

# DIABETES IN MICHIGAN

## Prevalence<sup>1</sup>:

It is estimated that 7.87% or 593,200 persons (range: 560,000 to 635,000) age 18+ in Michigan have been diagnosed with diabetes. Diabetes prevalence is significantly highest among Blacks in Michigan as compared to Whites and Other Races (Figure 1). Within age groups, diabetes prevalence does not differ significantly by race; with exception of Blacks aged 55-64 and 65-74 who have a higher prevalence of diabetes as compared to Whites and Other Races of the same age group (Figure 2). It is estimated that 8.5% or 17,042 adults (range: 10,626 to 26,666) of Hispanic ethnicity in Michigan have been diagnosed with diabetes. An estimated 2/3 of people with diabetes have been diagnosed<sup>2</sup>; thus another 292,000 Michigan adults have undiagnosed diabetes. Another 1,573,529 adults have pre-diabetes (40.1% of adults 40-74 years of age).<sup>2a</sup>

Estimated Number of Adults with Diabetes, by Sex and Race-Michigan BRFSS 2002-2004

All			White			Black			Other Races		
Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
593,200	277,600	315,600	462,700	224,300	238,400	111,800	44,200	67,600	18,700	9,100	9,600

Figure 1. Adult Diabetes Prevalence, by Race and Sex, Michigan, 2002-2004

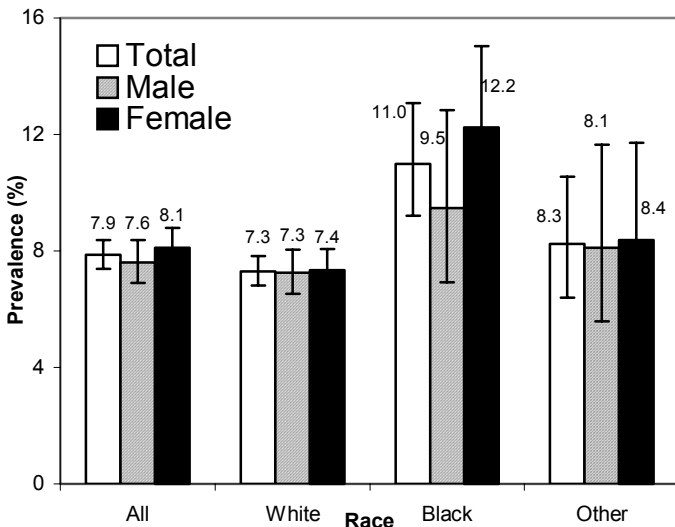
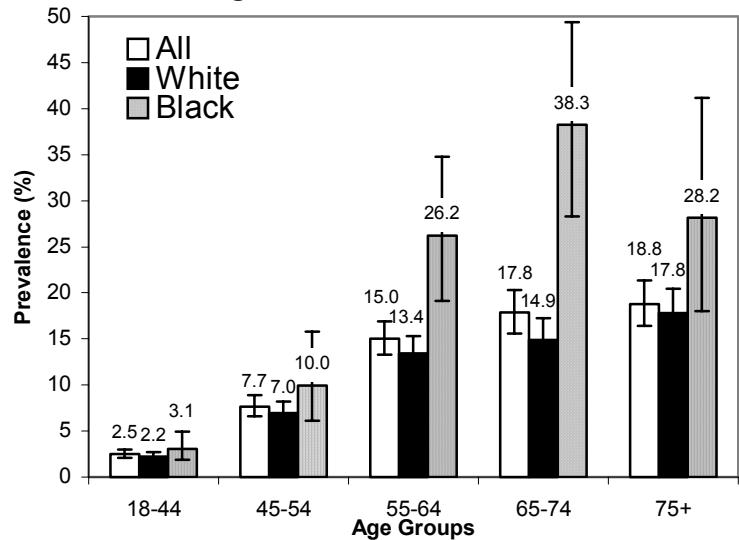


Figure 2. Adult Diabetes Prevalence by Age Group and Race, Michigan, 2002-2004



## Mortality<sup>3</sup>:

In 2004, diabetes was the 6<sup>th</sup> leading cause of death among Michigan residents. Specifically, diabetes was the leading cause of death for 2,954 residents in Michigan (3.5% of all deaths) and listed as a contributory cause of death for another 5,462 residents in 2004. The tables below summarize the distribution of deaths where diabetes was listed as the leading cause of death, by age, sex, and race.

Number of Deaths with Diabetes as Leading Cause by Age, Michigan Residents, 2004

All Ages	< 20 yrs.	20-44 yrs.	45-74 yrs.	75+ yrs.
2,954	5	105	1,217	1,627

Number of Deaths and Age-Adjusted Death Rates (per 100,000 population) with Diabetes as Leading Cause by Race & Sex, Michigan Residents, 2004

	All Races			White			Black		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Deaths	2,954	1,413	1,541	2,416	1,172	1,244	456	206	250
Rates	28.4	32.7	25.1	26.3	30.9	22.8	42.5	46.7	39.3

## **Costs<sup>4</sup>:**

In 2004, the estimated direct medical costs attributable to diabetes in Michigan were \$4.5 billion. Indirect costs resulting from lost workdays, restricted activity days, mortality, and permanent disability due to diabetes totaled an estimated \$2.0 billion.

