Cardiovascular Disease in Michigan

This fact sheet provides those in the public health and/or healthcare fields, policy makers, and non-health care professionals information on cardiovascular disease (CVD) burden among Michigan adults aged 18 years and older to:

o *supplement development of strategies for CVD prevention, education, and self management.*

o *identify disparities in CVD prevalence and related indicators among specific population groups.*

o *support development of policies to reduce CVD burden in Michigan.*

Background

♥ CVD is any disease of the heart and blood vessels.[A,1]

♥ Approximately 1 in 5 Americans under the age of 65 died of CVD in 2016.[A,2]

♥ CVD costs the United States greater than $100 billion per year.[3]

♥ The following fact sheet presents CVD and CVD-related prevalence (percentage) estimates of adults aged 18 years and older using data from the Michigan Behavioral Factor Surveillance System. CVD was defined as those who reported having at least one of the following conditions: heart attack, angina/coronary heart disease, or stroke.[B,4]

Michigan Trends in Cardiovascular Disease

Figure 1. Percent of Michigan Adults with Cardiovascular Disease (18 years and older), 2011-2017[,+,++]*
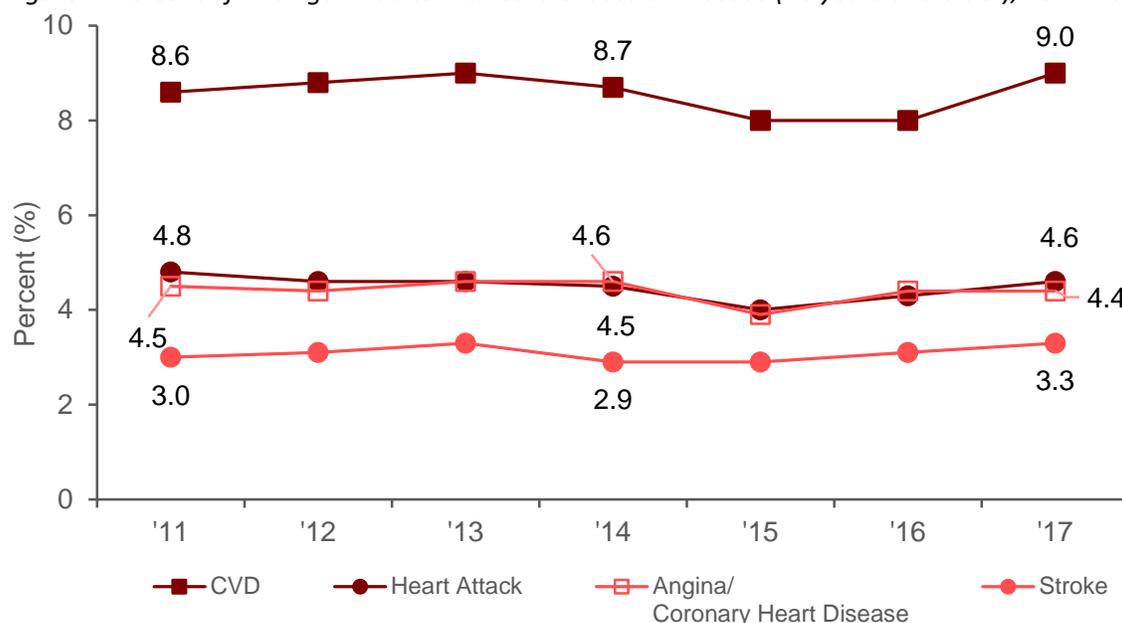
In 2017, an estimated ***814,000 Michigan adults*** reported having CVD.[D,4,6]

*Age-adjusted; CVD – Cardiovascular Disease
+CVD Source: Michigan Behavioral Risk Factor Surveillance System (2011-2017)
++Source for Other Diseases: Behavioral Risk Factor Surveillance System, CDC (2011-2017)

