



Injury Mortality in Michigan

2007 – 2010

March 2013

*Michigan Department
of Community Health*



**Rick Snyder, Governor
James K. Haveman, Director**

State of Michigan

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EXECUTIVE SUMMARY

This is the fifth report on deaths due to injury and poisoning among Michigan residents. The report examines demographic characteristics (age, sex, race, ethnicity, county of residence) of those fatally injured during 2007-2010. In addition, it provides temporal injury mortality data for Michigan and U.S. residents for the period 1999-2010. The salient findings are:

- Between 2007 and 2010, an average of 5,838 Michigan residents died each year due to injuries and poisonings. This corresponds to an average annual rate of 58.5 deaths per 100,000 Michigan residents.
- There were an average of 3,706 unintentional injury deaths per year (63% of all injuries), 1,181 suicides (20%), and 653 homicides (11%).
- From 1999 to 2010, the rate of injury death in Michigan increased by 13%. Up through 2008, Michigan's injury death rate was slightly less than the national rate. However, in 2009 and 2010, Michigan's rate exceeded the national rate.
- The leading causes of fatal injury were: motor vehicle traffic crashes (17.3% of all injury deaths); unintentional poisonings (17.1%); unintentional falls (13.3%); firearm suicides (9.8%); and firearm homicides (8.3%).
- Between 2007 and 2010, an average of 121 people died annually while working in Michigan. Between 1999 and 2009, Michigan's work-related injury death rate was consistently less than the national rate.
- Trends during 1999-2010 were clearly evident for several causes of injury death.
 - Upward trend
Unintentional poisonings – The death rate increased by 265%.
Unintentional falls – The death rate increased by 78%.
 - Downward trend
Occupants Killed in Motor Vehicle Crashes – The death rate decreased by 42%.
- For several injury causes, death rates for certain demographic groups greatly exceeded the state rate.
 - Unintentional suffocation/strangulations* – Non-Hispanic Blacks under age one (71 times the state rate)
 - Firearm homicides* – Non-Hispanic Black males aged 20-24 years (32 times)
 - Unintentional falls* – Ages 75 years and older (11 times)
 - Unintentional fire/flame/smoke* – Non-Hispanic Blacks aged 75 years and older (11 times)
- Wayne County residents had a firearm homicide rate that was three times the state rate.

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INTRODUCTION

Injuries are one of the most under-recognized public health problems facing society. In 2010, injuries (unintentional injuries, suicides, and homicides) were the third leading cause of death among Michigan residents.¹ Although information on the overall numbers of injury deaths is reported annually by the Michigan Department of Community Health (MDCH), analyses of specific injury causes and the demographics of injury victims provide much more valuable information. Such analyses are an essential component in the process of monitoring the magnitude and characteristics of injury deaths and developing targeted injury prevention programs.

This report illustrates the average annual numbers and rates of injury deaths that occurred among Michigan residents between 2007 and 2010. Age, sex, race, ethnicity, and county of residence of decedents are presented. These analyses help to identify segments of the Michigan population at high risk for injury. In addition, temporal analyses, using data for the U.S. as reference, were conducted utilizing data covering the period 1999 to 2010. These temporal analyses illustrate trends and differences in rates between Michigan and the nation.

The format of this report is consistent with the four previous reports on injury mortality in Michigan which covered the periods 1991-1995,² 1994-1998,³ and 1999-2001,⁴ and 2002-2006.⁵

DATA SOURCES AND METHODS

Data Sources

Death certificates were the primary source of data for injury deaths. Funeral directors, attending physicians, and medical examiners document cause of death and demographics of the decedent on the death certificate. In Michigan, these data are aggregated and maintained by the MDCH Vital Records and Health Data Development Section. MDCH maintains data on all deaths occurring within Michigan and on Michigan resident deaths occurring out-of-state. Death certificate data pertaining to the United States were obtained from the Web-based Injury Statistics Query and Reporting System (WISQARS)⁶ which is managed by the U.S. Centers for Disease Control and Prevention (CDC). WISQARS is an interactive website in which users can generate customized reports by selecting injury cause, region/state of residence, year of death, and decedent demographics. National data for drowning – boat-related and non-boat-related – were obtained from CDC's Wide-ranging Online Data for Epidemiologic Research (WONDER) system because data on boat-related drowning cannot be ascertained using WISQARS. Data from the Michigan Fatality Analysis Reporting System (MFARS), which is maintained by the Michigan State Police Criminal Justice Information Center, were used to supplement motor vehicle traffic crash data provided by death certificates. The Census of Fatal Occupational Injuries (CFOI) was the source of data for work-related injury deaths. The U.S. Bureau of Labor Statistics manages this system nationally. In Michigan, the program is administered by the MIOSHA Management & Technical Services Division within the Department of Licensing and Regulatory Affairs. Multiple data sources are utilized to maximize identification of cases. The source of Michigan population data – needed to calculate population-based death rates – was the Population Estimates section of the MDCH website.⁸ The source of employment data – used to calculate worker-based death rates – was the Current Population Survey (Bureau of Labor Statistics).

Methods

A Michigan injury death was defined as a death occurring to a Michigan resident for which the underlying cause was coded within the ICD-10⁹ range V01 – Y36, Y85 – Y87, Y89. Excluded were deaths due to adverse effects or complications of medical care (Y40-Y84, Y88) and terrorism (U01-U03).

ICD-10 codes V01-Y98 specify the cause of injury, including the mechanism (e.g., struck by object) and the intentionality (e.g., homicide) of the incident. A framework for presenting cause of injury information has been developed by the CDC.¹⁰ This framework defines standard mechanism/intentionality groups. Tables 17 and 18 illustrate the annual average number of deaths for each group and the corresponding annual death rates. Analyses were performed for the cause of injury groups of most significance (e.g., unintentional falls, poisoning suicides, firearm homicides). These analyses included average annual counts and rates by decedent age/sex/race, year of death and county of residence.

Within the motor vehicle traffic crash (MVTC) category, a large proportion of decedents (41% of the 14,123 deaths between 1999 and 2010) could not be assigned a specific person type category (e.g., vehicle occupant) based on ICD10 coding alone. These cases were classified as “Unspecified” as illustrated in Tables 17 and 18. To more accurately quantify the MVTC subcategories and improve their associated analyses, an attempt was made to classify these “Unspecified” cases using a two-step process: 1) linking death certificate data to MFARS data (MFARS specifies person type for nearly every traffic crash death); and 2) of the remaining unlinked cases, examining the description of injury provided on death certificates. (Details of these procedures are provided in Appendix B.) As a result, 4,836 cases originally classified as “Unspecified” for the period 1999-2010 were identified as motor vehicle occupants. These were added to the original count of 5,041. For motorcyclists, 123 cases were added to the original 1201; for pedestrians, 29 were added to 1,780; and four pedal cyclist cases were added to 278.

To calculate rates for the age/sex/race and county of residence tables, four-year annual average numbers of deaths were divided by corresponding four-year annual average populations for 2007-2010; the result was multiplied by 100,000. For the temporal analyses, an age-adjusted rate was calculated for each year. Age-adjusting minimizes the effect of differences in age distributions of the populations being compared – in this case, Michigan and the United States and Michigan over time (i.e., 1999-2010). To age-adjust Michigan rates, eleven age group (under 1 year, 1-4, 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65-75, 75-84, 85 and older) specific rates were calculated. Each of these rates was then applied to the corresponding age group in the US 2000 Standard Population¹¹ and the results summed. This total was then divided by the total US 2000 Standard Population and multiplied by 100,000. The number of U.S. deaths and the corresponding crude and age-adjusted death rates were ascertained directly from WISQARS/WONDER.

Rates for cells having less than six deaths over the four-year period were not calculated due to the corresponding lack of statistical stability.[†] In the tables, such instances are noted with an “*.” Cells in which no deaths occurred are noted by a “-.”

[†] A rate was considered to be unstable if its relative standard error (RSE) – the rate divided by its standard error – exceeded 41%. The RSE of all rates based on less than six deaths exceeded this limit.

ALL INJURY AND POISONING

TABLE 1
Average Annual Number of Injury and Poisoning Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	21	16	37	19	19	38	4	2	6	46	38	84
1-4	17	9	26	11	7	18	3	2	5	33	18	51
5-9	11	9	20	4	5	8	1	1	2	16	15	32
10-14	18	10	28	11	7	18	2	1	2	31	20	51
15-19	127	47	174	90	15	105	17	5	22	242	70	311
20-24	199	69	268	109	16	125	15	5	20	334	93	427
25-29	202	59	260	84	16	99	16	6	22	310	83	393
30-34	185	58	243	82	17	98	16	5	20	288	82	370
35-44	438	181	619	137	40	177	21	9	30	610	239	849
45-54	609	264	873	131	59	190	17	8	25	774	341	1,115
55-64	355	151	506	90	34	123	9	4	13	462	192	654
65-74	233	101	333	30	13	43	3	2	5	273	122	395
75+	499	516	1,015	34	33	66	3	4	7	545	562	1,107
Total	2,912	1,489	4,401	828	278	1,106	126	54	180	3,964	1,873	5,838

Includes ICD-10 codes: V01 – Y36, Y85 – Y87, Y89

Numbers in columns and rows may not total exactly due to rounding.

Decedents with unknown age, race, Hispanic ethnicity, or sex are not illustrated but are included in totals.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 2
Average Annual Injury and Poisoning Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	53.9	42.7	48.5	184.8	188.0	186.3	71.4	39.1	55.5	76.4	65.9	71.3
1-4	10.0	5.4	7.8	27.3	16.6	22.0	12.9	11.0	12.0	13.1	7.6	10.4
5-9	4.7	4.1	4.4	6.7	9.3	8.0	*	*	4.6	4.9	4.8	4.9
10-14	7.2	4.3	5.8	18.2	11.8	15.0	6.9	*	5.3	8.8	5.8	7.3
15-19	46.2	18.0	32.5	129.1	22.5	76.9	79.9	26.4	54.1	62.5	19.0	41.3
20-24	80.0	28.4	54.7	211.5	30.8	120.7	78.8	28.9	54.9	98.9	28.2	64.0
25-29	90.2	26.9	58.9	192.5	33.0	109.7	88.5	33.7	62.8	103.0	27.7	65.5
30-34	87.5	27.7	57.8	195.2	34.9	110.0	88.8	27.5	59.4	100.3	28.0	63.9
35-44	85.8	35.7	60.8	149.6	38.6	90.5	72.2	32.8	53.1	92.1	35.5	63.6
45-54	98.9	42.4	70.5	147.5	57.8	99.4	83.7	42.6	63.6	103.5	44.2	73.4
55-64	72.0	29.8	50.6	139.5	42.6	86.1	78.1	34.2	56.3	79.1	31.2	54.5
65-74	82.5	31.9	55.8	97.4	31.7	59.6	53.4	35.4	44.0	83.9	32.8	56.7
75+	230.8	150.9	181.9	162.1	86.8	113.7	91.0	89.2	90.0	223.3	144.4	174.8
Total	77.4	38.4	57.6	124.8	37.9	79.1	57.4	25.7	42.0	81.3	37.0	58.5

Rates are the number of deaths per 100,000 population.

* Reliable rate could not be calculated. See *Methods*.

Decedents with unknown age, race, or sex not illustrated but included in totals.

Sources: Division for Vital Records and Health Statistics, MDCH

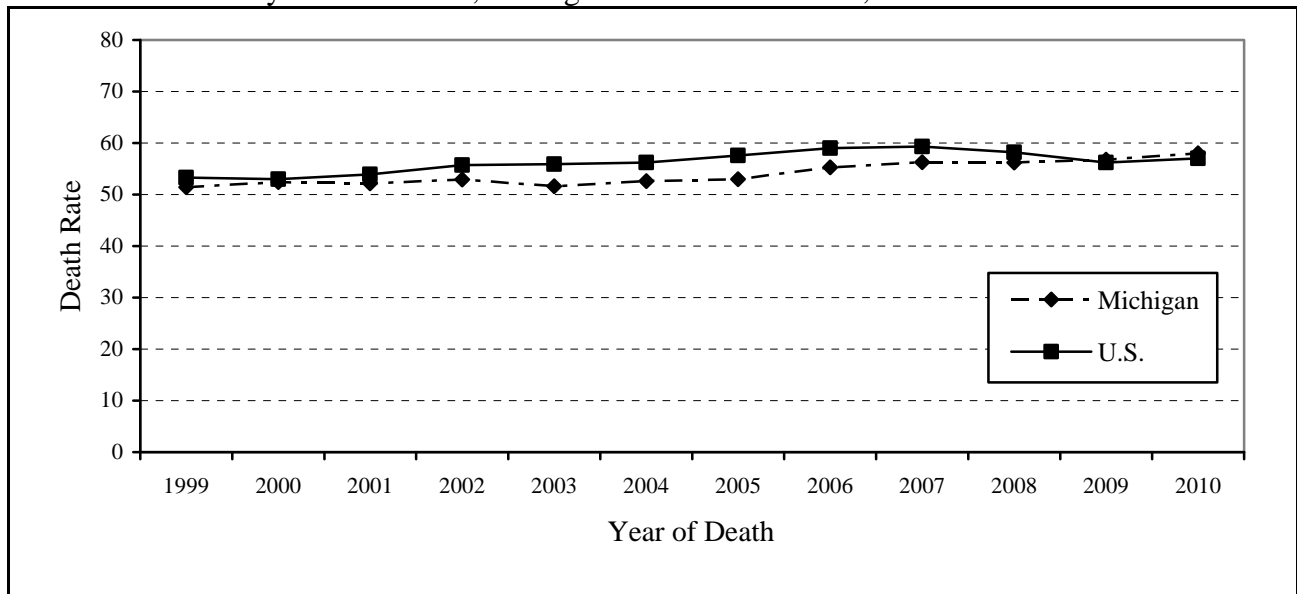
Population Estimates released by the National Center for Health Statistics, CDC

ALL INJURY AND POISONING

TABLE 3
Number of Injury and Poisoning Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	5,034	148,286	50.9	53.1	51.4	53.3
2000	5,172	148,209	51.9	52.7	52.4	53.0
2001	5,209	154,152	52.1	54.1	52.2	53.9
2002	5,319	161,268	53.0	56.0	52.9	55.7
2003	5,244	164,002	52.0	56.4	51.6	55.9
2004	5,368	167,184	53.1	56.9	52.6	56.2
2005	5,446	173,753	53.8	58.6	53.0	57.6
2006	5,669	179,065	56.2	60.0	55.3	59.0
2007	5,817	182,479	57.8	60.5	56.3	59.3
2008	5,784	181,226	57.8	59.5	56.2	58.2
2009	5,821	177,154	58.4	57.7	56.8	56.2
2010	5,928	180,811	60.0	58.6	58.0	57.0

FIGURE 1
Age-adjusted Injury and Poisoning Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: V01 – Y36, Y85 – Y87, Y89

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

ALL INJURY AND POISONING

TABLE 4

Average Annual Number of Injury and Poisoning Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	10	91.7	Lapeer	44	49.0
Alger	7	73.6	Leelanau	10	45.8
Allegan	69	60.9	Lenawee	46	45.6
Alpena	22	72.8	Livingston	85	46.3
Antrim	16	68.0	Luce	6	83.2
Arenac	12	75.4	Mackinac	9	85.5
Baraga	6	63.4	Macomb	501	60.1
Barry	33	56.5	Manistee	21	83.2
Bay	65	60.7	Marquette	33	50.5
Benzie	11	64.6	Mason	15	51.5
Berrien	94	58.8	Mecosta	22	51.7
Branch	27	58.3	Menominee	12	49.9
Calhoun	101	74.2	Midland	42	50.7
Cass	34	66.0	Missaukee	9	62.1
Charlevoix	14	54.9	Monroe	81	52.7
Cheboygan	18	66.3	Montcalm	44	70.3
Chippewa	31	78.7	Montmorency	6	57.1
Clare	21	69.6	Muskegon	117	67.1
Clinton	24	34.1	Newaygo	32	65.5
Crawford	9	61.2	Oakland	522	43.4
Delta	21	55.2	Oceana	20	72.0
Dickinson	19	71.2	Ogemaw	16	72.6
Eaton	56	52.6	Ontonagon	7	107.4
Emmet	19	56.2	Osceola	11	48.8
Genesee	296	69.0	Oscoda	9	102.3
Gladwin	22	83.0	Otsego	20	83.9
Gogebic	15	89.8	Ottawa	111	42.6
Grand Traverse	45	52.2	Presque Isle	13	92.3
Gratiot	22	50.9	Roscommon	19	74.4
Hillsdale	29	61.7	Saginaw	125	62.4
Houghton	21	58.3	St. Clair	115	68.9
Huron	19	58.7	St. Joseph	40	64.6
Ingham	120	43.1	Sanilac	30	70.5
Ionia	40	62.5	Schoolcraft	8	90.2
Iosco	14	51.9	Shiawassee	51	72.0
Iron	13	106.0	Tuscola	32	56.3
Isabella	25	37.3	Van Buren	56	72.2
Jackson	88	54.6	Washtenaw	137	39.6
Kalamazoo	150	60.4	Wayne	1,339	69.8
Kalkaska	13	77.6	Wexford	23	70.5
Kent	324	53.5	Unknown	2	
Keweenaw	2	66.9			
Lake	10	85.3	Michigan	5,838	58.5

Includes ICD-10 codes: V01 – Y36, Y85 – Y87, Y89

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

UNINTENTIONAL INJURY

TABLE 5
Average Annual Number of Unintentional Injuries
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	18	13	31	17	15	31	3	2	5	39	31	70
1-4	11	6	17	7	4	11	2	2	4	22	12	34
5-9	9	8	17	3	4	6	1	1	2	13	13	25
10-14	13	8	22	6	4	9	1	1	2	20	14	34
15-19	80	36	115	17	6	23	11	4	15	111	47	158
20-24	121	46	167	15	7	22	9	3	12	151	59	210
25-29	120	38	158	17	8	25	10	3	13	154	50	204
30-34	106	33	139	20	8	27	8	3	11	137	45	182
35-44	236	103	339	46	21	67	12	6	18	304	136	440
45-54	347	165	512	71	42	113	12	7	19	440	220	659
55-64	211	96	307	59	26	85	7	4	10	283	128	411
65-74	157	80	236	20	10	30	2	2	4	184	98	282
75+	418	498	916	27	30	57	3	4	7	457	541	998
Total	1,846	1,128	2,974	322	183	505	80	41	120	2,314	1,392	3,706

Includes ICD-10 codes: V01 – X59, Y85, Y86

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 6
Average Annual Unintentional Injury Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	44.4	35.4	40.0	162.9	147.3	155.3	61.9	39.1	50.6	64.8	53.7	59.4
1-4	6.5	3.6	5.1	16.1	10.8	13.5	10.5	7.4	9.0	8.7	4.9	6.9
5-9	3.9	3.4	3.7	4.8	7.4	6.0	*	*	3.1	3.8	3.9	3.9
10-14	5.3	3.5	4.4	9.3	6.5	8.0	*	*	4.1	5.6	4.1	4.9
15-19	28.9	13.7	21.5	24.8	8.2	16.7	49.4	20.1	35.2	28.8	12.7	20.9
20-24	48.5	19.2	34.1	29.2	14.0	21.5	45.4	18.8	32.6	44.7	17.8	31.4
25-29	53.8	17.2	35.7	39.2	16.5	27.4	54.5	18.4	37.5	51.1	16.7	34.0
30-34	50.2	15.7	33.1	46.7	16.4	30.6	46.5	16.8	32.3	47.6	15.4	31.4
35-44	46.2	20.3	33.3	49.9	20.2	34.1	42.1	21.9	32.3	45.9	20.2	33.0
45-54	56.4	26.4	41.3	79.7	41.0	58.9	57.8	34.8	46.6	58.7	28.5	43.4
55-64	42.8	19.0	30.7	92.3	32.7	59.5	57.0	29.9	43.6	48.5	20.8	34.3
65-74	55.6	25.2	39.6	64.4	25.0	41.7	34.0	35.4	34.7	56.6	26.3	40.5
75+	193.2	145.7	164.1	129.7	79.4	97.4	83.4	89.2	86.8	187.0	139.1	157.6
Total	49.0	29.1	38.9	48.5	25.0	36.1	36.3	19.4	28.0	47.5	27.5	37.1

Rates are the number of deaths per 100,000 population.

* Reliable rate could not be calculated. See *Methods*.

