 | (30.8-40.4) | 26.9 | (22.3-32.0) |
| Sanilac | 134 | 39.2 | (29.8-49.5) | 32.2 | (24.1-41.5) | 26.4 | (18.8-35.7) |
| Tuscola | 166 | 31.1 | (23.4-40.0) | 42.5 | (34.2-51.3) | 23.4 | (16.3-32.4) |
| Region 11 | 943 | 38.8 | (35.0-42.8) | 32.7 | (29.1-36.5) | 26.8 | (23.3-30.5) |
| Central Michigan | 564 | 39.8 | (35.0-44.8) | 34.6 | (30.0-39.5) | 24.5 | (20.4-29.1) |
| Midland | 283 | 40.0 | (33.2-47.3) | 28.4 | (22.6-35.0) | 31.3 | (24.9-38.5) |
| Region 12 | 1,024 | 32.7 | (29.0-36.6) | 33.9 | (30.4-37.7) | 31.2 | (27.6-34.9) |
| Luce-Mackinac-Alger-Schoolcraft | 136 | 28.0 | (20.0-37.7) | 35.5 | (25.6-46.7) | 31.6 | (22.9-42.0) |
| Western Upper Peninsula | 214 | 30.4 | (23.4-38.5) | 39.9 | (32.3-48.0) | 28.3 | (21.3-36.5) |
| Delta-Menominee | 197 | 36.9 | (28.6-46.1) | 31.0 | (23.5-39.6) | 30.5 | (23.5-38.6) |
| Chippewa | 130 | 40.4 | (29.4-52.4) | 27.8 | (19.1-38.5) | 31.0 | (19.8-45.0) |
| Dickinson-Iron | 118 | 23.5 | (15.3-34.2) | 37.3 | (27.4-48.3) | 34.2 | (24.8-45.0) |
| Marquette | 207 | 36.9 | (27.6-47.2) | 34.9 | (26.9-43.7) | 27.1 | (20.1-35.5) |

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.

^a The proportion of adults whose BMI was greater than or equal to 30.0.

^b The proportion of adults whose BMI was greater than or equal to 25.0, but less than 30.0.

^c The proportion of adults whose BMI was greater than or equal to 18.5, but less than 25.0.

^d The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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| Table 7: No Health Care Coverage Among Those Aged 18-64 Years Michigan BRFSS, 2015-2017 Combined | | | |
|---|--|-----------------|--------------------------------|
| Geographic Area | No Health Care Coverage^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 20,832 | 10.5 | (10.0-11.1) |
| Region 1 | 8,416 | 9.8 | (9.0-10.7) |
| Livingston | 529 | 6.3 | (4.1-9.5) |
| Macomb | 1,322 | 9.4 | (7.5-11.7) |
| Monroe | -- ^c | -- ^c | -- ^c |
| Oakland | 2,200 | 7.7 | (6.3-9.3) |
| St. Clair | 277 | 8.7 | (5.3-13.9) |
| Washtenaw | 789 | 8.6 | (6.1-11.9) |
| City of Detroit | 1,088 | 15.2 | (12.7-18.0) |
| Wayne exc. Detroit | 1,893 | 10.9 | (9.2-13.0) |
| Region 2 | 1,296 | 11.3 | (9.2-13.9) |
| Genesee | 931 | 11.6 | (9.1-14.6) |
| Lapeer | 162 | 11.1 | (6.2-18.9) |
| Shiawassee | 186 | 11.4 | (6.3-19.8) |
| Region 3 | 935 | 10.6 | (8.1-13.7) |
| Jackson | 707 | 12.8 | (9.4-17.0) |
| Lenawee | 203 | 7.3 | (4.0-13.1) |
| Region 4 | 1,222 | 10.9 | (8.8-13.5) |
| Barry-Eaton | 330 | 13.2 | (8.8-19.4) |
| Mid-Michigan ^b | 362 | 11.7 | (7.0-19.1) |
| Ingham | 653 | 9.7 | (7.1-13.1) |
| Region 5 | 1,059 | 10.5 | (8.2-13.2) |
| Branch-Hillsdale-St. Joseph | 285 | 15.0 | (10.0-21.8) |
| Calhoun | 254 | 8.8 | (5.4-14.0) |
| Kalamazoo | 498 | 8.7 | (5.9-12.5) |
| Region 6 | 492 | 10.8 | (7.6-15.3) |
| Van Buren-Cass | -- ^c | -- ^c | -- ^c |
| Berrien | 268 | 14.9 | (9.7-22.2) |
| Region 7 | 2,260 | 10.1 | (8.4-12.0) |
| Allegan | 251 | 11.4 | (7.2-17.5) |
| Ionia | 136 | 10.3 | (5.8-17.7) |
| Kent | 1,169 | 10.5 | (8.3-13.1) |
| Mid-Michigan ^b | 362 | 11.7 | (7.0-19.1) |
| Ottawa | 529 | 7.9 | (5.3-11.5) |

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| Table 7 Cont'd | | | |
|---------------------------------|--|-----------------|--------------------------------|
| Geographic Area | No Health Care Coverage^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 20,832 | 10.5 | (10.0-11.1) |
| Region 8 | 1,463 | 13.1 | (10.7-15.9) |
| District #10 | 693 | 15.4 | (12.1-19.4) |
| Muskegon | 713 | 10.6 | (7.5-14.9) |
| Region 9 | 981 | 10.4 | (8.1-13.1) |
| District #2 | 146 | 13.7 | (7.8-22.9) |
| District #4 | 164 | 14.0 | (8.6-21.9) |
| Northwest Michigan | 276 | 9.7 | (6.4-14.5) |
| Benzie-Leelanau | -- ^c | -- ^c | -- ^c |
| Grand Traverse | 254 | 7.3 | (4.0-13.0) |
| Region 10 | 980 | 12.6 | (10.0-15.6) |
| Bay | 207 | 13.9 | (8.9-21.2) |
| Huron | -- ^c | -- ^c | -- ^c |
| Saginaw | 460 | 12.5 | (8.6-17.7) |
| Sanilac | -- ^c | -- ^c | -- ^c |
| Tuscola | -- ^c | -- ^c | -- ^c |
| Region 11 | 645 | 10.3 | (7.4-14.1) |
| Central Michigan | 357 | 9.6 | (6.3-14.3) |
| Midland | -- ^c | -- ^c | -- ^c |
| Region 12 | 725 | 8.3 | (6.0-11.2) |
| Luce-Mackinac-Alger-Schoolcraft | -- ^c | -- ^c | -- ^c |
| Western Upper Peninsula | -- ^c | -- ^c | -- ^c |
| Delta-Menominee | -- ^c | -- ^c | -- ^c |
| Chippewa | -- ^c | -- ^c | -- ^c |
| Dickinson-Iron | -- ^c | -- ^c | -- ^c |
| Marquette | -- ^c | -- ^c | -- ^c |

^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.
^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.
^c Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

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| Table 8: Health Care Access Michigan BRFSS, 2015-2017 Combined | | | | | | |
|---|---|-------------|--------------------------------|--|-------------|--------------------------------|
| Geographic Area | No Personal Health Care Provider^a | | | No Health Care Access During Past 12 Months Due to Cost^b | | |
| | N | % | 95% Confidence Interval | N | % | 95% Confidence Interval |
| Michigan Total | 31,668 | 14.9 | (14.3-15.4) | 31,777 | 12.3 | (11.8-12.8) |
| Region 1 | 12,707 | 13.9 | (13.1-14.8) | 12,737 | 13.1 | (12.3-13.9) |
| Livingston | 811 | 13.9 | (10.5-18.2) | 817 | 9.5 | (6.8-13.1) |
| Macomb | 2,053 | 12.0 | (10.2-14.1) | 2,059 | 11.8 | (10.2-13.7) |
| Monroe | 384 | 13.2 | (8.8-19.2) | 385 | 13.8 | (9.4-19.9) |
| Oakland | 3,363 | 12.8 | (11.4-14.5) | 3,370 | 11.2 | (9.8-12.7) |
| St. Clair | 416 | 11.3 | (7.6-16.5) | 417 | 11.7 | (8.6-15.8) |
| Washtenaw | 1,174 | 14.8 | (12.0-18.0) | 1,174 | 11.6 | (9.2-14.6) |
| City of Detroit | 1,532 | 20.1 | (17.5-23.0) | 1,535 | 21.0 | (18.4-23.8) |
| Wayne exc. Detroit | 2,901 | 13.1 | (11.5-14.9) | 2,906 | 12.9 | (11.4-14.7) |
| Region 2 | 1,973 | 15.8 | (13.7-18.2) | 1,981 | 12.3 | (10.5-14.4) |
| Genesee | 1,432 | 15.5 | (13.0-18.3) | 1,437 | 11.7 | (9.6-14.1) |
| Lapeer | 246 | 17.8 | (12.7-24.5) | 247 | 15.4 | (10.7-21.5) |
| Shiawassee | 275 | 14.7 | (9.4-22.2) | 277 | 13.4 | (8.8-19.8) |
| Region 3 | 1,478 | 15.2 | (12.5-18.4) | 1,490 | 13.5 | (10.8-16.7) |
| Jackson | 1,130 | 13.9 | (10.8-17.8) | 1,142 | 13.2 | (10.2-17.0) |
| Lenawee | 316 | 15.2 | (10.7-21.2) | 316 | 13.3 | (8.7-19.7) |
| Region 4 | 1,862 | 16.6 | (14.4-19.1) | 1,870 | 11.0 | (9.3-12.9) |
| Barry-Eaton | 544 | 17.3 | (13.2-22.3) | 546 | 10.9 | (8.1-14.6) |
| Mid-Michigan ^c | 571 | 8.8 | (6.2-12.4) | 571 | 10.2 | (7.3-14.0) |
| Ingham | 931 | 19.6 | (16.3-23.3) | 937 | 11.6 | (9.3-14.4) |
| Region 5 | 1,573 | 18.7 | (16.2-21.5) | 1,579 | 11.7 | (9.9-13.9) |
| Branch-Hillsdale-St. Joseph | 444 | 16.5 | (12.3-21.9) | 443 | 11.0 | (7.9-15.2) |
| Calhoun | 375 | 20.9 | (15.9-26.9) | 375 | 11.2 | (7.9-15.7) |
| Kalamazoo | 728 | 17.9 | (14.3-22.1) | 734 | 12.4 | (9.6-15.8) |
| Region 6 | 759 | 19.4 | (15.9-23.6) | 763 | 11.1 | (8.6-14.2) |
| Van Buren-Cass | 308 | 17.5 | (12.6-23.8) | 310 | 11.9 | (8.0-17.3) |
| Berrien | 421 | 19.8 | (14.9-25.8) | 423 | 10.7 | (7.6-14.9) |

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| Table 8 Cont'd | | | | | | |
|---------------------------------|---|-----------------|--------------------------------|--|-----------------|--------------------------------|
| Geographic Area | No Personal Health Care Provider^a | | | No Health Care Access During Past 12 Months Due to Cost^b | | |
| | N | % | 95% Confidence Interval | N | % | 95% Confidence Interval |
| Michigan Total | 31,668 | 14.9 | (14.3-15.4) | 31,777 | 12.3 | (11.8-12.8) |
| Region 7 | 3,249 | 11.5 | (10.0-13.1) | 3,254 | 11.6 | (10.2-13.1) |
| Allegan | 346 | 12.1 | (8.1-17.6) | 346 | 12.4 | (8.8-17.3) |
| Ionia | 201 | 12.9 | (7.6-21.1) | 203 | 10.2 | (5.6-17.8) |
| Kent | 1,697 | 12.5 | (10.5-15.0) | 1,700 | 12.7 | (10.7-15.0) |
| Mid-Michigan ^c | 571 | 8.8 | (6.2-12.4) | 571 | 10.2 | (7.3-14.0) |
| Ottawa | 757 | 7.5 | (5.2-10.5) | 757 | 8.4 | (6.3-11.2) |
| Region 8 | 2,295 | 15.8 | (13.5-18.3) | 2,297 | 13.6 | (11.5-16.0) |
| District #10 | 1,116 | 16.5 | (13.6-19.9) | 1,115 | 15.6 | (12.5-19.2) |
| Muskegon | 1,112 | 11.6 | (8.9-15.1) | 1,115 | 11.1 | (8.9-13.7) |
| Region 9 | 1,595 | 15.9 | (13.6-18.4) | 1,597 | 10.1 | (8.3-12.3) |
| District #2 | 232 | 17.9 | (12.4-25.0) | 232 | 8.9 | (5.0-15.1) |
| District #4 | 256 | 20.1 | (14.6-27.2) | 257 | 13.2 | (9.0-19.0) |
| Northwest Michigan | 471 | 12.8 | (9.4-17.3) | 471 | 12.2 | (8.6-17.0) |
| Benzie-Leelanau | 213 | 11.1 | (6.6-17.9) | 215 | 9.6 | (5.7-15.7) |
| Grand Traverse | 398 | 14.1 | (10.2-19.1) | 397 | 6.5 | (4.1-10.1) |
| Region 10 | 1,523 | 13.7 | (11.3-16.4) | 1,536 | 10.8 | (8.8-13.0) |
| Bay | 316 | 12.5 | (7.3-20.6) | 322 | 7.8 | (4.8-12.4) |
| Huron | 122 | 16.4 | (10.0-25.5) | 122 | 11.5 | (6.8-18.8) |
| Saginaw | 730 | 12.4 | (9.3-16.4) | 737 | 11.3 | (8.4-15.2) |
| Sanilac | 146 | 16.8 | (10.8-25.3) | 147 | 15.1 | (8.9-24.5) |
| Tuscola | 175 | 10.3 | (5.9-17.4) | 174 | 7.6 | (4.3-13.2) |
| Region 11 | 1,004 | 15.3 | (12.5-18.6) | 1,008 | 13.3 | (10.8-16.4) |
| Central Michigan | 592 | 13.3 | (10.1-17.4) | 596 | 13.2 | (10.2-17.0) |
| Midland | 301 | 14.2 | (9.6-20.5) | 301 | 10.3 | (6.7-15.5) |
| Region 12 | 1,108 | 13.0 | (10.7-15.7) | 1,114 | 9.0 | (7.1-11.3) |
| Luce-Mackinac-Alger-Schoolcraft | -- ^d | -- ^d | -- ^d | 149 | 8.9 | (5.2-14.9) |
| Western Upper Peninsula | 230 | 19.0 | (13.6-25.7) | 232 | 10.8 | (6.7-17.1) |
| Delta-Menominee | 213 | 14.7 | (9.4-22.2) | 214 | 10.2 | (6.1-16.6) |
| Chippewa | 141 | 13.9 | (8.3-22.4) | -- ^d | -- ^d | -- ^d |
| Dickinson-Iron | -- ^d | -- ^d | -- ^d | 133 | 9.2 | (5.1-16.0) |
| Marquette | 221 | 6.7 | (3.8-11.6) | -- ^d | -- ^d | -- ^d |

^a The proportion of adults who reported that they did not have anyone that they thought of as their personal doctor or health care provider.

^b The proportion of adults who reported that in the past 12 months there was a time when they needed to see a doctor but could not due to the cost.