♥ The estimated percent of Michigan adults who reported having CVD was 8.6% in 2011 and 9.0% in 2017, Figure 1. [C,4]

♥ In 2017, approximately ***420,500 Michigan adults*** reported having a heart attack, ***404,900*** reported having angina or coronary heart disease, and ***288,100*** reported having a stroke some point in the past.[D,5,6]
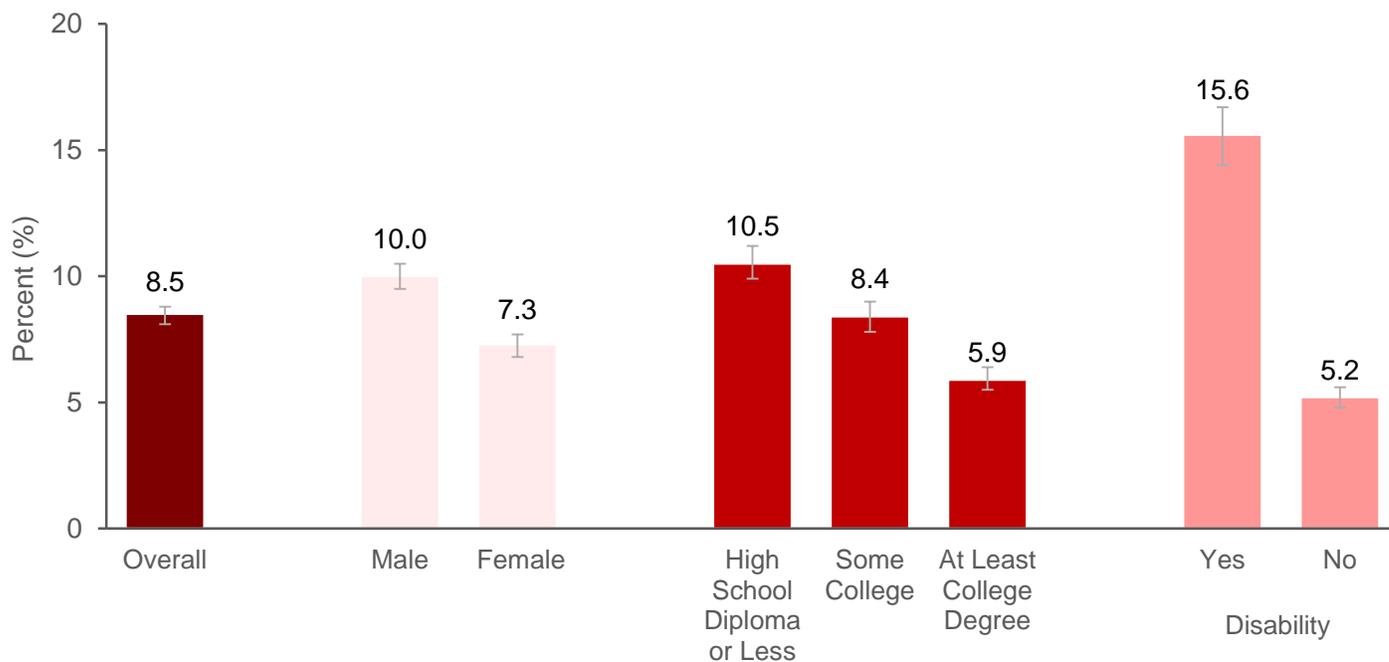
Disparities in Cardiovascular Diseases

Table 1. Percent of Michigan Adults with Cardiovascular Disease by Age Group (18 years and older), 2015-2017 Combined *

Age Group (yrs)	Percent
18-34	1.3% (1.0%, 1.7%)
35-44	3.6% (3.0%, 4.4%)
45-54	8.0% (7.2%, 9.0%)
55-64	13.5% (12.5%, 14.6%)
65-74	20.3% (19.1%, 21.6%)
75 and older	30.3% (28.5%, 32.1%)

