

# Diabetes in Michigan Update —2015

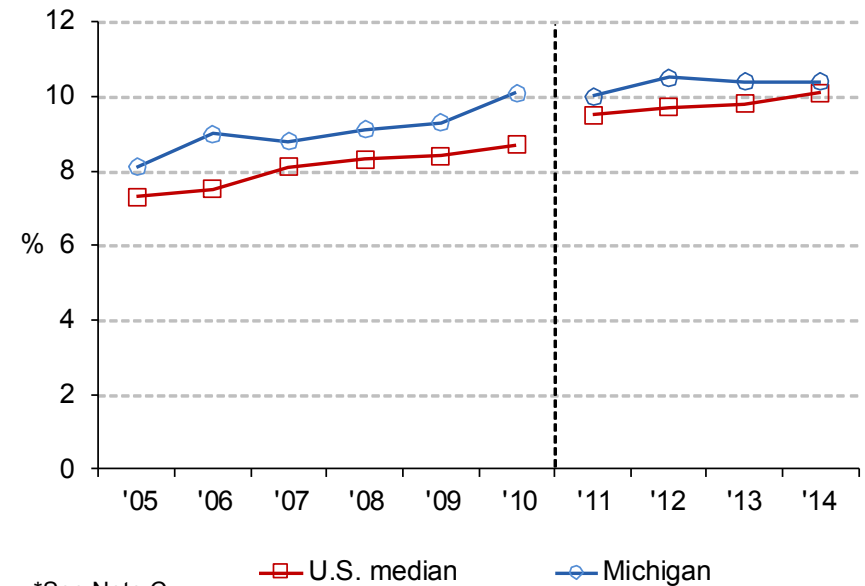
## Fast Facts about Diabetes in Michigan

- In 2014, an estimated 10.4% of Michigan adults 18 years and older were diagnosed with diabetes — 799,350 people (See Note A).<sup>1,2</sup>
- According to the Centers for Disease Control and Prevention (CDC), 27.8% of people of all ages with diabetes are undiagnosed.<sup>3</sup>
- Also the CDC reported about 37% of adults age 20 years and older were estimated to have prediabetes, putting them at high risk for developing type 2 diabetes.<sup>3</sup> However, in 2014, only an estimated 8.2% of Michigan adults reported ever being told that they had prediabetes.<sup>1</sup>
- Michigan ranked 22<sup>nd</sup> out of 50 states in highest diabetes prevalence among adults 18 years and older in 2013 (See Note B).<sup>4</sup>
- Diabetes was the seventh leading cause of death in Michigan in 2013.<sup>5</sup>

## Diabetes Prevalence among Michigan Adults

- There was no evidence of statistical change in percent of Michigan adult persons with diabetes (PWD) from 2011 to 2014 (Figure 1).
- Diabetes prevalence among adult males was slightly higher than adult females for 2011-2013 combined (10.9% versus 9.7%).<sup>1</sup>
- Diabetes prevalence was 19.5% among adults with a disability and 7.0% among those who did not report a disability.<sup>1</sup>
- Diabetes prevalence among the Michigan population 45-54 years (9.6%) was three times the prevalence among those 18-44 years (3.2%) (Figure 2).
- The prevalence of diabetes among non-Hispanic Black adults 18-44 years (4.8%) was nearly twice that of non-Hispanic White adults 18-44 years (2.7%). The disparity between the two groups decreased with increasing age (Figure 2).
- Diabetes prevalence was disproportionately higher among Hispanic adults 45 years and older than the prevalence among non-Hispanic White adults of the same age group (Figure 2).

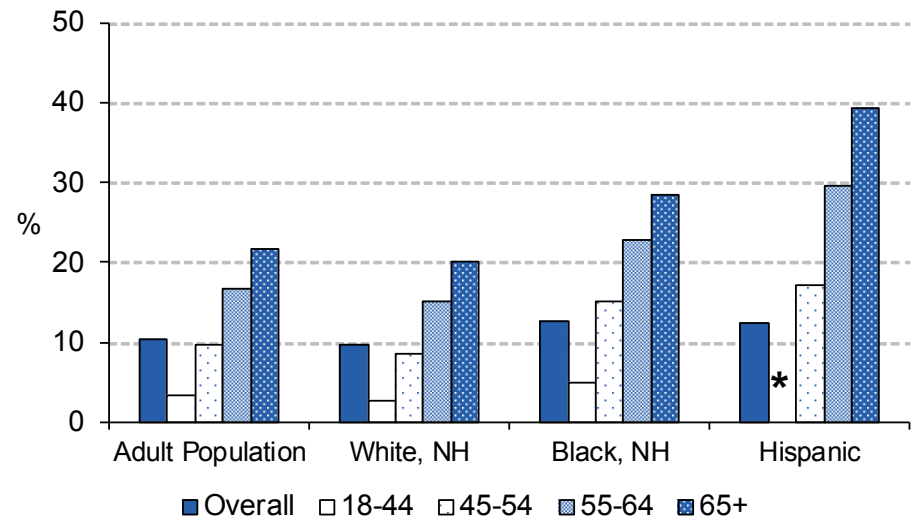
Figure 1. Diabetes Prevalence among Adults, U.S. versus Michigan, 2005-2014\*



