

### Hypertension Among Michigan Residents, 2019

#### Background

High blood pressure or hypertension is a common yet preventable condition that increases the risk of stroke. Fewer than half of U.S. adults with hypertension have their blood pressure adequately controlled, and, among those with uncontrolled hypertension, 40% (14 million people) do not know they have it.<sup>1</sup> Reducing elevated blood pressure levels by 12-13mmHg can reduce the number of strokes by 37%.<sup>2</sup> Long-term blood pressure control improves outcomes among acute ischemic stroke cases and prevents recurrent strokes.

#### Methods

The 2019 Michigan Behavioral Risk Factor Survey (MiBRFS) collected data including demographics, health behaviors, risk factors, and several underlying health conditions. MiBRFS included five questions regarding hypertension and stroke. This brief focuses on only two: if a healthcare professional had ever told them that they had hypertension and if a healthcare professional had ever told them that they had a stroke.

#### Results

In 2019, an estimated 35.1% of adult Michigan residents reported being told by a health care provider that they had hypertension (Table 1), which was slightly higher than in 2017 (34.8%). The prevalence of hypertension increased with age and decreased with higher education attainment and higher incomes. Furthermore, Black, non-Hispanic adults were more likely to have ever been told that they had hypertension than their counterparts.

Of those who were told they had a stroke, 70.9% also were told they had hypertension (Table 2). The prevalence of stroke increased with age and decreased with higher education attainment and higher incomes.

**Table 1. Michigan Adults who have been told by a Health Care Provider that they have Hypertension, 2019 Michigan BRFSS**

	%	95% CI*
<b>Total</b>	35.1	(33.9-36.3)
<b>Gender</b>		
Male	37.7	(35.9-39.6)
Female	32.6	(31.1-34.2)
<b>Race and Ethnicity</b>		
White, non-Hispanic	35.3	(34.0-36.6)
Black, non-Hispanic	42.8	(38.8-46.8)
Other	25.3	(21.7-29.2)
<b>Age</b>		
18-34 years	11.3	(9.6-13.3)
35-44 years	22.1	(19.2-25.4)
45-54 years	39.1	(35.9-42.3)
55-64 years	49.6	(46.9-52.4)
65-74 years	57.9	(55.3-60.5)
75+ years	62.3	(59.0-65.5)
<b>Education</b>		
Less than HS	42.3	(36.6-48.3)
High School Grad	37.3	(35.1-39.5)
Some College	35.4	(33.4-37.4)
College Graduate	29.6	(27.9-31.3)
<b>Income</b>		
<\$20,000	41.9	(38.2-45.8)
\$20,000-34,999	39.0	(35.9-42.2)
\$35,000-49,999	36.5	(33.1-40.1)
\$50,000-74,999	36.3	(33.2-39.6)
>\$75,000	28.7	(26.8-30.7)

Data Source: Michigan Behavioral Risk Surveillance Survey, 2019

\*Confidence Interval: A range that contains 95% of the true mean of the population

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Furthermore, adults who identified as Black non-Hispanic were more likely to have experienced a stroke while also having a history of hypertension compared to white, non-Hispanics.

## Conclusions

Patterns have emerged that show a varying spectrum of risk regarding demographic differences among groups of individuals. The longer an individual has uncontrolled hypertension the more likely they are to experience poor health outcomes such as acute stroke events. Improving hypertension control will require an increased focus especially among high-risk groups concerning hypertension screening, quality treatment/maintenance plans as well as public prevention education.

### **The Michigan Behavioral Risk Factor Surveillance System (MiBRFS)**

The MiBRFSS comprises annual, statewide telephone surveys of Michigan adults aged 18 years and older and is part of the national Behavioral Risk Surveillance System (BRFSS) coordinated by the Centers for Disease Control and Prevention (CDC). The annual MiBRFS follows the CDC BRFSS protocol and use the standardized English core questionnaire that focuses on various health behaviors, medical conditions, and preventive health care practices related to the leading causes of mortality, morbidity, and disability. Landline and cell phone interviews are conducted across each calendar year. Data are weighted to adjust for the probabilities of selection and a raking weighting factor is used to adjust for the distribution of the Michigan adult population based on eight demographic variables. All analyses are performed using SAS-callable SUDAAN® to account for the complex sampling design. The complete questionnaire used for 2019 is available on the MiBRFS website [michigan.gov/BRFS](http://michigan.gov/BRFS).

**Table 2. Michigan Adults with a History of Hypertension who were told by a Healthcare Provider that they had a Stroke, 2019 Michigan BRFS**

	%	95% CI*
<b>Total</b>	70.9	(65.0-76.1)
<b>Gender</b>		
Male	73.0	(64.2-80.4)
Female	69.1	(60.9-76.2)
<b>Race and Ethnicity</b>		
White, non-Hispanic	70.6	(64.2-76.3)
Black, non-Hispanic	-- <sup>a</sup>	-- <sup>a</sup>
Other	-- <sup>a</sup>	-- <sup>a</sup>
<b>Age</b>		
18-34 years	-- <sup>a</sup>	-- <sup>a</sup>
35-44 years	-- <sup>a</sup>	-- <sup>a</sup>
45-54 years	-- <sup>a</sup>	-- <sup>a</sup>
55-64 years	72.9	(61.9-81.7)
65-74 years	71.3	(61.9-79.1)
75+ years	77.0	(64.5-86.1)
<b>Education</b>		
Less than HS	-- <sup>a</sup>	-- <sup>a</sup>
High School Grad	72.9	(62.8-81.0)
Some College	67.3	(57.1-76.1)
College Graduate	59.4	(47.4-70.3)
<b>Income</b>		
<\$20,000	72.4	(58.5-82.9)
\$20,000-34,999	71.2	(59.0-80.9)
\$35,000-49,999	-- <sup>a</sup>	-- <sup>a</sup>
\$50,000-74,999	-- <sup>a</sup>	-- <sup>a</sup>
>\$75,000	-- <sup>a</sup>	-- <sup>a</sup>

Data Source: Michigan Behavioral Risk Surveillance Survey, 2019

<sup>a</sup>Data Suppression: RSE>30 or overall n<50

\*Confidence Interval: A range that contains 95% of the true mean of the population

## References:

- Centers for Disease Control and Prevention. Vital Signs: Awareness and Treatment of Uncontrolled Hypertension Among Adults - United States, 2003-2010. MMWR. September 4, 2012; 61(35): 703-709.
- Centers for Disease Control and Prevention. Heart Disease and Stroke Prevention. Addressing The Nation's Leading Killers. 2011.

## Suggested Citation:

Miesen, K. Hypertension among Michigan Residents, 2019. Michigan Department of Health and Human Services, Lifecourse Epidemiology and Genomics Division. Lansing, MI. January 2021.