^c The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

| Table 9: No Leisure Time Physical Activity Michigan BRFSS, 2015-2017 Combined | | | |
|--|--|-------------|--------------------------------|
| Geographic Area | No Leisure Time Physical Activity^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 30,697 | 25.5 | (24.9-26.2) |
| Region 1 | 12,245 | 25.4 | (24.5-26.4) |
| Livingston | 793 | 20.8 | (17.2-24.9) |
| Macomb | 1,982 | 26.0 | (23.7-28.4) |
| Monroe | 368 | 28.6 | (22.9-34.9) |
| Oakland | 3,257 | 21.9 | (20.1-23.8) |
| St. Clair | 402 | 25.7 | (21.2-30.8) |
| Washtenaw | 1,141 | 18.1 | (15.1-21.5) |
| City of Detroit | 1,443 | 35.0 | (32.0-38.2) |
| Wayne exc. Detroit | 2,799 | 26.6 | (24.6-28.7) |
| Region 2 | 1,906 | 29.2 | (26.7-31.9) |
| Genesee | 1,380 | 29.7 | (26.7-32.9) |
| Lapeer | 239 | 23.5 | (17.8-30.4) |
| Shiawassee | 268 | 33.2 | (26.3-40.9) |
| Region 3 | 1,453 | 28.2 | (24.9-31.9) |
| Jackson | 1,112 | 27.2 | (23.5-31.2) |
| Lenawee | 310 | 31.3 | (25.0-38.5) |
| Region 4 | 1,820 | 24.8 | (22.2-27.5) |
| Barry-Eaton | 532 | 26.1 | (21.6-31.2) |
| Mid-Michigan ^b | 559 | 24.7 | (20.3-29.8) |
| Ingham | 909 | 24.2 | (20.7-28.1) |
| Region 5 | 1,521 | 26.3 | (23.6-29.1) |
| Branch-Hillsdale-St. Joseph | 433 | 30.1 | (25.0-35.7) |
| Calhoun | 363 | 30.8 | (25.1-37.1) |
| Kalamazoo | 700 | 21.7 | (18.1-25.8) |
| Region 6 | 730 | 26.2 | (22.4-30.4) |
| Van Buren-Cass | 297 | 31.9 | (25.8-38.7) |
| Berrien | 404 | 24.0 | (19.0-29.8) |
| Region 7 | 3,154 | 22.6 | (20.8-24.6) |
| Allegan | 333 | 18.7 | (14.4-23.9) |
| Ionia | 196 | 32.1 | (24.8-40.4) |
| Kent | 1,649 | 22.6 | (20.0-25.4) |
| Mid-Michigan ^b | 559 | 24.7 | (20.3-29.8) |
| Ottawa | 736 | 22.2 | (18.6-26.2) |

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| Table 9 Cont'd | | | |
|---------------------------------|--|-------------|--------------------------------|
| Geographic Area | No Leisure Time Physical Activity^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 30,697 | 25.5 | (24.9-26.2) |
| Region 8 | 2,236 | 25.7 | (23.3-28.3) |
| District #10 | 1,088 | 27.2 | (24.0-30.8) |
| Muskegon | 1,084 | 24.0 | (20.7-27.6) |
| Region 9 | 1,561 | 24.5 | (21.8-27.4) |
| District #2 | 228 | 29.2 | (22.5-37.1) |
| District #4 | 244 | 24.7 | (18.3-32.4) |
| Northwest Michigan | 460 | 26.3 | (21.4-31.9) |
| Benzie-Leelanau | 211 | 25.2 | (18.2-33.9) |
| Grand Traverse | 393 | 17.0 | (13.1-21.9) |
| Region 10 | 1,489 | 27.6 | (24.7-30.6) |
| Bay | 311 | 26.1 | (20.4-32.6) |
| Huron | 122 | 21.0 | (14.5-29.5) |
| Saginaw | 716 | 27.5 | (23.2-32.2) |
| Sanilac | 141 | 30.4 | (21.9-40.4) |
| Tuscola | 170 | 32.6 | (24.8-41.6) |
| Region 11 | 964 | 24.5 | (21.2-28.0) |
| Central Michigan | 570 | 25.7 | (21.6-30.2) |
| Midland | 291 | 25.8 | (19.8-32.8) |
| Region 12 | 1,100 | 25.0 | (21.5-28.7) |
| Luce-Mackinac-Alger-Schoolcraft | 147 | 23.0 | (16.2-31.7) |
| Western Upper Peninsula | 232 | 24.9 | (18.6-32.6) |
| Delta-Menominee | 211 | 29.6 | (21.8-38.8) |
| Chippewa | 139 | 32.2 | (21.7-44.8) |
| Dickinson-Iron | 131 | 21.7 | (13.9-32.2) |
| Marquette | 218 | 21.8 | (14.2-32.0) |

^a The proportion of adults who reported not participating in any leisure time physical activities or exercises such as running, calisthenics, golf, gardening, or walking during the past month.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

| Table 10: Adequate Physical Activity Michigan BRFS, 2015 and 2017 Combined | | | |
|---|---|-------------|--------------------------------|
| Geographic Area | Adequate Physical Activity^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 3,517 | 19.3 | (18.6-20.1) |
| Region 1 | 1,548 | 20.2 | (19.0-21.4) |
| Livingston | 135 | 20.8 | (16.5-25.8) |
| Macomb | 211 | 17.4 | (14.9-20.3) |
| Monroe | 36 | 19.3 | (13.5-26.9) |
| Oakland | 465 | 23.6 | (21.3-26.0) |
| St. Clair | 45 | 20.7 | (15.0-27.8) |
| Washtenaw | 193 | 22.9 | (19.4-26.8) |
| City of Detroit | 135 | 16.4 | (13.3-20.0) |
| Wayne exc. Detroit | 320 | 19.5 | (17.2-22.1) |
| Region 2 | 188 | 15.4 | (13.1-18.1) |
| Genesee | 133 | 14.8 | (12.1-18.0) |
| Lapeer | 25 | 16.7 | (10.9-24.7) |
| Shiawassee | 29 | 17.8 | (11.6-26.4) |
| Region 3 | 133 | 17.9 | (14.4-22.1) |
| Jackson | 93 | 15.8 | (12.2-20.3) |
| Lenawee | 36 | 19.8 | (13.6-27.8) |
| Region 4 | 223 | 20.9 | (18.0-24.2) |
| Barry-Eaton | 59 | 24.0 | (18.3-30.8) |
| Mid-Michigan ^b | 48 | 12.6 | (8.9-17.5) |
| Ingham | 126 | 21.5 | (17.5-26.2) |
| Region 5 | 174 | 17.5 | (14.8-20.5) |
| Branch-Hillsdale-St. Joseph | 38 | 14.4 | (10.1-20.3) |
| Calhoun | 39 | 17.0 | (11.9-23.8) |
| Kalamazoo | 94 | 19.9 | (15.9-24.6) |
| Region 6 | 79 | 19.0 | (14.5-24.6) |
| Van Buren-Cass | 32 | 17.3 | (11.8-24.7) |
| Berrien | 40 | 19.4 | (12.9-28.3) |
| Region 7 | 368 | 18.1 | (16.1-20.4) |
| Allegan | 36 | 20.4 | (13.9-28.8) |
| Ionia | 20 | 13.2 | (8.1-20.9) |
| Kent | 209 | 18.6 | (15.9-21.7) |
| Mid-Michigan ^b | 48 | 12.6 | (8.9-17.5) |
| Ottawa | 89 | 20.8 | (16.5-25.9) |

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| Table 10 Cont'd | | | |
|---------------------------------|---|-----------------|--------------------------------|
| Geographic Area | Adequate Physical Activity^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 3,517 | 19.3 | (18.6-20.1) |
| Region 8 | 214 | 19.9 | (16.6-23.7) |
| District #10 | 105 | 17.8 | (13.7-22.9) |
| Muskegon | 93 | 22.0 | (16.6-28.5) |
| Region 9 | 197 | 19.6 | (16.5-23.0) |
| District #2 | 24 | 16.9 | (10.4-26.3) |
| District #4 | 22 | 15.7 | (9.6-24.6) |
| Northwest Michigan | 69 | 20.4 | (15.6-26.2) |
| Benzie-Leelanau | 25 | 16.8 | (10.6-25.7) |
| Grand Traverse | 53 | 25.3 | (18.2-34.0) |
| Region 10 | 126 | 18.3 | (15.1-22.0) |
| Bay | 26 | 14.3 | (9.0-21.8) |
| Huron | -- ^c | -- ^c | -- ^c |
| Saginaw | 57 | 20.8 | (15.4-27.4) |
| Sanilac | 16 | 20.7 | (12.3-32.7) |
| Tuscola | 14 | 16.6 | (9.6-27.2) |
| Region 11 | 118 | 19.1 | (15.4-23.4) |
| Central Michigan | 67 | 18.0 | (13.7-23.3) |
| Midland | 40 | 19.7 | (13.8-27.5) |
| Region 12 | 112 | 20.8 | (16.7-25.6) |
| Luce-Mackinac-Alger-Schoolcraft | 15 | 28.9 | (16.5-45.6) |
| Western Upper Peninsula | 27 | 16.8 | (10.5-25.9) |
| Delta-Menominee | 14 | 13.8 | (7.8-23.4) |
| Chippewa | 19 | 21.5 | (12.8-33.8) |
| Dickinson-Iron | 11 | 21.2 | (11.2-36.4) |
| Marquette | 26 | 24.7 | (15.0-37.8) |

^a The proportion who reported that they do either moderate physical activities for at least 150 minutes per week, vigorous physical activities for at least 75 minutes per week, or an equivalent combination of moderate and vigorous physical activities **and** also participate in muscle strengthening activities on two or more days per week.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

Table 11: Cigarette Smoking
Michigan BRFSS, 2015-2017 Combined

| Geographic Area | Sample Size | Current Smoking ^a | | Former Smoking ^b | | Never Smoked | |
|-----------------------------|---------------|------------------------------|--------------------|-----------------------------|--------------------|-------------------------|--------------------|
| | | N | % | 95% Confidence Interval | % | 95% Confidence Interval | % |
| Michigan Total | 30,819 | 20.2 | (19.6-20.8) | 26.3 | (25.7-26.9) | 53.5 | (52.8-54.3) |
| Region 1 | 12,348 | 20.6 | (19.6-21.6) | 25.6 | (24.7-26.6) | 53.8 | (52.7-54.9) |
| Livingston | 795 | 16.2 | (12.6-20.6) | 34.4 | (29.9-39.3) | 49.4 | (44.4-54.4) |
| Macomb | 1,995 | 22.7 | (20.3-25.2) | 27.2 | (24.9-29.6) | 50.2 | (47.4-52.9) |
| Monroe | 369 | 20.6 | (15.4-27.0) | 29.3 | (24.1-35.2) | 50.1 | (43.8-56.3) |
| Oakland | 3,279 | 15.5 | (13.9-17.3) | 26.6 | (24.8-28.5) | 57.9 | (55.8-60.0) |
| St. Clair | 405 | 26.4 | (21.2-32.3) | 29.8 | (24.9-35.2) | 43.8 | (38.2-49.6) |
| Washtenaw | 1,149 | 12.1 | (9.6-15.1) | 19.9 | (17.4-22.7) | 68.1 | (64.5-71.4) |
| City of Detroit | 1,472 | 30.9 | (27.8-34.1) | 17.4 | (15.3-19.9) | 51.7 | (48.4-54.9) |
| Wayne exc. Detroit | 2,825 | 21.5 | (19.6-23.6) | 27.7 | (25.8-29.7) | 50.8 | (48.5-53.1) |
| Region 2 | 1,913 | 24.6 | (22.1-27.2) | 29.0 | (26.7-31.5) | 46.4 | (43.7-49.2) |
| Genesee | 1,386 | 24.8 | (21.9-28.0) | 28.4 | (25.6-31.3) | 46.8 | (43.5-50.0) |
| Lapeer | 241 | 18.0 | (12.9-24.6) | 35.3 | (28.8-42.5) | 46.7 | (39.6-53.9) |
| Shiawassee | 268 | 28.8 | (22.0-36.7) | 26.8 | (21.0-33.5) | 44.4 | (37.2-51.7) |
| Region 3 | 1,447 | 21.6 | (18.4-25.1) | 29.0 | (25.8-32.4) | 49.5 | (45.6-53.3) |
| Jackson | 1,105 | 23.6 | (19.8-27.8) | 28.8 | (25.2-32.7) | 47.6 | (43.3-52.0) |
| Lenawee | 311 | 19.2 | (13.8-26.1) | 29.3 | (23.5-35.9) | 51.5 | (44.4-58.6) |
| Region 4 | 1,816 | 18.6 | (16.3-21.1) | 23.6 | (21.3-26.0) | 57.8 | (54.9-60.7) |
| Barry-Eaton | 532 | 19.6 | (15.5-24.5) | 25.8 | (21.5-30.7) | 54.5 | (49.2-59.8) |
| Mid-Michigan ^c | 556 | 20.8 | (16.5-25.8) | 27.5 | (23.2-32.2) | 51.8 | (46.3-57.2) |
| Ingham | 907 | 18.1 | (15.0-21.6) | 21.0 | (18.2-24.2) | 60.9 | (56.9-64.8) |
| Region 5 | 1,543 | 20.2 | (17.8-23.0) | 28.1 | (25.5-30.9) | 51.6 | (48.5-54.7) |
| Branch-Hillsdale-St. Joseph | 431 | 23.8 | (18.9-29.4) | 32.6 | (27.5-38.3) | 43.6 | (37.8-49.6) |
| Calhoun | 372 | 21.9 | (17.1-27.6) | 31.0 | (25.8-36.7) | 47.1 | (41.0-53.3) |
| Kalamazoo | 713 | 17.0 | (13.7-20.9) | 24.3 | (20.7-28.2) | 58.7 | (54.2-63.1) |
| Region 6 | 734 | 21.6 | (17.9-25.8) | 25.0 | (21.6-28.7) | 53.5 | (49.0-57.9) |
| Van Buren-Cass | 301 | 22.9 | (17.4-29.6) | 28.7 | (23.2-34.9) | 48.4 | (41.7-55.1) |
| Berrien | 403 | 19.9 | (15.2-25.7) | 23.1 | (18.8-28.0) | 57.0 | (50.9-62.9) |
| Region 7 | 3,158 | 16.3 | (14.7-18.1) | 25.7 | (23.9-27.5) | 58.0 | (55.9-60.2) |
| Allegan | 330 | 17.8 | (13.2-23.6) | 28.9 | (23.5-34.9) | 53.3 | (46.9-59.6) |
| Ionia | 200 | 21.0 | (14.5-29.4) | 30.3 | (23.4-38.2) | 48.7 | (40.5-57.1) |
| Kent | 1,651 | 15.8 | (13.5-18.4) | 23.8 | (21.4-26.4) | 60.4 | (57.4-63.4) |
| Mid-Michigan ^c | 556 | 20.8 | (16.5-25.8) | 27.5 | (23.2-32.2) | 51.8 | (46.3-57.2) |
| Ottawa | 737 | 13.0 | (10.2-16.5) | 27.4 | (23.7-31.4) | 59.6 | (55.2-63.9) |

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| Table 11 Cont'd | | | | | | | |
|---------------------------------|---------------|------------------------------|--------------------|-----------------------------|--------------------|-------------------------|--------------------|
| Geographic Area | Sample Size | Current Smoking ^a | | Former Smoking ^b | | Never Smoked | |
| | | N | % | 95% Confidence Interval | % | 95% Confidence Interval | % |
| Michigan Total | 30,819 | 20.2 | (19.6-20.8) | 26.3 | (25.7-26.9) | 53.5 | (52.8-54.3) |
| Region 8 | 2,246 | 22.7 | (20.3-25.4) | 27.8 | (25.4-30.3) | 49.5 | (46.6-52.4) |
| District #10 | 1,095 | 24.1 | (20.8-27.7) | 28.5 | (25.3-31.9) | 47.4 | (43.5-51.2) |
| Muskegon | 1,084 | 21.8 | (18.1-26.0) | 28.2 | (24.5-32.2) | 50.0 | (45.4-54.5) |
| Region 9 | 1,563 | 19.0 | (16.6-21.7) | 30.9 | (28.1-33.9) | 50.1 | (47.0-53.2) |
| District #2 | 229 | 25.4 | (18.6-33.6) | 29.4 | (22.8-37.0) | 45.2 | (37.4-53.2) |
| District #4 | 244 | 19.8 | (14.5-26.4) | 33.5 | (26.3-41.5) | 46.8 | (39.2-54.5) |
| Northwest Michigan | 461 | 17.7 | (13.8-22.4) | 34.2 | (29.0-39.9) | 48.1 | (42.6-53.7) |
| Benzie-Leelanau | 210 | 14.7 | (9.5-22.0) | 29.6 | (22.8-37.4) | 55.8 | (47.4-63.8) |
| Grand Traverse | 394 | 17.7 | (13.4-23.1) | 29.1 | (23.9-34.8) | 53.2 | (46.9-59.4) |
| Region 10 | 1,496 | 21.2 | (18.5-24.2) | 26.9 | (24.2-29.7) | 51.9 | (48.6-55.2) |
| Bay | 316 | 21.2 | (15.4-28.4) | 27.1 | (21.7-33.4) | 51.7 | (44.2-59.1) |
| Huron | 119 | 19.0 | (12.3-28.2) | 29.7 | (21.4-39.7) | 51.2 | (41.1-61.3) |
| Saginaw | 714 | 20.7 | (16.7-25.5) | 27.9 | (23.8-32.4) | 51.4 | (46.3-56.4) |
| Sanilac | 143 | 24.2 | (16.3-34.3) | 23.1 | (16.5-31.3) | 52.8 | (43.2-62.2) |
| Tuscola | 171 | 22.1 | (15.6-30.5) | 25.3 | (18.9-33.0) | 52.6 | (43.8-61.2) |
| Region 11 | 969 | 20.2 | (17.1-23.6) | 27.3 | (24.1-30.7) | 52.6 | (48.6-56.5) |
| Central Michigan | 574 | 24.0 | (20.0-28.6) | 29.1 | (24.9-33.6) | 46.9 | (42.0-51.9) |
| Midland | 290 | 11.5 | (7.6-16.9) | 28.6 | (23.0-35.0) | 60.0 | (53.0-66.5) |
| Region 12 | 1,087 | 20.3 | (17.5-23.5) | 29.6 | (26.3-33.0) | 50.1 | (46.2-53.9) |
| Luce-Mackinac-Alger-Schoolcraft | 146 | 18.7 | (12.2-27.6) | 34.6 | (25.7-44.8) | 46.7 | (36.6-57.0) |
| Western Upper Peninsula | 227 | 17.5 | (12.1-24.8) | 31.3 | (24.4-39.0) | 51.2 | (43.2-59.1) |
| Delta-Menominee | 209 | 21.6 | (15.7-28.9) | 38.3 | (30.3-47.0) | 40.1 | (32.0-48.8) |
| Chippewa | 138 | 23.5 | (15.7-33.7) | 22.4 | (15.5-31.3) | 54.1 | (42.7-65.0) |
| Dickinson-Iron | 129 | 32.3 | (22.7-43.8) | 26.6 | (18.4-36.8) | 41.1 | (31.5-51.4) |
| Marquette | 217 | 15.5 | (10.3-22.7) | 26.2 | (19.7-34.0) | 58.3 | (49.4-66.7) |

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

^b The proportion of adults who reported that they had ever smoked at least 100 cigarettes (five packs) in their life, but they do not smoke cigarettes now.