\*See Note C

Source: CDC BRFSS [[www.cdc.gov/brfss](http://www.cdc.gov/brfss)] and MiBRFSS [[www.michigan.gov/brfss](http://www.michigan.gov/brfss)]

Figure 2. Reported Diabetes Prevalence by Race/Ethnicity and Age, Adults, Michigan, 2011-13 Combined



\*Not reported due to relative error greater than 30.0%

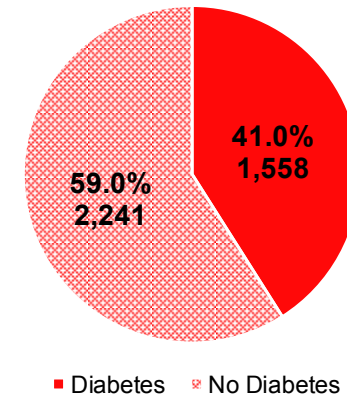
Source: MiBRFSS [[www.michigan.gov/brfss](http://www.michigan.gov/brfss)]

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## Diabetes-Related Complications

- In 2013, there were 285,552 hospitalizations with any mention of diabetes among Michigan adults 18 years and older and 2,821 deaths for all ages where diabetes was the leading cause.<sup>5,6</sup>
- Among adults, 9,101 diabetes-related stroke hospitalizations and 62,258 diabetes-related cardiovascular disease hospitalizations occurred in 2013.<sup>5</sup>
- In 2013, the rate of lower extremity amputation was 1.9 per 10,000 Michigan population.<sup>5,6</sup>
- Among adults with diabetes, 28.1% were previously told by a health care provider that they had a heart attack, coronary heart disease, and/or a stroke.<sup>1</sup>
- Twenty-two percent (22.0%) of Michigan adult PWD reported ever being told that they had diabetes-related retinopathy.<sup>1</sup>
- In 2012, 41.0% of newly reported end-stage renal disease cases occurred among Michigan persons with diabetes as the primary diagnosis (Figure 3). The incidence rate was 152.9 per 1,000,000 Michigan population (See Note D).<sup>7</sup>

**Figure 3. Reported End Stage Renal Disease Incidence Count and Percent by Diabetes Status, Michigan, 2012**



Source: USRDS [[www.usrds.org](http://www.usrds.org)]

## Diabetes-Related Risk Factors

- Michigan adult PWD had a lower smoking prevalence than those without diabetes (Table 1).
- Greater percentages of adult PWD had high blood pressure and high cholesterol than those without diabetes (Table 1).
- The ADA recommends that adult PWD regularly perform aerobic exercise (e.g. walking) as well as muscle strengthening to help maintain glycemic (blood sugar) control and a healthy weight.<sup>8</sup> However, adult PWD in Michigan had a higher tendency of no leisure-time physical activity than adults without diabetes (Table 1).
- Furthermore, overweight and obesity prevalence was higher among adult persons with diabetes compared to adult persons without diabetes (Table 1).

**Table 1. Controllable Factors, Adult Persons with Diabetes Compared to Adults Persons without Diabetes, Michigan, 2011-13 Combined\***

Factors	Diabetes (%)	No Diabetes (%)
Current Cigarette Smoking	18.0 (16.3-20.0)	23.2 (22.5-24.0)
Lifetime Prevalence High Blood Pressure	75.0 (72.8-77.1)	29.8 (29.0-30.7)
Lifetime Prevalence High Cholesterol	68.6 (66.2-70.9)	37.4 (36.4-38.4)
No Leisure-time Physical Activity	35.4 (33.3-37.4)	22.4 (21.7-23.1)
Obese	57.8 (55.7-59.9)	28.2 (27.5-29.0)
Overweight and Obese Combined	87.6 (86.0-89.0)	63.3 (62.5-64.1)

\*See Note E

Source: MiBRFSS [[www.michigan.gov/brfs](http://www.michigan.gov/brfs)]