Sources: Division for Vital Records and Health Statistics, MDCH

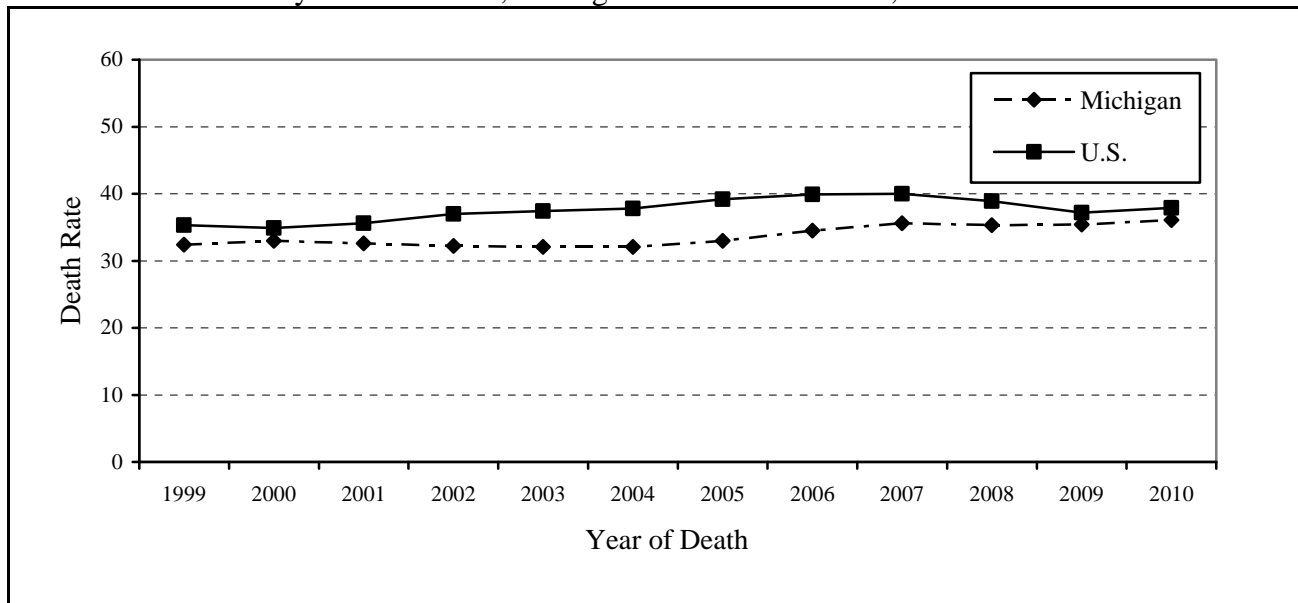
Population Estimates released by the National Center for Health Statistics, CDC

UNINTENTIONAL INJURY

TABLE 7
 Number of Unintentional Injuries and Corresponding Death Rates
 By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	3,151	97,860	31.8	35.1	32.4	35.3
2000	3,243	97,900	32.6	34.8	33.0	34.9
2001	3,248	101,537	32.5	35.6	32.6	35.6
2002	3,242	106,742	32.3	37.1	32.2	37.0
2003	3,278	109,277	32.5	37.6	32.1	37.4
2004	3,299	112,012	32.6	38.2	32.1	37.8
2005	3,426	117,809	33.9	39.8	33.0	39.2
2006	3,557	121,599	35.2	40.7	34.5	39.9
2007	3,714	123,706	36.9	41.0	35.6	40.0
2008	3,679	121,902	36.8	40.1	35.3	38.9
2009	3,671	118,021	36.8	38.4	35.4	37.2
2010	3,758	120,859	38.0	39.2	36.1	37.9

FIGURE 2
 Age-adjusted Unintentional Injury Rates
 By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: V01 – X59, Y85, Y86

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

UNINTENTIONAL INJURY

TABLE 8
Average Annual Number of Unintentional Injuries and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	7	60.4	Lapeer	29	31.6
Alger	4	44.7	Leelanau	8	34.3
Allegan	51	45.2	Lenawee	31	30.9
Alpena	14	46.5	Livingston	62	33.7
Antrim	11	47.1	Luce	4	64.3
Arenac	7	41.6	Mackinac	7	60.1
Baraga	4	43.2	Macomb	319	38.3
Barry	24	40.4	Manistee	15	59.9
Bay	33	30.9	Marquette	23	35.3
Benzie	8	47.4	Mason	9	32.3
Berrien	69	43.5	Mecosta	16	37.4
Branch	19	42.3	Menominee	9	37.4
Calhoun	73	53.8	Midland	28	33.8
Cass	23	45.8	Missaukee	7	48.6
Charlevoix	10	38.5	Monroe	60	39.0
Cheboygan	12	46.4	Montcalm	31	49.7
Chippewa	20	51.6	Montmorency	5	44.7
Clare	16	53.2	Muskegon	84	48.5
Clinton	17	23.5	Newaygo	24	49.1
Crawford	6	42.0	Oakland	292	24.3
Delta	16	42.4	Oceana	16	56.5
Dickinson	13	49.6	Ogemaw	11	49.2
Eaton	37	34.8	Ontonagon	5	70.4
Emmet	14	42.7	Osceola	8	35.8
Genesee	175	40.8	Oscoda	6	68.2
Gladwin	18	67.5	Otsego	15	61.9
Gogebic	9	54.2	Ottawa	75	28.6
Grand Traverse	31	35.7	Presque Isle	9	68.3
Gratiot	16	36.7	Roscommon	13	53.3
Hillsdale	23	48.7	Saginaw	60	29.8
Houghton	16	45.7	St. Clair	77	45.7
Huron	12	36.6	St. Joseph	30	48.0
Ingham	78	28.1	Sanilac	23	54.2
Ionia	31	48.7	Schoolcraft	4	45.1
Iosco	10	36.5	Shiawassee	36	50.9
Iron	8	65.7	Tuscola	21	37.1
Isabella	18	26.9	Van Buren	41	52.5
Jackson	51	31.6	Washtenaw	79	22.8
Kalamazoo	101	40.8	Wayne	738	38.5
Kalkaska	11	61.5	Wexford	16	50.9
Kent	240	39.7	Unknown	1	
Keweenaw	1	*			
Lake	7	62.8	Michigan	3,706	37.1

Includes ICD-10 codes: V01 – X59, Y85, Y86

Rates are the number of deaths per 100,000 population.

* Reliable rate could not be calculated. See *Methods*.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

SUICIDE

TABLE 9
Average Annual Number of Suicides
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	-	-	-	0	-	0	-	-	-	0	-	0
10-14	3	2	4	1	2	4	0	-	0	5	4	9
15-19	36	7	43	8	1	9	3	1	4	50	10	60
20-24	57	11	68	7	2	9	2	1	2	69	14	83
25-29	56	12	68	8	1	9	3	1	4	68	15	83
30-34	59	10	69	6	2	8	4	1	5	71	14	85
35-44	155	44	199	15	5	20	4	1	5	177	51	228
45-54	204	62	266	10	5	16	2	1	2	221	70	290
55-64	120	36	156	5	3	8	2	0	2	128	40	167
65-74	67	15	83	4	1	4	1	-	1	73	16	89
75+	75	9	83	4	1	4	0	-	0	79	9	88
Total	832	207	1,039	68	22	90	20	5	25	940	242	1,181

Includes ICD-10 codes: X60 – X84, Y870

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 10
Average Annual Suicide Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	-	-	-	*	-	*	-	-	-	*	-	*
10-14	1.1	0.6	0.9	*	3.9	3.0	*	-	*	1.3	1.2	1.2
15-19	13.1	2.6	8.0	11.8	*	6.8	12.9	*	9.1	12.9	2.7	7.9
20-24	22.8	4.7	13.9	13.1	3.4	8.2	8.0	*	5.6	20.3	4.2	12.4
25-29	25.2	5.4	15.4	18.4	*	10.2	16.3	*	12.3	22.7	5.0	13.9
30-34	27.9	4.9	16.5	13.8	3.7	8.4	21.1	*	13.2	24.7	4.6	14.6
35-44	30.4	8.7	19.6	16.4	4.6	10.1	13.8	*	8.4	26.6	7.6	17.1
45-54	33.2	9.9	21.5	11.6	5.1	8.1	8.6	*	5.7	29.5	9.0	19.1
55-64	24.3	7.1	15.6	7.8	3.8	5.6	14.8	*	8.5	21.8	6.5	13.9
65-74	23.9	4.8	13.8	12.4	*	6.0	*	-	*	22.5	4.2	12.8
75+	34.6	2.5	14.9	18.0	*	7.3	*	-	*	32.4	2.4	13.9
Total	22.1	5.3	13.6	10.2	3.0	6.4	9.0	2.4	5.8	19.3	4.8	11.8

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

SUICIDE

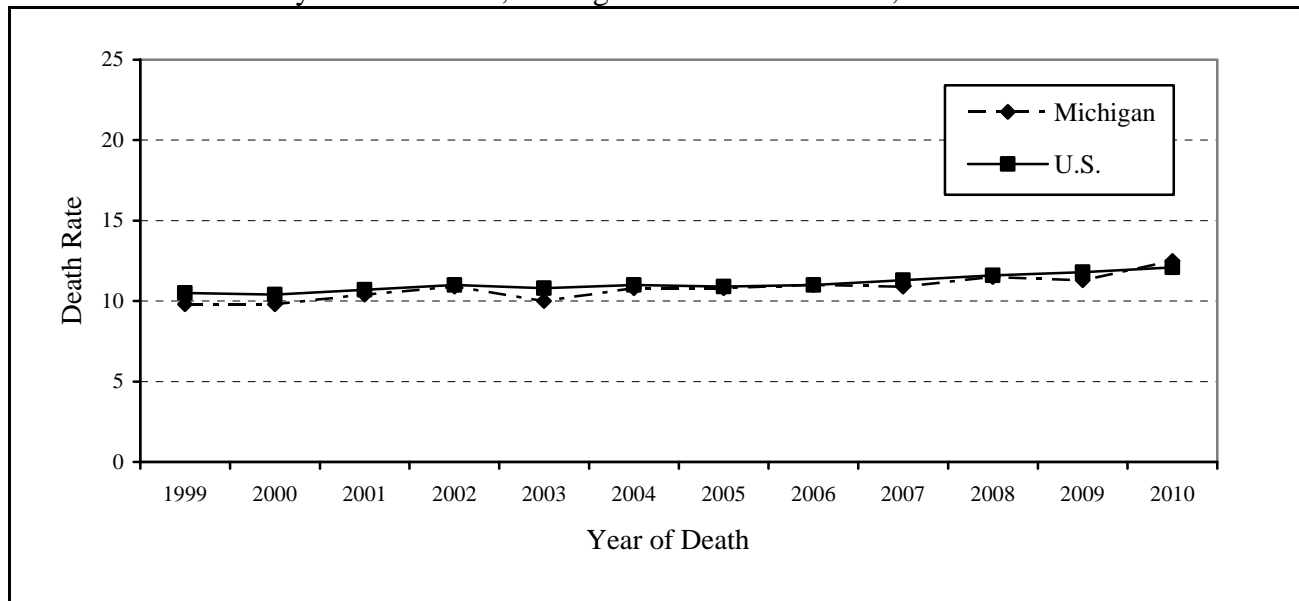
TABLE 11

Number of Suicides and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	969	29,199	9.8	10.5	9.8	10.5
2000	975	29,350	9.8	10.4	9.8	10.4
2001	1,045	30,622	10.4	10.7	10.4	10.7
2002	1,095	31,655	10.9	11.0	10.9	11.0
2003	1,018	31,484	10.1	10.8	10.0	10.8
2004	1,096	32,439	10.8	11.1	10.8	11.0
2005	1,103	32,637	10.9	11.0	10.8	10.9
2006	1,132	33,300	11.2	11.2	11.0	11.0
2007	1,123	34,598	11.1	11.5	10.9	11.3
2008	1,173	36,035	11.7	11.8	11.5	11.6
2009	1,164	36,909	11.7	12.0	11.3	11.8
2010	1,265	38,364	12.8	12.4	12.5	12.1

FIGURE 3

Age-adjusted Suicide Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: X60 – X84, Y870

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

SUICIDE

TABLE 12
Average Annual Number of Suicides and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	2	20.1	Lapeer	11	11.9
Alger	3	26.3	Leelanau	2	9.2
Allegan	14	12.2	Lenawee	8	8.2
Alpena	6	18.6	Livingston	18	9.6
Antrim	5	19.9	Luce	1	*
Arenac	6	33.9	Mackinac	3	23.1
Baraga	1	*	Macomb	116	13.9
Barry	7	11.9	Manistee	5	20.3
Bay	15	13.5	Marquette	9	12.9
Benzie	2	12.9	Mason	5	17.4
Berrien	17	10.8	Mecosta	5	12.5
Branch	6	13.2	Menominee	2	9.3
Calhoun	20	14.5	Midland	10	11.8
Cass	8	14.8	Missaukee	2	11.7
Charlevoix	4	16.4	Monroe	17	11.0
Cheboygan	5	19.0	Montcalm	9	14.7
Chippewa	9	21.9	Montmorency	1	*
Clare	4	12.3	Muskegon	22	12.7
Clinton	6	7.7	Newaygo	7	13.3
Crawford	3	19.2	Oakland	127	10.5
Delta	4	10.8	Oceana	4	13.7
Dickinson	4	15.9	Ogemaw	4	18.7
Eaton	16	15.2	Ontonagon	2	33.3
Emmet	4	12.0	Osceola	3	10.8
Genesee	51	11.9	Oscoda	2	25.6
Gladwin	2	7.7	Otsego	4	16.8
Gogebic	5	29.4	Ottawa	20	7.7
Grand Traverse	13	14.5	Presque Isle	3	22.2
Gratiot	5	11.8	Roscommon	5	18.1
Hillsdale	5	11.4	Saginaw	22	11.0
Houghton	4	11.9	St. Clair	27	16.3
Huron	6	17.5	St. Joseph	9	14.9
Ingham	28	10.0	Sanilac	5	10.5
Ionia	8	11.8	Schoolcraft	4	45.1
Iosco	2	8.6	Shiawassee	12	16.6
Iron	4	33.9	Tuscola	7	11.6
Isabella	6	8.9	Van Buren	12	15.1
Jackson	27	16.6	Washtenaw	31	8.8
Kalamazoo	35	14.0	Wayne	191	10.0
Kalkaska	3	14.6	Wexford	5	14.9
Kent	62	10.3			
Keweenaw	1	*			
Lake	2	18.0	Michigan	1,181	11.8

Includes ICD-10 codes: X60 – X84, Y870

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

HOMICIDE

TABLE 13
Average Annual Number of Homicides
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	3	2	5	1	3	5	1	-	1	5	5	10
1-4	4	3	6	3	2	4	1	1	1	7	6	12
5-9	1	1	2	1	1	2	1	0	1	3	2	5
10-14	2	0	2	4	1	4	0	-	0	6	1	7
15-19	7	3	10	64	8	72	4	0	4	75	12	87
20-24	10	6	16	84	6	90	4	1	5	99	14	113
25-29	10	4	14	56	6	62	2	1	3	69	11	80
30-34	9	5	13	54	5	59	4	1	4	66	11	77
35-44	16	10	26	71	11	83	3	1	4	91	23	114
45-54	20	8	28	42	6	48	2	1	3	65	16	81
55-64	11	6	17	18	2	20	1	-	1	31	9	40
65-74	5	4	9	5	1	6	0	-	0	11	5	16
75+	4	5	9	3	2	5	-	-	-	6	7	13
Total	101	56	156	404	54	458	22	5	26	534	119	653

Includes ICD-10 codes: X85 – Y09, Y87I

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 14
Average Annual Homicide Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	7.6	4.0	5.9	*	33.0	22.4	*	-	*	8.7	8.3	8.5
1-4	2.2	1.5	1.9	6.2	4.5	5.3	*	*	*	2.7	2.3	2.5
5-9	*	*	0.5	*	*	1.4	*	*	*	0.8	0.6	0.7
10-14	0.6	*	0.4	6.3	*	3.7	*	-	*	1.7	*	1.0
15-19	2.5	1.3	1.9	91.5	12.4	52.8	16.5	*	9.1	19.3	3.3	11.5
20-24	4.1	2.4	3.3	163.3	11.1	86.8	22.7	*	13.9	29.4	4.1	16.9
25-29	4.6	1.7	3.2	128.5	12.8	68.4	12.3	*	8.7	22.9	3.8	13.4
30-34	4.1	2.2	3.2	128.1	11.1	66.0	19.7	*	12.5	23.0	3.8	13.4
35-44	3.0	2.0	2.5	78.1	10.8	42.3	10.3	*	6.6	13.7	3.3	8.5
45-54	3.2	1.3	2.3	47.2	5.9	25.0	11.1	*	6.9	8.7	2.0	5.3
55-64	2.2	1.2	1.7	28.1	2.9	14.2	*	-	*	5.3	1.4	3.3
65-74	1.9	1.1	1.5	16.5	*	8.4	*	-	*	3.4	1.2	2.2
75+	1.6	1.5	1.6	13.2	4.7	7.7	-	-	-	2.6	1.8	2.1
Total	2.7	1.4	2.0	60.9	7.3	32.8	9.8	2.3	6.1	11.0	2.4	6.6

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

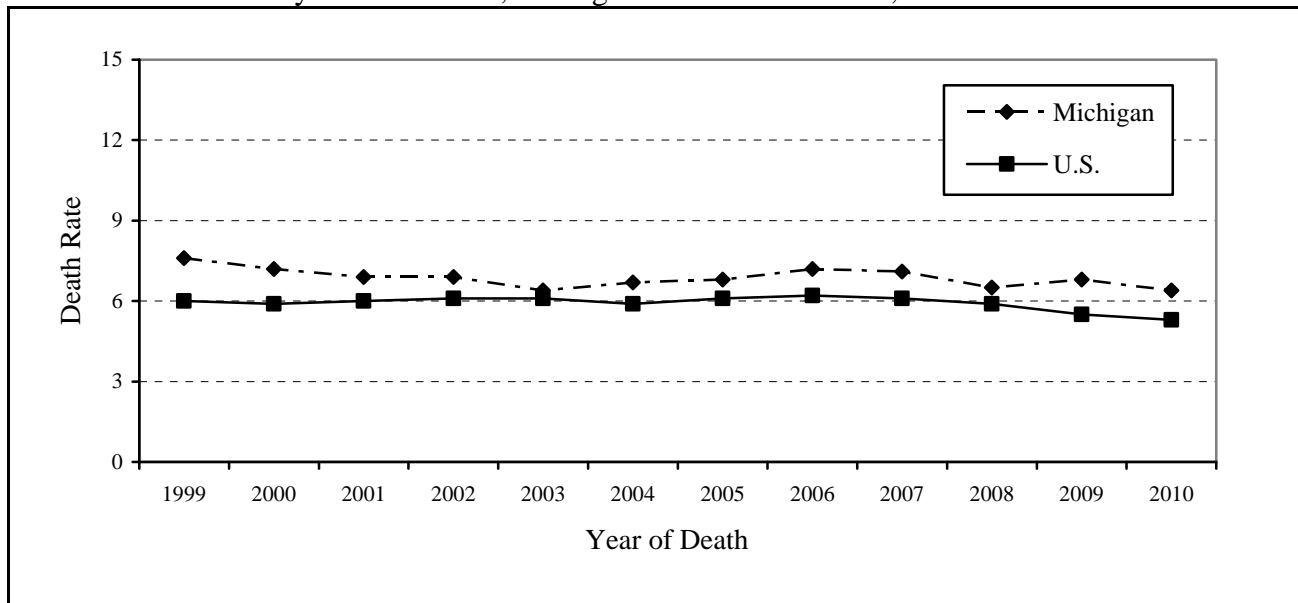
No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

HOMICIDE

TABLE 15
 Number of Homicides and Corresponding Death Rates
 By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	749	16,889	7.6	6.1	7.6	6.0
2000	719	16,765	7.2	6.0	7.2	5.9
2001	684	17,386	6.8	6.1	6.9	6.0
2002	689	17,638	6.9	6.1	6.9	6.1
2003	644	17,732	6.4	6.1	6.4	6.1
2004	672	17,357	6.7	5.9	6.7	5.9
2005	673	18,124	6.6	6.1	6.8	6.1
2006	720	18,573	7.1	6.2	7.2	6.2
2007	702	18,361	7.0	6.1	7.1	6.1
2008	642	17,826	6.4	5.9	6.5	5.9
2009	658	16,799	6.6	5.5	6.8	5.5
2010	611	16,259	6.2	5.3	6.4	5.3

FIGURE 4
 Age-adjusted Homicide Rates
 By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: X85 – Y09, Y871

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

HOMICIDE

TABLE 16
Average Annual Number of Homicides and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	1	*	Lapeer	1	*
Alger	0	*	Leelanau	0	*
Allegan	2	1.6	Lenawee	1	*
Alpena	-	-	Livingston	3	1.4
Antrim	-	-	Luce	-	-
Arenac	-	-	Mackinac	0	*
Baraga	1	*	Macomb	35	4.1
Barry	1	*	Manistee	1	*
Bay	3	2.6	Marquette	1	*
Benzie	1	*	Mason	1	*
Berrien	6	3.6	Mecosta	0	*
Branch	1	*	Menominee	1	*
Calhoun	7	5.0	Midland	1	*
Cass	2	4.4	Missaukee	0	*
Charlevoix	-	-	Monroe	3	2.1
Cheboygan	0	*	Montcalm	3	4.4
Chippewa	1	*	Montmorency	1	*
Clare	0	*	Muskegon	6	3.5
Clinton	1	*	Newaygo	1	*
Crawford	-	-	Oakland	51	4.2
Delta	0	*	Oceana	0	*
Dickinson	1	*	Ogemaw	-	-
Eaton	2	1.6	Ontonagon	0	*
Emmet	0	*	Osceola	1	*
Genesee	49	11.4	Oscoda	1	*
Gladwin	1	*	Otsego	1	*
Gogebic	1	*	Ottawa	4	1.6
Grand Traverse	2	2.0	Presque Isle	-	-
Gratiot	0	*	Roscommon	0	*
Hillsdale	1	*	Saginaw	18	9.1
Houghton	-	-	St. Clair	4	2.5
Huron	1	*	St. Joseph	1	*
Ingham	10	3.5	Sanilac	1	*
Ionia	1	*	Schoolcraft	-	-
Iosco	0	*	Shiawassee	1	*
Iron	1	*	Tuscola	1	*
Isabella	0	*	Van Buren	2	2.6
Jackson	6	3.7	Washtenaw	9	2.5
Kalamazoo	10	4.0	Wayne	372	19.4
Kalkaska	0	*	Wexford	1	*
Kent	19	3.1	Unknown	1	
Keweenaw	-	-			
Lake	0	*	Michigan	653	6.6

Includes ICD-10 codes: X85 – Y09, Y871

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 17
Average Annual Number of Injury and Poisoning Deaths
By Mechanism & Manner/Intent
Michigan Residents, 2007-2010

Mechanism	Manner/Intent					Total
	Unintentional	Suicide	Homicide	Undetermined	Other	
Cut/pierce	4	25	55	1	-	84
Drowning ^A	111	11	1	8		131
<i>Non-boat-related</i>	101					101
<i>Boat-related</i>	10					10
Fall	779	17	1	2		799
Fire/hot object or substance	118	6	7	9		139
<i>Fire/flare/smoke</i>	117	6	7	9		138
<i>Hot object/substance</i>	1	-	-	-		1
Firearm	13	573	482	7	8	1,083
Machinery	22					22
All Transport	1,111	6	3	2	-	1,121
<i>Motor vehicle traffic</i>	1,012					1,012
<i>Occupant</i>	250					250
<i>Motorcyclist</i>	124					124
<i>Pedal Cyclist</i>	22					22
<i>Pedestrian</i>	123					123
<i>Other specified</i>	0					0
<i>Unspecified</i>	493					493
<i>Pedal Cyclist, non-traffic</i>	9					9
<i>Pedestrian, non-traffic</i>	26					26
<i>Other land transport</i>	49					49
<i>Other transport</i>	16					16
Natural/environmental	55					55
Overexertion	-					-
Poisoning	997	233	3	226	-	1,458
Struck by, against	22	0	3	-	-	26
Suffocation, hanging, strangulation	204	291	16	8		519
Other specified & classifiable	42	10	9	0	0	62
Other specified, not elsewhere classifiable	36	5	43	8	1	92
Unspecified	195	5	32	18	-	249
Total	3,706	1,181	653	288	10	5,838

^ANational recommendations list boat-related drownings in "Other Transport." These have been separated out here due to local interest in this cause of death.

Cells may not sum exactly to row and column totals due to rounding.

See Appendix A Table A-1 for ICD-10 codes that comprise each cell.

Includes ICD-10 codes: V01 – Y36, Y85 – Y87, Y89

Source: Division for Vital Records and Health Statistics, MDCH

KEY TO SYMBOLS

No deaths occurred within category -
Quantity greater than zero but less than 0.5 0

TABLE 18
Average Annual Injury and Poisoning Death Rates
By Mechanism & Manner/Intent
Michigan Residents, 2007-2010

Mechanism	Manner/Intent					Total
	Unintentional	Suicide	Homicide	Undetermined	Other	
Cut/pierce	0.0	0.2	0.6	*	-	0.8
Drowning ^A	1.1	0.1	*	0.1		1.3
<i>Non-boat-related</i>	1.0					1.0
<i>Boat-related</i>	0.1					0.1
Fall	7.8	0.2	*	0.0		8.0
Fire/hot object or substance	1.2	0.1	0.1	0.1		1.4
<i>Fire/flame/smoke</i>	1.2	0.1	0.1	0.1		1.4
<i>Hot object/substance</i>	*	-	-	-		*
Firearm	0.1	5.7	4.8	0.1	0.1	10.9
Machinery	0.2					0.2
All Transport	11.1	0.1	0.0	0.0	-	11.2
<i>Motor vehicle traffic</i>	10.1					10.1
<i>Occupant</i>	2.5					2.5
<i>Motorcyclist</i>	1.2					1.2
<i>Pedal Cyclist</i>	0.2					0.2
<i>Pedestrian</i>	1.2					1.2
<i>Other specified</i>	*					*
<i>Unspecified</i>	4.9					4.9
<i>Pedal Cyclist, non-traffic</i>	0.1					0.1
<i>Pedestrian, non-traffic</i>	0.3					0.3
<i>Other land transport</i>	0.5					0.5
<i>Other transport</i>	0.2					0.2
Natural/environmental	0.5					0.5
Overexertion	-					-
Poisoning	10.0	2.3	0.0	2.3	-	14.6
Struck by, against	0.2	*	0.0	-	-	0.3
Suffocation, hanging, strangulation	2.0	2.9	0.2	0.1		5.2
Other specified & classifiable	0.4	0.1	0.1	*	*	0.6
Other specified, not elsewhere classifiable	0.4	0.0	0.4	0.1	*	0.9
Unspecified	1.9	0.0	0.3	0.2	-	2.5
Total	37.1	11.8	6.6	2.9	0.1	58.5

^A National recommendations list boat-related drownings in "Other Transport." These have been separated out here due to local interest in this cause of death.