^c The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

Table 12: Alcohol Consumption
Michigan BRFSS, 2015-2017 Combined

| Geographic Area | Sample Size | Any Alcohol in Past Month ^a | | Heavy Drinking ^b | | Binge Drinking ^c | |
|-----------------------------|---------------|--|--------------------|-----------------------------|------------------|-----------------------------|--------------------|
| | | N | % | 95% Confidence Interval | % | 95% Confidence Interval | % |
| Michigan Total | 30,588 | 57.3 | (56.6-58.1) | 6.7 | (6.4-7.1) | 18.6 | (18.0-19.2) |
| Region 1 | 12,230 | 59.9 | (58.8-61.0) | 10.2 | (7.4-14.0) | 18.9 | (17.9-19.8) |
| Livingston | 790 | 68.3 | (63.5-72.7) | 7.8 | (6.4-9.6) | 23.1 | (18.8-28.0) |
| Macomb | 1,975 | 59.1 | (56.4-61.7) | 8.2 | (5.4-12.5) | 20.7 | (18.5-23.2) |
| Monroe | 367 | 59.3 | (53.1-65.3) | 6.2 | (5.2-7.3) | 20.6 | (15.4-27.1) |
| Oakland | 3,257 | 64.0 | (61.9-66.0) | 6.1 | (3.9-9.4) | 17.8 | (16.1-19.6) |
| St. Clair | 401 | 57.4 | (51.6-63.1) | 6.3 | (4.8-8.2) | 18.2 | (14.1-23.2) |
| Washtenaw | 1,132 | 64.5 | (60.8-68.1) | 4.7 | (3.5-6.4) | 19.8 | (16.8-23.1) |
| City of Detroit | 1,453 | 49.8 | (46.5-53.0) | 6.0 | (5.0-7.2) | 17.2 | (14.9-19.9) |
| Wayne exc. Detroit | 2,797 | 58.9 | (56.6-61.1) | 10.2 | (7.4-14.0) | 18.1 | (16.3-20.1) |
| Region 2 | 1,896 | 51.7 | (48.9-54.4) | 4.3 | (3.3-5.6) | 16.6 | (14.5-19.0) |
| Genesee | 1,374 | 49.1 | (45.8-52.4) | 4.7 | (3.5-6.3) | 15.6 | (13.3-18.4) |
| Lapeer | 239 | 58.6 | (51.3-65.6) | -- ^e | -- ^e | 18.7 | (13.4-25.5) |
| Shiawassee | 265 | 55.6 | (48.2-62.8) | -- ^e | -- ^e | 19.3 | (13.8-26.3) |
| Region 3 | 1,436 | 55.4 | (51.6-59.1) | 6.6 | (4.8-9.1) | 18.5 | (15.5-22.0) |
| Jackson | 1,094 | 54.8 | (50.4-59.1) | 5.8 | (4.0-8.4) | 19.5 | (15.9-23.8) |
| Lenawee | 311 | 55.6 | (48.5-62.5) | 7.5 | (4.4-12.6) | 16.3 | (11.5-22.6) |
| Region 4 | 1,804 | 56.3 | (53.4-59.2) | 6.6 | (5.3-8.2) | 19.1 | (16.8-21.5) |
| Barry-Eaton | 524 | 56.7 | (51.2-61.9) | 3.3 | (2.1-5.3) | 13.2 | (9.9-17.4) |
| Mid-Michigan ^d | 556 | 53.1 | (47.5-58.6) | 8.3 | (5.7-11.9) | 19.9 | (15.9-24.7) |
| Ingham | 902 | 58.2 | (54.0-62.3) | 7.9 | (6.0-10.4) | 21.4 | (18.1-25.0) |
| Region 5 | 1,537 | 54.2 | (51.1-57.2) | 6.5 | (5.1-8.2) | 17.9 | (15.6-20.5) |
| Branch-Hillsdale-St. Joseph | 431 | 48.5 | (42.6-54.4) | 7.5 | (4.9-11.2) | 15.1 | (11.2-19.9) |
| Calhoun | 367 | 47.1 | (41.0-53.3) | 5.8 | (3.5-9.3) | 13.3 | (9.6-18.3) |
| Kalamazoo | 712 | 60.6 | (56.1-65.0) | 5.8 | (4.1-8.2) | 20.7 | (17.1-24.9) |
| Region 6 | 734 | 51.8 | (47.4-56.3) | 7.1 | (5.1-9.7) | 16.6 | (13.4-20.2) |
| Van Buren-Cass | 301 | 46.4 | (39.8-53.1) | 7.1 | (4.3-11.6) | 15.1 | (10.7-20.7) |
| Berrien | 403 | 54.4 | (48.1-60.5) | 6.6 | (4.2-10.3) | 16.8 | (12.6-22.1) |
| Region 7 | 3,139 | 60.8 | (58.6-63.0) | 7.7 | (6.5-9.0) | 19.2 | (17.4-21.1) |
| Allegan | 325 | 59.3 | (52.9-65.4) | 7.6 | (4.3-13.2) | 17.4 | (12.5-23.6) |
| Ionia | 199 | 59.4 | (51.0-67.2) | -- ^e | -- ^e | 21.1 | (14.6-29.5) |
| Kent | 1,641 | 60.7 | (57.6-63.7) | 7.7 | (6.3-9.5) | 19.9 | (17.5-22.6) |
| Mid-Michigan ^d | 556 | 53.1 | (47.5-58.6) | 8.3 | (5.7-11.9) | 19.9 | (15.9-24.7) |
| Ottawa | 736 | 63.5 | (59.1-67.6) | 7.4 | (5.3-10.2) | 17.4 | (14.1-21.4) |

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| Table 12 Cont'd | | | | | | | |
|---------------------------------|---------------|--|-------------------------|-----------------------------|-------------------------|-----------------------------|-------------------------|
| Geographic Area | Sample Size | Any Alcohol in Past Month ^a | | Heavy Drinking ^b | | Binge Drinking ^c | |
| | N | % | 95% Confidence Interval | % | 95% Confidence Interval | % | 95% Confidence Interval |
| Michigan Total | 30,588 | 57.3 | (56.6-58.1) | 6.7 | (6.4-7.1) | 18.6 | (18.0-19.2) |
| Region 8 | 2,228 | 53.3 | (50.3-56.2) | 7.4 | (6.1-9.0) | 18.3 | (16.1-20.7) |
| District #10 | 1,083 | 50.9 | (47.0-54.7) | 7.8 | (6.1-10.0) | 16.6 | (14.0-19.7) |
| Muskegon | 1,078 | 56.0 | (51.5-60.4) | 7.5 | (5.5-10.2) | 20.8 | (17.0-25.1) |
| Region 9 | 1,565 | 55.9 | (52.8-59.0) | 9.2 | (7.6-11.2) | 18.0 | (15.7-20.6) |
| District #2 | 228 | 49.5 | (41.6-57.5) | 10.1 | (5.9-16.6) | 17.4 | (12.1-24.4) |
| District #4 | 248 | 51.8 | (44.2-59.3) | 5.1 | (2.9-8.7) | 19.6 | (14.4-26.3) |
| Northwest Michigan | 461 | 57.3 | (51.6-62.8) | 10.1 | (7.2-14.0) | 17.4 | (13.5-22.2) |
| Benzie-Leelanau | 211 | 58.9 | (49.9-67.4) | 12.0 | (7.5-18.6) | 17.0 | (11.5-24.4) |
| Grand Traverse | 392 | 59.9 | (53.5-66.0) | 10.5 | (7.2-15.2) | 17.1 | (12.6-22.8) |
| Region 10 | 1,485 | 53.8 | (50.4-57.1) | 6.2 | (4.9-7.9) | 19.6 | (16.9-22.5) |
| Bay | 318 | 56.5 | (48.7-63.9) | 6.6 | (4.1-10.5) | 22.3 | (16.4-29.5) |
| Huron | 120 | 58.5 | (48.0-68.4) | -- ^e | -- ^e | 19.0 | (12.4-28.0) |
| Saginaw | 706 | 52.9 | (47.8-57.9) | 5.1 | (3.4-7.6) | 18.0 | (14.2-22.5) |
| Sanilac | 140 | 54.3 | (44.5-63.7) | -- ^e | -- ^e | 21.5 | (14.4-31.0) |
| Tuscola | 167 | 48.0 | (39.2-56.9) | -- ^e | -- ^e | 19.6 | (13.6-27.4) |
| Region 11 | 962 | 54.5 | (50.5-58.4) | 7.8 | (5.9-10.4) | 18.8 | (15.8-22.2) |
| Central Michigan | 571 | 51.6 | (46.6-56.6) | 8.9 | (6.3-12.4) | 18.3 | (14.7-22.6) |
| Midland | 289 | 55.1 | (47.9-62.1) | 5.8 | (3.2-10.3) | 15.0 | (10.6-20.9) |
| Region 12 | 1,083 | 52.8 | (48.9-56.6) | 6.5 | (4.9-8.7) | 17.1 | (14.5-20.0) |
| Luce-Mackinac-Alger-Schoolcraft | 145 | 51.1 | (40.7-61.4) | -- ^e | -- ^e | 16.3 | (10.0-25.5) |
| Western Upper Peninsula | 226 | 49.3 | (41.5-57.2) | -- ^e | -- ^e | 13.6 | (9.3-19.6) |
| Delta-Menominee | 209 | 62.3 | (53.7-70.2) | -- ^e | -- ^e | 16.6 | (11.3-23.7) |
| Chippewa | 138 | 43.0 | (32.5-54.2) | -- ^e | -- ^e | 17.6 | (10.8-27.3) |
| Dickinson-Iron | 127 | 51.6 | (41.0-62.0) | -- ^e | -- ^e | 17.8 | (10.7-28.1) |
| Marquette | 217 | 56.9 | (47.2-66.1) | 8.9 | (5.2-14.7) | 20.9 | (14.9-28.6) |

^a Among all adults, the proportion who reported consuming at least one drink of any alcoholic beverage in the previous month.

^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.

^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.

^d The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

| Table 13: Seatbelt Use Michigan BRFS, 2015-2017 Combined | | | |
|---|---|-------------|--------------------------------|
| Geographic Area | Always Uses a Seatbelt^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 30,029 | 89.6 | (89.1-90.1) |
| Region 1 | 784 | 90.4 | (86.5-93.3) |
| Livingston | 1,932 | 89.3 | (87.2-91.2) |
| Macomb | 357 | 90.1 | (85.0-93.6) |
| Monroe | 3,197 | 92.9 | (91.6-94.0) |
| Oakland | 391 | 91.2 | (86.8-94.2) |
| St. Clair | 1,122 | 89.3 | (86.2-91.8) |
| Washtenaw | 1,386 | 87.7 | (85.4-89.7) |
| City of Detroit | 2,745 | 91.8 | (90.3-93.1) |
| Wayne exc. Detroit | 784 | 90.4 | (86.5-93.3) |
| Region 2 | 1,865 | 88.7 | (86.6-90.5) |
| Genesee | 1,347 | 89.1 | (86.7-91.1) |
| Lapeer | 237 | 91.6 | (86.3-95.0) |
| Shiawassee | 263 | 84.8 | (78.0-89.8) |
| Region 3 | 1,415 | 89.7 | (86.8-92.1) |
| Jackson | 1,079 | 89.5 | (85.9-92.3) |
| Lenawee | 306 | 90.2 | (84.5-94.0) |
| Region 4 | 1,778 | 91.2 | (89.3-92.9) |
| Barry-Eaton | 522 | 90.2 | (85.8-93.3) |
| Mid-Michigan ^b | 549 | 88.7 | (84.6-91.8) |
| Ingham | 883 | 92.6 | (90.1-94.5) |
| Region 5 | 1,495 | 88.6 | (86.3-90.6) |
| Branch-Hillsdale-St. Joseph | 422 | 88.4 | (83.3-92.1) |
| Calhoun | 359 | 87.5 | (82.5-91.3) |
| Kalamazoo | 688 | 89.0 | (85.5-91.8) |
| Region 6 | 716 | 87.5 | (83.5-90.6) |
| Van Buren-Cass | 290 | 87.6 | (81.6-91.8) |
| Berrien | 398 | 88.3 | (82.7-92.2) |
| Region 7 | 3,096 | 88.9 | (87.3-90.3) |
| Allegan | 324 | 91.7 | (87.1-94.7) |
| Ionia | 194 | 84.6 | (76.2-90.4) |
| Kent | 1,622 | 88.4 | (86.1-90.3) |
| Mid-Michigan ^b | 549 | 88.7 | (84.6-91.8) |
| Ottawa | 721 | 90.7 | (87.6-93.0) |

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| Table 13 Cont'd | | | |
|---|---|-----------------|--------------------------------|
| Geographic Area | Always Uses a Seatbelt^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 30,029 | 89.6 | (89.1-90.1) |
| Region 8 | 2,193 | 87.3 | (85.0-89.3) |
| District #10 | 1,068 | 86.8 | (83.7-89.4) |
| Muskegon | 1,061 | 88.1 | (84.3-91.1) |
| Region 9 | 1,537 | 88.9 | (86.5-90.8) |
| District #2 | 222 | 84.3 | (77.1-89.6) |
| District #4 | 242 | 84.9 | (78.1-89.9) |
| Northwest Michigan | 452 | 93.0 | (89.4-95.4) |
| Benzie-Leelanau | 209 | 92.5 | (87.1-95.8) |
| Grand Traverse | 388 | 89.9 | (84.9-93.4) |
| Region 10 | 1,456 | 88.3 | (85.6-90.5) |
| Bay | 303 | 89.3 | (83.1-93.5) |
| Huron | 120 | 86.1 | (78.0-91.6) |
| Saginaw | 704 | 88.1 | (83.3-91.6) |
| Sanilac | 135 | 84.1 | (74.9-90.3) |
| Tuscola | 165 | 92.8 | (87.3-96.0) |
| Region 11 | 951 | 88.6 | (85.6-91.1) |
| Central Michigan | 563 | 87.3 | (83.2-90.5) |
| Midland | 286 | 93.3 | (88.8-96.0) |
| Region 12 | 1,071 | 87.3 | (84.4-89.8) |
| Luce-Mackinac-Alger-Schoolcraft | -- ^c | -- ^c | -- ^c |
| Western Upper Peninsula | 223 | 84.7 | (77.7-89.9) |
| Delta-Menominee | 205 | 86.1 | (77.3-91.8) |
| Chippewa | 137 | 79.4 | (68.8-87.1) |
| Dickinson-Iron | 127 | 88.5 | (81.1-93.2) |
| Marquette | -- ^c | -- ^c | -- ^c |
| ^a The proportion of adults who reported always using a seatbelt when driving or riding in a car. ^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates. ^c Suppressed due to a denominator < 50 and/or a relative standard error > 30%. | | | |

| Table 14: High Blood Pressure Michigan BRFSS, 2015 and 2017 Combined | | | |
|---|----------------------------------|-------------|--------------------------------|
| Geographic Area | Ever Told HBP^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 7,913 | 33.9 | (33.1-34.7) |
| Region 1 | 8,291 | 34.3 | (33.1-35.5) |
| Livingston | 641 | 32.8 | (27.8-38.2) |
| Macomb | 1,313 | 34.6 | (31.6-37.7) |
| Monroe | 247 | 33.6 | (27.2-40.7) |
| Oakland | 2,171 | 30.6 | (28.4-33.0) |
| St. Clair | 250 | 36.0 | (29.4-43.3) |
| Washtenaw | 783 | 23.4 | (20.1-27.2) |
| City of Detroit | 972 | 46.5 | (42.6-50.5) |
| Wayne exc. Detroit | 1,860 | 35.3 | (32.8-38.0) |
| Region 2 | 1,248 | 38.5 | (35.3-41.8) |
| Genesee | 903 | 38.9 | (35.1-42.9) |
| Lapeer | 161 | 37.8 | (29.7-46.6) |
| Shiawassee | 171 | 38.5 | (29.8-47.9) |
| Region 3 | 806 | 36.8 | (32.4-41.4) |
| Jackson | 591 | 37.9 | (32.5-43.6) |
| Lenawee | 201 | 36.1 | (28.7-44.2) |
| Region 4 | 1,150 | 35.1 | (31.8-38.7) |
| Barry-Eaton | 330 | 43.4 | (37.0-50.1) |
| Mid-Michigan ^b | 360 | 35.1 | (29.2-41.6) |
| Ingham | 581 | 30.2 | (25.7-35.2) |
| Region 5 | 1,025 | 32.3 | (29.1-35.7) |
| Branch-Hillsdale-St. Joseph | 287 | 33.5 | (27.4-40.2) |
| Calhoun | 238 | 34.8 | (28.2-42.1) |
| Kalamazoo | 487 | 30.6 | (26.1-35.4) |
| Region 6 | 508 | 33.9 | (29.3-38.9) |
| Van Buren-Cass | 205 | 39.5 | (32.1-47.5) |
| Berrien | 275 | 32.3 | (26.1-39.2) |
| Region 7 | 2,100 | 30.3 | (28.0-32.6) |
| Allegan | 218 | 32.8 | (26.2-40.3) |
| Ionia | 124 | 32.1 | (23.6-41.9) |
| Kent | 1,136 | 29.3 | (26.3-32.5) |
| Mid-Michigan ^b | 360 | 35.1 | (29.2-41.6) |
| Ottawa | 467 | 32.3 | (27.5-37.4) |

