

# Diabetes In Michigan – 2008

## Prevalence

- Michigan ranks 15<sup>th</sup> highest for type 2 diabetes prevalence among all states in the nation.<sup>(1)</sup>
- An estimated 648,100 Michigan adults or 8.5% of the total adult population had diagnosed diabetes (Type 1 or Type 2) during 2005-2007. Another 279,100 adults had undiagnosed diabetes. Altogether, an estimated 927,200 adults or 12.2% of Michigan's total adult population had diabetes.<sup>(2,3)</sup>
- The estimated prevalence of prediabetes was 27.3% or 2,066,900 Michigan adults aged 18-85 years in 2004. Of the adults in Michigan with prediabetes, three-quarters were aged 40-85 years.<sup>(4)</sup>
- In 2005, 12,926 women (10.4% of all live births experienced) diabetes during their most recent pregnancy. The majority of these women (76.9%) had gestational diabetes while the remaining portion (23.1%) reported having pre-gestational diabetes.<sup>(5)</sup>

## Demographic characteristics for Michigan adults with diabetes, MiBRFS (2005-2007 Combined)<sup>(6,7)</sup>

Demographic Characteristic	Crude %	Age-Adjusted %
Gender		
Male	9.0	-
Female	8.1	-
Age		
18 – 24	1.0	-
25 – 34	1.5	-
35 – 44	4.8	-
45 – 54	8.2	-
55 – 64	16.4	-
65 – 74	21.1	-
75 +	18.4	-
Race/Ethnicity		
White, Non-Hispanic	7.8	7.3
Black, Non-Hispanic	12.7	13.9
Asian or Other Pacific Islander, Non-Hispanic	4.2	11.3
American Indian / Alaskan Native, Non-Hispanic	10.7	12.2
Multi-Racial, Non-Hispanic	11.1	11.6
Hispanic	8.7	12.2
Household Income		
< \$20,000	14.9	-
\$20,000 - \$34,999	11.1	-
\$35,000 - \$49,999	7.9	-
\$50,000 - \$74,999	6.8	-
\$75,000 +	4.6	-

## Disparities

- In 2007, the estimated number of Michigan adults with diabetes by racial/ethnic groups was 477,300 White Non-Hispanics, 121,800 Black Non-Hispanics, 7,700 Asian or Other Pacific Islanders, 5,200 American Indian or Alaskan Natives, and 22,500 Hispanics.<sup>(6,8)</sup>
- Age-adjusted prevalence reveals that the highest rate of diabetes is experienced by Black Non-Hispanics (13.9%) followed by Hispanics (12.2%), American Indian / Alaskan Natives (12.2%), Multi-Racial Non-Hispanics (11.6%), Asian or Other Pacific Islanders (11.3%), and White Non-Hispanics (7.3%).<sup>(6,7)</sup>

## Mortality

- Diabetes ranked as the 6<sup>th</sup> leading cause of death in Michigan for 2006, accounting for 2,823 deaths (3.3% of all deaths). Diabetes was a contributory cause for another 5,812 deaths.<sup>(9)</sup>
- In 2004, Michigan's age-adjusted diabetes death rate was 28.4 as compared to 24.5 for the U.S. (per 100,000 people).<sup>(12)</sup>
- Michigan's age-adjusted diabetes death rates in 2006 were 29.0 for white males, 21.3 for white females, 47.8 for black males, and 36.5 for black females (deaths per 100,000 population).<sup>(12)</sup>

## Complications

- **Heart Disease and Stroke.** A previous medical history of heart attack, angina, coronary heart disease, or stroke occurred in 28.8% of adults with diabetes versus 7.2% of adults without diabetes in 2007.<sup>(1)</sup>
- **High Blood Pressure.** In 2007, 66.7% of Michigan adults with diabetes had ever been told that they have high blood pressure.<sup>(2)</sup>
- **Kidney Disease.** In 2006, 42.0% of the 3,931 Michigan residents newly diagnosed with chronic end-stage renal disease had a primary diagnosis of diabetes.<sup>(13)</sup> There were 12,039 end-stage renal disease dialysis patients living in Michigan, and 41.5% of them had a primary diagnosis of diabetes.<sup>(13)</sup> Of the nearly 1,000 kidney transplants performed in Michigan in 2006; 34.6% of these recipients had a primary diagnosis of diabetes.<sup>(13)</sup>
- **Visual Impairment.** In 2007, 20.1% of adults with diabetes had been told by a doctor that diabetes affected their eyes or they had retinopathy.<sup>(2)</sup>