## **Kidney Disease<sup>5</sup>:**

A primary diagnosis of diabetes was listed for 43.8% (or 1,620) of the 3,695 Michigan residents newly diagnosed with End Stage Renal Disease in 2004. As of December 31, 2004, there were 11,002 living dialysis patients in MI; of these, 42.4% (or 4,672) had a primary diagnosis of diabetes. An estimated 1 out of every 3 of the 614 kidney transplants performed in Michigan in 2004 were among persons with a primary diagnosis of diabetes.

## **Visual Impairment<sup>6</sup>:**

According to national estimates, the age-adjusted prevalence of visual impairment (i.e., trouble seeing even with their glasses or contact lenses) among adults with diabetes in 2003 was 22.0%. Specifically, among persons with diabetes, an estimated 23.0% of women, 15.4% of men, 19.5% of Whites, 16.7% of Hispanics, 19.1% of Blacks, 16.0% of 18-44 yr. olds, and 28.7% of 75+ yr. olds report some degree of visual impairment.

## **Hospitalizations<sup>7</sup>:**

In 2004, there were 235,837 diabetes-related hospital discharges among Michigan residents; of these, 17,346 (or 7.4%) had a leading diagnosis of diabetes. The average length of stay for discharges with any mention of diabetes was 5.4 days. Some form of non-traumatic lower limb amputation occurred among 2,706 diabetes-related discharges in 2004.

## **Progress on National Long Term Objectives and Prevalence of Selected Health Indicators among Persons with Diabetes<sup>8</sup>, Michigan, 2005:**

<b>Long Term Objectives</b>	<b>2001</b>	<b>2005</b>	<b>Indicators</b>	<b>%</b>	<b>95% CI</b>
2 HbA1c Tests Annually	59.2	67.3	No Health Coverage	7.8	(6.0, 10.0)
95%CI	(52.3, 65.7)	(61.9, 72.3)	General Health, Fair or Poor	47.6	(44.3, 51.0)
Annual Foot Exam	68.0	67.3	Current Smoker	15.1	(12.8, 17.8)
95%CI	(61.5, 73.9)	(62.4, 71.9)	High Blood Pressure	66.1	(62.8, 69.2)
Annual Dilated Eye Exam	65.2	68.4	High Cholesterol	62.4	(59.0, 65.7)
95%CI	(58.9, 71.0)	(63.5, 73.0)	Overweight (25<=BMI<30)	31.0	(27.9, 34.3)
	<b>2003-2004</b>	<b>2005</b>	Obese (BMI >=30)	55.0	(51.5, 58.4)
Annual Flu vaccination	53.2	48.6	No Leisure-Time Physical Activity	35.6	(32.6, 38.8)
95%CI	(49.2, 57.2)	(43.8, 53.5)	Eat less than 5 fruits & vegetables per day	76.0	(71.5, 79.9)
Pneumococcal Vaccination	50.7	51.8	Poor physical health (14-30 days of last month)	25.5	(21.6, 30.0)
95%CI	(46.6, 54.8)	(46.9, 56.8)	Poor mental health (14-30 days of last month)	13.9	(10.9, 17.6)
			Disabled (limited in any way or uses special equipment)	42.2	(37.6, 47.0)

### Notes/Sources:

<sup>1</sup> Based on Michigan 2004 Population data (Source: Office of Demographer). Prevalence based on MI BRFSS 2002-2004 estimates. Numbers rounded to nearest 100. Hispanic 18+ population=200,496, US 2000 Census 2000. Prevalence of DM for Hispanics = 8.5% (95%CI: 5.3%-13.3%); Michigan BRFSS 2005.

<sup>2</sup> National Health and Nutrition Examination Survey, III 1988-1994 (NHANES III Series 11, No. 1). Online: <http://www.cdc.gov/nchs/nhanes.htm>

<sup>2a</sup> National Diabetes Information Clearinghouse at <http://diabetes.niddk.nih.gov/dm/pubs/statistics/index.htm#3>. Source: National Health Interview Survey, 1998-1994

<sup>3</sup> From Michigan Department of Community Health. Online: <http://www.mdch.state.mi.us/pha/osr/index.asp?Id=4>. Age-adjusted to the US 2000 population

<sup>4</sup> Economic Cost of Diabetes in the US in 2002. Diabetes Care (2003). 26:3, 917-932. Michigan costs estimated using national per capita cost estimates of \$7,600 for direct medical costs and \$3,400 for indirect costs among persons with diabetes.

<sup>5</sup> Renal Network of the Midwest, Inc. Renal Network 11, Annual Report, 2004. Online: <http://www.esrdnet11.org/>

<sup>6</sup> Centers for Disease Control and Prevention (CDC), National Center for Health Statistics. Online: [www.cdc.gov/diabetes/statistics/visual/source.htm](http://www.cdc.gov/diabetes/statistics/visual/source.htm)

<sup>7</sup> 2004 Michigan Inpatient Database. Amputations among discharges with primary diagnosis of DM=1, 368 in 2004.

<sup>8</sup> Michigan 2005 BRFSS, Bureau of Epidemiology, Division of Genomics, Perinatal Health and Chronic Disease Epidemiology, MDCH.

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