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| Table 14 Cont'd | | | |
|---------------------------------|----------------------------------|-------------|--------------------------------|
| Geographic Area | Ever Told HBP^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 7,913 | 33.9 | (33.1-34.7) |
| Region 8 | 1,297 | 32.2 | (29.0-35.6) |
| District #10 | 648 | 33.9 | (29.6-38.4) |
| Muskegon | 589 | 32.3 | (27.0-38.0) |
| Region 9 | 1,011 | 35.6 | (32.0-39.3) |
| District #2 | 142 | 34.5 | (26.2-43.8) |
| District #4 | 173 | 41.2 | (32.4-50.5) |
| Northwest Michigan | 297 | 38.5 | (31.8-45.7) |
| Benzie-Leelanau | 136 | 36.9 | (26.9-48.2) |
| Grand Traverse | 240 | 31.4 | (24.9-38.9) |
| Region 10 | 814 | 34.8 | (31.1-38.8) |
| Bay | 183 | 28.3 | (21.2-36.7) |
| Huron | 72 | 37.0 | (25.8-49.7) |
| Saginaw | 327 | 38.3 | (32.3-44.7) |
| Sanilac | 100 | 33.2 | (23.9-44.1) |
| Tuscola | 106 | 39.2 | (29.2-50.1) |
| Region 11 | 663 | 34.3 | (30.1-38.8) |
| Central Michigan | 390 | 34.8 | (29.5-40.5) |
| Midland | 191 | 34.4 | (26.9-42.7) |
| Region 12 | 565 | 34.8 | (30.3-39.5) |
| Luce-Mackinac-Alger-Schoolcraft | 82 | 36.3 | (25.3-49.0) |
| Western Upper Peninsula | 126 | 43.4 | (33.7-53.7) |
| Delta-Menominee | 99 | 36.4 | (26.2-47.9) |
| Chippewa | 86 | 25.0 | (16.2-36.5) |
| Dickinson-Iron | 59 | 37.9 | (25.3-52.5) |
| Marquette | 113 | 29.1 | (20.4-39.7) |

^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.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

**Table 15: Cholesterol Screening and Awareness
Michigan BRFS, 2015 and 2017 Combined**

| Geographic Area | Cholesterol Ever Checked ^a | | | Ever Told High Cholesterol ^b | | |
|-----------------------------|---------------------------------------|-----------------|-------------------------|---|-------------|-------------------------|
| | N | % | 95% Confidence Interval | N | % | 95% Confidence Interval |
| Michigan Total | 19,057 | 88.2 | (87.6-88.9) | 17,490 | 36.5 | (35.7-37.4) |
| Region 1 | 8,044 | 89.8 | (88.8-90.7) | 7,449 | 36.6 | (35.3-38.0) |
| Livingston | 621 | 89.6 | (84.2-93.3) | 580 | 37.6 | (32.3-43.2) |
| Macomb | 1,279 | 89.6 | (86.7-91.9) | 1,182 | 37.1 | (33.9-40.4) |
| Monroe | -- ^d | -- ^d | -- ^d | 225 | 40.7 | (33.2-48.7) |
| Oakland | 2,121 | 92.7 | (91.0-94.1) | 2,001 | 37.0 | (34.5-39.6) |
| St. Clair | 237 | 91.9 | (86.4-95.3) | 221 | 36.4 | (29.2-44.2) |
| Washtenaw | 763 | 83.0 | (78.6-86.6) | 687 | 32.3 | (28.2-36.6) |
| City of Detroit | 928 | 89.4 | (86.2-91.9) | 850 | 34.7 | (30.9-38.7) |
| Wayne exc. Detroit | 1,801 | 88.6 | (86.3-90.6) | 1,659 | 37.5 | (34.8-40.4) |
| Region 2 | 1,197 | 89.7 | (87.0-91.9) | 1,110 | 38.5 | (35.1-42.1) |
| Genesee | 864 | 89.7 | (86.4-92.3) | 802 | 39.6 | (35.5-43.8) |
| Lapeer | 157 | 86.6 | (78.2-92.1) | 141 | 31.7 | (23.7-40.9) |
| Shiawassee | -- ^d | -- ^d | -- ^d | 155 | 39.7 | (30.5-49.7) |
| Region 3 | 769 | 86.3 | (81.4-90.0) | 706 | 38.5 | (33.9-43.4) |
| Jackson | 566 | 88.7 | (82.8-92.8) | 526 | 40.8 | (35.1-46.7) |
| Lenawee | 190 | 82.0 | (72.6-88.7) | 168 | 37.6 | (29.6-46.3) |
| Region 4 | 1,094 | 86.7 | (83.4-89.3) | 995 | 36.7 | (33.1-40.5) |
| Barry-Eaton | 318 | 93.4 | (88.5-96.3) | 300 | 41.4 | (34.8-48.4) |
| Mid-Michigan ^c | 353 | 86.7 | (77.9-92.3) | 327 | 36.7 | (30.6-43.3) |
| Ingham | 543 | 81.9 | (76.8-86.1) | 478 | 34.6 | (29.6-40.1) |
| Region 5 | 987 | 85.0 | (81.5-88.0) | 883 | 33.6 | (30.1-37.3) |
| Branch-Hillsdale-St. Joseph | 277 | 90.5 | (85.1-94.0) | 253 | 35.4 | (28.7-42.9) |
| Calhoun | 229 | 84.4 | (76.6-90.0) | 203 | 31.4 | (24.7-38.9) |
| Kalamazoo | 468 | 81.9 | (75.8-86.7) | 416 | 34.4 | (29.4-39.7) |
| Region 6 | 488 | 89.0 | (84.6-92.3) | 449 | 40.7 | (35.4-46.2) |
| Van Buren-Cass | -- ^d | -- ^d | -- ^d | 184 | 46.9 | (38.6-55.5) |
| Berrien | 265 | 88.9 | (82.0-93.4) | 245 | 35.8 | (29.2-43.0) |

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| Table 15 Cont'd | | | | | | |
|---------------------------------|---|-----------------|--------------------------------|---|-------------|--------------------------------|
| Geographic Area | Cholesterol Ever Checked^a | | | Ever Told High Cholesterol^b | | |
| | N | % | 95% Confidence Interval | N | % | 95% Confidence Interval |
| Michigan Total | 19,057 | 88.2 | (87.6-88.9) | 17,490 | 36.5 | (35.7-37.4) |
| Region 7 | 2,007 | 88.0 | (85.7-90.1) | 1,852 | 32.6 | (30.2-35.2) |
| Allegan | 210 | 88.7 | (82.1-93.0) | 192 | 33.8 | (26.6-41.7) |
| Ionia | 118 | 81.2 | (68.8-89.4) | 102 | 34.8 | (25.2-45.8) |
| Kent | 1,081 | 89.5 | (86.5-91.9) | 1,008 | 31.4 | (28.1-35.0) |
| Mid-Michigan ^c | 353 | 86.7 | (77.9-92.3) | 327 | 36.7 | (30.6-43.3) |
| Ottawa | 444 | 89.2 | (84.3-92.7) | 415 | 33.6 | (28.4-39.2) |
| Region 8 | 1,244 | 85.4 | (81.7-88.5) | 1,137 | 35.3 | (31.8-38.9) |
| District #10 | 622 | 84.0 | (78.7-88.2) | 561 | 35.1 | (30.6-40.0) |
| Muskegon | 565 | 89.2 | (83.8-92.9) | 526 | 37.5 | (31.8-43.6) |
| Region 9 | 975 | 88.0 | (84.9-90.5) | 897 | 40.4 | (36.5-44.4) |
| District #2 | 136 | 87.1 | (78.6-92.6) | 120 | 35.0 | (25.8-45.5) |
| District #4 | 167 | 84.6 | (76.0-90.6) | 149 | 40.5 | (31.6-50.1) |
| Northwest Michigan | 286 | 88.0 | (81.8-92.2) | 263 | 46.9 | (39.6-54.5) |
| Benzie-Leelanau | -- ^d | -- ^d | -- ^d | 128 | 41.1 | (30.5-52.6) |
| Grand Traverse | 232 | 87.8 | (79.7-93.0) | 217 | 39.9 | (32.5-47.9) |
| Region 10 | 790 | 90.0 | (86.9-92.5) | 728 | 39.2 | (34.8-43.7) |
| Bay | 180 | 88.4 | (81.1-93.2) | 162 | 42.8 | (32.6-53.5) |
| Huron | -- ^c | -- ^c | -- ^c | 67 | 39.4 | (27.4-52.8) |
| Saginaw | 321 | 90.6 | (85.3-94.2) | 298 | 34.6 | (28.4-41.5) |
| Sanilac | -- ^d | -- ^d | -- ^d | 81 | 41.9 | (29.8-55.1) |
| Tuscola | -- ^d | -- ^d | -- ^d | 96 | 43.8 | (33.2-55.0) |
| Region 11 | 646 | 85.3 | (81.0-88.8) | 583 | 39.9 | (35.1-44.9) |
| Central Michigan | 379 | 87.6 | (82.5-91.4) | 347 | 43.4 | (37.2-49.9) |
| Midland | 187 | 84.2 | (73.8-91.0) | 171 | 35.0 | (27.3-43.5) |
| Region 12 | 547 | 85.5 | (80.4-89.4) | 485 | 39.4 | (34.4-44.6) |
| Luce-Mackinac-Alger-Schoolcraft | -- ^c | -- ^c | -- ^c | 72 | 45.8 | (33.0-59.2) |
| Western Upper Peninsula | 121 | 86.3 | (76.3-92.5) | 107 | 42.8 | (32.2-54.1) |
| Delta-Menominee | 96 | 84.4 | (73.9-91.2) | 82 | 42.8 | (31.2-55.2) |
| Chippewa | -- ^d | -- ^d | -- ^d | 71 | 33.1 | (22.1-46.3) |
| Dickinson-Iron | -- ^d | -- ^d | -- ^d | 52 | 49.3 | (34.3-64.4) |
| Marquette | -- ^d | -- ^d | -- ^d | 101 | 27.0 | (17.9-38.6) |

^a Among all adults, the proportion who reported ever having had their blood cholesterol checked.

^b 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.

^c The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

| Table 16: No Routine Checkup in Past Year Michigan BRFSS, 2015-2017 Combined | | | |
|---|--|-------------|--------------------------------|
| Geographic Area | Had No Routine Checkup in Past Year^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,503 | 27.1 | (26.5-27.8) |
| Region 1 | 12,643 | 26.1 | (25.1-27.2) |
| Livingston | 808 | 22.7 | (18.7-27.3) |
| Macomb | 2,044 | 27.7 | (25.2-30.3) |
| Monroe | 384 | 27.6 | (22.1-34.0) |
| Oakland | 3,344 | 27.2 | (25.3-29.2) |
| St. Clair | 413 | 29.9 | (24.6-35.9) |
| Washtenaw | 1,168 | 29.4 | (26.1-33.0) |
| City of Detroit | 1,525 | 22.6 | (20.0-25.6) |
| Wayne exc. Detroit | 2,886 | 24.4 | (22.4-26.4) |
| Region 2 | 1,967 | 26.6 | (24.2-29.3) |
| Genesee | 1,429 | 25.1 | (22.3-28.2) |
| Lapeer | 244 | 31.4 | (24.9-38.8) |
| Shiawassee | 274 | 28.2 | (21.6-35.9) |
| Region 3 | 1,474 | 30.7 | (27.1-34.4) |
| Jackson | 1,132 | 27.8 | (24.2-31.8) |
| Lenawee | 310 | 35.2 | (28.3-42.8) |
| Region 4 | 1,850 | 27.0 | (24.5-29.7) |
| Barry-Eaton | 539 | 27.2 | (22.7-32.3) |
| Mid-Michigan ^b | 569 | 24.4 | (19.6-30.0) |
| Ingham | 925 | 28.6 | (25.0-32.5) |
| Region 5 | 1,564 | 31.0 | (28.2-34.0) |
| Branch-Hillsdale-St. Joseph | 438 | 31.4 | (26.1-37.3) |
| Calhoun | 372 | 32.9 | (27.1-39.3) |
| Kalamazoo | 727 | 29.7 | (25.6-34.1) |
| Region 6 | 758 | 26.4 | (22.5-30.7) |
| Van Buren-Cass | 309 | 24.3 | (18.9-30.5) |
| Berrien | 420 | 26.7 | (21.4-32.7) |
| Region 7 | 3,230 | 26.9 | (24.9-29.0) |
| Allegan | 345 | 26.4 | (21.2-32.3) |
| Ionia | 200 | 31.1 | (23.5-39.9) |
| Kent | 1,687 | 27.3 | (24.6-30.3) |
| Mid-Michigan ^b | 569 | 24.4 | (19.6-30.0) |
| Ottawa | 751 | 23.5 | (19.9-27.4) |

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| Table 16 Cont'd | | | |
|---------------------------------|--|-------------|--------------------------------|
| Geographic Area | Had No Routine Checkup in Past Year^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,503 | 27.1 | (26.5-27.8) |
| Region 8 | 2,277 | 27.7 | (25.1-30.4) |
| District #10 | 1,105 | 30.7 | (27.2-34.4) |
| Muskegon | 1,106 | 22.8 | (19.3-26.8) |
| Region 9 | 1,587 | 27.5 | (24.8-30.5) |
| District #2 | 232 | 27.3 | (20.6-35.4) |
| District #4 | 254 | 33.6 | (26.8-41.2) |
| Northwest Michigan | 465 | 22.4 | (18.0-27.4) |
| Benzie-Leelanau | 213 | 23.5 | (16.9-31.7) |
| Grand Traverse | 398 | 29.0 | (23.6-35.0) |
| Region 10 | 1,518 | 26.4 | (23.5-29.5) |
| Bay | 317 | 26.9 | (20.4-34.7) |
| Huron | 122 | 36.0 | (26.6-46.6) |
| Saginaw | 727 | 22.7 | (18.7-27.1) |
| Sanilac | 147 | 28.2 | (20.4-37.6) |
| Tuscola | 171 | 26.6 | (19.5-35.2) |
| Region 11 | 999 | 29.7 | (26.1-33.6) |
| Central Michigan | 588 | 28.1 | (23.7-33.0) |
| Midland | 301 | 28.3 | (22.1-35.4) |
| Region 12 | 1,103 | 28.7 | (25.4-32.2) |
| Luce-Mackinac-Alger-Schoolcraft | 146 | 24.6 | (16.7-34.7) |
| Western Upper Peninsula | 232 | 31.5 | (24.6-39.3) |
| Delta-Menominee | 209 | 29.1 | (21.6-38.1) |
| Chippewa | 142 | 27.1 | (18.1-38.5) |
| Dickinson-Iron | 132 | 30.1 | (21.3-40.6) |
| Marquette | 221 | 24.0 | (17.4-32.0) |

^a The proportion of adults who reported that they did not have a routine checkup in the past year.
^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

| Table 17: Colorectal Cancer Screening Among Adults 50 Years and Older Michigan BRFSS, 2015-2017 Combined | | | |
|---|--|-------------|--------------------------------|
| Geographic Area | Appropriate Colorectal Cancer Screening^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 13,685 | 71.4 | (70.6-72.2) |
| Region 1 | 5,455 | 70.7 | (69.3-72.0) |
| Livingston | 414 | 73.7 | (68.1-78.7) |
| Macomb | 876 | 71.3 | (68.1-74.3) |
| Monroe | 157 | 69.6 | (61.7-76.5) |
| Oakland | 1,496 | 70.0 | (67.2-72.6) |
| St. Clair | 182 | 73.9 | (67.0-79.7) |
| Washtenaw | 544 | 78.0 | (73.8-81.7) |
| City of Detroit | 542 | 65.1 | (60.8-69.2) |
| Wayne exc. Detroit | 1,236 | 71.1 | (68.3-73.7) |
| Region 2 | 854 | 71.4 | (68.1-74.4) |
| Genesee | 634 | 71.2 | (67.3-74.8) |
| Lapeer | 98 | 66.7 | (57.8-74.5) |
| Shiawassee | 119 | 77.0 | (68.4-83.8) |
| Region 3 | 675 | 73.2 | (69.0-77.0) |
| Jackson | 523 | 73.0 | (68.0-77.4) |
| Lenawee | 146 | 73.2 | (65.2-79.8) |
| Region 4 | 800 | 74.7 | (71.1-77.9) |
| Barry-Eaton | 262 | 74.3 | (68.3-79.5) |
| Mid-Michigan ^b | 265 | 74.8 | (69.0-79.8) |
| Ingham | 356 | 75.0 | (69.1-80.1) |
| Region 5 | 682 | 72.6 | (69.0-76.0) |
| Branch-Hillsdale-St. Joseph | 194 | 70.2 | (63.1-76.4) |
| Calhoun | 173 | 74.4 | (67.4-80.3) |
| Kalamazoo | 311 | 73.2 | (67.5-78.3) |
| Region 6 | 322 | 66.5 | (61.1-71.6) |
| Van Buren-Cass | 147 | 71.6 | (63.2-78.7) |
| Berrien | 175 | 62.5 | (55.2-69.3) |
| Region 7 | 1,374 | 75.1 | (72.6-77.4) |
| Allegan | 134 | 71.4 | (63.5-78.3) |
| Ionia | 91 | 79.3 | (69.8-86.4) |
| Kent | 718 | 72.6 | (69.1-75.9) |
| Mid-Michigan ^b | 265 | 74.8 | (69.0-79.8) |
| Ottawa | 339 | 81.8 | (77.2-85.7) |