Cells may not sum exactly to row and column totals due to rounding.

See Appendix A Table A-1 for ICD-10 codes that comprise each cell.

Includes ICD-10 codes: V01 – Y36, Y85 – Y87, Y89

Source: Division for Vital Records and Health Statistics, MDCH

KEY TO SYMBOLS

No deaths occurred within category	-
Rate less than 0.05	0.0
Rate is considered statistically unreliable	*

TABLE 19
Average Annual Number of Unintentional Drowning Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	1	1	1	0	1	-	-	-	1	1	2
1-4	4	2	6	1	-	1	1	0	1	6	3	9
5-9	2	1	3	0	1	1	-	-	-	3	2	4
10-14	1	1	2	2	0	2	-	-	-	3	1	4
15-19	5	1	5	1	-	1	1	-	1	7	1	8
20-24	5	1	5	2	-	2	-	-	-	7	1	8
25-29	5	1	6	1	1	2	1	-	1	8	2	10
30-34	3	1	4	1	-	1	1	-	1	5	1	6
35-44	7	1	8	2	0	2	0	-	0	10	2	11
45-54	13	3	15	2	1	2	-	-	-	15	3	19
55-64	7	1	8	1	1	2	-	-	-	9	2	11
65-74	8	2	9	1	1	1	-	-	-	9	2	11
75+	6	4	10	0	1	1	0	-	0	6	5	11
Total	63	18	81	14	5	19	4	0	4	87	24	111

Includes ICD-10 codes: V90, V92, W65 – W74 (boat-related and non-boat-related incidents)

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 20
Average Annual Unintentional Drowning Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	*	*	*	*	*	-	-	-	*	*	1.5
1-4	2.1	1.4	1.7	*	-	*	*	*	*	2.5	1.0	1.8
5-9	0.8	*	0.6	*	*	*	-	-	-	0.8	0.5	0.6
10-14	*	*	0.3	3.4	*	1.9	-	-	-	0.8	*	0.6
15-19	1.7	*	1.0	*	-	*	*	-	*	1.9	*	1.1
20-24	1.8	*	1.1	3.9	-	1.9	-	-	-	2.0	*	1.1
25-29	2.1	*	1.3	*	*	1.7	*	-	*	2.7	0.6	1.6
30-34	1.4	*	0.9	*	-	*	*	-	*	1.7	*	1.0
35-44	1.4	*	0.8	1.6	*	0.9	*	-	*	1.4	0.2	0.8
45-54	2.0	0.4	1.2	1.7	*	1.2	-	-	-	2.0	0.4	1.2
55-64	1.4	*	0.8	*	*	1.4	-	-	-	1.5	0.3	0.9
65-74	2.8	0.5	1.5	*	*	*	-	-	-	2.7	0.5	1.5
75+	2.7	1.1	1.7	*	*	*	*	-	*	2.6	1.2	1.7
Total	1.7	0.5	1.1	2.1	0.6	1.3	1.7	*	0.9	1.8	0.5	1.1

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

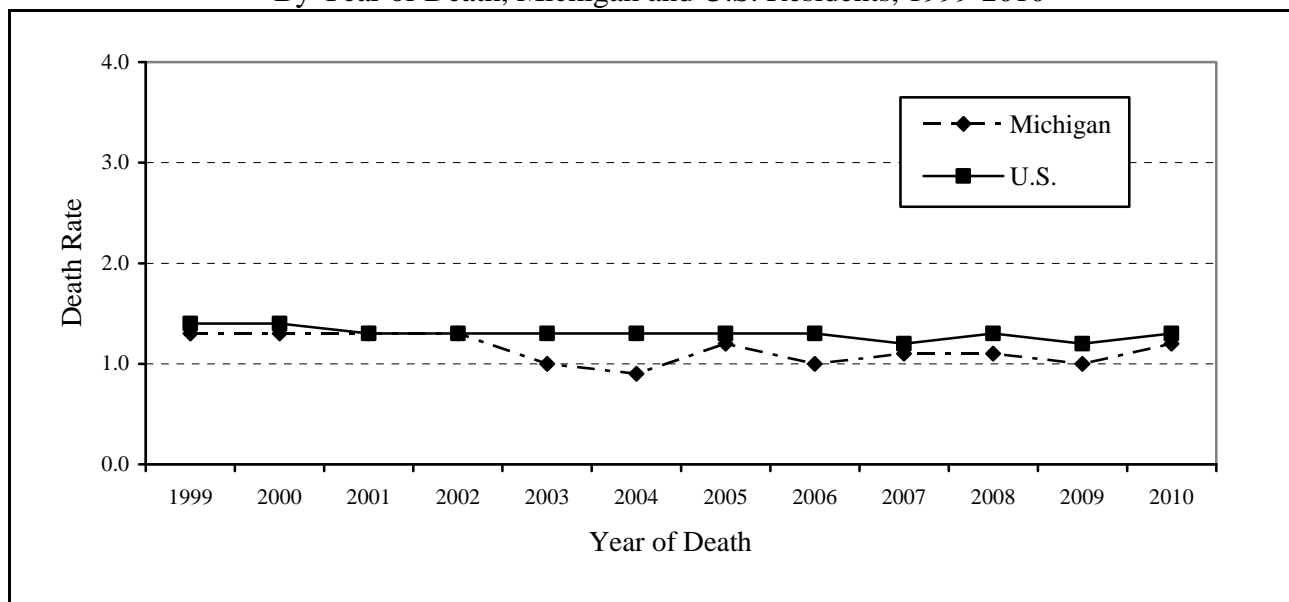
KEY TO SYMBOLS

No deaths occurred within category -
Quantity greater than zero but less than 0.5 0
Rate is considered statistically unreliable *

TABLE 21
Number of Unintentional Drowning Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	132	4,030	1.3	1.4	1.3	1.4
2000	124	3,948	1.2	1.4	1.3	1.4
2001	131	3,694	1.3	1.3	1.3	1.3
2002	131	3,860	1.3	1.3	1.3	1.3
2003	100	3,718	1.0	1.3	1.0	1.3
2004	89	3,729	0.9	1.3	0.9	1.3
2005	123	3,976	1.2	1.3	1.2	1.3
2006	103	3,930	1.0	1.3	1.0	1.3
2007	114	3,792	1.1	1.3	1.1	1.2
2008	110	3,858	1.1	1.3	1.1	1.3
2009	105	3,846	1.1	1.3	1.0	1.2
2010	115	4,038	1.2	1.3	1.2	1.3

FIGURE 5
Age-adjusted Unintentional Drowning Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: V90, V92, W65 – W74 (boat-related and non-boat-related incidents)

Sources: Division for Vital Records and Health Statistics, MDCH

Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2010.

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 22
Average Annual Number of Unintentional Drowning Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	-	-	Lapeer	-	-
Alger	-	-	Leelanau	1	*
Allegan	1	*	Lenawee	2	1.5
Alpena	0	*	Livingston	2	1.2
Antrim	0	*	Luce	-	-
Arenac	0	*	Mackinac	0	*
Baraga	0	*	Macomb	7	0.8
Barry	1	*	Manistee	0	*
Bay	3	2.3	Marquette	2	2.7
Benzie	0	*	Mason	-	-
Berrien	1	*	Mecosta	1	*
Branch	1	*	Menominee	1	*
Calhoun	1	*	Midland	1	*
Cass	1	*	Missaukee	0	*
Charlevoix	0	*	Monroe	1	*
Cheboygan	1	*	Montcalm	1	*
Chippewa	2	3.9	Montmorency	-	-
Clare	1	*	Muskegon	3	1.4
Clinton	-	-	Newaygo	1	*
Crawford	-	-	Oakland	12	1.0
Delta	1	*	Oceana	1	*
Dickinson	2	5.6	Ogemaw	0	*
Eaton	1	*	Ontonagon	1	*
Emmet	0	*	Osceola	0	*
Genesee	4	1.0	Oscoda	-	-
Gladwin	1	*	Otsego	1	*
Gogebic	1	*	Ottawa	2	0.9
Grand Traverse	2	1.7	Presque Isle	-	-
Gratiot	-	-	Roscommon	0	*
Hillsdale	0	*	Saginaw	3	1.4
Houghton	1	*	St. Clair	3	1.9
Huron	0	*	St. Joseph	1	*
Ingham	3	0.9	Sanilac	1	*
Ionia	0	*	Schoolcraft	-	-
Iosco	1	*	Shiawassee	1	*
Iron	1	*	Tuscola	1	*
Isabella	1	*	Van Buren	2	1.9
Jackson	1	*	Washtenaw	2	0.5
Kalamazoo	2	0.7	Wayne	25	1.3
Kalkaska	1	*	Wexford	1	*
Kent	5	0.7			
Keweenaw	1	*			
Lake	-	-	Michigan	111	1.1

Includes ICD-10 codes: V90, V92, W65 – W74 (boat-related and non-boat-related incidents)

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 23
Average Annual Number of Unintentional Fall Injury Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	1	-	1	-	0	0	-	-	-	1	0	1
1-4	1	-	1	-	-	-	-	-	-	1	-	1
5-9	0	-	0	-	-	-	-	-	-	0	-	0
10-14	0	-	0	-	-	-	-	-	-	0	0	1
15-19	1	-	1	-	-	-	0	0	1	1	0	1
20-24	3	1	4	-	-	-	-	-	-	3	1	4
25-29	2	-	2	-	0	0	1	-	1	2	0	3
30-34	3	1	4	-	-	-	1	-	1	5	1	6
35-44	10	5	15	1	1	2	0	-	0	11	6	17
45-54	24	9	34	5	1	6	1	1	2	31	12	43
55-64	39	15	54	6	1	7	2	-	2	47	17	64
65-74	49	26	75	5	2	7	1	1	2	56	31	88
75+	224	292	516	9	13	22	1	2	3	240	313	553
Total	356	349	705	26	18	44	7	4	11	398	382	779

Includes ICD-10 codes: W00 – W19

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 24
Average Annual Unintentional Fall Injury Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	*	-	*	-	*	*	-	-	-	*	*	*
1-4	*	-	*	-	-	-	-	-	-	*	-	*
5-9	*	-	*	-	-	-	-	-	-	*	-	*
10-14	*	-	*	-	-	-	-	-	-	*	*	*
15-19	*	-	*	-	-	-	*	*	*	*	*	*
20-24	1.1	*	0.7	-	-	-	-	-	-	0.9	*	0.6
25-29	0.7	-	0.3	-	*	*	*	-	*	0.7	*	0.4
30-34	1.4	*	1.0	-	-	-	*	-	*	1.6	*	1.0
35-44	1.9	1.0	1.4	*	*	1.0	*	-	*	1.6	0.9	1.3
45-54	3.9	1.5	2.7	5.9	*	3.1	*	*	3.8	4.1	1.5	2.8
55-64	7.9	2.9	5.4	8.6	*	4.5	19.0	-	9.6	8.1	2.7	5.3
65-74	17.5	8.2	12.6	16.5	4.9	9.8	*	*	13.9	17.3	8.4	12.6
75+	103.4	85.4	92.4	43.2	33.4	36.9	*	44.6	38.6	98.3	80.3	87.3
Total	9.5	9.0	9.2	3.9	2.4	3.1	3.0	2.0	2.5	8.2	7.5	7.8

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

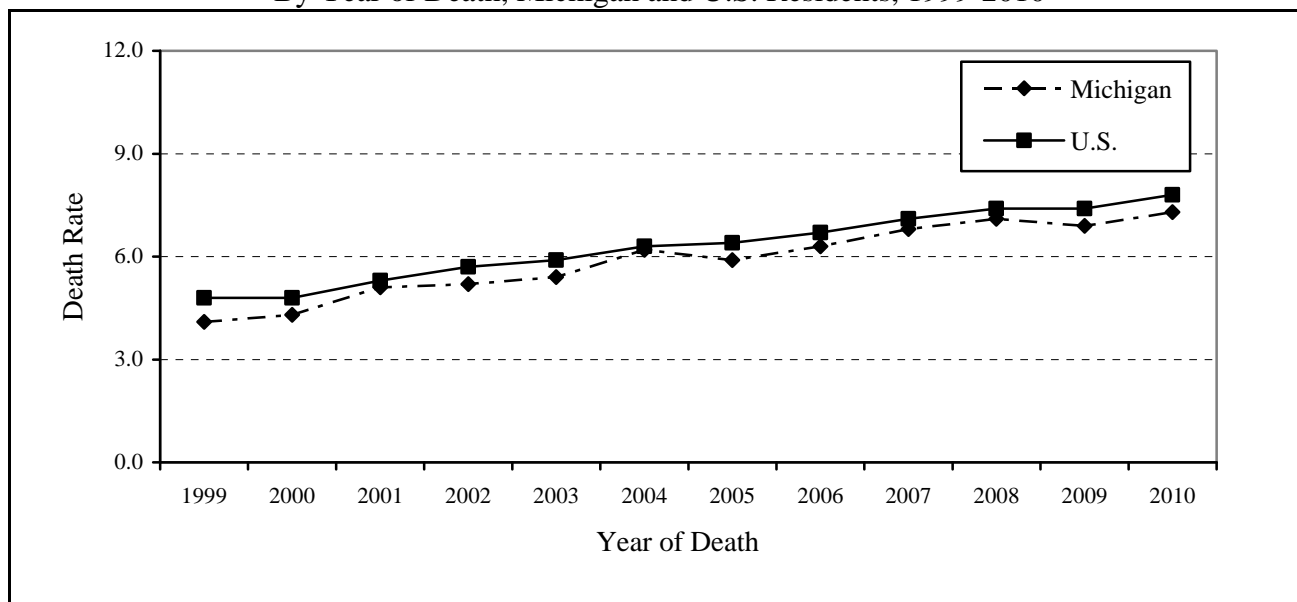
KEY TO SYMBOLS

No deaths occurred within category -
Quantity greater than zero but less than 0.5 0
Rate is considered statistically unreliable *

TABLE 25
Number of Unintentional Fall Injury Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	389	13,162	3.9	4.7	4.1	4.8
2000	414	13,322	4.2	4.7	4.3	4.8
2001	508	15,019	5.1	5.3	5.1	5.3
2002	522	16,257	5.2	5.7	5.2	5.7
2003	555	17,229	5.5	5.9	5.4	5.9
2004	654	18,807	6.5	6.4	6.2	6.3
2005	635	19,656	6.3	6.7	5.9	6.4
2006	672	20,823	6.7	7.0	6.3	6.7
2007	740	22,631	7.3	7.5	6.8	7.1
2008	781	24,013	7.8	7.9	7.1	7.4
2009	764	24,792	7.7	8.1	6.9	7.4
2010	831	26,009	8.4	8.4	7.3	7.8

FIGURE 6
Age-adjusted Unintentional Fall Injury Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: W00 – W19

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 26
Average Annual Number of Unintentional Fall Injury Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	1	*	Lapeer	4	4.2
Alger	1	*	Leelanau	2	8.0
Allegan	10	8.4	Lenawee	4	4.0
Alpena	2	5.9	Livingston	16	8.8
Antrim	2	6.3	Luce	1	*
Arenac	1	*	Mackinac	1	*
Baraga	1	*	Macomb	63	7.6
Barry	5	7.6	Manistee	3	13.2
Bay	6	5.8	Marquette	5	8.0
Benzie	1	*	Mason	2	6.1
Berrien	11	6.6	Mecosta	5	10.7
Branch	2	4.9	Menominee	2	6.2
Calhoun	11	7.7	Midland	3	3.9
Cass	4	6.9	Missaukee	2	10.1
Charlevoix	3	9.6	Monroe	11	7.2
Cheboygan	1	*	Montcalm	6	9.9
Chippewa	3	7.7	Montmorency	0	*
Clare	2	4.9	Muskegon	26	15.0
Clinton	4	5.3	Newaygo	5	10.7
Crawford	1	*	Oakland	105	8.7
Delta	5	12.1	Oceana	3	10.9
Dickinson	3	12.2	Ogemaw	1	*
Eaton	7	6.8	Ontonagon	1	*
Emmet	4	11.2	Osceola	1	*
Genesee	23	5.4	Oscoda	1	*
Gladwin	3	9.6	Otsego	1	*
Gogebic	3	20.1	Ottawa	25	9.4
Grand Traverse	7	8.1	Presque Isle	2	12.9
Gratiot	2	4.1	Roscommon	2	9.0
Hillsdale	4	7.6	Saginaw	15	7.5
Houghton	3	9.1	St. Clair	11	6.6
Huron	3	7.6	St. Joseph	4	6.5
Ingham	12	4.3	Sanilac	4	9.9
Ionia	6	8.6	Schoolcraft	0	*
Iosco	2	5.8	Shiawassee	6	7.8
Iron	1	*	Tuscola	5	8.0
Isabella	1	*	Van Buren	7	9.3
Jackson	15	9.5	Washtenaw	21	6.1
Kalamazoo	36	14.5	Wayne	108	5.6
Kalkaska	0	*	Wexford	3	9.4
Kent	85	14.1	Unknown	0	
Keweenaw	0	*			
Lake	2	18.0	Michigan	779	7.8

Includes ICD-10 codes: W00 – W19

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 27
Average Annual Number of Unintentional Fire/Flame/Smoke Injury Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	0	0	-	-	-	-	-	-	-	0	0
1-4	2	1	3	2	2	4	0	0	1	5	3	8
5-9	1	1	2	2	1	3	-	0	0	2	2	4
10-14	1	0	1	1	1	2	-	-	-	1	1	3
15-19	1	2	3	1	1	2	-	-	-	2	2	4
20-24	2	1	3	1	1	1	0	-	0	3	1	4
25-29	2	1	3	1	1	1	-	0	0	3	2	5
30-34	2	1	2	0	1	1	-	-	-	2	1	3
35-44	4	4	8	3	1	3	0	0	1	7	5	12
45-54	7	4	11	2	2	5	1	0	1	10	7	16
55-64	7	3	10	2	2	5	-	-	-	10	5	15
65-74	9	4	13	2	1	3	-	-	-	11	6	17
75+	10	9	19	4	4	8	-	-	-	14	13	27
Total	47	29	76	19	16	35	1	1	3	69	48	117

Includes ICD-10 codes: X00 – X09

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 28
Average Annual Unintentional Fire/Flame/Smoke Injury Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	*	*	-	-	-	-	-	-	-	*	*
1-4	1.0	*	0.8	5.6	4.5	5.0	*	*	*	1.8	1.2	1.5
5-9	*	*	0.3	2.9	*	2.4	-	*	*	0.7	0.6	0.7
10-14	*	*	*	*	*	1.5	-	-	-	*	*	0.4
15-19	*	0.6	0.5	*	*	1.1	-	-	-	0.5	0.6	0.5
20-24	0.8	*	0.6	*	*	*	*	-	*	0.8	*	0.6
25-29	0.9	*	0.7	*	*	*	-	*	*	0.9	0.6	0.7
30-34	0.7	*	0.5	*	*	*	-	-	-	0.6	*	0.5
35-44	0.8	0.8	0.8	2.7	*	1.7	*	*	*	1.1	0.8	0.9
45-54	1.1	0.6	0.9	2.5	2.2	2.4	*	*	*	1.3	0.8	1.1
55-64	1.5	0.5	1.0	3.5	2.9	3.1	-	-	-	1.7	0.8	1.2
65-74	3.1	1.3	2.1	5.0	*	3.5	-	-	-	3.4	1.5	2.4
75+	4.6	2.6	3.4	18.0	10.0	12.9	-	-	-	5.7	3.3	4.2
Total	1.2	0.8	1.0	2.9	2.2	2.5	*	*	0.6	1.4	0.9	1.2

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

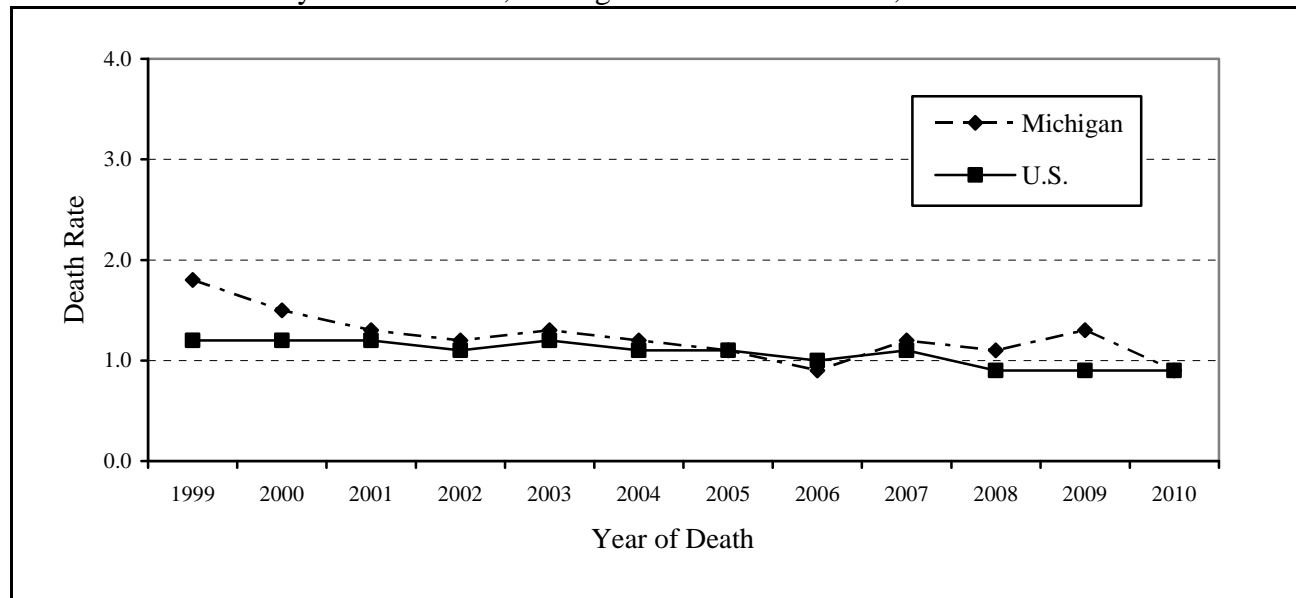
KEY TO SYMBOLS

No deaths occurred within category -
Quantity greater than zero but less than 0.5 0
Rate is considered statistically unreliable *

TABLE 29
Number of Unintentional Fire/Flame/Smoke Injury Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	181	3,348	1.8	1.2	1.8	1.2
2000	146	3,377	1.5	1.2	1.5	1.2
2001	130	3,309	1.3	1.2	1.3	1.2
2002	125	3,159	1.2	1.1	1.2	1.1
2003	135	3,369	1.3	1.2	1.3	1.2
2004	118	3,229	1.2	1.1	1.2	1.1
2005	120	3,197	1.2	1.1	1.1	1.1
2006	96	3,109	1.0	1.0	0.9	1.0
2007	122	3,286	1.2	1.1	1.2	1.1
2008	119	2,912	1.2	1.0	1.1	0.9
2009	130	2,756	1.3	0.9	1.3	0.9
2010	95	2,782	1.0	0.9	0.9	0.9

