

Hospitalization among Michigan Adults with Diabetes (2019)

	Hospitalization for diabetes listed as primary diagnosis	Hospitalization for diabetes listed as any diagnosis	Hospitalization for cardiovascular disease listed as primary diagnosis and diabetes as secondary diagnosis
	Discharges per 1,000 MI PWD	Discharges per 1,000 MI PWD	Discharges per 1,000 MI PWD
Rate (Unadjusted)	25.6	352.8	80.2
Rate by Characteristic (Unadjusted)			
Age Group			
18-24	^a	^a	^a
25-34	109.5	338.6	16.1
35-44	44.5	242.2	28.3
45-54	26.3	230.9	41.7
55-64	21.5	299.0	65.0
65-74	16.0	345.1	83.5
75+	19.5	597.8	163.5
Sex			
Male	28.6	354.7	87.5
Female	22.5	351.5	72.9
Race			
White	21.9	340.1	78.1
Black	45.5	458.0	101.2

PWD – Persons with diabetes

^aSuppressed due to a denominator < 50 and/or a relative standard error > 30%

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	5.0	+/- 5.5	5.8	+/- 14.3	5.7	+/- 6.5
Median length of stay	4.0		4.0		4.0	
Most frequent length of stay	2.0		3.0		2.0	

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

Lower-Extremity Amputation Among Patients with Diabetes Rate (per 100,000)

37.9 per 100,000 Michigan Adults (18 years and older)

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, 2019.

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Michigan Behavioral Risk Factor Surveillance System, Lifecourse Epidemiology and Genomics Division, Michigan Department of Health and Human Services, 2019.

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 (2020).

Note: These estimates may change based on the 2020 Census. States are waiting for CDC guidance.

United States Department of Health and Human Services (US DHHS), Agency for Healthcare Research and Quality, Prevention Quality Indicator 16 (PQI 16) Lower-Extremity Amputation Among Patients with Diabetes Rate, AHRQ Quality Indicators™ (AHRQ QI™) ICD-10-CM/PCS Specification v2018 (2018).

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 2019 MiBRFSS data (adults who reported ever being told that they had diabetes by a health professional), and 2) the 2019 adult Michigan bridged-race population estimate.

Lower-extremity amputation rate was discharges for any-listed diagnosis of diabetes and any-listed procedure of lower-extremity amputation (except toe amputations) per 100,000 Michigan population, ages 18 years and older. This excluded any-listed diagnosis of traumatic lower-extremity amputations (<https://www.qualityindicators.ahrq.gov/>).