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| Table 17 Cont'd | | | |
|---------------------------------|--|-------------|--------------------------------|
| Geographic Area | Appropriate Colorectal Cancer Screening^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 13,685 | 71.4 | (70.6-72.2) |
| Region 8 | 1,043 | 72.5 | (69.2-75.6) |
| District #10 | 517 | 72.1 | (67.8-76.0) |
| Muskegon | 525 | 73.5 | (68.2-78.2) |
| Region 9 | 758 | 68.2 | (64.5-71.7) |
| District #2 | 104 | 64.9 | (55.7-73.2) |
| District #4 | 101 | 66.2 | (56.3-74.9) |
| Northwest Michigan | 241 | 67.3 | (60.3-73.6) |
| Benzie-Leelanau | 118 | 76.8 | (67.3-84.1) |
| Grand Traverse | 193 | 70.0 | (62.5-76.5) |
| Region 10 | 708 | 73.1 | (69.4-76.5) |
| Bay | 141 | 67.6 | (59.5-74.7) |
| Huron | 58 | 68.9 | (56.7-79.0) |
| Saginaw | 375 | 80.5 | (74.8-85.1) |
| Sanilac | 51 | 65.5 | (53.2-76.0) |
| Tuscola | 82 | 68.6 | (57.9-77.6) |
| Region 11 | 405 | 68.3 | (63.4-72.8) |
| Central Michigan | 258 | 67.3 | (61.2-72.8) |
| Midland | 143 | 71.2 | (62.6-78.4) |
| Region 12 | 501 | 71.1 | (66.7-75.2) |
| Luce-Mackinac-Alger-Schoolcraft | 75 | 68.3 | (57.0-77.8) |
| Western Upper Peninsula | 106 | 71.0 | (60.9-79.4) |
| Delta-Menominee | 91 | 71.0 | (60.4-79.7) |
| Chippewa | 60 | 68.0 | (53.8-79.5) |
| Dickinson-Iron | 55 | 64.1 | (49.6-76.4) |
| Marquette | 113 | 81.0 | (71.5-87.8) |

^a Among adults aged 50 years and older, the proportion who had either a fecal occult blood test within the past year, a sigmoidoscopy within the past five years, or a colonoscopy within the past ten years.
^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

**Table 18: Immunizations Among Adults Aged 65 Years and Older
Michigan BRFS, 2015-2017 Combined**

| Geographic Area | Had Flu Vaccine in Past Year ^a | | | Ever Had Pneumonia Vaccine ^b | | |
|-----------------------------|---|-------------|-------------------------|---|-----------------|-------------------------|
| | N | % | 95% Confidence Interval | N | % | 95% Confidence Interval |
| Michigan Total | 6,021 | 58.0 | (56.8-59.2) | 9,842 | 73.5 | (72.3-74.6) |
| Region 1 | 3,955 | 58.2 | (56.3-60.1) | 3,846 | 71.7 | (69.8-73.5) |
| Livingston | 271 | 58.9 | (50.6-66.7) | 269 | 76.6 | (68.9-82.8) |
| Macomb | 677 | 57.2 | (52.7-61.6) | 665 | 75.1 | (70.8-79.0) |
| Monroe | 109 | 55.1 | (43.8-65.9) | 108 | 70.5 | (59.6-79.5) |
| Oakland | 1,079 | 59.5 | (56.0-63.0) | 1,044 | 72.3 | (68.8-75.6) |
| St. Clair | 132 | 48.8 | (39.2-58.4) | 128 | 78.7 | (70.5-85.1) |
| Washtenaw | 369 | 64.1 | (57.6-70.0) | 359 | 77.5 | (71.6-82.4) |
| City of Detroit | 394 | 46.9 | (40.6-53.4) | 375 | 56.1 | (49.6-62.4) |
| Wayne exc. Detroit | 910 | 63.2 | (59.3-67.0) | 884 | 72.5 | (68.6-76.1) |
| Region 2 | 628 | 54.7 | (50.1-59.3) | 620 | 71.0 | (66.6-75.0) |
| Genesee | 456 | 54.2 | (48.8-59.6) | 447 | 69.7 | (64.4-74.5) |
| Lapeer | 81 | 48.6 | (36.8-60.6) | 82 | 58.9 | (46.7-70.1) |
| Shiawassee | 88 | 62.4 | (49.7-73.6) | -- ^d | -- ^d | -- ^d |
| Region 3 | 524 | 53.1 | (46.7-59.3) | 514 | 79.8 | (74.6-84.2) |
| Jackson | 406 | 52.8 | (44.9-60.5) | 398 | 76.0 | (69.2-81.7) |
| Lenawee | 111 | 50.9 | (40.2-61.6) | 109 | 84.8 | (75.5-91.0) |
| Region 4 | 599 | 59.0 | (54.0-63.8) | 581 | 73.9 | (69.2-78.2) |
| Barry-Eaton | 201 | 56.7 | (48.3-64.9) | 195 | 73.5 | (65.3-80.4) |
| Mid-Michigan ^c | 199 | 58.6 | (50.2-66.6) | 195 | 75.8 | (68.1-82.2) |
| Ingham | 258 | 59.8 | (51.9-67.1) | 249 | 72.7 | (64.8-79.5) |
| Region 5 | 488 | 60.8 | (55.5-65.7) | 483 | 76.9 | (72.1-81.1) |
| Branch-Hillsdale-St. Joseph | 150 | 55.4 | (45.7-64.7) | 147 | 67.2 | (57.1-75.9) |
| Calhoun | 114 | 67.1 | (56.5-76.1) | 114 | 85.4 | (77.1-91.1) |
| Kalamazoo | 220 | 60.6 | (52.9-67.9) | 218 | 79.1 | (72.1-84.8) |
| Region 6 | 243 | 56.3 | (49.0-63.4) | 242 | 76.2 | (69.6-81.7) |
| Van Buren-Cass | 101 | 64.5 | (53.4-74.2) | 99 | 75.0 | (64.2-83.4) |
| Berrien | 139 | 50.7 | (41.0-60.3) | 140 | 77.7 | (69.0-84.5) |

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| Table 18 Cont'd | | | | | | |
|---------------------------------|---|-----------------|-------------------------|---|-----------------|-------------------------|
| Geographic Area | Had Flu Vaccine in Past Year ^a | | | Ever Had Pneumonia Vaccine ^b | | |
| | N | % | 95% Confidence Interval | N | % | 95% Confidence Interval |
| Michigan Total | 6,021 | 58.0 | (56.8-59.2) | 9,842 | 73.5 | (72.3-74.6) |
| Region 7 | 925 | 59.0 | (55.2-62.7) | 898 | 80.1 | (76.8-83.1) |
| Allegan | 87 | 67.2 | (55.2-77.3) | 86 | 83.0 | (72.6-90.0) |
| Ionia | 62 | 59.1 | (44.1-72.5) | -- ^d | -- ^d | -- ^d |
| Kent | 497 | 59.1 | (53.9-64.2) | 482 | 78.3 | (73.3-82.5) |
| Mid-Michigan ^c | 199 | 58.6 | (50.2-66.6) | 195 | 75.8 | (68.1-82.2) |
| Ottawa | 208 | 57.4 | (49.3-65.1) | 202 | 84.3 | (77.7-89.3) |
| Region 8 | 796 | 58.8 | (54.1-63.2) | 784 | 75.4 | (71.2-79.2) |
| District #10 | 403 | 59.8 | (53.9-65.5) | 398 | 74.7 | (69.1-79.5) |
| Muskegon | 384 | 55.2 | (48.1-62.1) | 377 | 76.2 | (69.9-81.6) |
| Region 9 | 581 | 59.0 | (53.6-64.2) | 573 | 73.9 | (68.6-78.6) |
| District #2 | 81 | 44.7 | (32.7-57.2) | 80 | 71.4 | (58.8-81.4) |
| District #4 | 85 | 59.1 | (44.6-72.2) | 82 | 68.3 | (53.3-80.2) |
| Northwest Michigan | 183 | 65.9 | (57.0-73.8) | 180 | 77.5 | (69.3-84.0) |
| Benzie-Leelanau | 95 | 59.8 | (44.2-73.7) | -- ^d | -- ^d | -- ^d |
| Grand Traverse | 137 | 62.6 | (51.7-72.3) | 138 | 76.2 | (65.7-84.3) |
| Region 10 | 518 | 56.7 | (51.2-62.1) | 505 | 73.0 | (68.0-77.5) |
| Bay | 111 | 56.9 | (45.8-67.4) | 107 | 77.0 | (65.9-85.3) |
| Huron | 50 | 40.1 | (26.0-56.0) | 50 | 63.0 | (46.7-76.8) |
| Saginaw | 255 | 58.0 | (49.2-66.2) | 250 | 75.1 | (67.8-81.3) |
| Sanilac | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d |
| Tuscola | 55 | 61.7 | (46.5-74.9) | 51 | 63.0 | (46.9-76.7) |
| Region 11 | 341 | 53.9 | (47.4-60.2) | 335 | 71.9 | (66.0-77.2) |
| Central Michigan | 225 | 50.3 | (42.5-58.2) | 221 | 68.7 | (61.2-75.4) |
| Midland | 105 | 64.9 | (52.8-75.4) | 104 | 83.6 | (74.5-89.9) |
| Region 12 | 362 | 60.4 | (54.1-66.4) | 354 | 67.9 | (61.5-73.7) |
| Luce-Mackinac-Alger-Schoolcraft | 57 | 61.2 | (45.5-74.9) | 55 | 47.1 | (31.7-62.9) |
| Western Upper Peninsula | 95 | 51.7 | (39.7-63.4) | 94 | 69.3 | (57.3-79.2) |
| Delta-Menominee | 61 | 68.2 | (52.3-80.8) | 59 | 65.7 | (47.9-80.1) |
| Chippewa | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d | -- ^d |
| Dickinson-Iron | -- ^d | -- ^d | -- ^d | 42 | 66.7 | (47.2-81.7) |
| Marquette | 68 | 69.5 | (54.2-81.4) | -- ^d | -- ^d | -- ^d |

^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.

^b Among adults aged 65 years and older, the proportion who reported that they ever had a pneumococcal vaccine.

^c The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

| Table 19: HIV Testing Among Adults Aged 18-64 Years Michigan BRFSS, 2015-2017 Combined | | | |
|---|---|-------------|--------------------------------|
| Geographic Area | Ever Had an HIV Test^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 18,853 | 42.8 | (41.9-43.7) |
| Region 1 | 7,557 | 46.7 | (45.3-48.1) |
| Livingston | 481 | 37.2 | (31.6-43.3) |
| Macomb | 1,191 | 42.5 | (39.2-45.9) |
| Monroe | 238 | 33.5 | (26.3-41.5) |
| Oakland | 1,983 | 44.7 | (42.1-47.4) |
| St. Clair | 243 | 44.2 | (37.1-51.5) |
| Washtenaw | 721 | 45.8 | (41.4-50.3) |
| City of Detroit | 937 | 68.7 | (65.0-72.2) |
| Wayne exc. Detroit | 1,722 | 43.7 | (40.9-46.5) |
| Region 2 | 1,171 | 43.3 | (39.9-46.8) |
| Genesee | 837 | 44.7 | (40.7-48.8) |
| Lapeer | 152 | 32.6 | (24.8-41.5) |
| Shiawassee | 167 | 45.6 | (36.5-55.1) |
| Region 3 | 843 | 42.0 | (37.4-46.8) |
| Jackson | 633 | 41.7 | (36.5-47.0) |
| Lenawee | 187 | 43.7 | (35.0-52.8) |
| Region 4 | 1,120 | 41.2 | (37.8-44.8) |
| Barry-Eaton | 304 | 45.4 | (38.7-52.2) |
| Mid-Michigan ^b | 337 | 32.0 | (26.2-38.4) |
| Ingham | 594 | 41.8 | (37.1-46.7) |
| Region 5 | 957 | 45.1 | (41.3-48.9) |
| Branch-Hillsdale-St. Joseph | 258 | 41.3 | (34.2-48.8) |
| Calhoun | 231 | 47.0 | (39.4-54.8) |
| Kalamazoo | 446 | 46.5 | (40.9-52.1) |
| Region 6 | 450 | 36.6 | (31.4-42.2) |
| Van Buren-Cass | 177 | 28.9 | (21.9-37.1) |
| Berrien | 248 | 40.1 | (32.8-47.9) |
| Region 7 | 2,076 | 38.8 | (36.3-41.4) |
| Allegan | 224 | 40.9 | (33.6-48.7) |
| Ionia | 123 | 41.5 | (31.8-51.8) |
| Kent | 1,079 | 39.8 | (36.3-43.4) |
| Mid-Michigan ^b | 337 | 32.0 | (26.2-38.4) |
| Ottawa | 490 | 36.0 | (31.0-41.4) |

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| Table 19 Cont'd | | | |
|---------------------------------|---|-------------|--------------------------------|
| Geographic Area | Ever Had an HIV Test^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 18,853 | 42.8 | (41.9-43.7) |
| Region 8 | 1,334 | 40.0 | (36.5-43.6) |
| District #10 | 634 | 37.1 | (32.4-42.1) |
| Muskegon | 647 | 44.6 | (39.1-50.2) |
| Region 9 | 900 | 36.7 | (33.0-40.6) |
| District #2 | 136 | 27.5 | (19.9-36.6) |
| District #4 | 146 | 37.8 | (29.1-47.4) |
| Northwest Michigan | 249 | 38.5 | (31.8-45.6) |
| Benzie-Leelanau | 107 | 36.5 | (26.4-47.9) |
| Grand Traverse | 238 | 40.0 | (32.6-47.9) |
| Region 10 | 898 | 34.3 | (30.6-38.3) |
| Bay | 186 | 29.7 | (22.4-38.1) |
| Huron | 70 | 24.7 | (15.6-36.7) |
| Saginaw | 429 | 40.7 | (34.7-47.0) |
| Sanilac | 86 | 34.3 | (23.4-47.1) |
| Tuscola | 102 | 26.8 | (18.5-37.0) |
| Region 11 | 574 | 36.3 | (31.7-41.3) |
| Central Michigan | 316 | 35.0 | (29.1-41.4) |
| Midland | 172 | 29.1 | (21.9-37.5) |
| Region 12 | 674 | 35.7 | (31.3-40.4) |
| Luce-Mackinac-Alger-Schoolcraft | 78 | 41.7 | (28.9-55.8) |
| Western Upper Peninsula | 124 | 31.9 | (23.0-42.3) |
| Delta-Menominee | 137 | 34.3 | (25.3-44.7) |
| Chippewa | 95 | 41.6 | (28.9-55.4) |
| Dickinson-Iron | 81 | 36.0 | (24.9-48.8) |
| Marquette | 139 | 33.8 | (24.4-44.7) |

Note: "Don't know" was considered a valid response.

^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.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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Table 20: Asthma
Michigan BRFSS, 2015-2017 Combined

| Geographic Area | Ever Told Have Asthma ^a | | | Still Have Asthma ^b | | |
|-----------------------------|------------------------------------|-------------|-------------------------|--------------------------------|-------------|-------------------------|
| | N | % | 95% Confidence Interval | N | % | 95% Confidence Interval |
| Michigan Total | 31,721 | 16.0 | (15.5-16.6) | 31,559 | 10.7 | (10.2-11.1) |
| Region 1 | 12,714 | 16.2 | (15.4-17.1) | 12,652 | 10.6 | (9.9-11.3) |
| Livingston | 813 | 15.1 | (11.7-19.3) | 811 | 9.9 | (7.1-13.6) |
| Macomb | 2,054 | 15.3 | (13.5-17.3) | 2,043 | 9.8 | (8.4-11.5) |
| Monroe | 385 | 16.5 | (11.7-22.7) | 383 | 8.3 | (5.6-12.2) |
| Oakland | 3,369 | 14.5 | (13.1-16.1) | 3,353 | 9.5 | (8.3-10.8) |
| St. Clair | 415 | 16.2 | (12.6-20.6) | 412 | 10.3 | (7.5-14.0) |
| Washtenaw | 1,173 | 16.9 | (14.2-20.0) | 1,164 | 10.4 | (8.3-12.9) |
| City of Detroit | 1,534 | 20.7 | (18.2-23.4) | 1,527 | 14.5 | (12.3-17.0) |
| Wayne exc. Detroit | 2,897 | 16.3 | (14.7-18.1) | 2,885 | 10.7 | (9.4-12.2) |
| Region 2 | 1,977 | 17.0 | (15.0-19.1) | 1,964 | 12.5 | (10.7-14.4) |
| Genesee | 1,433 | 16.5 | (14.2-19.1) | 1,425 | 12.8 | (10.8-15.1) |
| Lapeer | 246 | 16.4 | (11.8-22.4) | 243 | 11.5 | (7.5-17.2) |
| Shiawassee | 278 | 20.4 | (14.9-27.3) | 276 | 12.3 | (7.9-18.8) |
| Region 3 | 1,491 | 19.5 | (16.5-22.8) | 1,479 | 12.4 | (10.0-15.2) |
| Jackson | 1,143 | 18.3 | (15.1-21.9) | 1,133 | 13.5 | (10.7-16.8) |
| Lenawee | 316 | 20.6 | (15.1-27.6) | 314 | 10.7 | (6.7-16.5) |
| Region 4 | 1,866 | 16.1 | (14.1-18.4) | 1,858 | 10.6 | (9.0-12.5) |
| Barry-Eaton | 547 | 14.9 | (11.5-19.2) | 545 | 10.5 | (7.5-14.4) |
| Mid-Michigan ^c | 569 | 12.1 | (9.1-15.7) | 569 | 8.1 | (5.8-11.1) |
| Ingham | 933 | 18.4 | (15.4-21.9) | 927 | 12.1 | (9.7-15.0) |
| Region 5 | 1,573 | 17.0 | (14.8-19.5) | 1,566 | 11.3 | (9.5-13.4) |
| Branch-Hillsdale-St. Joseph | 442 | 14.5 | (10.8-19.2) | 442 | 9.8 | (6.8-13.8) |
| Calhoun | 373 | 18.8 | (14.4-24.2) | 370 | 13.2 | (9.5-18.1) |
| Kalamazoo | 731 | 17.4 | (14.1-21.2) | 727 | 11.3 | (8.7-14.5) |
| Region 6 | 764 | 16.2 | (13.1-19.8) | 762 | 10.9 | (8.3-14.1) |
| Van Buren-Cass | 312 | 15.9 | (11.3-21.9) | 311 | 11.0 | (7.2-16.3) |
| Berrien | 422 | 15.2 | (11.6-19.8) | 422 | 9.8 | (6.9-13.7) |
| Region 7 | 3,247 | 14.0 | (12.6-15.6) | 3,237 | 8.9 | (7.7-10.1) |
| Allegan | 347 | 17.5 | (12.8-23.4) | 345 | 8.5 | (5.5-13.0) |
| Ionia | 203 | 10.3 | (6.0-17.0) | 203 | 5.5 | (3.1-9.4) |
| Kent | 1,699 | 14.2 | (12.3-16.4) | 1,692 | 9.5 | (7.9-11.4) |
| Mid-Michigan ^c | 569 | 12.1 | (9.1-15.7) | 569 | 8.1 | (5.8-11.1) |
| Ottawa | 751 | 12.5 | (9.8-15.7) | 750 | 7.5 | (5.6-10.0) |