FIGURE 7
Age-adjusted Unintentional Fire/Flame/Smoke Injury Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: X00 – X09

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 30

Average Annual Number of Unintentional Fire/Flame/Smoke Injury Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	1	*	Lapeer	1	*
Alger	-	-	Leelanau	-	-
Allegan	3	2.2	Lenawee	2	1.5
Alpena	1	*	Livingston	1	*
Antrim	-	-	Luce	0	*
Arenac	0	*	Mackinac	0	*
Baraga	-	-	Macomb	4	0.5
Barry	1	*	Manistee	1	*
Bay	1	*	Marquette	0	*
Benzie	1	*	Mason	-	-
Berrien	2	0.9	Mecosta	-	-
Branch	1	*	Menominee	1	*
Calhoun	2	1.3	Midland	3	3.0
Cass	1	*	Missaukee	0	*
Charlevoix	-	-	Monroe	1	*
Cheboygan	1	*	Montcalm	-	-
Chippewa	0	*	Montmorency	0	*
Clare	1	*	Muskegon	2	1.2
Clinton	1	*	Newaygo	0	*
Crawford	0	*	Oakland	9	0.7
Delta	1	*	Oceana	1	*
Dickinson	0	*	Ogemaw	1	*
Eaton	1	*	Ontonagon	1	*
Emmet	1	*	Osceola	-	-
Genesee	5	1.2	Oscoda	0	*
Gladwin	0	*	Otsego	0	*
Gogebic	1	*	Ottawa	1	*
Grand Traverse	1	*	Presque Isle	1	*
Gratiot	0	*	Roscommon	0	*
Hillsdale	1	*	Saginaw	4	1.9
Houghton	1	*	St. Clair	3	1.8
Huron	1	*	St. Joseph	1	*
Ingham	2	0.6	Sanilac	1	*
Ionia	1	*	Schoolcraft	-	-
Iosco	1	*	Shiawassee	1	*
Iron	1	*	Tuscola	0	*
Isabella	1	*	Van Buren	3	3.5
Jackson	3	1.6	Washtenaw	4	1.0
Kalamazoo	2	0.9	Wayne	36	1.9
Kalkaska	0	*	Wexford	1	*
Kent	2	0.4			
Keweenaw	-	-			
Lake	0	*	Michigan	117	1.2

Includes ICD-10 codes: X00 – X09

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 31
Average Annual Number of Unintentional Firearm Injury Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	0	-	0	-	-	-	-	-	-	0	-	0
5-9	-	-	-	-	0	0	-	-	-	-	0	0
10-14	1	0	1	-	0	0	-	-	-	1	1	2
15-19	1	-	1	1	-	1	-	-	-	1	-	1
20-24	1	0	1	1	-	1	-	-	-	1	0	2
25-29	1	-	1	1	-	1	-	-	-	2	-	2
30-34	-	-	-	0	-	0	-	-	-	0	-	0
35-44	0	-	0	1	-	1	-	-	-	2	-	2
45-54	1	-	1	1	-	1	0	-	0	2	-	2
55-64	1	-	1	1	-	1	-	-	-	2	-	2
65-74	1	-	1	-	-	-	-	-	-	1	-	1
75+	0	-	0	-	-	-	-	-	-	0	-	0
Total	7	1	7	5	1	5	0	-	0	12	1	13

Includes ICD-10 codes: W32 – W34
Numbers in columns and rows may not total exactly due to rounding.
Source: Division for Vital Records and Health Statistics, MDCH

TABLE 32
Average Annual Unintentional Firearm Injury Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	*	-	*	-	-	-	-	-	-	*	-	*
5-9	-	-	-	-	*	*	-	-	-	-	*	*
10-14	*	*	*	-	*	*	-	-	-	*	*	0.2
15-19	*	-	*	*	-	*	-	-	-	*	-	*
20-24	*	*	*	*	-	*	-	-	-	*	*	0.2
25-29	*	-	*	*	-	*	-	-	-	0.5	-	0.2
30-34	-	-	-	*	-	*	-	-	-	*	-	*
35-44	*	-	*	*	-	*	-	-	-	0.2	-	0.1
45-54	*	-	*	*	-	*	*	-	*	0.3	-	0.1
55-64	*	-	*	*	-	*	-	-	-	0.3	-	0.1
65-74	*	-	*	-	-	-	-	-	-	*	-	*
75+	*	-	*	-	-	-	-	-	-	*	-	*
Total	0.2	*	0.1	0.7	*	0.4	*	-	*	0.2	*	0.1

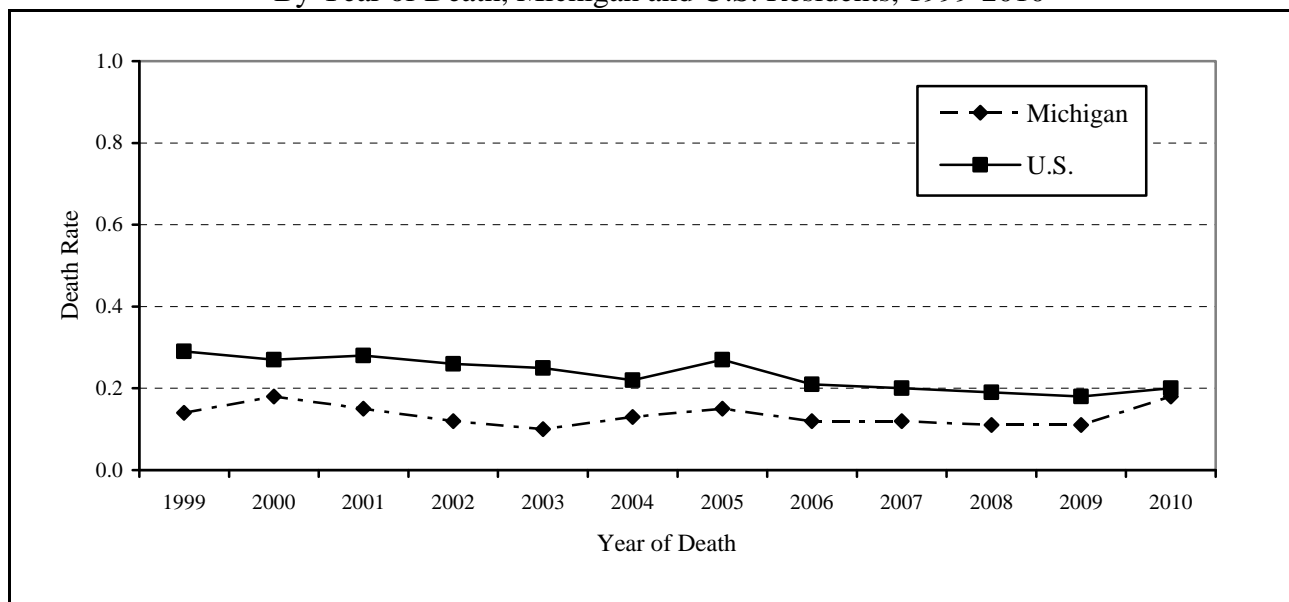
Rates are the number of deaths per 100,000 population.
Sources: Division for Vital Records and Health Statistics, MDCH
Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS	
No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 33
Number of Unintentional Firearm Injury Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	14	824	0.14	0.30	0.14	0.29
2000	18	776	0.18	0.28	0.18	0.27
2001	15	802	0.15	0.28	0.15	0.28
2002	12	762	0.12	0.26	0.12	0.26
2003	10	730	0.10	0.25	0.10	0.25
2004	13	649	0.13	0.22	0.13	0.22
2005	15	789	0.15	0.27	0.15	0.27
2006	12	642	0.12	0.22	0.12	0.21
2007	12	613	0.12	0.20	0.12	0.20
2008	11	592	0.11	0.19	0.11	0.19
2009	12	554	0.12	0.18	0.11	0.18
2010	17	606	0.17	0.20	0.18	0.20

FIGURE 8
Age-adjusted Unintentional Firearm Injury Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: W32 – W34

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 34
Average Annual Number of Unintentional Firearm Injury Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

A STATISTICALLY RELIABLE DEATH RATE COULD BE
CALCULATED FOR ONLY ONE COUNTY.
THUS, COUNTY-LEVEL COUNTS AND RATES ARE NOT PRESENTED.

TABLE 35
Average Annual Number of Motor Vehicle Traffic Crash Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	0	1	1	1	1	1	0	-	0	1	2	3
1-4	3	1	3	1	1	2	1	1	2	5	2	7
5-9	3	4	7	1	1	2	1	1	1	5	6	10
10-14	7	5	12	2	2	4	1	1	1	9	9	18
15-19	47	29	76	13	4	17	6	4	9	69	37	106
20-24	59	24	82	9	5	14	5	2	7	78	31	109
25-29	44	13	57	10	4	14	4	1	5	62	19	81
30-34	32	10	42	12	4	16	3	1	4	49	15	63
35-44	67	25	92	17	6	23	4	2	6	92	35	127
45-54	96	34	130	18	8	25	5	1	6	122	44	166
55-64	68	28	96	12	5	17	2	2	3	84	36	120
65-74	43	21	64	5	3	8	1	0	1	50	26	77
75+	64	51	115	5	3	8	1	1	2	71	56	127
Total	532	244	776	105	45	149	32	14	46	696	316	1,012

Includes ICD-10 codes: V30 – V79 (.4-.9), V83 – V86 (.0-.3), V20 – V28 (.3-.9), V29.4-V29.9, V12 – V14 (.3-.9), V19.4-V19.6, V02 – V04 (.1, .9), V09.2, V80(.3-.5), V81.1, V82.1, V87(.0-.8), V89.2

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 36
Average Annual Motor Vehicle Traffic Crash Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	*	*	*	*	*	*	*	-	*	*	2.6	2.3
1-4	1.5	*	0.9	*	*	2.8	*	*	3.6	2.0	0.9	1.5
5-9	1.3	1.7	1.5	*	*	1.7	*	*	*	1.4	1.7	1.5
10-14	2.6	2.2	2.4	3.4	3.5	3.4	*	*	*	2.5	2.6	2.6
15-19	17.2	11.2	14.3	17.9	6.0	12.1	27.0	17.6	22.5	17.8	10.1	14.1
20-24	23.5	9.8	16.8	18.0	9.1	13.5	28.1	8.7	18.8	23.1	9.3	16.3
25-29	19.7	5.7	12.8	23.6	8.0	15.5	23.1	*	15.1	20.6	6.2	13.4
30-34	15.1	4.7	9.9	28.7	7.4	17.4	15.5	*	10.3	16.9	5.0	10.9
35-44	13.2	4.9	9.1	18.6	5.5	11.7	13.8	7.3	10.6	13.9	5.2	9.5
45-54	15.6	5.4	10.5	19.8	7.3	13.1	24.6	*	14.5	16.3	5.6	10.9
55-64	13.8	5.5	9.6	18.3	6.7	11.9	12.7	12.8	12.7	14.4	5.8	10.0
65-74	15.2	6.7	10.7	17.3	6.7	11.2	*	*	*	15.4	7.1	11.0
75+	29.5	15.0	20.6	22.8	7.3	12.9	*	*	19.3	28.9	14.5	20.0
Total	14.1	6.3	10.2	15.8	6.1	10.7	14.6	6.7	10.8	14.3	6.2	10.1

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

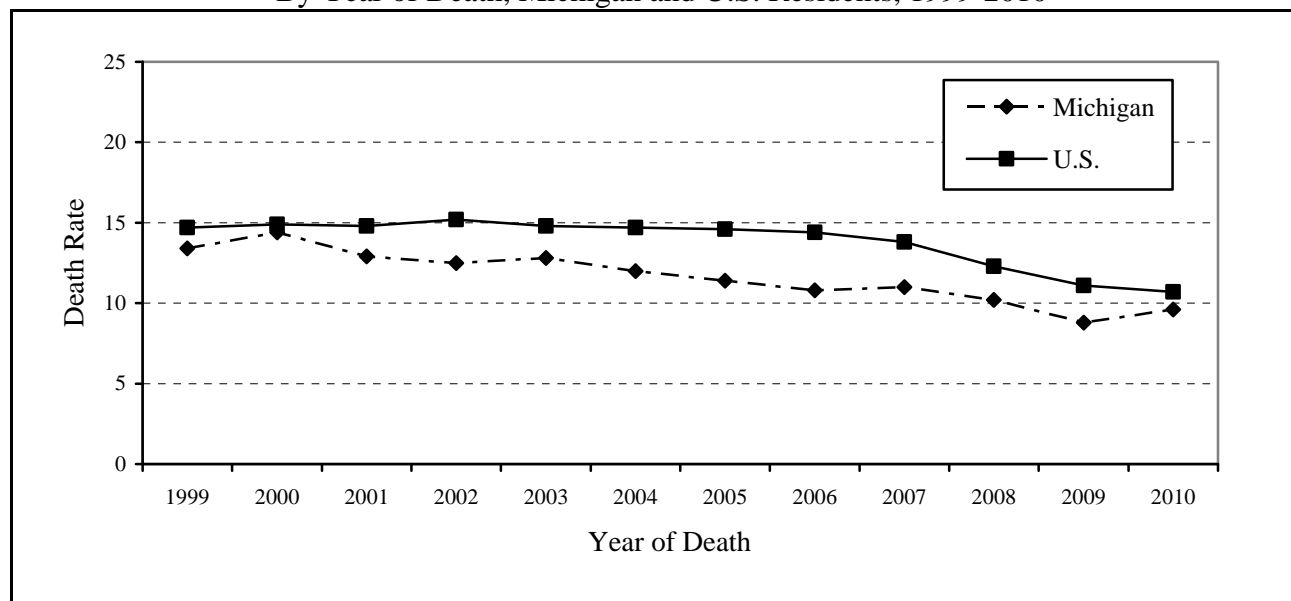
KEY TO SYMBOLS

No deaths occurred within category -
Quantity greater than zero but less than 0.5 0
Rate is considered statistically unreliable *

TABLE 37
Number of Motor Vehicle Traffic Crash Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	1,315	40,965	13.3	14.7	13.4	14.7
2000	1,422	41,994	14.3	14.9	14.4	14.9
2001	1,289	42,443	12.9	14.9	12.9	14.8
2002	1,259	44,065	12.5	15.3	12.5	15.2
2003	1,299	43,340	12.9	14.9	12.8	14.8
2004	1,225	43,432	12.1	14.8	12.0	14.7
2005	1,164	43,667	11.5	14.8	11.4	14.6
2006	1,104	43,664	10.9	14.6	10.8	14.4
2007	1,130	42,031	11.2	13.9	11.0	13.8
2008	1,040	37,985	10.4	12.5	10.2	12.3
2009	894	34,485	9.0	11.2	8.8	11.1
2010	982	33,687	9.9	10.9	9.6	10.7

FIGURE 9
Age-adjusted Motor Vehicle Traffic Crash Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: V30 – V79 (.4-.9), V83 – V86 (.0-.3), V20 – V28 (.3-.9), V29.4-V29.9, V12 – V14 (.3-.9), V19.4-V19.6, V02 – V04 (.1, .9), V09.2, V80(.3-.5), V81.1, V82.1, V87(.0-.8), V89.2

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 38
Average Annual Number of Motor Vehicle Traffic Crash Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	2	17.9	Lapeer	10	10.8
Alger	1	*	Leelanau	2	10.3
Allegan	15	12.9	Lenawee	13	13.0
Alpena	4	12.7	Livingston	17	9.3
Antrim	4	17.8	Luce	2	22.7
Arenac	2	12.3	Mackinac	2	16.2
Baraga	0	*	Macomb	57	6.9
Barry	9	15.3	Manistee	3	13.2
Bay	10	9.3	Marquette	5	8.0
Benzie	3	14.4	Mason	3	11.3
Berrien	23	14.3	Mecosta	5	10.7
Branch	6	12.6	Menominee	4	15.6
Calhoun	18	12.8	Midland	10	11.8
Cass	9	17.2	Missaukee	3	18.4
Charlevoix	2	7.7	Monroe	16	10.1
Cheboygan	4	13.3	Montcalm	12	18.3
Chippewa	5	13.6	Montmorency	2	19.9
Clare	5	16.4	Muskegon	18	10.5
Clinton	6	7.7	Newaygo	9	18.9
Crawford	1	*	Oakland	77	6.4
Delta	4	10.8	Oceana	5	18.2
Dickinson	4	15.0	Ogemaw	3	12.9
Eaton	13	11.7	Ontonagon	1	*
Emmet	4	12.7	Osceola	3	10.8
Genesee	49	11.3	Oscoda	2	25.6
Gladwin	5	18.3	Otsego	4	14.7
Gogebic	2	9.3	Ottawa	24	9.1
Grand Traverse	8	8.7	Presque Isle	2	16.6
Gratiot	6	13.0	Roscommon	3	11.1
Hillsdale	8	17.3	Saginaw	20	9.7
Houghton	5	13.4	St. Clair	20	11.7
Huron	2	6.9	St. Joseph	13	21.4
Ingham	21	7.6	Sanilac	9	21.6
Ionia	12	18.5	Schoolcraft	2	18.0
Iosco	3	9.6	Shiawassee	9	12.4
Iron	2	14.8	Tuscola	10	17.4
Isabella	6	8.9	Van Buren	11	14.2
Jackson	19	11.5	Washtenaw	24	6.8
Kalamazoo	25	10.0	Wayne	187	9.7
Kalkaska	5	29.3	Wexford	5	14.1
Kent	61	10.1			
Keweenaw	1	*			
Lake	3	22.4	Michigan	1,012	10.1

Includes ICD-10 codes: V30 – V79 (.4-.9), V83 – V86 (.0-.3), V20 – V28 (.3-.9), V29.4-V29.9, V12 – V14 (.3-.9), V19.4-V19.6, V02 – V04 (.1, .9), V09.2, V80(.3-.5), V81.1, V82.1, V87(.0-.8), V89.2
Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH
Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS	
No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 39
Average Annual Number of MV Traffic Crash Occupant Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	1	1	1	1	1	-	-	-	1	2	2
1-4	2	1	2	0	1	1	0	1	1	3	2	4
5-9	2	3	5	1	1	1	-	1	1	3	4	7
10-14	4	4	8	2	2	3	0	1	1	6	7	12
15-19	37	27	64	10	3	13	4	3	7	54	34	87
20-24	39	19	58	5	4	9	4	2	5	50	25	75
25-29	27	10	37	7	3	10	3	1	4	39	15	54
30-34	21	6	27	7	3	10	2	1	3	30	10	40
35-44	39	17	56	7	3	10	3	2	5	52	23	75
45-54	42	24	66	7	5	12	3	1	4	53	30	84
55-64	39	22	61	4	4	8	1	2	3	45	28	73
65-74	24	16	39	4	2	5	1	0	1	28	19	47
75+	47	42	90	3	2	5	1	1	1	51	46	97
Total	322	192	514	55	32	87	22	12	34	414	244	658

Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V30 – V79 (.4-.9), V83 – V86 (.0-.3) (occupant); or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was an occupant; or 2) the description of injury on the death certificate indicated the decedent was an occupant. See *Methods*.
Numbers in columns and rows may not total exactly due to rounding.

Sources: Division for Vital Records and Health Statistics, MDCH
Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

TABLE 40
Average Annual MV Traffic Crash Occupant Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	*	*	*	*	*	-	-	-	*	2.6	1.7
1-4	1.0	*	0.7	*	*	*	*	*	*	1.0	0.6	0.8
5-9	1.0	1.3	1.1	*	*	*	-	*	*	0.8	1.3	1.0
10-14	1.5	1.6	1.5	2.5	3.1	2.8	*	*	*	1.6	2.0	1.8
15-19	13.6	10.4	12.0	13.6	4.9	9.3	20.0	15.1	17.6	13.8	9.2	11.6
20-24	15.6	8.0	11.8	9.2	7.2	8.2	20.0	8.7	14.6	14.8	7.7	11.3
25-29	12.1	4.7	8.4	15.6	6.9	11.1	17.7	*	11.5	13.0	5.0	9.0
30-34	9.9	2.9	6.4	16.2	6.9	11.2	9.9	*	7.3	10.4	3.5	7.0
35-44	7.6	3.3	5.5	7.9	2.9	5.3	11.2	6.4	8.8	7.8	3.3	5.6
45-54	6.8	3.9	5.3	7.9	4.6	6.2	14.8	*	8.8	7.1	3.9	5.5
55-64	7.9	4.4	6.1	6.6	4.4	5.4	*	12.8	10.6	7.8	4.5	6.1
65-74	8.3	5.0	6.6	11.6	4.3	7.4	*	*	*	8.7	5.1	6.8
75+	21.8	12.4	16.0	13.2	5.3	8.2	*	*	*	21.0	11.8	15.3
Total	8.6	4.9	6.7	8.3	4.3	6.2	10.0	5.9	8.0	8.5	4.8	6.6

Rates are the number of deaths per 100,000 population.
Sources: Division for Vital Records and Health Statistics, MDCH
Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)
Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

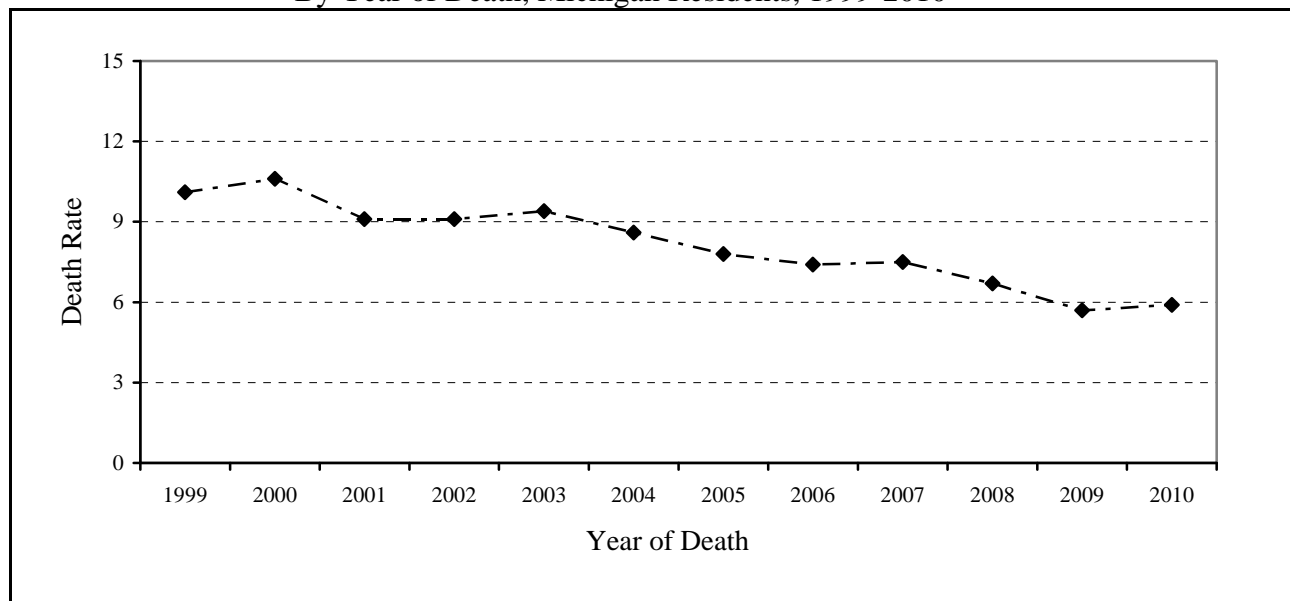
No deaths occurred within category -
Quantity greater than zero but less than 0.5 0
Rate is considered statistically unreliable *

TABLE 41
Number of MV Traffic Crash Occupant Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	990	NA	10.0	NA	10.1	NA
2000	1,048	NA	10.5	NA	10.6	NA
2001	912	NA	9.1	NA	9.1	NA
2002	911	NA	9.1	NA	9.1	NA
2003	955	NA	9.5	NA	9.4	NA
2004	878	NA	8.7	NA	8.6	NA
2005	801	NA	7.9	NA	7.8	NA
2006	752	NA	7.4	NA	7.4	NA
2007	765	NA	7.6	NA	7.5	NA
2008	679	NA	6.8	NA	6.7	NA
2009	587	NA	5.9	NA	5.7	NA
2010	599	NA	6.1	NA	5.9	NA

NA – Not Available. National data could not be ascertained using the same methodology as was used for Michigan. See *Methods*.