95% Confidence Interval
Source: MiBRFSS 2015-2017 Combined

♥ The estimated percent of Michigan adults with CVD varied significantly among age groups in Michigan, Table 1.[E,4]

Figure 2. Percent of Michigan Adults with Cardiovascular Disease by Gender, Education Level, and Disability Status (18 years and older), 2015-2017 Combined *
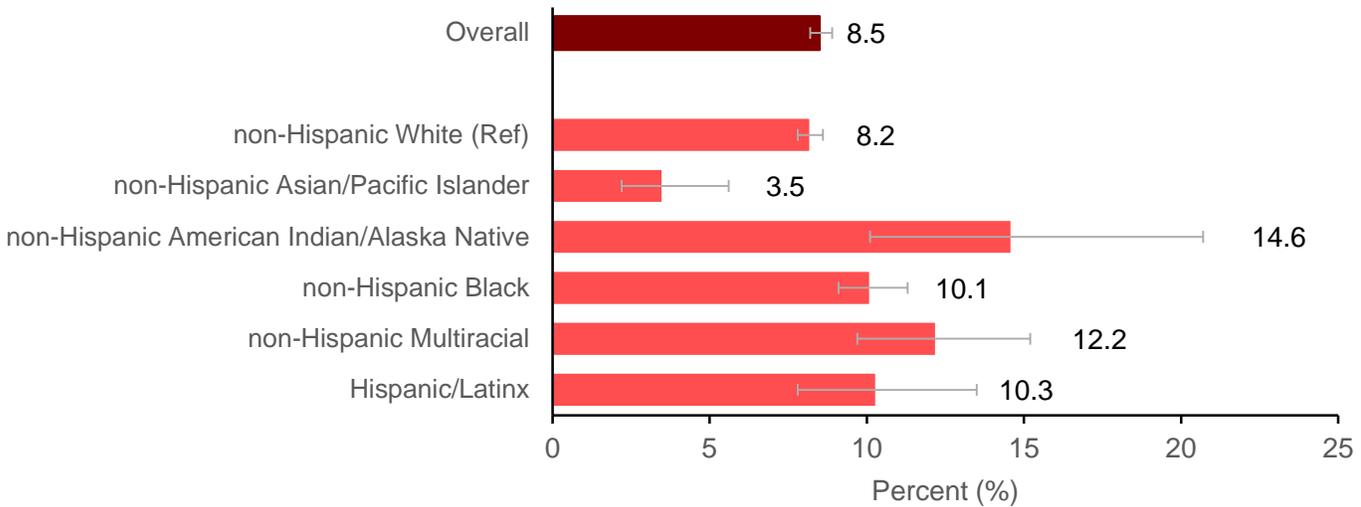

*Age-adjusted; 95% Confidence Interval
Source: MiBRFSS 2015-2017 Combined

♥ The estimated percent of adult Michigan males (10.0%) with CVD was *1.4 times* the percentage among adult females (7.3%).[C,E,4]

♥ CVD was *nearly double* among those a high school diploma or less (10.5%) compared to that among those who had a college degree (5.9%).[C,E,4]

♥ Among those with CVD, an estimated 15.6% of adults also reported having a disability compared to 5.2% without disability, Figure 2.[C,E,4]

Disparities in Cardiovascular Diseases

Figure 3. Percent of Michigan Adults with Cardiovascular Disease by Race/Ethnicity (18 years and older), 2015-2017 Combined *


* Age-Adjusted; 95% Confidence Interval; Ref – Reference; Latinx – Latino or Latina (See Note F)
Source: MiBRFSS 2015-2017 Combined

♥ The percent of adults reported having CVD varied by race/ethnicity. The estimated percent of non-Hispanic White adults reporting CVD (8.2%) was about:

- ♥ ***134% higher*** than non-Hispanic Asian/Pacific Islander adults (3.5%).[C,E,4]