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| Table 20 Cont'd | | | | | | |
|---------------------------------|--|-------------|--------------------------------|--------------------------------------|-----------------|--------------------------------|
| Geographic Area | Ever Told Have Asthma^a | | | Still Have Asthma^b | | |
| | N | % | 95% Confidence Interval | N | % | 95% Confidence Interval |
| Michigan Total | 31,721 | 16.0 | (15.5-16.6) | 31,559 | 10.7 | (10.2-11.1) |
| Region 8 | 2,296 | 16.6 | (14.5-19.0) | 2,285 | 11.9 | (10.0-14.0) |
| District #10 | 1,113 | 16.3 | (13.5-19.6) | 1,107 | 13.2 | (10.6-16.4) |
| Muskegon | 1,116 | 17.3 | (14.3-20.8) | 1,112 | 9.9 | (7.9-12.5) |
| Region 9 | 1,591 | 13.9 | (12.0-16.2) | 1,582 | 9.9 | (8.3-11.9) |
| District #2 | 233 | 18.8 | (13.3-26.0) | 231 | 14.4 | (9.7-20.8) |
| District #4 | 256 | 14.4 | (10.2-19.9) | 255 | 10.3 | (7.0-14.7) |
| Northwest Michigan | 467 | 13.3 | (10.0-17.5) | 463 | 9.3 | (6.7-12.7) |
| Benzie-Leelanau | 213 | 9.7 | (5.5-16.5) | 212 | 7.8 | (4.0-14.6) |
| Grand Traverse | 397 | 13.4 | (9.9-17.7) | 396 | 8.5 | (5.8-12.4) |
| Region 10 | 1,531 | 15.1 | (12.8-17.8) | 1,523 | 10.7 | (8.7-13.1) |
| Bay | 319 | 17.2 | (11.7-24.7) | 316 | 13.5 | (8.4-21.2) |
| Huron | 122 | 15.1 | (9.4-23.3) | 122 | 8.8 | (4.9-15.3) |
| Saginaw | 735 | 12.8 | (10.0-16.4) | 733 | 9.0 | (6.6-12.0) |
| Sanilac | 147 | 19.2 | (12.8-27.8) | 144 | 11.3 | (6.8-18.1) |
| Tuscola | 175 | 14.1 | (8.9-21.7) | 175 | 11.9 | (7.3-19.0) |
| Region 11 | 1,010 | 17.5 | (14.5-21.0) | 1,005 | 12.4 | (9.8-15.5) |
| Central Michigan | 596 | 17.9 | (14.1-22.5) | 593 | 12.4 | (9.1-16.5) |
| Midland | 303 | 14.3 | (10.1-19.9) | 302 | 11.1 | (7.5-16.2) |
| Region 12 | 1,114 | 16.1 | (13.4-19.3) | 1,106 | 11.3 | (9.1-14.1) |
| Luce-Mackinac-Alger-Schoolcraft | 148 | 12.3 | (7.7-19.1) | 147 | 8.8 | (5.0-15.0) |
| Western Upper Peninsula | 233 | 15.8 | (10.4-23.4) | 231 | 10.2 | (6.0-16.7) |
| Delta-Menominee | 214 | 16.2 | (10.3-24.6) | 213 | 11.9 | (6.7-20.2) |
| Chippewa | 141 | 15.6 | (8.8-26.1) | -- ^d | -- ^d | -- ^d |
| Dickinson-Iron | 133 | 17.3 | (11.2-25.8) | 131 | 14.5 | (8.9-22.9) |
| Marquette | 223 | 20.0 | (13.2-29.1) | 221 | 12.8 | (8.1-19.7) |

^a The proportion of adults who reported that they were ever told by a doctor, nurse, or other health care professional that they had asthma.

^b Among all adults, the proportion who reported that they still had asthma.

^c The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

| Table 21: Chronic Obstructive Pulmonary Disease (COPD) Michigan BRFS, 2015-2017 Combined | | | |
|---|--|-----------------|------------------------------------|
| Geographic Area | Ever Told COPD, Emphysema or Chronic Bronchitis^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,688 | 8.5 | (8.1-8.8) |
| Region 1 | 12,700 | 8.4 | (7.8-9.0) |
| Livingston | 815 | 6.6 | (4.8-9.0) |
| Macomb | 2,051 | 9.1 | (7.8-10.6) |
| Monroe | 381 | 9.3 | (6.6-13.0) |
| Oakland | 3,360 | 6.3 | (5.4-7.4) |
| St. Clair | 416 | 7.8 | (5.5-10.9) |
| Washtenaw | 1,171 | 5.2 | (3.7-7.1) |
| City of Detroit | 1,535 | 12.5 | (10.6-14.7) |
| Wayne exc. Detroit | 2,897 | 9.1 | (7.9-10.4) |
| Region 2 | 1,978 | 11.8 | (10.1-13.7) |
| Genesee | 1,434 | 12.3 | (10.3-14.7) |
| Lapeer | 246 | 9.2 | (5.9-14.0) |
| Shiawassee | 278 | 11.3 | (7.5-16.9) |
| Region 3 | 1,485 | 9.6 | (7.6-12.1) |
| Jackson | 1,137 | 9.2 | (7.3-11.7) |
| Lenawee | 316 | 9.5 | (5.8-15.2) |
| Region 4 | 1,861 | 7.3 | (6.0-8.9) |
| Barry-Eaton | 545 | 7.8 | (5.6-10.8) |
| Mid-Michigan ^b | 570 | 10.3 | (7.3-14.3) |
| Ingham | 930 | 6.6 | (4.9-8.7) |
| Region 5 | 1,576 | 8.4 | (6.9-10.1) |
| Branch-Hillsdale-St. Joseph | 444 | 9.7 | (6.9-13.5) |
| Calhoun | 372 | 12.0 | (8.7-16.4) |
| Kalamazoo | 733 | 5.8 | (4.1-8.2) |
| Region 6 | 764 | 7.9 | (6.0-10.4) |
| Van Buren-Cass | 311 | 8.9 | (5.9-13.3) |
| Berrien | 423 | 7.9 | (5.3-11.5) |
| Region 7 | 3,247 | 6.4 | (5.5-7.4) |
| Allegan | 345 | 7.2 | (4.9-10.5) |
| Ionia | -- ^c | -- ^c | -- ^c |
| Kent | 1,698 | 5.9 | (4.7-7.3) |
| Mid-Michigan ^b | 570 | 10.3 | (7.3-14.3) |
| Ottawa | 756 | 5.0 | (3.5-7.1) |

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| Table 21 Cont'd | | | |
|---------------------------------|--|-----------------|--------------------------------|
| Geographic Area | Ever Told COPD, Emphysema or Chronic Bronchitis^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,688 | 8.5 | (8.1-8.8) |
| Region 8 | 2,295 | 9.5 | (8.1-11.1) |
| District #10 | 1,112 | 10.9 | (8.9-13.3) |
| Muskegon | 1,116 | 7.8 | (6.1-10.0) |
| Region 9 | 1,589 | 9.5 | (7.8-11.6) |
| District #2 | 231 | 17.0 | (11.4-24.6) |
| District #4 | 254 | 9.0 | (5.9-13.6) |
| Northwest Michigan | 470 | 7.8 | (5.2-11.3) |
| Benzie-Leelanau | -- ^c | -- ^c | -- ^c |
| Grand Traverse | 394 | 7.4 | (5.0-10.9) |
| Region 10 | 1,526 | 9.9 | (8.2-12.0) |
| Bay | 320 | 6.4 | (4.2-9.7) |
| Huron | -- ^c | -- ^c | -- ^c |
| Saginaw | 733 | 12.0 | (8.9-15.9) |
| Sanilac | 147 | 13.2 | (8.1-20.9) |
| Tuscola | 172 | 10.1 | (6.3-15.9) |
| Region 11 | 1,009 | 8.4 | (6.6-10.6) |
| Central Michigan | 596 | 11.2 | (8.6-14.5) |
| Midland | 302 | 4.9 | (3.0-7.9) |
| Region 12 | 1,112 | 8.2 | (6.5-10.1) |
| Luce-Mackinac-Alger-Schoolcraft | 147 | 10.1 | (6.1-16.4) |
| Western Upper Peninsula | -- ^c | -- ^c | -- ^c |
| Delta-Menominee | 215 | 10.8 | (6.7-16.7) |
| Chippewa | 142 | 9.1 | (5.4-14.9) |
| Dickinson-Iron | -- ^c | -- ^c | -- ^c |
| Marquette | 222 | 8.9 | (5.3-14.5) |

^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.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

| Table 22: Arthritis Michigan BRFSS, 2015-2017 Combined | | | |
|---|--|-------------|--------------------------------|
| Geographic Area | Ever Told Arthritis^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,676 | 30.8 | (30.2-31.4) |
| Region 1 | 12,690 | 30.1 | (29.2-31.1) |
| Livingston | 816 | 31.1 | (26.8-35.8) |
| Macomb | 2,052 | 32.5 | (30.2-35.0) |
| Monroe | 385 | 37.0 | (31.5-42.9) |
| Oakland | 3,345 | 27.4 | (25.7-29.2) |
| St. Clair | 416 | 35.0 | (30.0-40.4) |
| Washtenaw | 1,170 | 22.9 | (20.3-25.7) |
| City of Detroit | 1,538 | 31.8 | (29.0-34.7) |
| Wayne exc. Detroit | 2,895 | 31.4 | (29.4-33.4) |
| Region 2 | 1,972 | 35.5 | (33.1-38.0) |
| Genesee | 1,432 | 35.7 | (32.8-38.7) |
| Lapeer | 244 | 37.2 | (30.8-44.2) |
| Shiawassee | 276 | 34.5 | (28.1-41.6) |
| Region 3 | 1,484 | 33.3 | (30.0-36.7) |
| Jackson | 1,137 | 32.3 | (28.5-36.3) |
| Lenawee | 315 | 36.3 | (30.2-43.0) |
| Region 4 | 1,866 | 29.5 | (27.0-32.0) |
| Barry-Eaton | 545 | 33.1 | (28.6-38.0) |
| Mid-Michigan ^b | 572 | 33.0 | (28.5-37.8) |
| Ingham | 933 | 26.3 | (23.0-29.9) |
| Region 5 | 1,581 | 31.2 | (28.6-33.9) |
| Branch-Hillsdale-St. Joseph | 445 | 34.3 | (29.1-39.8) |
| Calhoun | 377 | 35.2 | (29.8-41.1) |
| Kalamazoo | 732 | 27.9 | (24.4-31.8) |
| Region 6 | 760 | 32.7 | (28.9-36.6) |
| Van Buren-Cass | 309 | 35.3 | (29.4-41.6) |
| Berrien | 421 | 32.9 | (27.8-38.5) |
| Region 7 | 3,246 | 27.4 | (25.6-29.2) |
| Allegan | 347 | 28.8 | (23.8-34.3) |
| Ionia | 202 | 29.8 | (23.3-37.4) |
| Kent | 1,694 | 27.0 | (24.6-29.6) |
| Mid-Michigan ^b | 572 | 33.0 | (28.5-37.8) |
| Ottawa | 755 | 25.4 | (22.1-29.1) |

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| Table 22 Cont'd | | | |
|---------------------------------|--|-------------|--------------------------------|
| Geographic Area | Ever Told Arthritis^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,676 | 30.8 | (30.2-31.4) |
| Region 8 | 2,294 | 34.5 | (32.0-37.1) |
| District #10 | 1,117 | 35.8 | (32.4-39.3) |
| Muskegon | 1,111 | 35.7 | (31.9-39.7) |
| Region 9 | 1,590 | 36.2 | (33.4-39.2) |
| District #2 | 231 | 42.2 | (34.6-50.1) |
| District #4 | 256 | 37.2 | (30.5-44.5) |
| Northwest Michigan | 467 | 36.2 | (31.1-41.6) |
| Benzie-Leelanau | 213 | 38.1 | (30.1-46.9) |
| Grand Traverse | 398 | 31.2 | (26.0-37.0) |
| Region 10 | 1,531 | 32.7 | (29.8-35.6) |
| Bay | 320 | 31.7 | (25.6-38.6) |
| Huron | 122 | 26.1 | (18.8-34.9) |
| Saginaw | 735 | 33.0 | (28.8-37.5) |
| Sanilac | 145 | 37.5 | (29.0-46.8) |
| Tuscola | 175 | 33.5 | (26.4-41.5) |
| Region 11 | 1,007 | 33.4 | (30.0-37.0) |
| Central Michigan | 595 | 37.2 | (32.7-41.9) |
| Midland | 301 | 31.9 | (26.1-38.2) |
| Region 12 | 1,104 | 33.5 | (30.2-37.0) |
| Luce-Mackinac-Alger-Schoolcraft | 145 | 33.4 | (25.0-43.0) |
| Western Upper Peninsula | 232 | 37.0 | (29.7-44.9) |
| Delta-Menominee | 211 | 34.8 | (27.5-42.8) |
| Chippewa | 141 | 36.3 | (26.8-47.0) |
| Dickinson-Iron | 132 | 31.6 | (23.0-41.8) |
| Marquette | 221 | 32.7 | (25.5-40.9) |

^a 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.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates

| Table 23: Heart Attack Michigan BRFSS, 2015-2017 Combined | | | |
|--|---|------------|--------------------------------|
| Geographic Area | Ever Told Heart Attack^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,702 | 5.0 | (4.7-5.3) |
| Region 1 | 12,704 | 4.6 | (4.2-5.1) |
| Livingston | 815 | 4.1 | (2.8-6.0) |
| Macomb | 2,056 | 5.7 | (4.7-7.0) |
| Monroe | 383 | 6.9 | (4.3-11.0) |
| Oakland | 3,364 | 3.3 | (2.7-4.0) |
| St. Clair | 416 | 6.1 | (4.0-9.2) |
| Washtenaw | 1,171 | 2.2 | (1.5-3.4) |
| City of Detroit | 1,524 | 5.2 | (4.1-6.6) |
| Wayne exc. Detroit | 2,901 | 5.5 | (4.6-6.5) |
| Region 2 | 1,971 | 6.7 | (5.5-8.0) |
| Genesee | 1,429 | 6.6 | (5.3-8.2) |
| Lapeer | 245 | 6.9 | (4.3-11.1) |
| Shiawassee | 277 | 7.2 | (4.3-11.8) |
| Region 3 | 1,491 | 7.0 | (5.6-8.8) |
| Jackson | 1,141 | 6.9 | (5.3-9.0) |
| Lenawee | 318 | 7.2 | (4.7-10.8) |
| Region 4 | 1,861 | 4.0 | (3.1-5.1) |
| Barry-Eaton | 546 | 3.9 | (2.5-5.8) |
| Mid-Michigan ^b | 570 | 6.2 | (4.2-9.1) |
| Ingham | 928 | 3.3 | (2.3-4.6) |
| Region 5 | 1,575 | 5.1 | (4.0-6.5) |
| Branch-Hillsdale-St. Joseph | 444 | 6.7 | (4.2-10.5) |
| Calhoun | 374 | 6.4 | (4.3-9.3) |
| Kalamazoo | 730 | 3.4 | (2.3-5.0) |
| Region 6 | 764 | 6.9 | (5.0-9.5) |
| Van Buren-Cass | 311 | 9.7 | (6.4-14.4) |
| Berrien | 423 | 5.5 | (3.3-9.1) |
| Region 7 | 3,251 | 3.8 | (3.1-4.6) |
| Allegan | 347 | 5.2 | (3.1-8.7) |
| Ionia | 201 | 5.3 | (2.9-9.4) |
| Kent | 1,699 | 3.4 | (2.5-4.6) |
| Mid-Michigan ^b | 570 | 6.2 | (4.2-9.1) |
| Ottawa | 757 | 3.2 | (2.1-4.8) |