FIGURE 10
Age-adjusted MV Traffic Crash Occupant Death Rates
By Year of Death, Michigan Residents, 1999-2010



Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V30 – V79 (.4-.9), V83 – V86 (.0-.3) (occupant); or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was an occupant; or 2) the description of injury on the death certificate indicated the decedent was an occupant. See *Methods*. Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH
Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)
Population Estimates released by the National Center for Health Statistics, CDC

TABLE 42

Average Annual Number of MV Traffic Crash Occupant Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	1	*	Lapeer	7	7.8
Alger	1	*	Leelanau	2	9.2
Allegan	11	9.5	Lenawee	10	9.5
Alpena	3	10.2	Livingston	13	6.9
Antrim	4	15.7	Luce	1	*
Arenac	2	9.2	Mackinac	2	16.2
Baraga	0	*	Macomb	34	4.1
Barry	5	8.9	Manistee	3	12.2
Bay	7	6.0	Marquette	3	4.6
Benzie	2	11.5	Mason	3	9.6
Berrien	15	9.3	Mecosta	3	7.7
Branch	3	7.1	Menominee	3	12.5
Calhoun	11	8.3	Midland	7	8.1
Cass	5	8.9	Missaukee	2	13.4
Charlevoix	1	*	Monroe	11	6.9
Cheboygan	3	11.4	Montcalm	9	14.3
Chippewa	4	10.3	Montmorency	2	17.4
Clare	3	9.8	Muskegon	12	6.8
Clinton	5	6.3	Newaygo	6	11.8
Crawford	1	*	Oakland	46	3.8
Delta	3	7.4	Oceana	3	10.9
Dickinson	3	10.3	Ogemaw	2	10.5
Eaton	9	7.9	Ontonagon	1	*
Emmet	3	8.2	Osceola	2	8.7
Genesee	28	6.6	Oscoda	2	22.7
Gladwin	4	13.5	Otsego	3	10.5
Gogebic	1	*	Ottawa	17	6.3
Grand Traverse	5	5.2	Presque Isle	2	14.8
Gratiot	4	10.1	Roscommon	2	8.0
Hillsdale	6	12.5	Saginaw	15	7.5
Houghton	3	8.4	St. Clair	13	7.9
Huron	2	6.1	St. Joseph	10	15.3
Ingham	14	5.0	Sanilac	7	15.2
Ionia	9	13.4	Schoolcraft	1	*
Iosco	2	8.6	Shiawassee	6	8.1
Iron	2	12.7	Tuscola	6	10.7
Isabella	5	7.0	Van Buren	9	11.0
Jackson	13	7.9	Washtenaw	15	4.4
Kalamazoo	18	7.1	Wayne	103	5.4
Kalkaska	4	20.5	Wexford	3	8.6
Kent	40	6.5			
Keweenaw	1	*			
Lake	3	22.4	Michigan	658	6.6

Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V30 – V79 (.4-.9), V83 – V86 (.0-.3) (occupant); or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was an occupant; or 2) the description of injury on the death certificate indicated the decedent was an occupant. See *Methods*.

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 43
Average Annual Number of Motorcyclist Crash Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	1	-	1	-	-	-	-	-	-	1	-	1
10-14	-	-	-	-	-	-	-	-	-	-	-	-
15-19	3	-	3	1	0	1	-	-	-	4	0	4
20-24	13	1	14	2	1	2	-	-	-	15	1	17
25-29	10	0	10	1	-	1	1	-	1	12	0	12
30-34	7	1	8	2	-	2	-	-	-	10	1	11
35-44	13	2	15	7	0	7	0	-	0	21	3	24
45-54	32	4	36	1	-	1	1	-	1	35	4	39
55-64	16	2	18	0	-	0	0	-	0	18	2	20
65-74	6	0	6	-	-	-	-	-	-	6	0	6
75+	3	-	3	-	-	-	-	-	-	3	-	3
Total	104	10	114	14	1	15	2	-	2	123	12	135

Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V20 – V28 (.3 - .9), V29.4 – V29.9 (motorcyclist); or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was a motorcyclist; or 2) the description of injury on the death certificate indicated the decedent was a motorcyclist. See *Methods*. Numbers in columns and rows may not total exactly due to rounding.

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

TABLE 44
Average Annual Motorcyclist Crash Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	*	-	*	-	-	-	-	-	-	*	-	*
10-14	-	-	-	-	-	-	-	-	-	-	-	-
15-19	1.1	-	0.6	*	*	*	-	-	-	1.0	*	0.5
20-24	5.1	*	2.8	3.4	*	2.2	-	-	-	4.5	*	2.5
25-29	4.4	*	2.3	*	-	*	*	-	*	4.0	*	2.0
30-34	3.4	*	2.0	5.4	-	2.5	-	-	-	3.3	*	1.8
35-44	2.6	0.4	1.5	7.4	*	3.6	*	-	*	3.1	0.4	1.8
45-54	5.2	0.6	2.9	*	-	*	*	-	*	4.6	0.5	2.5
55-64	3.3	0.4	1.8	*	-	*	*	-	*	3.0	0.4	1.6
65-74	2.0	*	1.0	-	-	-	-	-	-	1.8	*	0.9
75+	1.5	-	0.6	-	-	-	-	-	-	1.3	-	0.5
Total	2.8	0.3	1.5	2.1	*	1.1	0.9	-	0.5	2.5	0.2	1.4

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

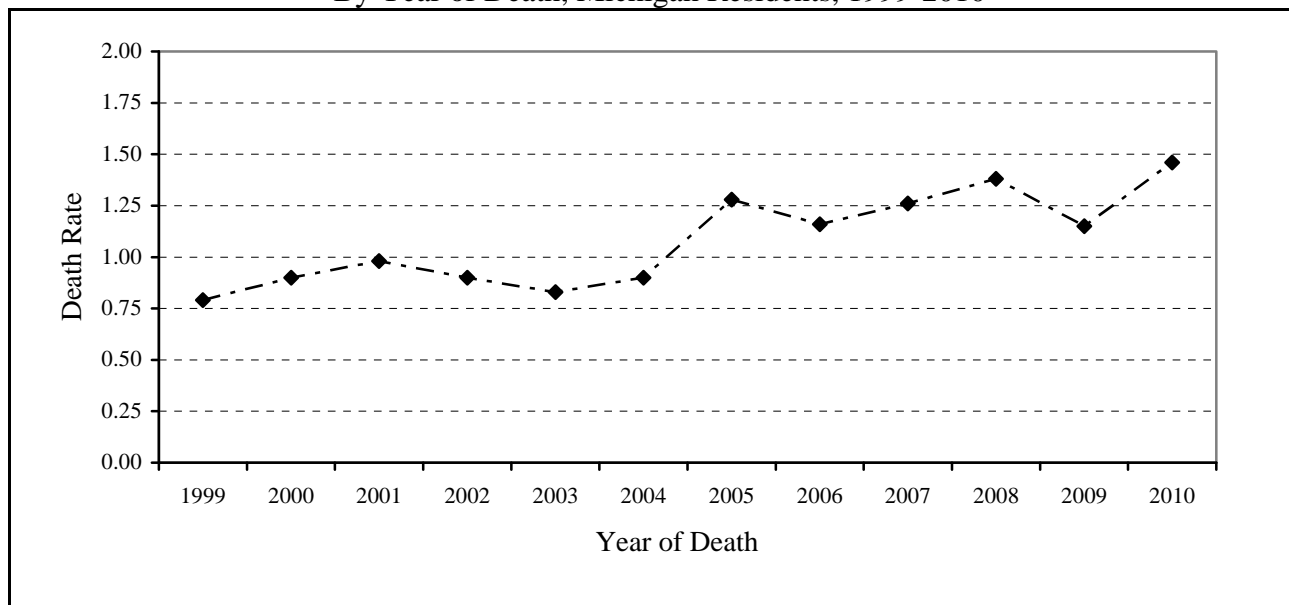
No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 45
Number of Motorcyclist Crash Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	78	NA	0.79	NA	0.79	NA
2000	90	NA	0.90	NA	0.90	NA
2001	98	NA	0.98	NA	0.98	NA
2002	91	NA	0.91	NA	0.90	NA
2003	85	NA	0.84	NA	0.83	NA
2004	92	NA	0.91	NA	0.90	NA
2005	130	NA	1.28	NA	1.28	NA
2006	121	NA	1.20	NA	1.16	NA
2007	130	NA	1.29	NA	1.26	NA
2008	142	NA	1.42	NA	1.38	NA
2009	116	NA	1.16	NA	1.15	NA
2010	151	NA	1.53	NA	1.46	NA

NA – Not Available. National data could not be ascertained using the same methodology as was used for Michigan. See *Methods*.

FIGURE 11
Age-adjusted Motorcyclist Crash Death Rates
By Year of Death, Michigan Residents, 1999-2010



Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V20 – V28 (.3 - .9), V29.4 – V29.9 (motorcyclist); or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was a motorcyclist; or 2) the description of injury on the death certificate indicated the decedent was a motorcyclist. See *Methods*. Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 46
Average Annual Number of Motorcyclist Crash Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	1	*	Lapeer	2	2.2
Alger	-	-	Leelanau	-	-
Allegan	3	2.2	Lenawee	2	1.7
Alpena	0	*	Livingston	3	1.8
Antrim	1	*	Luce	0	*
Arenac	0	*	Mackinac	-	-
Baraga	-	-	Macomb	10	1.2
Barry	3	5.1	Manistee	0	*
Bay	2	1.4	Marquette	2	2.3
Benzie	0	*	Mason	1	*
Berrien	3	2.0	Mecosta	1	*
Branch	1	*	Menominee	0	*
Calhoun	3	2.2	Midland	1	*
Cass	2	3.0	Missaukee	0	*
Charlevoix	1	*	Monroe	1	*
Cheboygan	0	*	Montcalm	1	*
Chippewa	1	*	Montmorency	-	-
Clare	1	*	Muskegon	4	2.0
Clinton	1	*	Newaygo	2	3.1
Crawford	0	*	Oakland	8	0.6
Delta	1	*	Oceana	1	*
Dickinson	1	*	Ogemaw	-	-
Eaton	2	1.6	Ontonagon	-	-
Emmet	1	*	Osceola	-	-
Genesee	8	1.9	Oscoda	0	*
Gladwin	1	*	Otsego	1	*
Gogebic	0	*	Ottawa	3	1.0
Grand Traverse	1	*	Presque Isle	-	-
Gratiot	1	*	Roscommon	1	*
Hillsdale	0	*	Saginaw	0	*
Houghton	0	*	St. Clair	3	1.8
Huron	-	-	St. Joseph	2	2.4
Ingham	3	1.0	Sanilac	2	3.5
Ionia	1	*	Schoolcraft	-	-
Iosco	-	-	Shiawassee	2	2.1
Iron	0	*	Tuscola	1	*
Isabella	1	*	Van Buren	1	*
Jackson	3	1.6	Washtenaw	3	0.9
Kalamazoo	3	1.3	Wayne	25	1.3
Kalkaska	1	*	Wexford	1	*
Kent	7	1.2			
Keweenaw	-	-			
Lake	-	-	Michigan	135	1.4

Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V20 – V28 (.3 - .9), V29.4 – V29.9 (motorcyclist); or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was a motorcyclist; or 2) the description of injury on the death certificate indicated the decedent was a motorcyclist. See *Methods*.

Sources: Division for Vital Records and Health Statistics, MDCH
Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)
Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS	
No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 47
Average Annual Number of Motor Vehicle – Pedestrian Crash Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	1	-	1	1	1	2	1	0	1	3	1	3
5-9	0	0	1	0	1	1	1	-	1	1	1	2
10-14	2	1	3	0	0	1	-	-	-	2	2	4
15-19	4	1	4	1	1	2	1	0	1	6	2	8
20-24	3	2	5	2	0	2	1	-	1	6	2	8
25-29	4	1	5	2	1	2	-	-	-	6	2	7
30-34	2	2	5	2	0	3	-	-	-	5	3	7
35-44	10	4	14	3	2	4	1	-	1	13	6	19
45-54	12	3	15	7	2	10	1	-	1	20	6	26
55-64	6	2	8	6	1	7	-	-	-	12	4	16
65-74	8	2	10	2	1	2	0	-	0	9	3	12
75+	7	4	11	1	1	2	-	0	0	9	5	13
Total	58	23	81	26	9	36	4	1	5	91	34	125

Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V02 – V04 (.1, .9), V09.2 (pedestrian); or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was a pedestrian; or 2) the description of injury on the death certificate indicated the decedent was a pedestrian. See *Methods*.
Numbers in columns and rows may not total exactly due to rounding.

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

TABLE 48
Average Annual Motor Vehicle – Pedestrian Crash Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	*	-	*	*	*	1.9	*	*	*	1.0	*	0.7
5-9	*	*	*	*	*	*	*	-	*	*	*	0.3
10-14	0.7	*	0.6	*	*	*	-	-	-	0.6	0.4	0.5
15-19	1.3	*	0.8	*	*	1.3	*	*	*	1.6	0.5	1.0
20-24	1.3	0.7	1.0	3.4	*	1.9	*	-	*	1.8	0.6	1.2
25-29	1.8	*	1.1	3.5	*	2.2	-	-	-	1.8	0.5	1.2
30-34	1.1	1.1	1.1	5.4	*	2.8	-	-	-	1.7	0.9	1.3
35-44	1.9	0.8	1.4	2.7	1.7	2.2	*	-	*	2.0	0.9	1.4
45-54	1.9	0.5	1.2	8.2	2.2	5.0	*	-	*	2.7	0.8	1.7
55-64	1.2	0.4	0.8	9.0	*	4.9	-	-	-	2.1	0.6	1.3
65-74	2.7	0.6	1.6	5.0	*	3.2	*	-	*	2.8	0.7	1.7
75+	3.4	1.1	2.0	*	*	2.6	-	*	*	3.5	1.2	2.1
Total	1.5	0.6	1.0	4.0	1.3	2.5	1.9	*	1.2	1.9	0.7	1.3

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

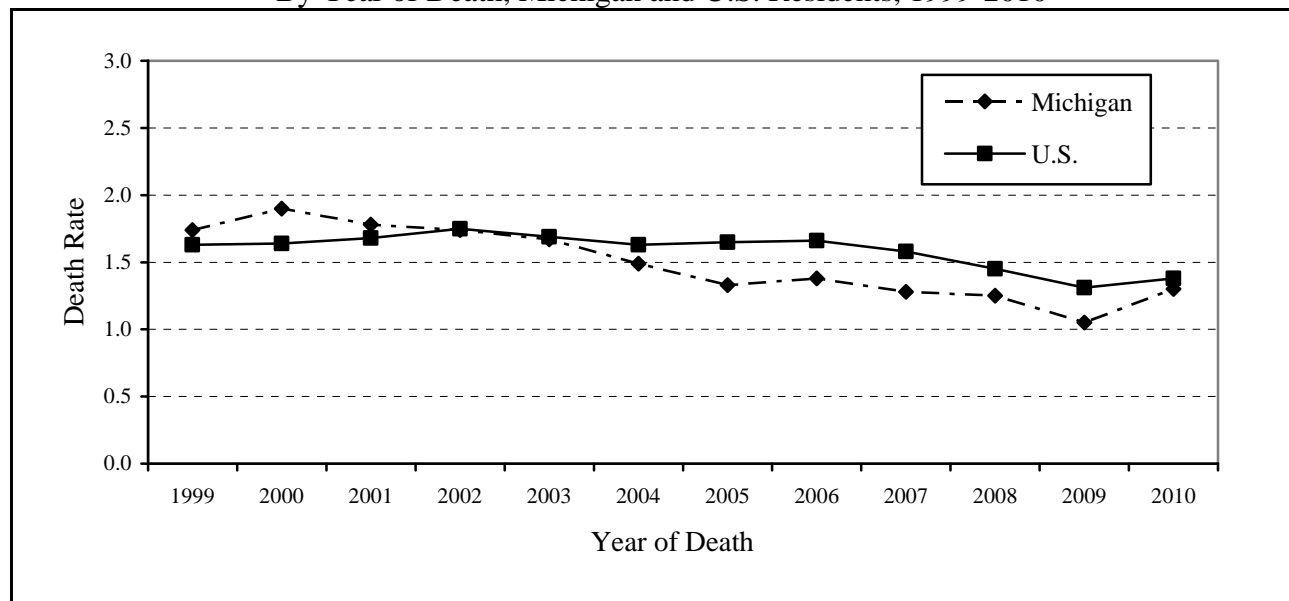
No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 49
Number of Motor Vehicle – Pedestrian Crash Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US*	MI	US*	MI	US*
1999	172	4,545	1.74	1.63	1.74	1.63
2000	189	4,598	1.90	1.63	1.90	1.64
2001	178	4,822	1.78	1.69	1.78	1.68
2002	175	5,041	1.74	1.75	1.74	1.75
2003	170	4,951	1.69	1.71	1.67	1.69
2004	152	4,839	1.50	1.65	1.49	1.63
2005	135	4,917	1.33	1.66	1.33	1.65
2006	140	5,021	1.39	1.68	1.38	1.66
2007	130	4,820	1.29	1.60	1.28	1.58
2008	127	4,489	1.27	1.47	1.25	1.45
2009	107	4,109	1.07	1.34	1.05	1.31
2010	134	4,383	1.36	1.42	1.30	1.38

*Although national data could not be ascertained using the same methodology as was used for Michigan (see *Methods*), the number of additional cases identified using linkage to MI FARS or reviewing the injury description was small enough (n=15 over the 12-year period) that the state-national comparison was minimally affected.

FIGURE 12
Age-adjusted Motor Vehicle – Pedestrian Crash Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Michigan cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V02 – V04 (.1, .9), V09.2 (pedestrian); or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was a pedestrian; or 2) the description of injury on the death certificate indicated the decedent was a pedestrian. See *Methods*. Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: V02 – V04 (.1, .9), V09.2

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 50
Average Annual Number of Motor Vehicle – Pedestrian Crash Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	0	*	Lapeer	1	*
Alger	-	-	Leelanau	0	*
Allegan	1	*	Lenawee	1	*
Alpena	1	*	Livingston	1	*
Antrim	-	-	Luce	1	*
Arenac	0	*	Mackinac	-	-
Baraga	-	-	Macomb	7	0.8
Barry	0	*	Manistee	-	-
Bay	1	*	Marquette	1	*
Benzie	-	-	Mason	-	-
Berrien	2	1.3	Mecosta	1	*
Branch	1	*	Menominee	0	*
Calhoun	2	1.3	Midland	1	*
Cass	0	*	Missaukee	0	*
Charlevoix	-	-	Monroe	2	1.0
Cheboygan	0	*	Montcalm	1	*
Chippewa	0	*	Montmorency	0	*
Clare	1	*	Muskegon	2	0.9
Clinton	0	*	Newaygo	1	*
Crawford	-	-	Oakland	12	1.0
Delta	-	-	Oceana	0	*
Dickinson	0	*	Ogemaw	0	*
Eaton	1	*	Ontonagon	-	-
Emmet	-	-	Osceola	-	-
Genesee	9	2.0	Oscoda	-	-
Gladwin	0	*	Otsego	1	*
Gogebic	-	-	Ottawa	2	0.8
Grand Traverse	2	1.7	Presque Isle	0	*
Gratiot	0	*	Roscommon	0	*
Hillsdale	1	*	Saginaw	3	1.5
Houghton	1	*	St. Clair	1	*
Huron	0	*	St. Joseph	1	*
Ingham	2	0.8	Sanilac	1	*
Ionia	1	*	Schoolcraft	-	-
Iosco	0	*	Shiawassee	1	*
Iron	-	-	Tuscola	2	3.1
Isabella	0	*	Van Buren	2	1.9
Jackson	2	1.1	Washtenaw	3	0.9
Kalamazoo	2	0.9	Wayne	41	2.1
Kalkaska	0	*	Wexford	1	*
Kent	8	1.2			
Keweenaw	-	-			
Lake	-	-	Michigan	125	1.3

Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V02 – V04 (.1, .9), V09.2 (pedestrian); or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was a pedestrian; or 2) the description of injury on the death certificate indicated the decedent was a pedestrian. See *Methods*.

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 51
Average Annual Number of Pedal Cycle Crash Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	0	-	0	-	-	-	0	-	0
5-9	-	1	1	-	0	0	-	-	-	-	1	1
10-14	1	0	1	0	-	0	0	-	0	2	0	2
15-19	2	-	2	1	-	1	0	-	0	3	-	3
20-24	1	0	1	0	-	0	-	-	-	1	0	2
25-29	2	-	2	-	-	-	-	-	-	2	-	2
30-34	0	-	0	0	0	1	1	-	1	1	0	1
35-44	2	1	3	0	-	0	-	-	-	3	1	4
45-54	6	1	8	1	-	1	1	-	1	8	1	9
55-64	3	0	3	1	-	1	-	-	-	4	0	4
65-74	2	1	3	-	-	-	-	-	-	3	1	3
75+	2	0	2	0	-	0	-	-	-	2	0	2
Total	20	5	25	4	1	4	2	-	2	26	5	31

Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V12 – V14 (.3 - .9), V19.4 – V19.6 (incidents involving motor vehicle traffic crashes) or V10, V11, V12-V14(.0-.2), V15-V18, V19(.0-.6,.8,.9) (incidents not involving motor vehicle traffic crashes) ; or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was a pedal cyclist; or 2) the description of injury on the death certificate indicated the decedent was a pedal cyclist. See *Methods*.