- ♥ ***78% lower*** than non-Hispanic American Indian/Alaska Native (14.6%).[C,E,4]

- ♥ ***20% lower*** than non-Hispanic Black adults (10.1%).[C,E,4]

- ♥ ***50% lower than*** non-Hispanic Multi and Other racial/ethnic groups (12.2%), Figure 3.[C,E,4]

Figure 4. Percent of Michigan Adults with Cardiovascular Disease by Race/Ethnicity and Age Group (18 years and older), 2015-2017 Combined
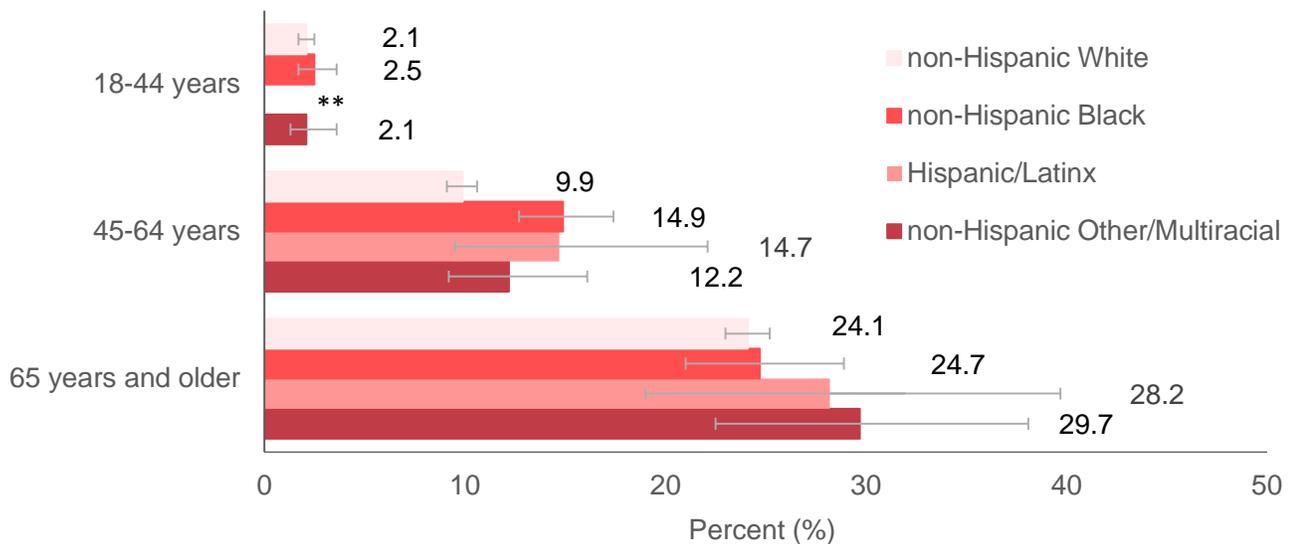

95% Confidence Interval; **The prevalence estimate was suppressed because the relative standard error was greater than 30%.
Latinx – Latino or Latina (See Note F); non-Hispanic Other/Multiracial – non-Hispanic American Indian/Alaska Native, Asian/Pacific Islander, and Multiracial
Source: MiBRFSS 2015-2017 Combined

♥ Estimated CVD prevalence was statistically significant between non-Hispanic Black and White adults age 45-64 years (14.9% and 9.9%, respectively), Figure 4. [E,4]

