

Hospitalization among Michigan Adults with Diabetes (2017)

	Hospitalization for diabetes listed as primary diagnosis in the MI adult diabetes population	Hospitalization for diabetes listed as any diagnosis in the MI adult diabetes population	Hospitalization for cardiovascular disease listed as primary diagnosis in the MI adult diabetes population
	Discharges per 1,000 PWD	Discharges per 1,000 PWD	Discharges per 1,000 PWD
Rate (Unadjusted)	24.6	355.6	78.1
Age-Adjusted	56.3	338.8	71.0
Rate by Characteristic (Unadjusted)			
Age Group			
18-24	~	~	~
25-34	~	~	~
35-44	41.0	237.8	27.3
45-54	16.6	158.3	27.8
55-64	11.7	167.7	34.8
65-74	13.8	329.8	79.4
75+	20.9	667.6	175.0
Sex			
Male	27.9	359.7	86.9
Female	21.3	348.7	69.1
Race			
White	20.1	335.6	75.0
Black	46.4	465.6	97.7

~Suppressed (See Methods and Limitations); PWD – Persons with diabetes

Length of stay	Diabetes listed as primary diagnosis		Diabetes listed as any diagnosis		CVD listed as primary diagnosis and diabetes as secondary diagnosis	
	Days	Std	Days	Std	Days	Std
Average length of stay	4.8	+/- 5.0	5.6	+/- 6.4	5.6	+/- 5.7
Median length of stay	3.0		4.0		4.0	
Most frequent length of stay	2.0		2.0		2.0	

Std – Standard deviation (applies only to average); CVD – Cardiovascular disease

Data Sources and Reference

Michigan Resident Inpatient Files, created using data from the Michigan Inpatient Database (MIDB) obtained with permission from the Michigan Health & Hospital Association Service Corporation, 2017.

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Michigan Behavioral Risk Factor Surveillance System, Lifecourse Epidemiology and Genomics Division, Michigan Department of Health and Human Services, 2017.

United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Bridged-Race Population Estimates, United States July 1st resident population by state, county, age, sex, bridged-race, and Hispanic origin, on CDC WONDER On-line Database (2017).

Klein RJ, Schoenborn CA. Age adjustment using the 2000 projected U.S. population. Healthy People Statistical Notes, no. 20. Hyattsville, Maryland: National Center for Health Statistics. January 2001.

Methods and Limitations

The hospitalizations per 1,000 adult persons with diabetes (i.e., hospital discharge rates) were determined using hospital discharge counts among Michigan adults (18 years and older) as the numerator and the estimated number of persons with diabetes in the adult Michigan population (18 years and older) as the denominator. The Michigan Residence Inpatient Files provide data on hospital discharges. Discharges for diabetes listed as primary or any diagnosis examined were identified using the ICD-10 CM diagnosis codes

E10, E11, and E13. Discharges with cardiovascular disease listed as primary diagnosis and diabetes listed as secondary diagnosis were identified using the ICD-10 CM diagnosis codes I00-I09, I11, I13, I20-I51, and I60-I78 for cardiovascular disease and E10, E11, and E13 for diabetes. Because hospital discharges are not individual persons, the hospital discharge rates may not necessarily reflect rates of disease per person with diabetes; that is, persons who are hospitalized more than once in a year may be counted more than once.

The denominator was estimated using 1) the unadjusted prevalence estimate based on 2017 MiBRFSS data (adults who reported ever being told that they had diabetes by a health professional), and 2) the 2017 adult Michigan bridged-race population estimate. Hospital discharge rates among age groups 18-24 years old and 25-34 years old were not reported due to the diabetes prevalence estimates having relative standard errors > 30%. Age-adjusted rates were rates adjusted to the 2000 U.S. Standard Population using three age groups (18–44, 45–64, 65+ years). Rates indicated as unadjusted were rates that were not age-adjusted. Confidence intervals were not given.