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 52
Average Annual Pedal Cycle Crash Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	*	-	*	-	-	-	*	-	*
5-9	-	*	*	-	*	*	-	-	-	-	*	*
10-14	*	*	*	*	-	*	*	-	*	0.4	*	0.3
15-19	0.6	-	0.3	*	-	*	*	-	*	0.6	-	0.3
20-24	*	*	*	*	-	*	-	-	-	*	*	0.2
25-29	0.7	-	0.3	-	-	-	-	-	-	0.7	-	0.3
30-34	*	-	*	*	*	*	*	-	*	*	*	*
35-44	0.4	*	0.3	*	-	*	-	-	-	0.4	*	0.3
45-54	1.0	*	0.6	*	-	*	*	-	*	1.0	*	0.6
55-64	0.5	*	0.3	*	-	*	-	-	-	0.6	-	0.3
65-74	0.8	*	0.5	-	-	-	-	-	-	0.8	*	0.5
75+	0.7	*	0.3	*	-	*	-	-	-	0.7	*	0.3
Total	0.5	0.1	0.3	0.5	*	0.3	0.7	-	0.4	0.5	0.1	0.3

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

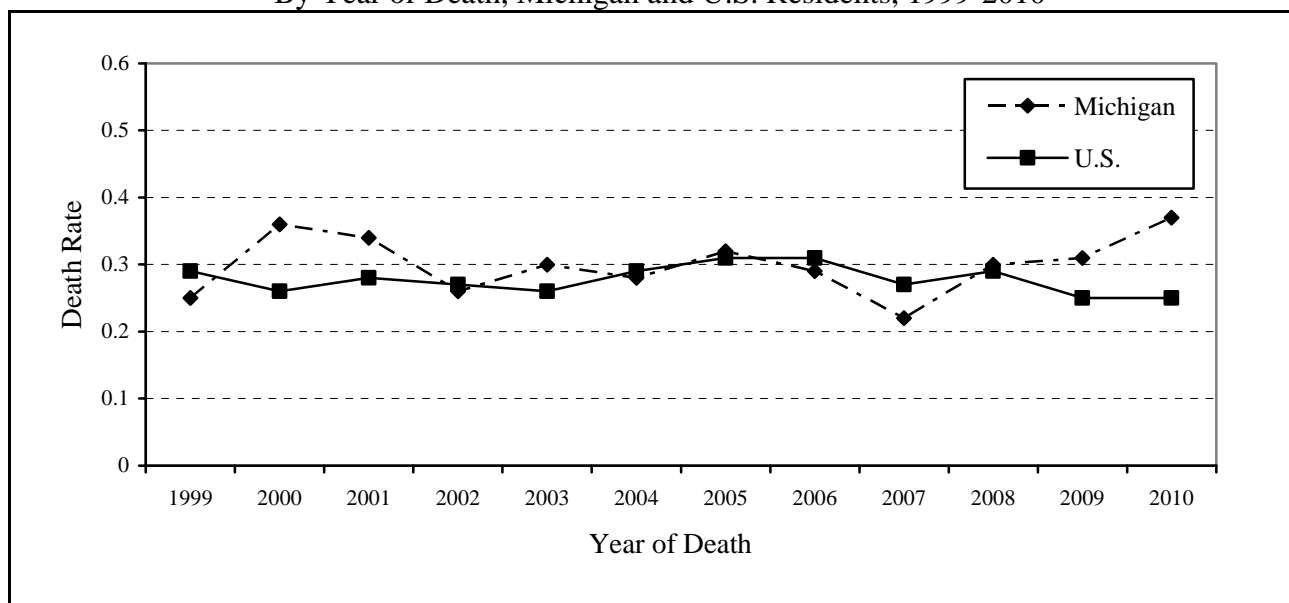
No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 53
Number of Pedal Cycle Crash Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US*	MI	US*	MI	US*
1999	26	800	0.26	0.29	0.26	0.29
2000	36	740	0.36	0.26	0.36	0.26
2001	35	792	0.35	0.28	0.35	0.28
2002	27	767	0.27	0.27	0.27	0.27
2003	31	762	0.31	0.26	0.30	0.26
2004	29	843	0.29	0.29	0.28	0.29
2005	31	927	0.31	0.31	0.32	0.31
2006	30	926	0.30	0.31	0.29	0.31
2007	24	820	0.24	0.27	0.23	0.27
2008	32	893	0.32	0.29	0.30	0.29
2009	32	785	0.32	0.26	0.31	0.25
2010	37	793	0.37	0.26	0.37	0.25

*Although national data could not be ascertained using the same methodology as was used for Michigan (see *Methods*), the number of additional cases identified using linkage to MI FARS or reviewing the injury description was small enough (n=4 over the 12-year period) that the state-national comparison was minimally affected.

FIGURE 13
Age-adjusted Pedal Cycle Crash Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Michigan cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V12 – V14 (.3 - .9), V19.4 – V19.6 (incidents involving motor vehicle traffic crashes) or V10, V11, V12-V14(.0-.2), V15-V18, V19(.0-.6,.8,.9) (incidents not involving motor vehicle traffic crashes) ; or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was a pedal cyclist; or 2) the description of injury on the death certificate indicated the decedent was a pedal cyclist. See *Methods*.

Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: V12 – V14 (.3 - .9), V19.4 – V19.6 (incidents involving motor vehicle traffic crashes) and V10, V11, V12-V14(.0-.2), V15-V18, V19(.0-.6,.8,.9) (incidents not involving motor vehicle traffic crashes)

Sources: Division for Vital Records and Health Statistics, MDCH

Michigan State Police, Criminal Justice Information Center, Michigan Fatality Analysis Reporting System (MFARS)

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 54
Average Annual Number of Pedal Cycle Crash Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	-	-	Lapeer	0	*
Alger	1	*	Leelanau	-	-
Allegan	0	*	Lenawee	0	*
Alpena	-	-	Livingston	-	-
Antrim	-	-	Luce	-	-
Arenac	-	-	Mackinac	-	-
Baraga	-	-	Macomb	3	0.4
Barry	-	-	Manistee	-	-
Bay	1	*	Marquette	-	-
Benzie	-	-	Mason	-	-
Berrien	1	*	Mecosta	-	-
Branch	0	*	Menominee	-	-
Calhoun	1	*	Midland	-	-
Cass	0	*	Missaukee	0	*
Charlevoix	-	-	Monroe	1	*
Cheboygan	-	-	Montcalm	1	*
Chippewa	0	*	Montmorency	-	-
Clare	1	*	Muskegon	1	*
Clinton	-	-	Newaygo	0	*
Crawford	-	-	Oakland	3	0.2
Delta	-	-	Oceana	0	*
Dickinson	-	-	Ogemaw	-	-
Eaton	1	*	Ontonagon	-	-
Emmet	0	*	Osceola	-	-
Genesee	2	0.4	Oscoda	-	-
Gladwin	-	-	Otsego	0	*
Gogebic	-	-	Ottawa	1	*
Grand Traverse	-	-	Presque Isle	-	-
Gratiot	0	*	Roscommon	-	-
Hillsdale	1	*	Saginaw	1	*
Houghton	-	-	St. Clair	1	*
Huron	-	-	St. Joseph	1	*
Ingham	1	*	Sanilac	-	-
Ionia	1	*	Schoolcraft	-	-
Iosco	-	-	Shiawassee	0	*
Iron	-	-	Tuscola	-	-
Isabella	-	-	Van Buren	-	-
Jackson	1	*	Washtenaw	1	*
Kalamazoo	1	*	Wayne	5	0.3
Kalkaska	0	*	Wexford	-	-
Kent	2	0.3			
Keweenaw	-	-			
Lake	-	-	Michigan	31	0.3

Cases were those for which either: a) the underlying cause of death was coded using ICD-10 codes V12 – V14 (.3 - .9), V19.4 – V19.6 (incidents involving motor vehicle traffic crashes) or V10, V11, V12-V14.(0-2), V15-V18, V19.(0-.6,.8,.9) (incidents not involving motor vehicle traffic crashes) ; or b) the underlying cause of death was coded using V87.0-V87.8, V89.2 (unspecified person) and 1) the record was linked to a traffic crash record that indicated the decedent was a pedal cyclist; or 2) the description of injury on the death certificate indicated the decedent was a pedal cyclist. See *Methods*.

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 55
Average Annual Number of Unintentional Poisoning Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	0	0	1	-	0	0	-	-	-	0	1	1
1-4	1	-	1	-	0	0	-	-	-	1	0	1
5-9	0	-	0	-	-	-	-	-	-	0	-	0
10-14	1	-	1	1	0	1	0	-	0	2	0	2
15-19	17	4	20	1	0	1	2	-	2	19	4	23
20-24	46	18	63	2	2	3	3	2	5	51	22	73
25-29	58	21	79	3	2	4	4	2	5	65	24	89
30-34	60	20	80	4	3	7	3	2	5	68	25	93
35-44	116	62	177	17	11	28	6	4	10	144	79	222
45-54	154	101	255	35	27	62	5	4	8	196	134	331
55-64	48	33	81	29	11	40	2	1	3	79	46	125
65-74	8	10	17	3	1	4	-	0	0	10	11	21
75+	6	8	14	1	1	2	-	0	0	7	9	16
Total	514	274	788	94	58	152	24	14	38	642	355	997

Includes ICD-10 codes: X40 – X49

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 56
Average Annual Unintentional Poisoning Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	*	*	*	-	*	*	-	-	-	*	*	*
1-4	*	-	*	-	*	*	-	-	-	*	*	*
5-9	*	-	*	-	-	-	-	-	-	*	-	*
10-14	*	-	*	*	*	*	*	-	*	0.6	*	0.3
15-19	6.1	1.3	3.8	*	*	*	8.2	-	4.3	5.0	1.1	3.1
20-24	18.4	7.3	12.9	2.9	3.4	3.1	16.0	10.1	13.2	15.2	6.6	10.9
25-29	25.8	9.5	17.8	5.8	3.2	4.4	19.1	9.2	14.4	21.4	8.0	14.7
30-34	28.5	9.5	19.0	10.2	6.3	8.1	15.5	10.7	13.2	23.5	8.7	16.0
35-44	22.7	12.1	17.4	18.4	10.6	14.2	21.5	13.7	17.7	21.7	11.7	16.6
45-54	25.0	16.2	20.6	39.3	26.1	32.2	22.2	19.3	20.8	26.2	17.4	21.8
55-64	9.7	6.5	8.1	45.6	14.0	28.2	12.7	*	11.7	13.6	7.4	10.4
65-74	2.7	3.0	2.8	9.1	*	5.3	-	*	*	3.2	3.0	3.1
75+	2.9	2.2	2.5	*	*	3.4	-	*	*	2.9	2.3	2.5
Total	13.6	7.1	10.3	14.1	7.9	10.9	10.7	6.8	8.8	13.2	7.0	10.0

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

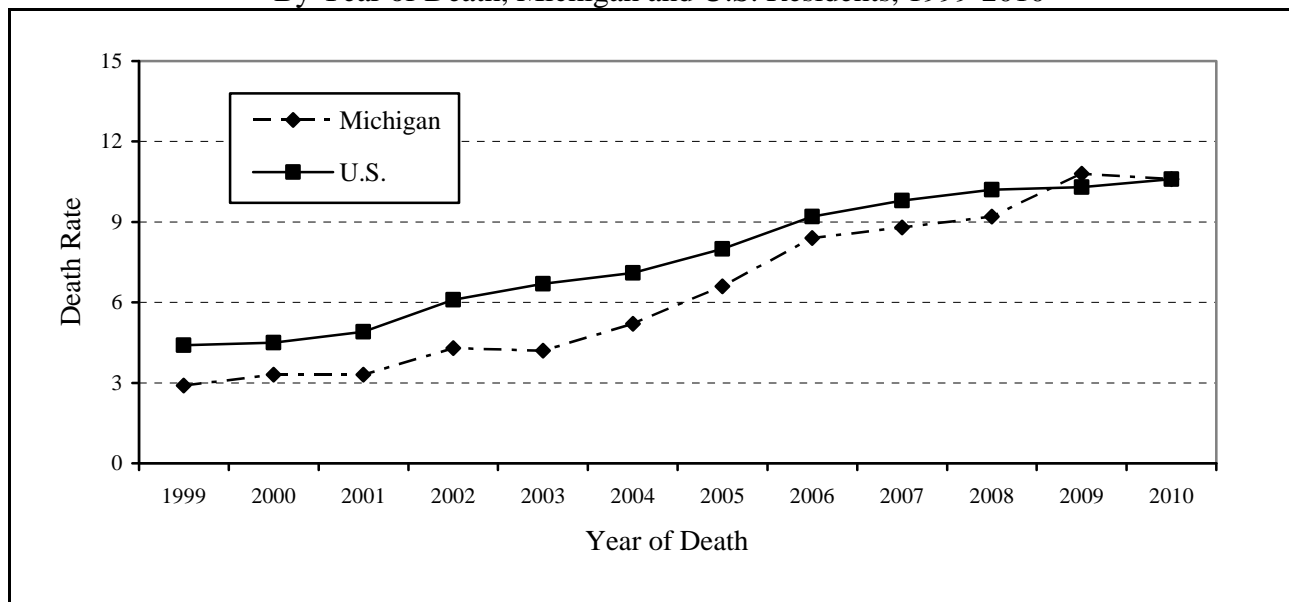
Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS	
No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 57
Number of Unintentional Poisoning Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	288	12,186	2.9	4.4	2.9	4.4
2000	325	12,757	3.3	4.5	3.3	4.5
2001	337	14,078	3.4	4.9	3.3	4.9
2002	430	17,550	4.3	6.1	4.3	6.1
2003	421	19,457	4.2	6.7	4.2	6.7
2004	523	20,950	5.2	7.2	5.2	7.1
2005	676	23,618	6.7	8.0	6.6	8.0
2006	855	27,531	8.5	9.2	8.4	9.2
2007	906	29,846	9.0	9.9	8.8	9.8
2008	941	31,116	9.4	10.2	9.2	10.2
2009	1,082	31,758	10.9	10.3	10.8	10.3
2010	1,057	33,041	10.7	10.7	10.6	10.6

FIGURE 14
Age-adjusted Unintentional Poisoning Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: X40 – X49

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 58
Average Annual Number of Unintentional Poisoning Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	0	*	Lapeer	8	8.9
Alger	1	*	Leelanau	1	*
Allegan	12	10.6	Lenawee	3	2.7
Alpena	3	9.3	Livingston	15	8.4
Antrim	4	15.7	Luce	1	*
Arenac	3	15.4	Mackinac	1	*
Baraga	1	*	Macomb	148	17.8
Barry	5	7.6	Manistee	4	16.2
Bay	2	1.6	Marquette	7	10.2
Benzie	1	*	Mason	1	*
Berrien	18	11.1	Mecosta	2	5.3
Branch	6	13.7	Menominee	1	*
Calhoun	31	22.8	Midland	5	6.3
Cass	5	9.8	Missaukee	2	10.1
Charlevoix	2	7.7	Monroe	22	14.2
Cheboygan	4	15.2	Montcalm	6	9.1
Chippewa	7	18.1	Montmorency	1	*
Clare	5	17.2	Muskegon	24	13.5
Clinton	4	5.3	Newaygo	6	12.3
Crawford	3	19.2	Oakland	24	2.0
Delta	1	*	Oceana	4	14.6
Dickinson	1	*	Ogemaw	2	10.5
Eaton	8	7.7	Ontonagon	1	*
Emmet	3	8.2	Osceola	2	7.6
Genesee	65	15.1	Oscoda	2	17.1
Gladwin	6	21.2	Otsego	4	16.8
Gogebic	1	*	Ottawa	11	4.0
Grand Traverse	8	9.6	Presque Isle	2	12.9
Gratiot	2	4.1	Roscommon	5	20.1
Hillsdale	5	9.7	Saginaw	4	1.7
Houghton	3	7.0	St. Clair	29	17.2
Huron	2	6.9	St. Joseph	5	8.1
Ingham	25	8.9	Sanilac	4	9.9
Ionia	6	9.8	Schoolcraft	1	*
Iosco	1	*	Shiawassee	16	21.9
Iron	1	*	Tuscola	1	*
Isabella	5	6.6	Van Buren	13	16.8
Jackson	2	1.2	Washtenaw	13	3.6
Kalamazoo	19	7.7	Wayne	261	13.6
Kalkaska	3	16.1	Wexford	4	12.5
Kent	54	8.9	Unknown	0	
Keweenaw	-	-			
Lake	2	15.7	Michigan	997	10.0

Includes ICD-10 codes: X40 – X49

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 59
Average Annual Number of Unintentional Suffocation/Strangulation Deaths
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	16	10	27	16	13	29	3	2	5	36	26	62
1-4	1	1	1	1	1	2	0	-	0	2	2	4
5-9	1	0	1	-	0	0	-	0	0	1	1	2
10-14	1	1	1	-	-	-	0	-	0	1	1	2
15-19	1	-	1	0	-	0	1	0	1	2	0	3
20-24	1	0	1	-	-	-	-	-	-	1	0	1
25-29	1	0	1	0	-	0	-	-	-	1	0	2
30-34	1	0	2	1	0	1	-	0	0	2	1	3
35-44	5	1	6	1	1	1	0	-	0	6	2	8
45-54	8	5	13	1	2	3	1	1	1	10	8	18
55-64	7	5	12	2	2	3	0	0	1	9	7	16
65-74	9	5	13	1	1	3	-	-	-	10	6	16
75+	30	33	62	3	4	7	1	1	1	33	38	71
Total	81	61	142	25	24	49	5	4	9	114	90	204

Includes ICD-10 codes: W75 – W84

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 60
Average Annual Unintentional Suffocation/Strangulation Death Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	41.2	27.4	34.5	150.7	134.6	142.9	52.4	34.2	43.4	59.4	45.8	52.8
1-4	*	*	*	*	*	2.2	*	-	*	0.7	0.7	0.7
5-9	*	*	*	-	*	*	-	*	*	*	*	0.2
10-14	*	*	*	-	-	-	*	-	*	*	*	0.2
15-19	*	-	*	*	-	*	*	*	*	0.6	*	0.3
20-24	*	*	*	-	-	-	-	-	-	*	*	*
25-29	*	*	*	*	-	*	-	-	-	*	*	0.2
30-34	*	*	0.4	*	*	*	-	*	*	0.7	*	0.5
35-44	1.0	*	0.6	*	*	*	*	-	*	0.9	0.3	0.6
45-54	1.3	0.8	1.1	*	1.7	1.4	*	*	*	1.3	1.0	1.2
55-64	1.4	1.0	1.2	2.7	1.9	2.3	*	*	*	1.6	1.1	1.3
65-74	3.0	1.4	2.2	*	*	3.5	-	-	-	3.2	1.6	2.3
75+	13.6	9.6	11.2	15.6	10.0	12.0	*	*	*	13.6	9.6	11.2
Total	2.1	1.6	1.9	3.8	3.2	3.5	2.4	1.9	2.2	2.3	1.8	2.0

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

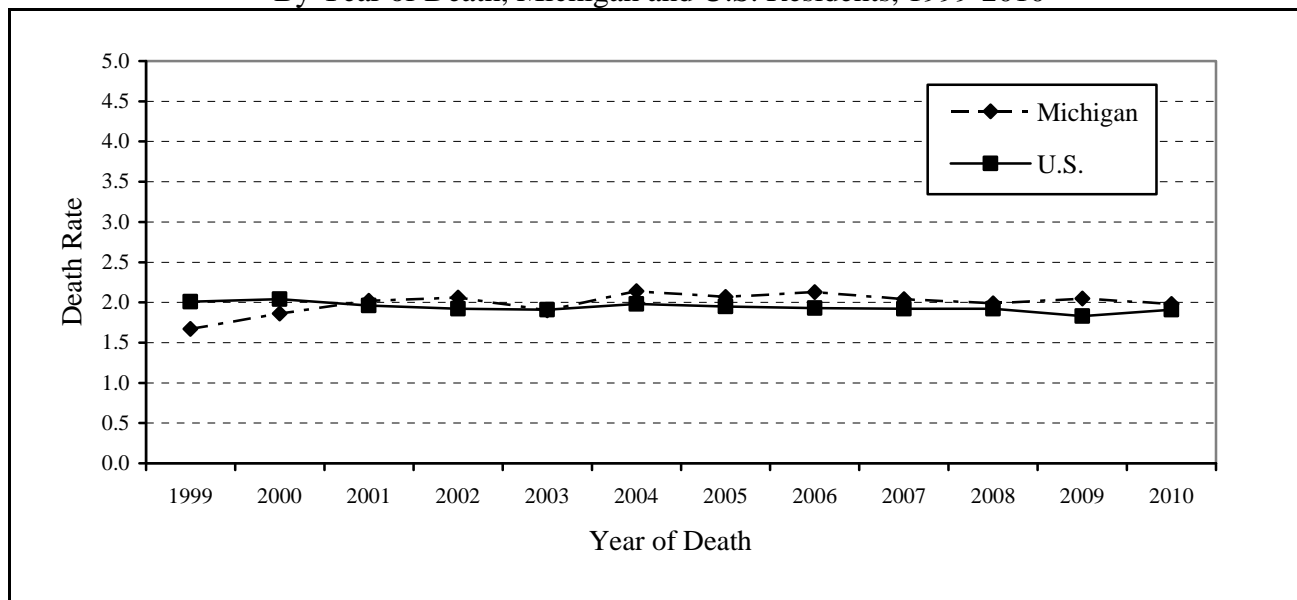
KEY TO SYMBOLS

No deaths occurred within category -
Quantity greater than zero but less than 0.5 0
Rate is considered statistically unreliable *

TABLE 61
Number of Unintentional Suffocation/Strangulation Deaths and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	160	5,503	1.62	1.97	1.67	2.01
2000	181	5,648	1.82	2.01	1.86	2.04
2001	198	5,555	1.98	1.95	2.02	1.96
2002	204	5,517	2.03	1.92	2.06	1.92
2003	191	5,579	1.90	1.92	1.90	1.91
2004	216	5,891	2.14	2.01	2.14	1.98
2005	212	5,900	2.09	1.99	2.07	1.95
2006	215	5,912	2.13	1.98	2.13	1.93
2007	207	5,997	2.06	1.99	2.04	1.92
2008	206	6,125	2.06	2.01	1.99	1.92
2009	207	5,939	2.08	1.93	2.05	1.83
2010	197	6,165	1.99	2.00	1.98	1.91

FIGURE 15
Age-adjusted Unintentional Suffocation/Strangulation Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: W75 – W84

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 62
Average Annual Number of Unintentional Suffocation/Strangulation Deaths and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	1	*	Lapeer	1	*
Alger	-	-	Leelanau	0	*
Allegan	4	3.5	Lenawee	1	*
Alpena	0	*	Livingston	3	1.4
Antrim	0	*	Luce	1	*
Arenac	0	*	Mackinac	0	*
Baraga	0	*	Macomb	12	1.4
Barry	1	*	Manistee	1	*
Bay	3	2.8	Marquette	1	*
Benzie	0	*	Mason	1	*
Berrien	4	2.5	Mecosta	1	*
Branch	0	*	Menominee	-	-
Calhoun	2	1.7	Midland	1	*
Cass	1	*	Missaukee	-	-
Charlevoix	-	-	Monroe	2	1.5
Cheboygan	0	*	Montcalm	3	4.0
Chippewa	1	*	Montmorency	-	-
Clare	-	0.0	Muskegon	3	1.4
Clinton	1	*	Newaygo	1	*
Crawford	-	-	Oakland	24	2.0
Delta	1	*	Oceana	1	*
Dickinson	2	6.6	Ogemaw	1	*
Eaton	2	2.1	Ontonagon	-	-
Emmet	1	*	Osceola	1	*
Genesee	10	2.4	Oscoda	-	-
Gladwin	1	*	Otsego	1	*
Gogebic	1	*	Ottawa	3	1.0
Grand Traverse	1	*	Presque Isle	-	-
Gratiot	2	4.7	Roscommon	0	*
Hillsdale	-	-	Saginaw	6	3.1
Houghton	1	*	St. Clair	4	2.2
Huron	0	*	St. Joseph	1	*
Ingham	4	1.4	Sanilac	1	*
Ionia	2	3.5	Schoolcraft	1	*
Iosco	1	*	Shiawassee	1	*
Iron	0	*	Tuscola	0	*
Isabella	1	*	Van Buren	1	*
Jackson	4	2.3	Washtenaw	7	1.9
Kalamazoo	5	1.9	Wayne	53	2.8
Kalkaska	0	*	Wexford	1	*
Kent	11	1.9			
Keweenaw	-	-			
Lake	0	*	Michigan	204	2.0

