

2006-2010 Michigan and County-Specific Alcohol-Attributable Mortality Rates

<u>County</u>	<u>Crude Rate</u> <u>(per 100,000 population)</u>	<u>Age-Adjusted Rate</u> <u>(per 100,000 population)</u>
Alcona	10.7	7.1
Alger	6.3	4.8
Allegan	6.2	5.7
Alpena	11.5	9.8
Antrim	5.8	5.2
Arenac	7.3	6.3
Baraga	16.3	12.7
Barry	6.8	6.1
Bay	10	9
Benzie	8.1	7.1
Berrien	11.5	10.2
Branch	11.4	10.4
Calhoun	14.1	12.9
Cass	4.8	4
Charlevoix	8.5	6.5
Cheboygan	9.8	8
Chippewa	18.1	16.5
Clare	7.9	6.2
Clinton	2	1.9
Crawford	12.5	9.6
Delta	14.5	11.7
Dickinson	6.7	6.3
Eaton	3.6	3.2
Emmet	4.8	4
Genesee	9	8.3
Gladwin	6.9	6
Gogebic	12.4	10.2
Grand Traverse	10	8.8
Gratiot	2.8	2.7
Hillsdale	9.1	8.1
Houghton	21	22.1
Huron	9.2	7.8
Ingham	8.4	9.1
Ionia	4.7	4.9
Iosco	13.8	11.3
Iron	10.2	6.8
Isabella	5.7	7
Jackson	8.2	7.4

Prepared by Michigan Department of Community Health
Lifecourse Epidemiology & Genomics Division
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<u>County</u>	<u>Crude Rate</u> (per 100,000 population)	<u>Age-Adjusted Rate</u> (per 100,000 population)
Kalamazoo	8.5	8.7
Kalkaska	9.3	7.5
Kent	9.3	9.3
Keweenaw	8.9	8.3
Lake	12.8	9.4
Lapeer	7.5	6.4
Leelanau	4.6	3.3
Lenawee	5.6	5.1
Livingston	5.1	4.4
Luce	24.2	20.5
Mackinac	13.2	11.1
Macomb	9	8.2
Manistee	4.9	3.4
Marquette	11.3	10.3
Mason	13.3	10.6
Mecosta	5.7	5.9
Menominee	9.1	7.2
Midland	5.6	5.2
Missaukee	5.3	4.5
Monroe	5.5	5
Montcalm	3.5	3.2
Montmorency	13.8	8.9
Muskegon	10.4	9.7
Newaygo	10.6	9.5
Oakland	6.6	5.8
Oceana	7.9	7.5
Ogemaw	7.5	6.9
Ontonagon	5.9	3.8
Osceola	7	5.6
Oscoda	4.5	5.1
Otsego	5.9	5
Ottawa	5.3	5.4
Presque Isle	20.6	17.5
Roscommon	16.8	12.2
Saginaw	13.4	12.4
Saint Clair	10.4	9.1
Saint Joseph	7.4	7
Sanilac	10.2	8.1
Schoolcraft	2.4	2.1
Shiawassee	6.8	6

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<u>County</u>	<u>Crude Rate</u> (per 100,000 population)	<u>Age-Adjusted Rate</u> (per 100,000 population)
Tuscola	9.6	8.5
Van Buren	9.2	8.3
Washtenaw	5.1	5.2
Wayne	6.2	6
Wexford	11.4	9.9
Total	7.9	7.3

One way of examining the patterns of health outcomes in communities of different sizes is to calculate a rate, which is the number of deaths divided by the size of the population. A community made up of more young individuals may have a higher number of alcohol poisoning deaths than a community with older adults. A community with a larger number of older individuals may have higher rates of liver cirrhosis deaths than one with younger individuals. This may happen even if the individuals in the two communities have the same risk of dying from liver cirrhosis or alcohol poisoning.

A crude death rate is the total number of deaths among residents in a county or state divided by the total population for the same geographic area for 2006-2010 and multiplied by 100,000. Age adjustment is a statistical way to make fairer comparisons between counties by removing factors (like age), which may affect the final number. Rates were calculated using the standard population the age distribution of the total population of the United States as projected for the year 2000. *The underlying cause of death is the condition giving rise to the chain of events leading to death.

Alcohol-attributable deaths were defined using one of the following ICD-10 codes:

Alcoholic psychosis (F10.3 - F10.9)	Alcoholic liver disease (K70-K70.4, K70.9)
Alcohol abuse (F10.0, 10.1)	Fetal alcohol syndrome (Q86.0)
Alcohol dependence syndrome (F10.2)	Fetus and newborn affected by maternal use of alcohol (P04.3, O35.4)
Alcohol polyneuropathy (G62.1)	Alcohol induced chronic pancreatitis (K86.0)
Degeneration of nervous system due to Alcohol (G31.2)	Alcohol poisoning (X45, Y 15, T 51.0, T 51.1, T51.9)
Alcohol myopathy (G72.1)	Suicide by and exposure to alcohol (X65)
Alcohol cardiomyopathy (I42.6)	Excessive blood level of alcohol (R78.0)
Alcoholic gastritis (K 29.2)	

Data source: 2006-2010 Michigan Death Certificates, Michigan Department of Community Health, Division of Vital Statistics.