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## Diabetes Management

- Monitoring blood glucose levels is crucial for diabetes management. Reducing risk of complications also involves routine visits to health care providers, regular diagnostic screening and management of other chronic conditions, staying healthy, and diabetes education.<sup>3,4,8</sup>
- Nearly 90% of Michigan adult persons with diabetes visited the doctor for diabetes-related check-up in the past year (Table 2).
- About 60% visited the dentist in the past year (Table 2).
- Greater than 80% of adult PWD reported being tested for high cholesterol in the past year and taking their high blood pressure medication. However, only 36.8% reported getting both albumin and creatine testing for kidney disease in the past three years (Table 2).
- About half of Michigan adults with diabetes reported receiving the influenza vaccine in the past year (Table 2).
- Diabetes self-management education (DSME) is a critical element of care for all PWD and those at risk for developing the disease.<sup>8</sup>
- An estimated \$900 per person may be saved annually by PWD who attend self-management education courses.<sup>9</sup>
- Sixty percent (60.0%) of adult PWD reported taking a diabetes education course (Table 2).
- Adult PWD in Michigan who received formal diabetes education showed significantly higher adherence to seeing health professionals for diabetes-related check-up, eye examination, and foot examination annually (Figure 4).
- In addition, 51.1% of adult PWD who had diabetes education also had all three clinical services compared to 31.2% of adult PWD for those who did not have diabetes education (Figure 4).

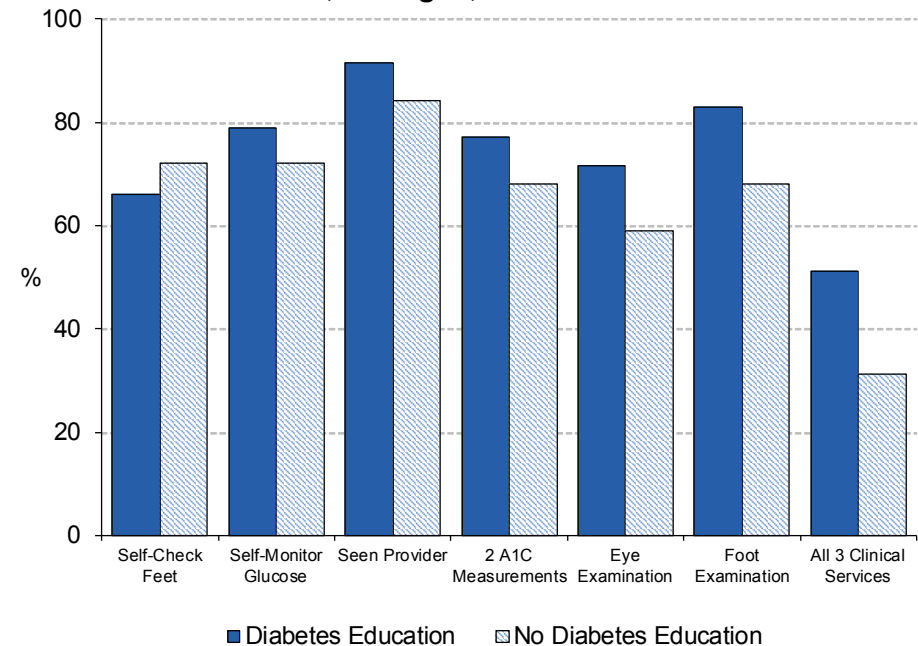
**Table 2. Diabetes Management, Adult Persons with Diabetes, Michigan, 2011-13 Combined\***

Factors	Diabetes (%)
Seen Provider for Diabetes in Past Year	88.5 (86.1-90.6)
Dental Visit in Past Year	60.9 (57.0-64.6)
Cholesterol Screening in Past Year	88.7 (86.8-90.4)
Currently Taking HBP Medication	90.8 (88.8-92.5)
Kidney Disease Testing in Past 3 Years	36.8 (33.0-40.8)
Influenza Vaccination	52.3 (50.1-54.4)
Taken Diabetes Self Management Course	60.0 (56.1-63.7)

\*See Notes E and F

Source: MiBRFSS [[www.michigan.gov/brfs](http://www.michigan.gov/brfs)]

**Figure 4. Diabetes Management by Formal Diabetes Education, Adult Persons with Diabetes, Michigan, 2011-13 Combined**



Source: MiBRFSS [[www.michigan.gov/brfs](http://www.michigan.gov/brfs)]

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## Notes

- A. The number of Michigan adults 18 years and older with diabetes was estimated using diabetes prevalence estimate from MiBRFSS 2014 data and the bridge-race method population estimate for 2014. Rounded to 100s.
- B. Ranking was based on age-adjusted state prevalence estimates for 2013.
- C. Due to the BRFSS methodology changes in 2011, estimates should only be compared to MiBRFS estimates from 2011-2014, and not years prior to 2011.
- D. Disparity was defined as the relative difference in prevalence estimates between two subpopulations.
- E. End stage renal disease incidence rate was adjusted for age, sex, and race.
- F. High blood pressure and cholesterol related indicators were based on MiBRFSS 2011 and 2013 combined data.
- G. Dental visit indicator was based on MiBRFSS 2012 data, and kidney disease testing was based on MiBRFSS 2013 data.

## References

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