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| Table 23 Cont'd | | | |
|---------------------------------|---|-----------------|--------------------------------|
| Geographic Area | Ever Told Heart Attack^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,702 | 5.0 | (4.7-5.3) |
| Region 8 | 2,293 | 5.1 | (4.1-6.3) |
| District #10 | 1,112 | 6.5 | (5.0-8.3) |
| Muskegon | 1,114 | 3.1 | (2.1-4.6) |
| Region 9 | 1,593 | 6.5 | (5.0-8.3) |
| District #2 | -- ^c | -- ^c | -- ^c |
| District #4 | 257 | 7.2 | (4.5-11.4) |
| Northwest Michigan | 468 | 5.4 | (3.3-8.7) |
| Benzie-Leelanau | -- ^c | -- ^c | -- ^c |
| Grand Traverse | 397 | 5.3 | (3.3-8.4) |
| Region 10 | 1,535 | 5.9 | (4.6-7.4) |
| Bay | 322 | 4.1 | (2.3-7.3) |
| Huron | -- ^c | -- ^c | -- ^c |
| Saginaw | 736 | 7.3 | (5.2-10.2) |
| Sanilac | -- ^c | -- ^c | -- ^c |
| Tuscola | -- ^c | -- ^c | -- ^c |
| Region 11 | 1,007 | 7.2 | (5.5-9.3) |
| Central Michigan | 594 | 8.7 | (6.4-11.7) |
| Midland | 303 | 5.5 | (3.3-9.1) |
| Region 12 | 1,113 | 5.6 | (4.2-7.4) |
| Luce-Mackinac-Alger-Schoolcraft | -- ^c | -- ^c | -- ^c |
| Western Upper Peninsula | -- ^c | -- ^c | -- ^c |
| Delta-Menominee | 215 | 7.4 | (4.1-13.2) |
| Chippewa | -- ^c | -- ^c | -- ^c |
| Dickinson-Iron | -- ^c | -- ^c | -- ^c |
| Marquette | -- ^c | -- ^c | -- ^c |

^a Among all adults, the proportion who had ever been told by a doctor that they had a heart attack or myocardial infarction.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

| Table 24: Angina or Coronary Heart Disease Michigan BRFSS, 2015-2017 Combined | | | |
|--|---|------------|------------------------------------|
| Geographic Area | Ever Told Angina or Coronary Heart Disease^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,588 | 5.0 | (4.7-5.3) |
| Region 1 | 12,661 | 4.8 | (4.4-5.3) |
| Livingston | 810 | 4.1 | (2.7-6.2) |
| Macomb | 2,045 | 5.0 | (4.0-6.1) |
| Monroe | 378 | 5.1 | (3.0-8.7) |
| Oakland | 3,354 | 4.3 | (3.6-5.2) |
| St. Clair | 417 | 8.7 | (5.9-12.7) |
| Washtenaw | 1,167 | 2.7 | (1.9-3.7) |
| City of Detroit | 1,530 | 5.8 | (4.5-7.3) |
| Wayne exc. Detroit | 2,886 | 5.3 | (4.5-6.2) |
| Region 2 | 1,971 | 5.7 | (4.7-6.8) |
| Genesee | 1,428 | 5.4 | (4.3-6.7) |
| Lapeer | 246 | 6.2 | (3.7-10.2) |
| Shiawassee | 277 | 6.8 | (4.1-11.1) |
| Region 3 | 1,478 | 5.5 | (4.2-7.2) |
| Jackson | 1,135 | 6.0 | (4.2-8.5) |
| Lenawee | 311 | 4.8 | (3.0-7.5) |
| Region 4 | 1,856 | 4.1 | (3.3-5.2) |
| Barry-Eaton | 544 | 3.8 | (2.6-5.7) |
| Mid-Michigan ^b | 568 | 5.4 | (3.6-8.0) |
| Ingham | 927 | 3.8 | (2.7-5.4) |
| Region 5 | 1,569 | 4.7 | (3.7-5.8) |
| Branch-Hillsdale-St. Joseph | 439 | 5.4 | (3.7-7.8) |
| Calhoun | 374 | 6.2 | (4.1-9.3) |
| Kalamazoo | 729 | 3.4 | (2.3-4.8) |
| Region 6 | 759 | 6.5 | (4.8-8.7) |
| Van Buren-Cass | 309 | 10.1 | (6.7-14.8) |
| Berrien | 420 | 4.4 | (2.9-6.5) |
| Region 7 | 3,236 | 3.6 | (3.0-4.4) |
| Allegan | 345 | 4.3 | (2.6-7.1) |
| Ionia | 201 | 3.7 | (2.0-6.7) |
| Kent | 1,689 | 3.2 | (2.4-4.3) |
| Mid-Michigan ^b | 568 | 5.4 | (3.6-8.0) |
| Ottawa | 754 | 3.7 | (2.5-5.4) |

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| Table 24 Cont'd | | | |
|---------------------------------|---|-----------------|--------------------------------|
| Geographic Area | Ever Told Angina or Coronary Heart Disease^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,588 | 5.0 | (4.7-5.3) |
| Region 8 | 2,290 | 4.6 | (3.7-5.6) |
| District #10 | 1,113 | 5.2 | (4.1-6.7) |
| Muskegon | 1,111 | 3.8 | (2.7-5.4) |
| Region 9 | 1,590 | 7.2 | (5.7-9.1) |
| District #2 | 230 | 10.8 | (6.8-16.7) |
| District #4 | 255 | 9.7 | (6.2-14.9) |
| Northwest Michigan | 467 | 4.6 | (2.9-7.2) |
| Benzie-Leelanau | -- ^c | -- ^c | -- ^c |
| Grand Traverse | 398 | 4.3 | (2.5-7.1) |
| Region 10 | 1,525 | 5.7 | (4.5-7.2) |
| Bay | 319 | 4.9 | (3.0-7.9) |
| Huron | -- ^c | -- ^c | -- ^c |
| Saginaw | 732 | 5.6 | (3.7-8.3) |
| Sanilac | 147 | 8.2 | (4.5-14.6) |
| Tuscola | 174 | 6.7 | (3.8-11.5) |
| Region 11 | 1,002 | 7.7 | (6.0-10.0) |
| Central Michigan | 590 | 9.0 | (6.6-12.1) |
| Midland | 301 | 5.9 | (3.6-9.6) |
| Region 12 | 1,106 | 6.3 | (4.8-8.2) |
| Luce-Mackinac-Alger-Schoolcraft | -- ^c | -- ^c | -- ^c |
| Western Upper Peninsula | 229 | 4.6 | (2.5-8.3) |
| Delta-Menominee | 215 | 8.5 | (5.0-14.0) |
| Chippewa | -- ^c | -- ^c | -- ^c |
| Dickinson-Iron | -- ^c | -- ^c | -- ^c |
| Marquette | -- ^c | -- ^c | -- ^c |

^a Among all adults, the proportion who had ever been told by a doctor that they had angina or coronary heart disease.
^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.
^c Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

| Table 25: Stroke | | | |
|--|-------------------------------------|-----------------|--------------------------------|
| Michigan BRFS, 2015-2017 Combined | | | |
| Geographic Area | Ever Told Stroke^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,763 | 3.5 | (3.3-3.8) |
| Region 1 | 12,725 | 3.8 | (3.4-4.2) |
| Livingston | 816 | 2.7 | (1.7-4.5) |
| Macomb | 2,058 | 3.6 | (2.8-4.7) |
| Monroe | -- ^c | -- ^c | -- ^c |
| Oakland | 3,364 | 2.5 | (2.0-3.2) |
| St. Clair | 417 | 7.0 | (4.7-10.3) |
| Washtenaw | 1,174 | 2.6 | (1.6-4.3) |
| City of Detroit | 1,538 | 6.6 | (5.4-8.1) |
| Wayne exc. Detroit | 2,902 | 4.1 | (3.3-5.0) |
| Region 2 | 1,980 | 3.6 | (2.8-4.7) |
| Genesee | 1,437 | 3.7 | (2.7-5.0) |
| Lapeer | -- ^c | -- ^c | -- ^c |
| Shiawassee | -- ^c | -- ^c | -- ^c |
| Region 3 | 1,489 | 3.8 | (2.7-5.5) |
| Jackson | 1,139 | 4.7 | (3.0-7.1) |
| Lenawee | -- ^c | -- ^c | -- ^c |
| Region 4 | 1,868 | 3.3 | (2.5-4.4) |
| Barry-Eaton | 546 | 3.4 | (2.2-5.3) |
| Mid-Michigan ^b | 571 | 4.5 | (2.8-7.2) |
| Ingham | 935 | 2.6 | (1.7-4.0) |
| Region 5 | 1,582 | 3.0 | (2.1-4.2) |
| Branch-Hillsdale-St. Joseph | -- ^c | -- ^c | -- ^c |
| Calhoun | -- ^c | -- ^c | -- ^c |
| Kalamazoo | 735 | 3.0 | (1.9-4.7) |
| Region 6 | 764 | 4.4 | (3.0-6.4) |
| Van Buren-Cass | 312 | 5.8 | (3.4-9.9) |
| Berrien | 422 | 3.5 | (2.0-6.0) |
| Region 7 | 3,254 | 2.4 | (1.9-3.1) |
| Allegan | -- ^c | -- ^c | -- ^c |
| Ionia | -- ^c | -- ^c | -- ^c |
| Kent | 1,701 | 2.7 | (2.0-3.8) |
| Mid-Michigan ^b | 571 | 4.5 | (2.8-7.2) |
| Ottawa | 756 | 2.3 | (1.5-3.6) |

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| Table 25 Cont'd | | | |
|---------------------------------|-------------------------------------|-----------------|--------------------------------|
| Geographic Area | Ever Told Stroke^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,763 | 3.5 | (3.3-3.8) |
| Region 8 | 2,299 | 3.1 | (2.4-4.1) |
| District #10 | 1,118 | 3.6 | (2.5-5.1) |
| Muskegon | 1,114 | 2.6 | (1.8-3.9) |
| Region 9 | 1,599 | 4.1 | (2.9-5.6) |
| District #2 | -- ^c | -- ^c | -- ^c |
| District #4 | 257 | 3.0 | (1.7-5.2) |
| Northwest Michigan | -- ^c | -- ^c | -- ^c |
| Benzie-Leelanau | -- ^c | -- ^c | -- ^c |
| Grand Traverse | 398 | 2.4 | (1.4-4.2) |
| Region 10 | 1,534 | 3.0 | (2.2-4.1) |
| Bay | -- ^c | -- ^c | -- ^c |
| Huron | -- ^c | -- ^c | -- ^c |
| Saginaw | 735 | 4.1 | (2.7-6.4) |
| Sanilac | -- ^c | -- ^c | -- ^c |
| Tuscola | -- ^c | -- ^c | -- ^c |
| Region 11 | 1,008 | 4.3 | (3.0-6.3) |
| Central Michigan | 595 | 5.2 | (3.3-8.1) |
| Midland | -- ^c | -- ^c | -- ^c |
| Region 12 | 1,115 | 4.0 | (2.8-5.6) |
| Luce-Mackinac-Alger-Schoolcraft | -- ^c | -- ^c | -- ^c |
| Western Upper Peninsula | -- ^c | -- ^c | -- ^c |
| Delta-Menominee | -- ^c | -- ^c | -- ^c |
| Chippewa | -- ^c | -- ^c | -- ^c |
| Dickinson-Iron | -- ^c | -- ^c | -- ^c |
| Marquette | -- ^c | -- ^c | -- ^c |

^a Among all adults, the proportion who had ever been told by a doctor that they had a stroke.
^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.
^c Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

| Table 26: Cardiovascular Disease Michigan BRFSS, 2015-2017 Combined | | | |
|--|---|------------|--------------------------------|
| Geographic Area | Ever Told Any Cardiovascular Disease^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,564 | 9.8 | (9.5-10.2) |
| Region 1 | 12,643 | 9.7 | (9.1-10.3) |
| Livingston | 812 | 8.2 | (6.2-10.7) |
| Macomb | 2,042 | 10.1 | (8.7-11.6) |
| Monroe | 379 | 12.1 | (8.6-16.7) |
| Oakland | 3,345 | 7.9 | (6.9-9.0) |
| St. Clair | 416 | 13.8 | (10.3-18.3) |
| Washtenaw | 1,166 | 6.4 | (4.9-8.3) |
| City of Detroit | 1,523 | 12.6 | (10.8-14.6) |
| Wayne exc. Detroit | 2,886 | 10.6 | (9.4-11.9) |
| Region 2 | 1,965 | 11.6 | (10.1-13.3) |
| Genesee | 1,424 | 11.5 | (9.8-13.4) |
| Lapeer | 245 | 11.8 | (8.1-16.9) |
| Shiawassee | 277 | 12.7 | (8.8-18.0) |
| Region 3 | 1,481 | 11.7 | (9.8-14.0) |
| Jackson | 1,133 | 12.6 | (10.2-15.6) |
| Lenawee | 316 | 10.7 | (7.7-14.8) |
| Region 4 | 1,853 | 8.8 | (7.4-10.3) |
| Barry-Eaton | 542 | 8.3 | (6.3-10.9) |
| Mid-Michigan ^b | 569 | 12.2 | (9.3-16.0) |
| Ingham | 925 | 7.8 | (6.1-9.9) |
| Region 5 | 1,569 | 9.2 | (7.7-10.8) |
| Branch-Hillsdale-St. Joseph | 443 | 11.8 | (8.7-15.8) |
| Calhoun | 370 | 10.9 | (8.0-14.7) |
| Kalamazoo | 729 | 6.7 | (5.1-8.8) |
| Region 6 | 761 | 12.8 | (10.3-15.9) |
| Van Buren-Cass | 311 | 16.6 | (12.4-22.0) |
| Berrien | 420 | 11.0 | (7.9-15.0) |
| Region 7 | 3,238 | 7.5 | (6.6-8.5) |
| Allegan | 346 | 8.3 | (5.6-12.0) |
| Ionia | 202 | 7.7 | (4.8-12.0) |
| Kent | 1,690 | 7.1 | (5.8-8.6) |
| Mid-Michigan ^b | 569 | 12.2 | (9.3-16.0) |
| Ottawa | 753 | 6.7 | (5.2-8.8) |

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| Table 26 Cont'd | | | |
|---------------------------------|---|------------|--------------------------------|
| Geographic Area | Ever Told Any Cardiovascular Disease^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,564 | 9.8 | (9.5-10.2) |
| Region 8 | 2,289 | 9.6 | (8.3-11.2) |
| District #10 | 1,110 | 11.8 | (9.8-14.1) |
| Muskegon | 1,112 | 6.6 | (5.1-8.5) |
| Region 9 | 1,590 | 12.0 | (10.1-14.1) |
| District #2 | 231 | 14.7 | (9.8-21.4) |
| District #4 | 257 | 12.9 | (9.0-18.2) |
| Northwest Michigan | 466 | 10.9 | (7.8-14.9) |
| Benzie-Leelanau | 214 | 16.0 | (9.9-24.8) |
| Grand Traverse | 397 | 7.9 | (5.5-11.3) |
| Region 10 | 1,526 | 10.2 | (8.6-12.1) |
| Bay | 319 | 7.6 | (5.1-11.2) |
| Huron | 121 | 11.9 | (7.4-18.5) |
| Saginaw | 731 | 11.5 | (8.9-14.9) |
| Sanilac | 147 | 13.1 | (8.3-20.0) |
| Tuscola | 174 | 9.2 | (5.7-14.6) |
| Region 11 | 1,002 | 13.0 | (10.7-15.7) |
| Central Michigan | 590 | 15.7 | (12.5-19.5) |
| Midland | 301 | 9.8 | (6.7-14.2) |
| Region 12 | 1,108 | 11.1 | (9.1-13.5) |
| Luce-Mackinac-Alger-Schoolcraft | 147 | 13.3 | (8.3-20.8) |
| Western Upper Peninsula | 230 | 10.0 | (6.3-15.5) |
| Delta-Menominee | 215 | 14.7 | (9.8-21.3) |
| Chippewa | 142 | 11.3 | (6.3-19.6) |
| Dickinson-Iron | 131 | 10.5 | (5.9-18.0) |
| Marquette | 221 | 9.2 | (5.4-15.0) |

^a 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.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

| Table 27: Cancer Michigan BRFS, 2015-2017 Combined | | | |
|---|-------------------------------------|-------------|--------------------------------|
| Geographic Area | Ever Told Cancer^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,735 | 12.4 | (12.0-12.8) |
| Region 1 | 12,726 | 11.9 | (11.3-12.5) |
| Livingston | 814 | 13.1 | (10.6-16.0) |
| Macomb | 2,054 | 12.4 | (11.0-14.0) |
| Monroe | 385 | 13.4 | (10.0-17.8) |
| Oakland | 3,365 | 12.4 | (11.2-13.6) |
| St. Clair | 416 | 13.7 | (10.6-17.6) |
| Washtenaw | 1,175 | 11.0 | (9.1-13.1) |
| City of Detroit | 1,539 | 8.6 | (7.1-10.2) |
| Wayne exc. Detroit | 2,904 | 12.5 | (11.3-13.9) |
| Region 2 | 1,979 | 13.0 | (11.4-14.7) |
| Genesee | 1,436 | 13.2 | (11.3-15.2) |
| Lapeer | 245 | 14.3 | (10.1-19.8) |
| Shiawassee | 278 | 11.2 | (7.7-16.0) |
| Region 3 | 1,490 | 13.1 | (11.1-15.3) |
| Jackson | 1,141 | 12.9 | (10.9-15.3) |
| Lenawee | 317 | 14.0 | (10.2-18.9) |
| Region 4 | 1,864 | 12.0 | (10.5-13.7) |
| Barry-Eaton | 543 | 13.0 | (10.4-16.2) |
| Mid-Michigan ^b | 570 | 13.6 | (10.7-17.2) |
| Ingham | 935 | 9.9 | (8.1-12.1) |
| Region 5 | 1,584 | 12.7 | (11.1-14.4) |
| Branch-Hillsdale-St. Joseph | 444 | 12.1 | (9.3-15.6) |
| Calhoun | 377 | 14.9 | (11.6-19.0) |
| Kalamazoo | 736 | 12.0 | (9.9-14.6) |
| Region 6 | 762 | 13.9 | (11.5-16.7) |
| Van Buren-Cass | 311 | 14.4 | (10.6-19.3) |
| Berrien | 421 | 14.2 | (11.2-17.9) |
| Region 7 | 3,243 | 12.5 | (11.3-13.7) |
| Allegan | 347 | 14.8 | (11.2-19.2) |
| Ionia | 202 | 13.1 | (8.8-19.1) |
| Kent | 1,693 | 11.6 | (10.2-13.3) |
| Mid-Michigan ^b | 570 | 13.6 | (10.7-17.2) |
| Ottawa | 754 | 13.8 | (11.3-16.8) |