- **Neuropathies.** An estimated 388,860 to 453,670 adults with diabetes had mild to severe neuropathic complications in 2007.<sup>(14)</sup>
- **Amputations.** Some form of lower-limb amputation occurred in 2,737 diabetes-related hospital discharges in 2006.<sup>(15)</sup>
- **Dental Disease.** Periodontal disease occurred in an estimated 4.5% of adults with diabetes and only 3.0% of those without diabetes in 2007.<sup>(2)</sup>
- **Complications of Pregnancy.** The rate of Cesarean section was 40.1% for women with either pre-gestational diabetes or GDM and 26.4% for women not experiencing diabetes during pregnancy in years 2004-2005.<sup>(5)</sup>

### Risk Factors

- Michigan ranked 13<sup>th</sup> worst for adult obesity in 2007, tied with Missouri, Delaware and Alaska at 28.2%.<sup>(1)</sup>
- The percentage of Michigan adults who met recommendations for physical activity increased from 45.6% to 50.7% between 2001 and 2007.<sup>(1)</sup>

### Prevalence (%) of diabetes-related health indicators among Michigan adults with diabetes, MiBRFS 2005 and 2007<sup>(2)</sup>

Indicators	2005	2007
No Health Coverage (Ages 18 to <65)	11.9	11.4
General Health, Fair or Poor	47.6	44.2
Current Smoker	15.1	12.4
High Blood Pressure	66.1	67.5
High Cholesterol	62.4	63.0
Overweight (BMI 25 to <30)	31.0	29.7
Obese (BMI ≥30)	55.0	55.9
No Leisure-Time Physical Activity	35.6	36.3
Eat Less than 5 fruits & vegetables per day	74.2	78.0
Poor physical health (14-30 days of last month)	26.2	25.8
Poor mental health (14-30 days of last month)	15.1	12.9
Disabled (Limited in any way or uses special equipment)	43.7	48.0

### Hospitalizations

- In 2006, 20% of all hospital discharges mentioned diabetes; even though people with diagnosed diabetes represent less than 10% of the population.<sup>(16)</sup>
- Diabetes was the primary diagnosis in 16,637 hospital discharges.<sup>(16)</sup>

### Costs

- The total cost of diabetes for people in Michigan is estimated at \$6.5 billion in 2007. This estimate includes direct medical costs of \$4.3 billion attributed to diabetes, and indirect costs valued at \$2.2 billion.<sup>(17)</sup>

### Diabetes Management

- Michigan has met the *Healthy People 2010*<sup>(18)</sup> goal for HbA1c tests. More than 70% of adults with diabetes had at least two HbA1c tests annually, significantly higher than the 2010 goal of 50%.

### Diabetes management indicators for Michigan adults ages ≥18 years with diabetes, MiBRFS 2001-2007<sup>(2)</sup>

Management Objective	Year			HP2010 Goals
	2001	2005	2007	
2 HbA1c Tests Annually	59.2	67.3	71.7	50
Annual Foot Exam	68.0	67.3	72.0	75
Annual Dilated Eye Exam	65.2	68.5	70.7	75
	2003-2004	2005	2007	
Annual Influenza Vaccination	53.2	48.6	52.8	60
Pneumococcal Vaccination	50.7	51.8	59.8	60

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### Notes/Sources

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- 2006 Michigan Inpatient Database. Discharges with any mention of DM and Lower Limb Amputation.
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- Healthy People 2010 is a nationwide health promotion and disease prevention plan. More information is available online: <http://www.healthypeople.gov/> (Access Date: 12/23/2008).