



# MICHIGAN BRFSS SURVEILLANCE BRIEF

*A NEWSLETTER FROM THE CHRONIC DISEASE EPIDEMIOLOGY SECTION, MDCH*

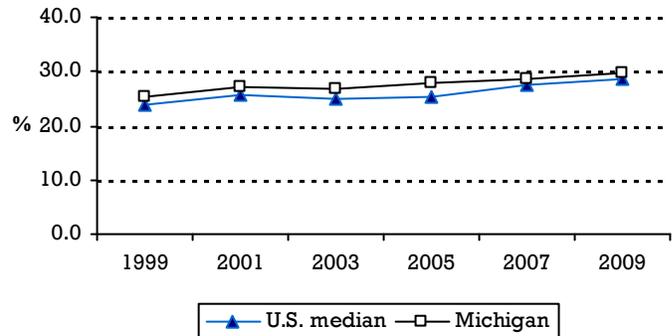
## High Blood Pressure Among Michigan Adults

**Background.** High Blood Pressure (HBP), also known as hypertension, is one of the nation's leading causes of death, responsible for roughly one in six deaths in adults annually. Nearly one in three adults has HBP.<sup>1</sup> HBP is a significant risk factor for heart attack, stroke, diabetes, kidney failure and other chronic diseases so preventing and reducing HBP is extremely important.<sup>1</sup> The 2010 Institute of Medicine Report, *A Population-Based Policy and Systems Change Approach to Prevent and Control Hypertension*, provides key strategies for national and state public health programs.<sup>1</sup> This report cites HBP as a neglected disease and emphasizes the importance of prevention and aggressive control as a means to reduce the burden of HBP and its consequences. National estimates show that the control of HBP has improved from 31% of the hypertensive population in 1980 to 61% in 2004, but still too many patients are receiving less than ideal treatment or control for their HBP.<sup>1</sup> Using data from the Michigan Behavioral Risk Factor Survey (MiBRFS), this brief presents a descriptive analysis of the prevalence of HBP among Michigan adults and the actions these individuals use to control their HBP.

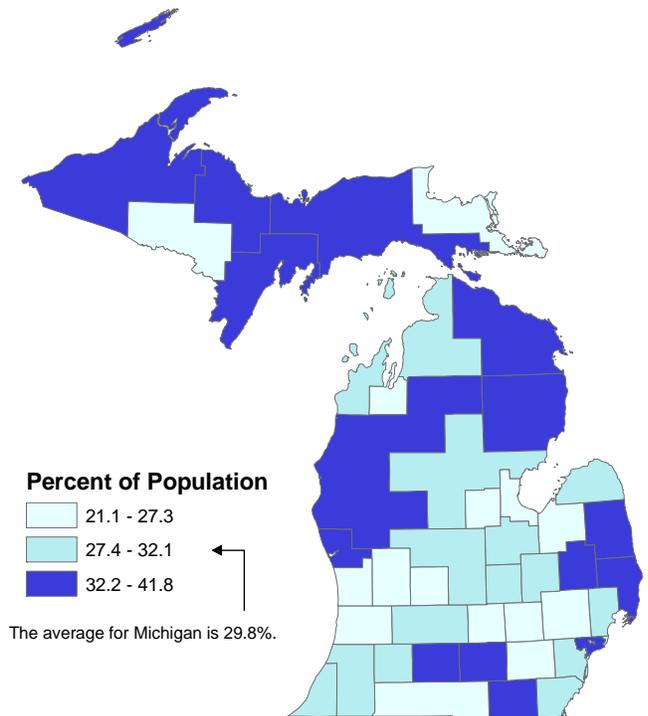
**Methods.** Questions related to hypertension awareness and medication use were included within the MiBRFS during odd-numbered years. The initial question asked whether or not the respondent had ever been told by a doctor, nurse, or other health professional that they had HBP. Women who had HBP only during pregnancy and adults who were borderline hypertensive were considered to not have been diagnosed. Respondents who had been diagnosed were then asked whether or not they were currently taking medicine for their high blood pressure. In 2009, a subset of respondents who indicated ever being diagnosed with HBP (N = 1,176), were asked ten additional questions that focused on actions to control HBP. These ten questions examined both what these respondents were currently doing to control their HBP, and what their doctors had advised them to do in order to control their HBP.

**Results.** In 2009, an estimated 29.7% of Michigan adults reported ever being diagnosed with HBP compared to 28.6% for the United States as a whole (Figure 1). The prevalence of HBP has increased over the past decade for both Michigan and the U.S., but the U.S. prevalence seems to be increasing at a higher rate than that of Michigan. Figure 2 examines the prevalence of HBP by local health department region for 2007-2009. This figure shows that several local health department regions throughout Michigan have HBP prevalence rates that are higher than the state average rate. In addition, the majority of Michigan's local health department regions that reported higher prevalence rates than that of the state average were located primarily within the northeastern lower Michigan and central upper Michigan (Figure 2).

**Figure 1. Ever Told High Blood Pressure U.S. vs. Michigan, 1999-2009 BRFSS**



**Figure 2. Ever Told High Blood Pressure by Local Health Department Region, 2007-2009 MiBRFS**



### MiBRFSS News

- National and state-by-state BRFSS estimates for the past several years (1995-2009) can now be found on the CDC BRFSS website at [www.cdc.gov/brfss](http://www.cdc.gov/brfss).
- Did you miss an issue of *Michigan BRFSS Surveillance Brief*? Back issues are also available on our website.