Includes ICD-10 codes: W75 – W84

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 63
Average Annual Number of Firearm Suicides
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-	-	-	-
10-14	1	-	1	0	-	0	-	-	-	1	-	1
15-19	18	1	20	4	-	4	1	-	1	25	2	26
20-24	26	4	29	4	1	4	1	-	1	32	4	36
25-29	24	4	28	5	1	6	1	0	1	30	5	35
30-34	29	4	33	4	1	4	2	0	2	35	4	39
35-44	74	10	84	7	1	8	1	-	1	83	11	95
45-54	107	13	120	5	2	7	1	-	1	114	15	129
55-64	72	7	79	4	1	5	1	0	1	77	8	85
65-74	53	4	57	3	1	3	1	-	1	57	4	61
75+	61	2	63	4	1	4	-	-	-	65	3	67
Total	465	47	511	39	7	46	7	1	8	518	55	573

Includes ICD-10 codes: X72 – X74

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 64
Average Annual Firearm Suicide Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-	-	-	-
10-14	*	-	*	*	-	*	-	-	-	*	-	*
15-19	6.6	*	3.6	6.1	-	3.1	*	-	*	6.3	0.4	3.5
20-24	10.4	1.5	6.0	7.3	*	4.1	*	-	*	9.3	1.2	5.3
25-29	10.6	1.7	6.2	12.1	*	6.6	*	*	*	10.0	1.7	5.9
30-34	13.8	1.7	7.8	8.4	*	4.5	8.5	*	5.1	12.1	1.5	6.7
35-44	14.5	1.9	8.2	7.7	*	4.2	*	-	*	12.6	1.7	7.1
45-54	17.4	2.0	9.7	5.7	2.0	3.7	*	-	*	15.3	1.9	8.5
55-64	14.6	1.3	7.9	5.5	*	3.1	*	*	*	13.1	1.3	7.1
65-74	18.8	1.2	9.5	9.1	*	4.6	*	-	*	17.4	1.1	8.8
75+	28.2	0.6	11.3	16.8	*	6.9	-	-	-	26.5	0.6	10.6
Total	12.3	1.2	6.7	5.8	1.0	3.3	3.1	*	1.8	10.6	1.1	5.7

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

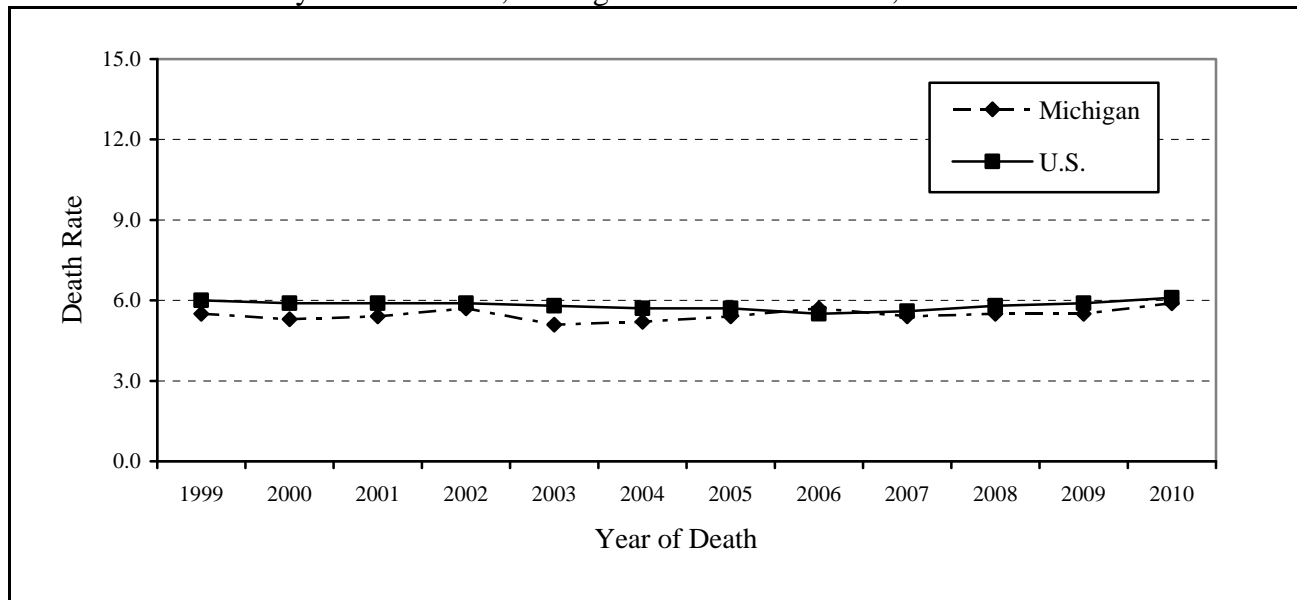
KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 65
Number of Firearm Suicides and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	538	16,599	5.4	6.0	5.5	6.0
2000	529	16,586	5.3	5.9	5.3	5.9
2001	540	16,869	5.4	5.9	5.4	5.9
2002	574	17,108	5.7	5.9	5.7	5.9
2003	519	16,907	5.1	5.8	5.1	5.8
2004	532	16,750	5.3	5.7	5.2	5.7
2005	553	17,002	5.5	5.8	5.4	5.7
2006	595	16,883	5.9	5.7	5.7	5.5
2007	557	17,352	5.5	5.8	5.4	5.6
2008	566	18,223	5.7	6.0	5.5	5.8
2009	570	18,735	5.7	6.1	5.5	5.9
2010	599	19,392	6.1	6.3	5.9	6.1

FIGURE 16
Age-adjusted Firearm Suicide Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: X72 – X74

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 66
Average Annual Number of Firearm Suicides and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	2	15.7	Lapeer	7	7.2
Alger	1	*	Leelanau	1	*
Allegan	6	5.5	Lenawee	4	4.0
Alpena	3	11.0	Livingston	8	4.5
Antrim	3	12.6	Luce	1	*
Arenac	4	21.5	Mackinac	1	*
Baraga	1	*	Macomb	46	5.5
Barry	5	8.5	Manistee	4	16.2
Bay	7	6.5	Marquette	4	6.5
Benzie	1	*	Mason	3	10.5
Berrien	8	4.9	Mecosta	3	7.7
Branch	4	8.8	Menominee	2	6.2
Calhoun	11	7.9	Midland	6	6.6
Cass	4	7.4	Missaukee	1	*
Charlevoix	2	8.7	Monroe	9	6.1
Cheboygan	3	12.3	Montcalm	4	6.0
Chippewa	5	12.9	Montmorency	1	*
Clare	2	6.6	Muskegon	10	5.8
Clinton	4	5.3	Newaygo	3	5.6
Crawford	2	14.0	Oakland	53	4.4
Delta	3	8.1	Oceana	3	9.1
Dickinson	2	6.6	Ogemaw	3	14.1
Eaton	10	9.1	Ontonagon	2	25.9
Emmet	3	7.5	Osceola	2	8.7
Genesee	23	5.3	Oscoda	2	22.7
Gladwin	1	*	Otsego	2	9.4
Gogebic	3	17.0	Ottawa	6	2.4
Grand Traverse	6	7.0	Presque Isle	2	16.6
Gratiot	3	7.1	Roscommon	4	14.1
Hillsdale	4	7.6	Saginaw	12	5.7
Houghton	3	7.7	St. Clair	14	8.5
Huron	4	11.4	St. Joseph	5	7.7
Ingham	11	3.9	Sanilac	3	6.4
Ionia	4	5.9	Schoolcraft	3	30.1
Iosco	2	6.7	Shiawassee	7	9.5
Iron	3	27.6	Tuscola	3	4.5
Isabella	4	5.2	Van Buren	6	7.7
Jackson	14	8.7	Washtenaw	12	3.5
Kalamazoo	15	6.0	Wayne	94	4.9
Kalkaska	2	8.8	Wexford	3	10.2
Kent	22	3.7			
Keweenaw	0	*			
Lake	2	15.7	Michigan	573	5.7

Includes ICD-10 codes: X72 – X74

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS	
No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 67
Average Annual Number of Poisoning Suicides
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	0	0	-	-	-	-	0	0
15-19	2	2	4	0	0	1	-	1	1	3	3	6
20-24	3	1	4	0	1	1	0	-	0	4	2	6
25-29	5	4	9	0	0	1	0	-	0	6	5	10
30-34	7	4	11	1	1	1	1	-	1	8	5	13
35-44	24	21	45	2	1	3	1	1	1	27	23	50
45-54	39	36	74	2	2	4	1	0	1	42	39	80
55-64	20	22	42	-	1	1	0	-	0	20	23	43
65-74	8	9	16	-	-	-	0	-	0	8	9	17
75+	4	4	8	-	-	-	-	-	-	4	4	8
Total	111	102	213	5	6	12	3	1	4	122	112	233

Includes ICD-10 codes: X60 – X69

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 68
Average Annual Poisoning Suicide Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	-	-	-	-	-	-	-	-	-	-	-	-
10-14	-	-	-	-	*	*	-	-	-	-	*	*
15-19	0.8	0.6	0.7	*	*	*	-	*	*	0.8	0.7	0.7
20-24	1.2	*	0.9	*	*	*	*	-	*	1.3	0.5	0.9
25-29	2.2	1.9	2.1	*	*	*	*	-	*	1.8	1.5	1.7
30-34	3.2	1.8	2.5	*	*	*	*	-	*	2.9	1.6	2.2
35-44	4.7	4.1	4.4	1.9	*	1.5	*	*	*	4.0	3.5	3.7
45-54	6.3	5.7	6.0	2.5	1.7	2.1	*	*	*	5.5	5.0	5.3
55-64	4.0	4.3	4.2	-	*	*	*	-	*	3.5	3.7	3.6
65-74	2.8	2.7	2.7	-	-	-	*	-	*	2.5	2.3	2.4
75+	1.8	1.2	1.4	-	-	-	-	-	-	1.6	1.1	1.3
Total	2.9	2.6	2.8	0.8	0.9	0.8	1.1	*	0.9	2.5	2.2	2.3

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

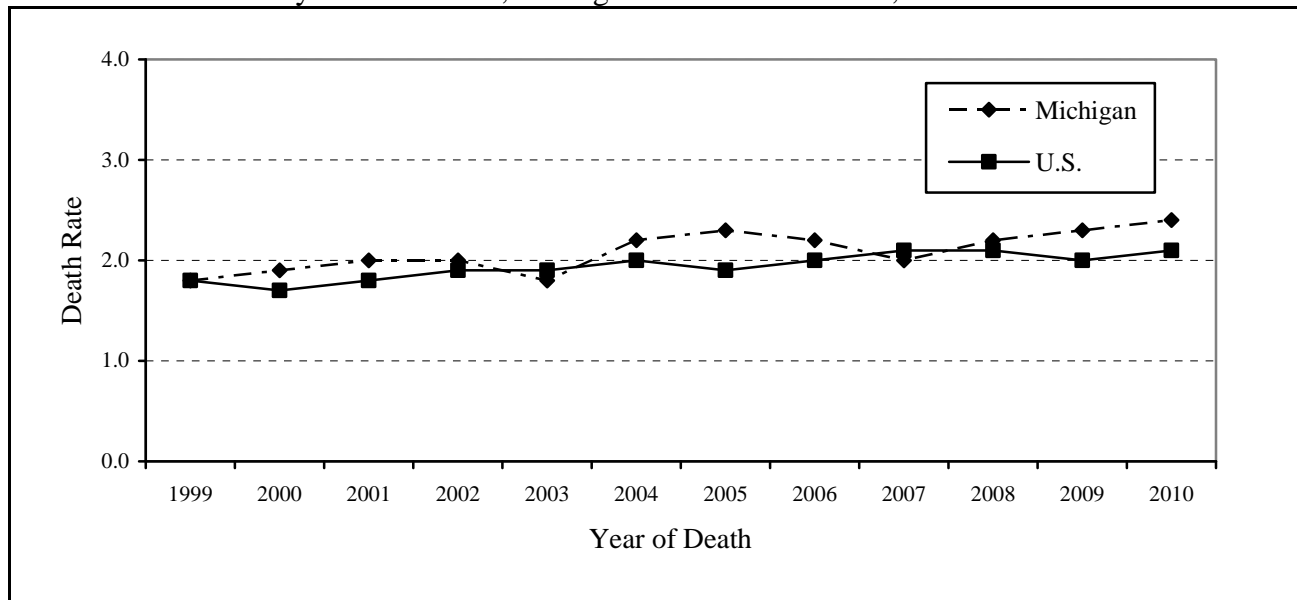
KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 69
Number of Poisoning Suicides and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	178	4,893	1.8	1.8	1.8	1.8
2000	185	4,859	1.9	1.7	1.9	1.7
2001	203	5,191	2.0	1.8	2.0	1.8
2002	204	5,486	2.0	1.9	2.0	1.9
2003	186	5,462	1.8	1.9	1.8	1.9
2004	226	5,800	2.2	2.0	2.2	2.0
2005	236	5,744	2.3	1.9	2.3	1.9
2006	227	6,109	2.2	2.1	2.2	2.0
2007	214	6,358	2.1	2.1	2.0	2.1
2008	227	6,442	2.3	2.1	2.2	2.1
2009	239	6,398	2.4	2.1	2.3	2.0
2010	252	6,599	2.6	2.1	2.4	2.1

FIGURE 17
Age-adjusted Poisoning Suicide Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: X60 – X69

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 70
Average Annual Number of Poisoning Suicides and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	-	-	Lapeer	2	1.9
Alger	1	*	Leelanau	0	*
Allegan	4	3.3	Lenawee	2	1.7
Alpena	1	*	Livingston	4	1.9
Antrim	1	*	Luce	0	*
Arenac	0	*	Mackinac	0	*
Baraga	0	*	Macomb	28	3.4
Barry	1	*	Manistee	0	*
Bay	3	3.0	Marquette	1	*
Benzie	-	-	Mason	1	*
Berrien	3	1.7	Mecosta	1	*
Branch	1	*	Menominee	-	-
Calhoun	4	3.1	Midland	2	1.8
Cass	0	*	Missaukee	-	-
Charlevoix	0	*	Monroe	2	1.5
Cheboygan	1	*	Montcalm	2	3.6
Chippewa	1	*	Montmorency	-	-
Clare	1	*	Muskegon	7	3.9
Clinton	1	*	Newaygo	2	4.1
Crawford	0	*	Oakland	30	2.5
Delta	1	*	Oceana	1	*
Dickinson	0	*	Ogemaw	1	*
Eaton	3	2.8	Ontonagon	-	-
Emmet	1	*	Osceola	-	-
Genesee	12	2.7	Oscoda	-	-
Gladwin	0	*	Otsego	-	-
Gogebic	1	*	Ottawa	6	2.3
Grand Traverse	3	2.9	Presque Isle	1	*
Gratiot	1	*	Roscommon	1	*
Hillsdale	1	*	Saginaw	5	2.2
Houghton	0	*	St. Clair	5	3.0
Huron	0	*	St. Joseph	2	2.8
Ingham	8	2.8	Sanilac	1	*
Ionia	2	2.4	Schoolcraft	1	*
Iosco	-	-	Shiawassee	2	2.8
Iron	-	-	Tuscola	2	2.7
Isabella	2	2.2	Van Buren	3	4.2
Jackson	5	3.3	Washtenaw	7	1.9
Kalamazoo	7	2.6	Wayne	27	1.4
Kalkaska	-	-	Wexford	1	*
Kent	18	3.0			
Keweenaw	-	-			
Lake	-	-	Michigan	233	2.3

Includes ICD-10 codes: X60 – X69

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 71
Average Annual Number of Hanging/Suffocation/Strangulation Suicides
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	-	-	-	0	-	0	-	-	-	0	-	0
10-14	2	2	4	1	2	3	0	-	0	4	4	7
15-19	14	4	18	3	1	4	1	1	2	20	6	25
20-24	26	6	32	2	1	3	1	1	1	30	8	37
25-29	24	3	27	2	0	2	2	1	3	28	5	33
30-34	19	3	22	1	0	2	1	1	2	23	4	26
35-44	45	10	54	5	2	6	2	-	2	52	11	63
45-54	46	8	54	2	1	2	1	0	1	50	10	60
55-64	21	4	25	1	-	1	1	-	1	23	5	27
65-74	4	2	6	0	-	0	-	-	-	5	2	6
75+	6	1	7	-	-	-	0	-	0	6	1	7
Total	206	42	248	18	6	24	9	3	11	239	53	291

Includes ICD-10 code: X70

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 72
Average Annual Hanging/Suffocation/Strangulation Suicide Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	-	-	-	-	-	-	-	-	-	-	-	-
5-9	-	-	-	*	-	*	-	-	-	*	-	*
10-14	0.8	0.6	0.7	*	3.1	2.4	*	-	*	1.0	1.0	1.0
15-19	5.0	1.5	3.3	4.7	*	2.9	*	*	4.3	5.0	1.5	3.3
20-24	10.5	2.5	6.5	4.4	*	2.9	*	*	*	8.8	2.3	5.6
25-29	10.7	1.5	6.2	4.6	*	2.5	9.5	*	7.2	9.4	1.6	5.5
30-34	9.0	1.2	5.1	*	*	1.7	*	*	5.1	7.8	1.2	4.5
35-44	8.8	1.9	5.3	5.2	1.4	3.2	6.9	-	3.5	7.8	1.7	4.7
45-54	7.5	1.3	4.4	2.0	*	1.2	*	*	*	6.7	1.2	3.9
55-64	4.3	0.8	2.5	*	-	*	*	-	*	3.9	0.7	2.3
65-74	1.3	0.6	0.9	*	-	*	-	-	-	1.4	0.5	0.9
75+	2.5	*	1.2	-	-	-	*	-	*	2.4	*	1.1
Total	5.5	1.1	3.2	2.7	0.8	1.7	4.0	1.2	2.6	4.9	1.0	2.9

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

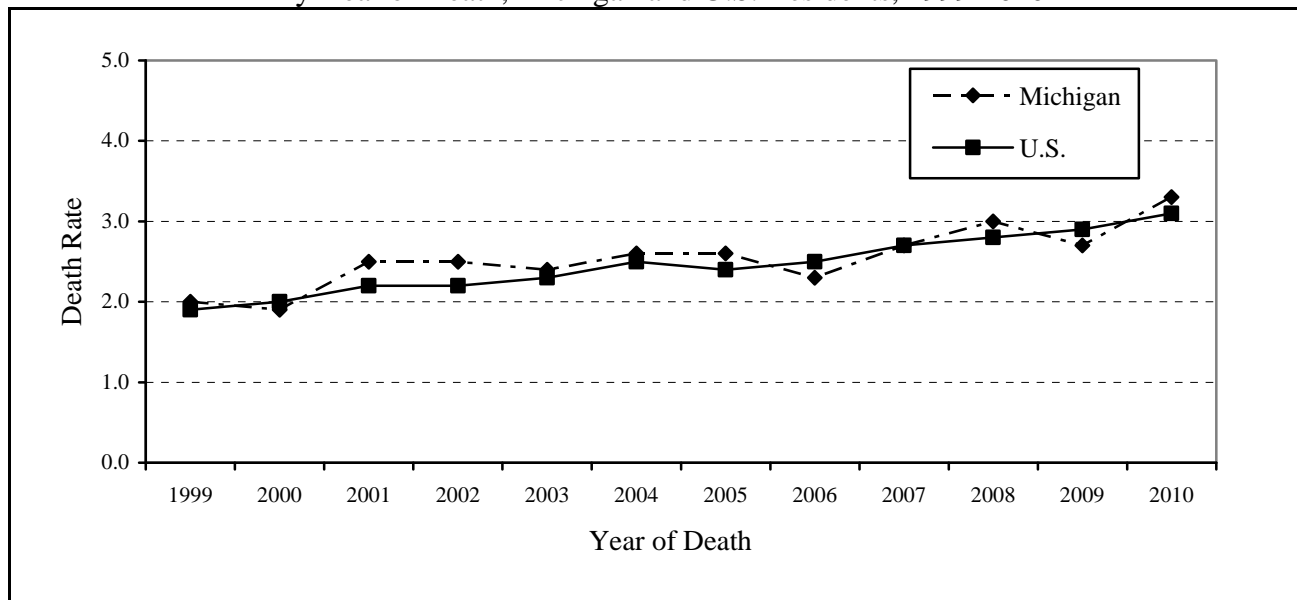
KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 73
Number of Hanging/Suffocation/Strangulation Suicides and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	194	5,427	2.0	1.9	2.0	1.9
2000	185	5,688	1.9	2.0	1.9	2.0
2001	246	6,198	2.5	2.2	2.5	2.2
2002	250	6,462	2.5	2.3	2.5	2.2
2003	242	6,635	2.4	2.3	2.4	2.3
2004	260	7,336	2.6	2.5	2.6	2.5
2005	258	7,248	2.5	2.5	2.6	2.4
2006	235	7,491	2.3	2.5	2.3	2.5
2007	271	8,161	2.7	2.7	2.7	2.7
2008	297	8,578	3.0	2.8	3.0	2.8
2009	272	9,000	2.7	2.9	2.7	2.9
2010	325	9,493	3.3	3.1	3.3	3.1

FIGURE 18
Age-adjusted Hanging/Suffocation/Strangulation Suicide Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 code: X70

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 74

Average Annual Number of Hanging/Suffocation/Strangulation Suicides and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	1	*	Lapeer	2	2.5
Alger	0	*	Leelanau	1	*
Allegan	4	3.1	Lenawee	2	2.2
Alpena	2	5.1	Livingston	5	2.5
Antrim	1	*	Luce	-	-
Arenac	2	10.8	Mackinac	1	*
Baraga	-	-	Macomb	33	3.9
Barry	1	*	Manistee	1	*
Bay	3	3.0	Marquette	2	3.4
Benzie	1	*	Mason	1	*
Berrien	6	3.8	Mecosta	0	*
Branch	1	*	Menominee	1	*
Calhoun	4	2.8	Midland	3	3.0
Cass	2	3.9	Missaukee	0	*
Charlevoix	2	6.7	Monroe	3	2.1
Cheboygan	-	-	Montcalm	3	4.4
Chippewa	2	5.8	Montmorency	0	*
Clare	1	*	Muskegon	5	2.7
Clinton	1	*	Newaygo	2	3.6
Crawford	1	*	Oakland	33	2.7
Delta	0	*	Oceana	1	*
Dickinson	2	5.6	Ogemaw	1	*
Eaton	4	3.3	Ontonagon	1	*
Emmet	1	*	Osceola	1	*
Genesee	13	3.1	Oscoda	0	*
Gladwin	0	*	Otsego	1	*
Gogebic	1	*	Ottawa	6	2.2
Grand Traverse	3	3.2	Presque Isle	0	*
Gratiot	1	*	Roscommon	-	-
Hillsdale	1	*	Saginaw	5	2.4
Houghton	1	*	St. Clair	6	3.6
Huron	1	*	St. Joseph	3	4.0
Ingham	7	2.3	Sanilac	0	*
Ionia	2	3.1	Schoolcraft	1	*
Iosco	-	-	Shiawassee	3	3.5
Iron	1	*	Tuscola	2	3.6
Isabella	1	*	Van Buren	3	3.2
Jackson	5	3.1	Washtenaw	8	2.2
Kalamazoo	11	4.2	Wayne	53	2.8
Kalkaska	1	*	Wexford	1	*
Kent	17	2.8	Unknown		
Keweenaw	0	*			
Lake	0	*	Michigan	291	2.9