Controllable Factors and Comorbidities

Figure 5. Percent of Michigan Adults with Controllable Factors and Comorbidities by Cardiovascular Disease Status (18 years and older), 2015-2017 Combined*,+
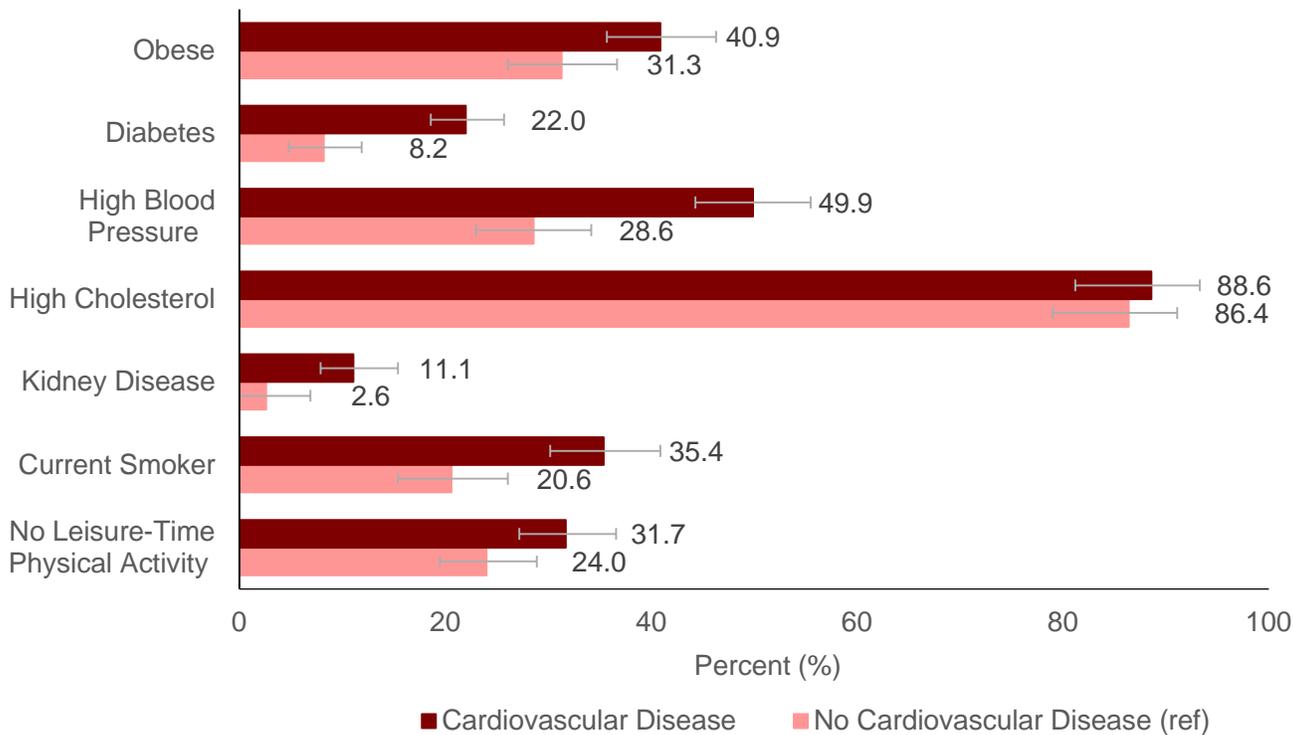
*Age-adjusted; 95% Confidence Interval
Source: MiBRFSS 2015-2017 combined
+Source for High Blood Pressure and High Cholesterol: MiBRFSS 2015 and 2017 combined (See Note G)

♥ Obesity was **30% higher** among adults with CVD compared to those without CVD (40.9% and 31.3%, respectively). [C,E,4]

♥ Diabetes among those with CVD was **triple** the percentage among those without CVD (22.0% and 8.2%, respectively). [C,E,4]

♥ High blood pressure among those with CVD was **1.7 times** the percentage among those without cardiovascular disease (49.9% and 28.6%, respectively). [C,E,G,4]

♥ Kidney disease among adults with CVD was **quadruple** the percentage among adults without CVD (11.1% and 2.6%, respectively). [C,E,4]

♥ A higher percentage of adults with CVD reported currently smoking compared to those who did not have CVD (35.4% and 20.6%, respectively). [C,E,4]