After identifying local health department regions with higher rates of HBP it is also important to look into HBP medication use within these regions (Figure 3). Figure 3 shows that the highest rates of HBP medication use can be found primarily within central and southeast lower Michigan. Due to insufficient data for some regions it is hard to tell for sure whether or not high HBP prevalence corresponds with high HBP medication use.

**Actions to Control High Blood Pressure**

Figure 4 focuses on the actions HBP diagnosed adults take to help control their HBP. When comparing what Michigan adults with HBP are currently doing to help control their HBP to what their doctor's have advised them to do, Michigan adults with HBP are currently changing their eating habits, decreasing their salt intake, and decreasing their alcohol use at a significantly higher rate than their doctors are advising them to do so (Figure 4). Michigan adults with HBP reported increasing their exercise at a similar rate to which their doctors were advising them to do so.

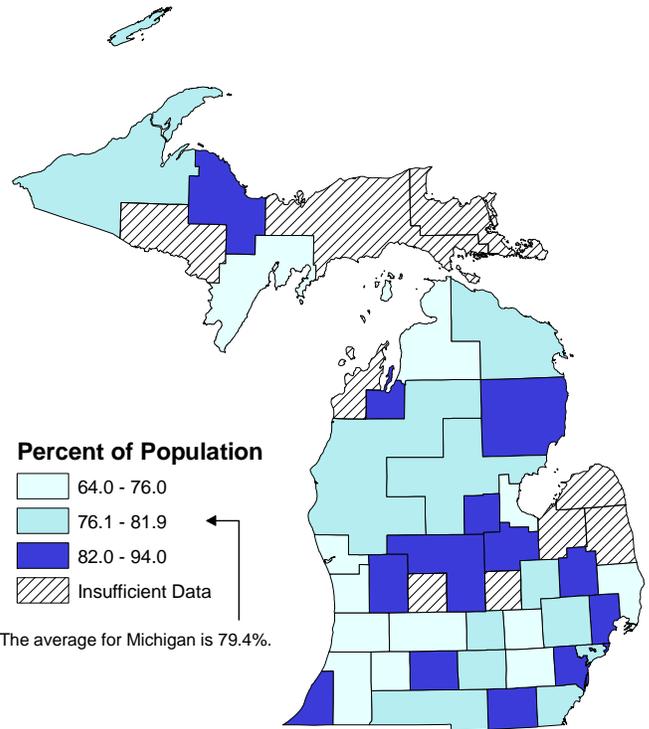
When looking into the actions to control HBP in Figure 4 by insurance coverage and weight status it was determined that having health care coverage or being overweight did not have a significant impact on the initiation of any of these actions (data not shown). Even though overweight individuals with HBP were more likely to be advised by their doctor's to change their eating habits and increase their amount of exercise, these recommendations did not translate into these individuals actually changing these actions in an attempt to control their HBP (data not shown). Overall, these findings reflect that the public has heard the messages about ways to control HBP, however there is still room for improvement.

**Conclusion.** These data indicate that improvements have been made in the awareness and treatment of HBP among Michigan adults, but challenges still remain. A new emphasis on prevention of HBP via sodium reduction in the population and increased focus on better compliance of healthcare providers with guidelines will be important to continued progress. Continued strategies for increasing awareness of HBP and innovative methods for enhancing provider practices will also be key. The High Blood Pressure University available at [www.michigan.gov/hbpu](http://www.michigan.gov/hbpu) is an innovative site that will meet this need.

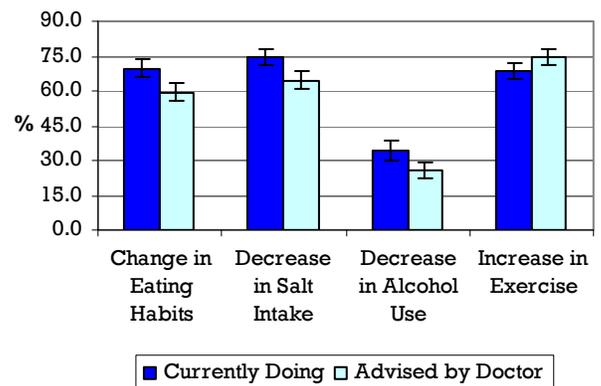
**References**

<sup>1</sup> Institute of Medicine. 2010. A Population-Based Policy and Systems Change Approach to Prevent and Control Hypertension. Washington, DC: The National Academies Press.

**Figure 3. Taking High Blood Pressure Medications by Local Health Department Region, 2007-2009 MiBRFS**



**Figure 4. Actions to Control High Blood Pressure 2009 MiBRFS**



**The Michigan Behavioral Risk Factor Surveillance System (MiBRFSS)**

The MiBRFSS comprises annual, statewide telephone surveys of Michigan adults aged 18 years and older and is part of the national BRFSS coordinated by the CDC. The annual Michigan Behavioral Risk Factor Surveys (MiBRFS) follow the CDC BRFSS protocol and use the standardized English core questionnaire that focuses on various behaviors, medical conditions, and preventive health care practices related to the leading causes of mortality, morbidity, and disability. Interviews are conducted across each calendar year. Data are weighted to adjust for the probabilities of selection and a poststratification weighting factor that adjusts for the sex, age, and race distribution of the adult Michigan population. All analyses are performed using SAS-callable SUDAAN® to account for the complex sampling design.

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