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| Table 27 Cont'd | | | |
|---------------------------------|-------------------------------------|-------------|--------------------------------|
| Geographic Area | Ever Told Cancer^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,735 | 12.4 | (12.0-12.8) |
| Region 8 | 2,301 | 14.5 | (12.9-16.4) |
| District #10 | 1,117 | 15.8 | (13.5-18.3) |
| Muskegon | 1,117 | 13.0 | (10.7-15.6) |
| Region 9 | 1,592 | 14.7 | (12.8-16.8) |
| District #2 | 231 | 17.0 | (12.2-23.3) |
| District #4 | 256 | 13.9 | (9.3-20.4) |
| Northwest Michigan | 470 | 14.7 | (11.6-18.3) |
| Benzie-Leelanau | 214 | 15.3 | (10.7-21.4) |
| Grand Traverse | 396 | 14.4 | (11.1-18.5) |
| Region 10 | 1,529 | 12.4 | (10.7-14.3) |
| Bay | 320 | 10.4 | (7.6-14.2) |
| Huron | 121 | 14.1 | (8.1-23.3) |
| Saginaw | 736 | 12.9 | (10.3-16.1) |
| Sanilac | 144 | 9.6 | (5.6-16.2) |
| Tuscola | 174 | 16.5 | (11.6-23.0) |
| Region 11 | 1,004 | 12.7 | (10.7-15.0) |
| Central Michigan | 592 | 13.6 | (11.1-16.7) |
| Midland | 301 | 13.5 | (9.9-18.1) |
| Region 12 | 1,113 | 13.7 | (11.6-16.2) |
| Luce-Mackinac-Alger-Schoolcraft | 147 | 17.5 | (11.5-25.8) |
| Western Upper Peninsula | 233 | 15.6 | (11.0-21.8) |
| Delta-Menominee | 215 | 12.6 | (8.3-18.8) |
| Chippewa | 141 | 8.5 | (4.9-14.4) |
| Dickinson-Iron | 132 | 12.6 | (7.4-20.6) |
| Marquette | 223 | 17.1 | (11.9-23.9) |

^a Among all adults, the proportion who reported ever being told by a doctor that they had skin cancer or any other type of cancer.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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| Table 28: Diabetes Michigan BRFSS, 2015-2017 Combined | | | |
|--|---------------------------------------|-------------|--------------------------------|
| Geographic Area | Ever Told Diabetes^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,800 | 11.0 | (10.6-11.4) |
| Region 1 | 12,750 | 10.7 | (10.1-11.4) |
| Livingston | 817 | 9.1 | (6.7-12.2) |
| Macomb | 2,061 | 10.8 | (9.4-12.3) |
| Monroe | 385 | 11.9 | (8.6-16.3) |
| Oakland | 3,373 | 9.3 | (8.2-10.5) |
| St. Clair | 416 | 12.4 | (8.8-17.2) |
| Washtenaw | 1,176 | 7.3 | (5.8-9.1) |
| City of Detroit | 1,540 | 13.4 | (11.5-15.5) |
| Wayne exc. Detroit | 2,908 | 12.0 | (10.7-13.4) |
| Region 2 | 1,982 | 13.0 | (11.4-14.8) |
| Genesee | 1,438 | 13.9 | (11.9-16.1) |
| Lapeer | 247 | 9.8 | (6.4-14.8) |
| Shiawassee | 277 | 12.0 | (8.2-17.2) |
| Region 3 | 1,492 | 13.2 | (10.8-15.9) |
| Jackson | 1,143 | 13.0 | (10.4-16.1) |
| Lenawee | 318 | 14.0 | (9.8-19.5) |
| Region 4 | 1,868 | 10.3 | (8.8-12.0) |
| Barry-Eaton | 546 | 13.4 | (10.3-17.3) |
| Mid-Michigan ^b | 570 | 12.2 | (9.4-15.7) |
| Ingham | 936 | 7.9 | (6.2-9.9) |
| Region 5 | 1,584 | 11.4 | (9.8-13.2) |
| Branch-Hillsdale-St. Joseph | 445 | 12.6 | (9.4-16.7) |
| Calhoun | 377 | 12.4 | (9.2-16.6) |
| Kalamazoo | 735 | 10.3 | (8.2-12.9) |
| Region 6 | 763 | 12.3 | (10.0-15.0) |
| Van Buren-Cass | 311 | 15.4 | (11.5-20.2) |
| Berrien | 422 | 10.7 | (7.9-14.3) |
| Region 7 | 3,256 | 9.6 | (8.5-10.9) |
| Allegan | 347 | 9.1 | (6.2-13.3) |
| Ionia | 202 | 12.0 | (8.1-17.4) |
| Kent | 1,704 | 9.7 | (8.2-11.6) |
| Mid-Michigan ^b | 570 | 12.2 | (9.4-15.7) |
| Ottawa | 755 | 8.6 | (6.6-11.2) |

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| Table 28 Cont'd | | | |
|---------------------------------|---------------------------------------|-----------------|--------------------------------|
| Geographic Area | Ever Told Diabetes^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,800 | 11.0 | (10.6-11.4) |
| Region 8 | 2,301 | 10.8 | (9.3-12.5) |
| District #10 | 1,119 | 10.7 | (8.8-13.0) |
| Muskegon | 1,115 | 12.0 | (9.8-14.7) |
| Region 9 | 1,596 | 12.5 | (10.6-14.8) |
| District #2 | 231 | 17.4 | (12.1-24.5) |
| District #4 | 257 | 15.8 | (11.2-21.9) |
| Northwest Michigan | 471 | 10.9 | (7.5-15.4) |
| Benzie-Leelanau | 215 | 13.2 | (8.7-19.6) |
| Grand Traverse | 397 | 6.8 | (4.7-9.9) |
| Region 10 | 1,533 | 10.5 | (8.9-12.5) |
| Bay | 322 | 8.0 | (5.2-12.1) |
| Huron | 122 | 12.8 | (7.9-20.2) |
| Saginaw | 735 | 11.9 | (9.1-15.3) |
| Sanilac | 145 | 11.7 | (7.4-18.2) |
| Tuscola | 175 | 9.4 | (5.7-15.3) |
| Region 11 | 1,011 | 13.2 | (10.9-15.9) |
| Central Michigan | 597 | 14.2 | (11.2-17.8) |
| Midland | 303 | 14.7 | (10.6-20.0) |
| Region 12 | 1,113 | 12.5 | (10.3-15.0) |
| Luce-Mackinac-Alger-Schoolcraft | 148 | 14.3 | (8.8-22.3) |
| Western Upper Peninsula | 232 | 14.8 | (9.9-21.4) |
| Delta-Menominee | 214 | 14.9 | (9.8-22.0) |
| Chippewa | 142 | 11.5 | (6.7-18.8) |
| Dickinson-Iron | -- ^c | -- ^c | -- ^c |
| Marquette | 222 | 10.4 | (6.5-16.2) |

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

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.

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

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| Table 29: Kidney Disease Michigan BRFSS, 2015-2017 Combined | | | |
|--|---|-----------------|--------------------------------|
| Geographic Area | Ever Told Kidney Disease^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,742 | 3.6 | (3.4-3.9) |
| Region 1 | 12,719 | 3.6 | (3.3-4.0) |
| Livingston | 816 | 2.1 | (1.2-3.6) |
| Macomb | 2,057 | 3.4 | (2.6-4.4) |
| Monroe | 383 | 4.2 | (2.6-6.9) |
| Oakland | 3,368 | 3.2 | (2.6-4.0) |
| St. Clair | 417 | 3.8 | (2.2-6.4) |
| Washtenaw | 1,171 | 3.8 | (2.5-5.6) |
| City of Detroit | 1,536 | 4.6 | (3.6-6.0) |
| Wayne exc. Detroit | 2,897 | 3.9 | (3.2-4.9) |
| Region 2 | 1,979 | 3.8 | (3.0-4.9) |
| Genesee | 1,435 | 4.0 | (3.0-5.2) |
| Lapeer | 246 | 6.9 | (4.0-11.7) |
| Shiawassee | -- ^c | -- ^c | -- ^c |
| Region 3 | 1,489 | 3.2 | (2.3-4.4) |
| Jackson | 1,139 | 3.5 | (2.4-5.0) |
| Lenawee | -- ^c | -- ^c | -- ^c |
| Region 4 | 1,867 | 3.2 | (2.4-4.3) |
| Barry-Eaton | 545 | 3.8 | (2.5-5.8) |
| Mid-Michigan ^b | 571 | 3.6 | (2.0-6.3) |
| Ingham | 936 | 2.9 | (1.9-4.4) |
| Region 5 | 1,580 | 4.6 | (3.6-5.9) |
| Branch-Hillsdale-St. Joseph | 443 | 5.6 | (3.6-8.7) |
| Calhoun | 377 | 5.4 | (3.5-8.3) |
| Kalamazoo | 733 | 3.7 | (2.5-5.5) |
| Region 6 | 762 | 2.6 | (1.7-3.9) |
| Van Buren-Cass | -- ^c | -- ^c | -- ^c |
| Berrien | 420 | 2.5 | (1.5-4.3) |
| Region 7 | 3,253 | 3.0 | (2.4-3.7) |
| Allegan | 346 | 2.7 | (1.5-4.9) |
| Ionia | -- ^c | -- ^c | -- ^c |
| Kent | 1,701 | 3.2 | (2.4-4.3) |
| Mid-Michigan ^b | 571 | 3.6 | (2.0-6.3) |
| Ottawa | 757 | 2.6 | (1.7-3.9) |

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| Table 29 Cont'd | | | |
|---------------------------------|---|-----------------|--------------------------------|
| Geographic Area | Ever Told Kidney Disease^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,742 | 3.6 | (3.4-3.9) |
| Region 8 | 2,292 | 3.8 | (2.9-5.1) |
| District #10 | 1,111 | 3.7 | (2.5-5.5) |
| Muskegon | 1,115 | 4.1 | (2.8-5.9) |
| Region 9 | 1,596 | 4.9 | (3.7-6.6) |
| District #2 | -- ^c | -- ^c | -- ^c |
| District #4 | -- ^c | -- ^c | -- ^c |
| Northwest Michigan | -- ^c | -- ^c | -- ^c |
| Benzie-Leelanau | -- ^c | -- ^c | -- ^c |
| Grand Traverse | 397 | 5.7 | (3.5-9.2) |
| Region 10 | 1,532 | 3.1 | (2.2-4.4) |
| Bay | -- ^c | -- ^c | -- ^c |
| Huron | -- ^c | -- ^c | -- ^c |
| Saginaw | 736 | 3.8 | (2.2-6.4) |
| Sanilac | -- ^c | -- ^c | -- ^c |
| Tuscola | -- ^c | -- ^c | -- ^c |
| Region 11 | 1,008 | 4.5 | (3.2-6.1) |
| Central Michigan | 595 | 4.4 | (3.0-6.5) |
| Midland | -- ^c | -- ^c | -- ^c |
| Region 12 | 1,114 | 4.5 | (3.3-6.0) |
| Luce-Mackinac-Alger-Schoolcraft | -- ^c | -- ^c | -- ^c |
| Western Upper Peninsula | 233 | 4.4 | (2.4-8.0) |
| Delta-Menominee | -- ^c | -- ^c | -- ^c |
| Chippewa | -- ^c | -- ^c | -- ^c |
| Dickinson-Iron | -- ^c | -- ^c | -- ^c |
| Marquette | -- ^c | -- ^c | -- ^c |

^a Among all adults, the proportion who reported ever being told by a doctor that they had kidney disease.
^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.
^c Suppressed due to a denominator < 50 and/or a relative standard error > 30%.

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| Table 30: Depression | | | |
|---|---|-------------|--------------------------------|
| Michigan BRFSS, 2015-2017 Combined | | | |
| Geographic Area | Ever Told Depression^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,698 | 21.7 | (21.2-22.3) |
| Region 1 | 12,698 | 20.8 | (19.9-21.7) |
| Livingston | 816 | 22.4 | (18.4-26.9) |
| Macomb | 2,054 | 21.6 | (19.4-23.9) |
| Monroe | 382 | 23.8 | (18.5-30.1) |
| Oakland | 3,360 | 17.1 | (15.5-18.8) |
| St. Clair | 416 | 21.2 | (17.0-26.1) |
| Washtenaw | 1,168 | 25.3 | (22.1-28.8) |
| City of Detroit | 1,534 | 21.7 | (19.3-24.3) |
| Wayne exc. Detroit | 2,894 | 22.2 | (20.4-24.2) |
| Region 2 | 1,976 | 21.3 | (19.2-23.7) |
| Genesee | 1,432 | 22.4 | (19.8-25.2) |
| Lapeer | 247 | 16.0 | (11.5-21.8) |
| Shiawassee | 277 | 22.0 | (16.3-29.0) |
| Region 3 | 1,483 | 23.3 | (20.3-26.5) |
| Jackson | 1,137 | 24.3 | (20.8-28.2) |
| Lenawee | 315 | 22.0 | (16.8-28.2) |
| Region 4 | 1,860 | 22.1 | (19.8-24.6) |
| Barry-Eaton | 544 | 21.1 | (17.0-25.9) |
| Mid-Michigan ^b | 572 | 18.7 | (14.9-23.3) |
| Ingham | 928 | 23.2 | (20.0-26.8) |
| Region 5 | 1,579 | 24.2 | (21.7-26.9) |
| Branch-Hillsdale-St. Joseph | 444 | 21.7 | (17.2-26.9) |
| Calhoun | 377 | 29.0 | (23.7-34.9) |
| Kalamazoo | 732 | 23.6 | (20.1-27.6) |
| Region 6 | 763 | 23.9 | (20.3-28.0) |
| Van Buren-Cass | 310 | 28.3 | (22.5-34.9) |
| Berrien | 423 | 20.2 | (15.9-25.4) |
| Region 7 | 3,248 | 23.2 | (21.4-25.0) |
| Allegan | 344 | 23.8 | (19.0-29.4) |
| Ionia | 203 | 23.2 | (17.0-30.7) |
| Kent | 1,696 | 23.7 | (21.2-26.3) |
| Mid-Michigan ^b | 572 | 18.7 | (14.9-23.3) |
| Ottawa | 757 | 24.1 | (20.4-28.1) |

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| Table 30 Cont'd | | | |
|---------------------------------|---|-------------|--------------------------------|
| Geographic Area | Ever Told Depression^a | | |
| | N | % | 95% Confidence Interval |
| Michigan Total | 31,698 | 21.7 | (21.2-22.3) |
| Region 8 | 2,295 | 24.9 | (22.5-27.4) |
| District #10 | 1,118 | 24.0 | (20.9-27.4) |
| Muskegon | 1,110 | 27.9 | (24.2-32.1) |
| Region 9 | 1,587 | 20.9 | (18.5-23.5) |
| District #2 | 231 | 21.7 | (16.0-28.8) |
| District #4 | 253 | 19.7 | (14.5-26.3) |
| Northwest Michigan | 469 | 24.0 | (19.6-28.9) |
| Benzie-Leelanau | 214 | 17.9 | (12.5-24.9) |
| Grand Traverse | 395 | 20.2 | (15.6-25.9) |
| Region 10 | 1,535 | 23.0 | (20.2-26.2) |
| Bay | 321 | 29.0 | (21.9-37.3) |
| Huron | 122 | 10.3 | (6.0-17.1) |
| Saginaw | 737 | 22.0 | (18.2-26.4) |
| Sanilac | 146 | 20.2 | (13.2-29.8) |
| Tuscola | 175 | 25.7 | (18.9-34.0) |
| Region 11 | 1,011 | 21.8 | (18.7-25.2) |
| Central Michigan | 597 | 24.7 | (20.6-29.3) |
| Midland | 303 | 17.9 | (13.0-24.2) |
| Region 12 | 1,113 | 22.9 | (19.8-26.2) |
| Luce-Mackinac-Alger-Schoolcraft | 148 | 23.6 | (16.3-32.9) |
| Western Upper Peninsula | 232 | 24.4 | (18.2-32.0) |
| Delta-Menominee | 214 | 21.3 | (15.4-28.7) |
| Chippewa | 142 | 17.2 | (10.4-27.0) |
| Dickinson-Iron | 132 | 27.5 | (19.0-38.1) |
| Marquette | 223 | 25.6 | (18.2-34.9) |

^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.

^b The Mid-Michigan District Health Department consists of Clinton, Gratiot, and Montcalm. Clinton and Gratiot are Region 4 counties, while Montcalm is a Region 7 county. All three counties were included in the Mid-Michigan estimate, but only the respective counties were included in the regional estimates.