♥ No leisure-time physical activity was also higher among adults with CVD compared to those without CVD (31.7% and 24.0%, respectively), Figure 5. [C,E,4]

Self-Management

- Million Hearts® encourages individuals to reduce sodium intake, stop smoking and/or eliminate exposure to second-hand smoke, and increasing physical activity to prevent heart attacks and strokes from occurring or re-occurring.[7]

- Three-quarters of Michigan adults with CVD had an annual check-up (75.4%). [C,E,4]

- About 9 in 10 adults with CVD reported having cholesterol screening sometime in their past (88.9%).[C,E,G,4]

- Two-thirds of adults with CVD and high blood pressure reported taking the high blood pressure (67.4%). [C,E,G,4]

What We Do in Michigan

- Increase awareness of risk factors for heart disease and stroke, promote linkages to evidence-based lifestyle change programs, and work to improve health outcomes in minority populations through partnerships with community organizations.

- Forge strong partnerships with health systems, community groups, and public health entities to implement heart disease and stroke prevention and management strategies.

- Co-lead the Michigan Million Hearts® Initiative with the American Heart Association of Michigan, which is committed to the effective use of clinical and community strategies to diagnose and treat people with heart disease and its risk factors.

- Improve identification, reporting, management, and treatment of risk factors related to heart disease and stroke in federally qualified health centers.

- Build systems for accessing clinical health service information on high blood pressure and high blood cholesterol to identify missed opportunities for diagnosis, treatment, and self-management.

- Establish emergency room workflows for identification and coordination of care of patients with hypertension through innovative partnership with Wayne State University.

- Lead a statewide integrated stroke registry system focused on quality improvement across Emergency Medical Services, hospital, and discharge settings.

- Address health disparities through interventions for populations disproportionately affected by cardiovascular risk factors and outcomes, including minorities, rural residents, and those living in the Upper Peninsula.

Michigan Million Hearts® leads Michigan's role in the national initiative. Michigan Million Hearts® strives to improve cardiovascular disease outcomes among Michiganders.

In Michigan, the goal is to prevent 108,000 heart attacks and strokes by 2022.[H,6,8] To learn more about Michigan Million Hearts, visit **www.michigan.gov/millionhearts.**

Notes

A. CVD is defined as diseases of the heart, stroke, hypertensive diseases other than those associated with the heart, and other circulatory conditions affecting capillaries, arteries, and veins (ICD-10 CM Diagnosis Codes I00-I99).
B. See 2017 MiBRFS questionnaire, page 7.
C. Reported age-adjusted percentage estimates were adjusted to the 2000 US Standard Population using seven age groups (18–24, 25–34, 35-44, 45-54, 55-64, 65-75, and 75+ years).
D. The number of Michigan adults 18 years and older in 2017 who reported ever being told that they had cardiovascular disease, heart attack, angina/coronary heart disease, and stroke was estimated using the unadjusted percentage estimate (10.5%) based on 2017 Behavioral Risk Factor Surveillance System and the bridge-race method population estimate determined in CDC Wonder. Rounded to 100s.
E. Statistically significant differences between estimates reported when the 95% confidence intervals of the estimates did not overlap (e.g., CVD percentage estimates among age groups).
F. The BRFSS uses "Latino" to refer to people of Latin American cultural or racial identity in the United States. "Latinx" is a gender-neutral neologism, which is now used instead of Latino or Latina, and therefore used in this document.
G. MiBRFSS data from 2015 and 2017 were combined to determine estimated prevalence of high blood pressure, taking high blood pressure medication, high cholesterol, and cholesterol screening.
H. The pledge count was estimated using the bridge-race method population estimate determined in CDC Wonder and age-standardized overall Million Hearts–preventable event rate among Michigan adults aged 18 years and older (2016). Rounded to 100s.

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To learn more about cardiovascular disease and intervention programs, visit
www.michigan.gov/cvh