Includes ICD-10 code: X70

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 75
Average Annual Number of Cutting/Piercing Homicides
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	0	-	0	-	-	-	-	-	-	0	-	0
5-9	-	1	1	-	-	-	-	-	-	-	1	1
10-14	0	-	0	-	-	-	-	-	-	0	0	1
15-19	1	1	2	3	1	3	0	-	0	4	1	5
20-24	1	0	1	4	1	5	0	0	1	6	1	7
25-29	2	-	2	3	1	4	1	-	1	6	2	7
30-34	1	1	2	1	1	2	1	-	1	3	1	4
35-44	1	2	3	3	2	5	1	-	1	5	4	9
45-54	2	2	4	6	1	6	0	-	0	9	3	12
55-64	3	1	4	3	1	4	-	-	-	7	2	9
65-74	0	1	1	1	-	1	0	-	0	1	1	2
75+	0	0	1	-	-	-	-	-	-	0	0	1
Total	13	8	21	23	6	29	3	0	3	40	16	55

Includes ICD-10 code: X99

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 76
Average Annual Cutting/Piercing Homicide Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	-	-	-	-	-	-	-	-	-
1-4	*	-	*	-	-	-	-	-	-	*	-	*
5-9	-	*	*	-	-	-	-	-	-	-	*	*
10-14	*	-	*	-	-	-	-	-	-	*	*	*
15-19	*	*	0.3	3.6	*	2.2	*	-	*	1.0	*	0.7
20-24	*	*	*	7.8	*	4.4	*	*	*	1.6	*	1.0
25-29	0.8	-	0.4	6.9	*	4.4	*	-	*	1.9	0.5	1.2
30-34	*	*	0.4	*	*	2.0	*	-	*	0.9	*	0.6
35-44	*	0.4	0.3	3.3	1.9	2.6	*	-	*	0.7	0.6	0.7
45-54	0.4	0.3	0.3	6.5	*	3.3	*	-	*	1.1	0.4	0.8
55-64	0.7	*	0.4	5.1	*	2.8	-	-	-	1.2	0.3	0.7
65-74	*	*	*	*	-	*	*	-	*	*	*	0.3
75+	*	*	*	-	-	-	-	-	-	*	*	*
Total	0.3	0.2	0.3	3.5	0.8	2.1	1.1	*	0.6	0.8	0.3	0.6

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

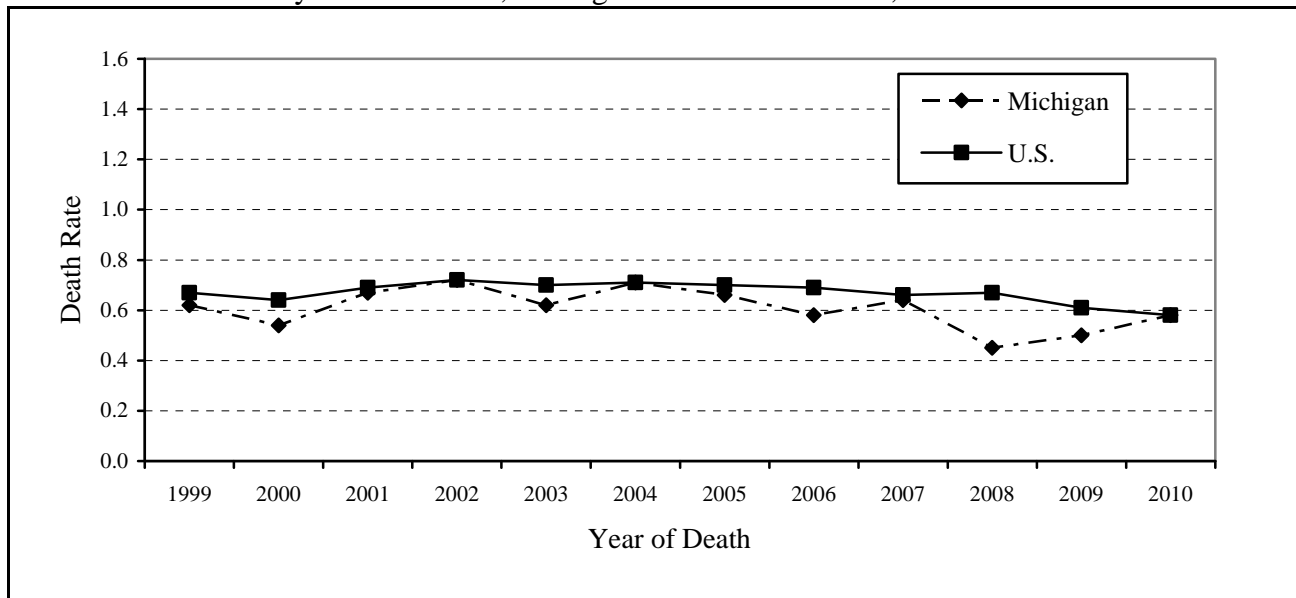
KEY TO SYMBOLS

No deaths occurred within category -
Quantity greater than zero but less than 0.5 0
Rate is considered statistically unreliable *

TABLE 77
Number of Cutting/Piercing Homicides and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	61	1,879	0.62	0.67	0.62	0.67
2000	53	1,805	0.53	0.64	0.54	0.64
2001	67	1,971	0.67	0.69	0.67	0.69
2002	72	2,074	0.72	0.72	0.72	0.72
2003	62	2,049	0.62	0.71	0.62	0.70
2004	72	2,079	0.71	0.71	0.71	0.71
2005	66	2,097	0.65	0.71	0.66	0.70
2006	59	2,080	0.58	0.70	0.58	0.69
2007	65	1,981	0.65	0.66	0.64	0.66
2008	46	2,043	0.46	0.67	0.45	0.67
2009	51	1,874	0.51	0.61	0.50	0.61
2010	58	1,799	0.59	0.58	0.58	0.58

FIGURE 19
Age-adjusted Cutting/Piercing Homicide Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 code: X99

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 78
Average Annual Number of Cutting/Piercing Homicides and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	-	-	Lapeer	-	-
Alger	-	-	Leelanau	0	*
Allegan	1	*	Lenawee	0	*
Alpena	-	-	Livingston	-	-
Antrim	-	-	Luce	-	-
Arenac	-	-	Mackinac	-	-
Baraga	0	*	Macomb	4	0.5
Barry	1	*	Manistee	-	-
Bay	0	*	Marquette	0	*
Benzie	-	-	Mason	-	-
Berrien	1	*	Mecosta	-	-
Branch	0	*	Menominee	-	-
Calhoun	0	*	Midland	1	*
Cass	0	*	Missaukee	-	-
Charlevoix	-	-	Monroe	1	*
Cheboygan	-	-	Montcalm	1	*
Chippewa	-	-	Montmorency	-	-
Clare	0	*	Muskegon	0	*
Clinton	-	-	Newaygo	-	-
Crawford	-	-	Oakland	4	0.4
Delta	-	-	Oceana	-	-
Dickinson	0	*	Ogemaw	-	-
Eaton	-	-	Ontonagon	-	-
Emmet	-	-	Osceola	-	-
Genesee	3	0.7	Oscoda	-	-
Gladwin	1	*	Otsego	-	-
Gogebic	-	-	Ottawa	0	*
Grand Traverse	1	*	Presque Isle	-	-
Gratiot	-	-	Roscommon	-	-
Hillsdale	-	-	Saginaw	1	*
Houghton	-	-	St. Clair	1	*
Huron	0	*	St. Joseph	0	*
Ingham	1	*	Sanilac	1	*
Ionia	-	-	Schoolcraft	-	-
Iosco	-	-	Shiawassee	1	*
Iron	-	-	Tuscola	-	-
Isabella	-	-	Van Buren	1	*
Jackson	1	*	Washtenaw	1	*
Kalamazoo	1	*	Wayne	26	1.3
Kalkaska	-	-	Wexford	-	-
Kent	3	0.5			
Keweenaw	-	-			
Lake	-	-	Michigan	55	0.6

Includes ICD-10 code: X99

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 79
Average Annual Number of Firearm Homicides
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	0	-	0	-	-	-	0	-	0
1-4	-	-	-	1	-	1	-	-	-	1	-	1
5-9	1	-	1	1	0	1	0	-	0	2	0	2
10-14	1	-	1	4	0	4	0	-	0	5	0	6
15-19	5	2	7	60	8	68	3	-	3	68	10	78
20-24	7	3	11	78	4	82	4	1	5	90	9	98
25-29	7	2	9	51	4	55	2	1	3	60	7	66
30-34	7	3	10	50	4	54	3	0	3	60	7	67
35-44	11	5	16	63	6	69	3	1	3	77	12	89
45-54	11	3	14	25	3	29	2	0	2	39	7	46
55-64	4	4	7	10	1	11	1	-	1	14	5	19
65-74	2	2	4	3	1	4	-	-	-	6	3	8
75+	1	1	2	1	-	1	-	-	-	2	1	3
Total	56	24	80	345	32	377	17	3	19	422	60	482

Includes ICD-10 codes: X93 – X95

Numbers in columns and rows may not total exactly due to rounding.

Source: Division for Vital Records and Health Statistics, MDCH

TABLE 80
Average Annual Firearm Homicide Rates
By Age, Race, Hispanic Ethnicity, and Sex
Michigan Residents, 2007-2010

Age	White, non-Hispanic			Black, non-Hispanic			Hispanic			All Races/Ethnicities		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
<1	-	-	-	*	-	*	-	-	-	*	-	*
1-4	-	-	-	*	-	*	-	-	-	*	-	*
5-9	*	-	*	*	*	*	*	-	*	0.5	*	0.3
10-14	*	-	*	5.9	*	3.2	*	-	*	1.5	*	0.8
15-19	1.6	0.8	1.2	86.5	11.6	49.8	12.9	-	6.7	17.6	2.7	10.3
20-24	2.9	1.3	2.1	151.7	7.7	79.3	21.4	*	12.5	26.5	2.7	14.7
25-29	3.2	0.8	2.0	116.4	9.1	60.6	9.5	*	7.2	19.8	2.3	11.0
30-34	3.3	1.2	2.3	119.1	8.5	60.4	16.9	*	9.5	21.0	2.4	11.6
35-44	2.1	1.0	1.5	68.5	5.8	35.1	8.6	*	5.8	11.5	1.8	6.6
45-54	1.8	0.5	1.2	28.5	3.2	14.9	7.4	*	4.4	5.2	0.9	3.0
55-64	0.7	0.7	0.7	15.2	*	7.5	*	-	*	2.4	0.8	1.6
65-74	0.7	0.6	0.6	9.9	*	5.3	-	-	-	1.7	0.7	1.1
75+	*	*	0.3	*	-	*	-	-	-	0.7	*	0.4
Total	1.5	0.6	1.0	52.0	4.3	27.0	7.5	1.2	4.4	8.6	1.2	4.8

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

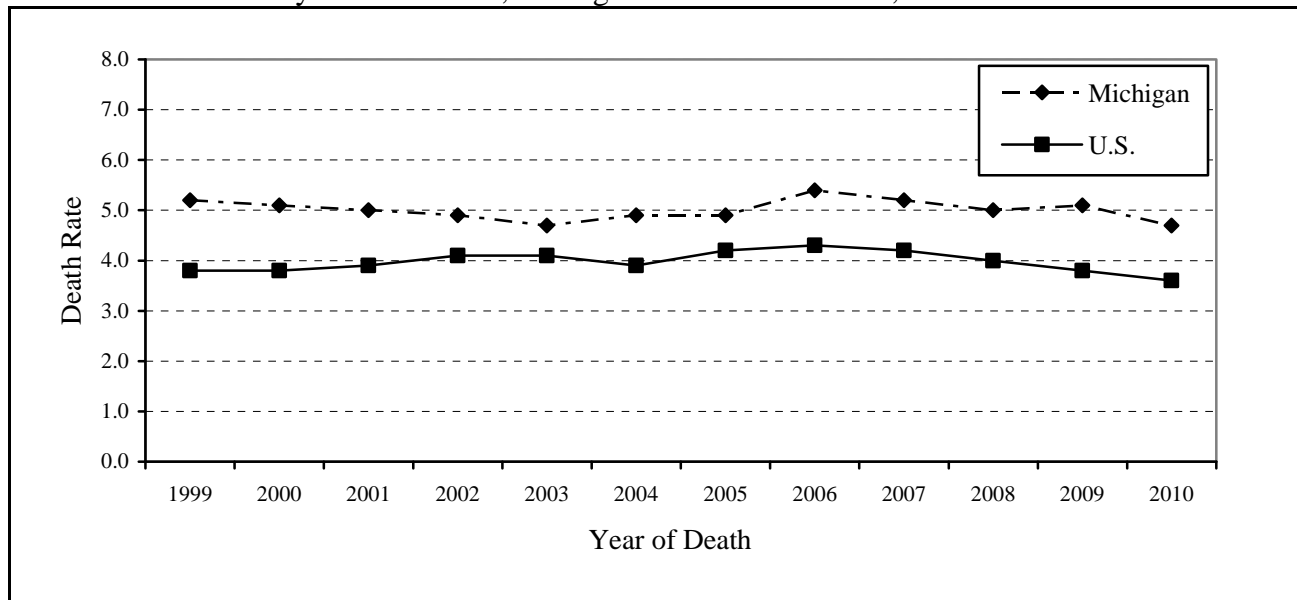
KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

TABLE 81
Number of Firearm Homicides and Corresponding Death Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010

Year	Number		Crude Rate		Age-adjusted Rate	
	MI	US	MI	US	MI	US
1999	512	10,828	5.2	3.9	5.2	3.8
2000	503	10,801	5.1	3.8	5.1	3.8
2001	497	11,348	5.0	4.0	5.0	3.9
2002	487	11,829	4.9	4.1	4.9	4.1
2003	473	11,920	4.7	4.1	4.7	4.1
2004	486	11,624	4.8	4.0	4.9	3.9
2005	489	12,352	4.8	4.2	4.9	4.2
2006	534	12,791	5.3	4.3	5.4	4.3
2007	505	12,632	5.0	4.2	5.2	4.2
2008	487	12,179	4.9	4.0	5.0	4.0
2009	495	11,493	5.0	3.7	5.1	3.8
2010	440	11,078	4.5	3.6	4.7	3.6

FIGURE 20
Age-adjusted Firearm Homicide Rates
By Year of Death, Michigan and U.S. Residents, 1999-2010



Rates are the number of deaths per 100,000 population.

Includes ICD-10 codes: X93 – X95

Sources: Division for Vital Records and Health Statistics, MDCH

Web-based Injury Statistics Query and Reporting System, U.S. Centers for Disease Control and Prevention

Population Estimates released by the National Center for Health Statistics, CDC

TABLE 82
Average Annual Number of Firearm Homicides and Corresponding Death Rates
By County of Residence, Michigan Residents, 2007-2010

County	Number	Crude Rate	County	Number	Crude Rate
Alcona	1	*	Lapeer	1	*
Alger	-	-	Leelanau	-	-
Allegan	1	*	Lenawee	1	*
Alpena	-	-	Livingston	2	1.1
Antrim	-	-	Luce	-	-
Arenac	-	-	Mackinac	0	*
Baraga	0	*	Macomb	22	2.7
Barry	0	*	Manistee	0	*
Bay	1	*	Marquette	0	*
Benzie	0	*	Mason	0	*
Berrien	4	2.2	Mecosta	-	-
Branch	1	*	Menominee	-	-
Calhoun	5	3.3	Midland	0	*
Cass	2	3.4	Missaukee	-	-
Charlevoix	-	-	Monroe	1	*
Cheboygan	-	-	Montcalm	1	*
Chippewa	1	*	Montmorency	1	*
Clare	-	-	Muskegon	5	2.6
Clinton	1	*	Newaygo	1	*
Crawford	-	-	Oakland	36	3.0
Delta	0	*	Oceana	0	*
Dickinson	1	*	Ogemaw	-	-
Eaton	1	*	Ontonagon	-	-
Emmet	0	*	Osceola	1	*
Genesee	40	9.2	Oscoda	1	*
Gladwin	0	*	Otsego	-	-
Gogebic	1	*	Ottawa	3	1.1
Grand Traverse	-	-	Presque Isle	-	-
Gratiot	-	-	Roscommon	-	-
Hillsdale	0	*	Saginaw	15	7.3
Houghton	-	-	St. Clair	2	1.2
Huron	0	*	St. Joseph	-	-
Ingham	6	2.0	Sanilac	0	*
Ionia	0	*	Schoolcraft	-	-
Iosco	0	*	Shiawassee	1	*
Iron	1	*	Tuscola	0	*
Isabella	-	-	Van Buren	1	*
Jackson	3	1.9	Washtenaw	6	1.6
Kalamazoo	6	2.3	Wayne	299	15.6
Kalkaska	-	-	Wexford	1	*
Kent	11	1.8	Unknown	0	
Keweenaw	-	-			
Lake	0	*	Michigan	482	4.8

Includes ICD-10 codes: X93 – X95

Rates are the number of deaths per 100,000 population.

Sources: Division for Vital Records and Health Statistics, MDCH

Population Estimates released by the National Center for Health Statistics, CDC

KEY TO SYMBOLS

No deaths occurred within category	-
Quantity greater than zero but less than 0.5	0
Rate is considered statistically unreliable	*

WORK-RELATED INJURY DEATHS

TABLE 83
Average Annual Number of Work-related Injury Deaths by Cause
Occurrences in Michigan, 2007-2010

Cause of Injury	Average Annual Number of Deaths	%
Transportation	38	31.1
Contact with objects, equipment, machinery incl. struck by objects/crushed	23	19.0
Fall	19	15.3
Homicide	17	14.1
Suicide	9	7.5
Electrocution	5	4.1
Other and Unspecified	11	8.9
Total	121	100.0

Data Source: MIOSHA Information Division, Michigan Department of Labor and Economic Growth

Cells may not sum to totals due to rounding.

Out-of-state residents sustaining an injury in Michigan are included. Michigan residents sustaining an injury out-of-state are excluded.

TABLE 84
Average Annual Number and Rate of
Work-related Injury Deaths, by Sex
Michigan Occurrences, 2007-2010

Sex	Average Annual Number of Deaths	Average Annual Death Rate
Male	108	4.7
Female	13	0.7
Total	121	3.0

Rates are the number of deaths per 100,000 full time equivalents.

Data Sources: MIOSHA Information Division, Michigan Department of Labor and Economic Growth; Bureau of Labor Statistics, Current Population Survey

WORK-RELATED INJURY DEATHS

TABLE 85
Average Annual Number and Rate of
Work-related Injury Deaths, by Age
Michigan Occurrences, 2007-2010

Age Group	Average Annual Number of Deaths	Average Annual Death Rate
16-24	9	1.9
25-34	17	2.1
35-44	22	2.2
45-54	33	3.0
55-64	22	3.8
65+	19	15.8
Total	121	3.0

Rates are the number of deaths per 100,000 full time equivalents.
Data Sources: MIOSHA Information Division, Michigan Department of Labor and Economic Growth; Bureau of Labor Statistics, Current Population Survey

TABLE 86
Average Annual Number and Rate of
Work-related Injury Deaths, by Race/Hispanic Ethnicity
Michigan Occurrences, 2007-2010

Race/Hispanic Ethnicity	Average Annual Number of Deaths	Average Annual Death Rate
White, non-Hispanic	100	3.0
Black, non-Hispanic	13	3.0
Hispanic	7	5.3
Other	2	0.8
Total	121	3.0

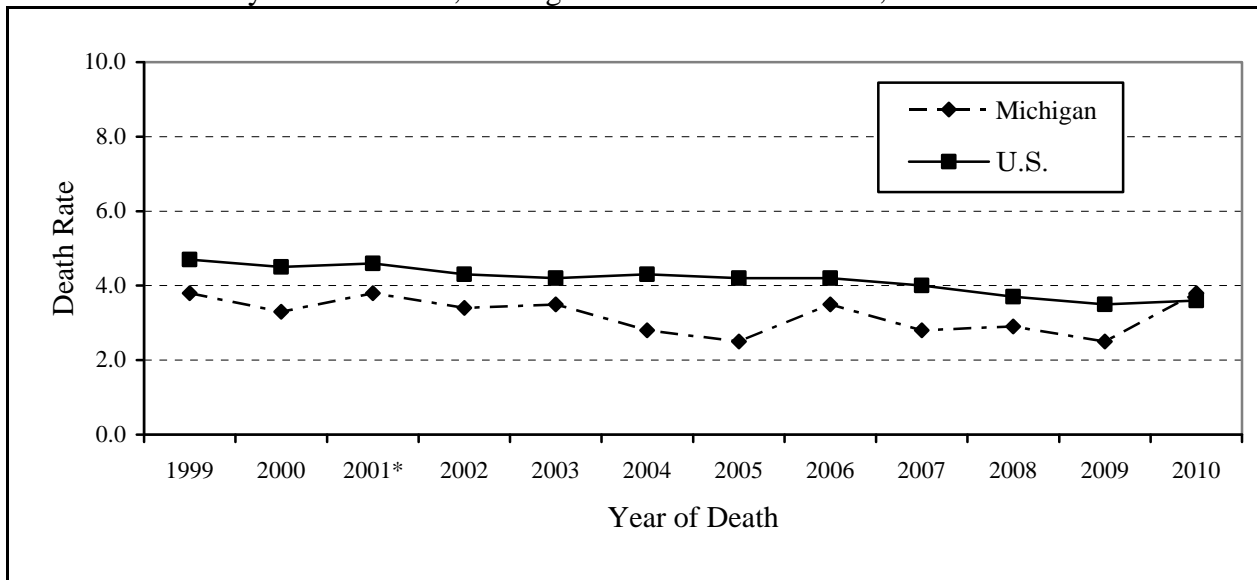
Rates are the number of deaths per 100,000 full time equivalents.
Data Sources: MIOSHA Information Division, Michigan Department of Labor and Economic Growth; Bureau of Labor Statistics, Current Population Survey

WORK-RELATED INJURY DEATHS

TABLE 87
 Number of Work-related Injury Deaths and Corresponding Death Rates
 By Year of Death, Michigan and U.S. Occurrences, 1999-2010

Year	Number		Rate	
	Michigan	U.S.	Michigan	U.S.
1999	182	6,054	3.8	4.7
2000	156	5,920	3.3	4.5
2001	175	5,915	3.8	4.6
2002	152	5,534	3.4	4.3
2003	152	5,575	3.5	4.2
2004	127	5,764	2.8	4.3
2005	110	5,734	2.5	4.2
2006	157	5,840	3.5	4.2
2007	120	5,657	2.8	4.0
2008	123	5,214	2.9	3.7
2009	94	4,551	2.5	3.5
2010	146	4,690	3.8	3.6

FIGURE 21
 Work-related Injury Death Rates
 By Year of Death, Michigan and U.S. Occurrences, 1999-2010



Rates are the number of deaths per 100,000 full time equivalents.

Data Sources: MIOSHA Information Division, Michigan Department of Labor and Economic Growth
 Census of Fatal Occupational Injuries, Bureau of Labor Statistics, U.S. Department of Labor
 Bureau of Labor Statistics, Current Population Survey

* The 2,886 work-related deaths caused by terrorists on September 11, 2001 are not included.

APPENDIX A

Index of ICD-10 Codes for Tables 17 and 18

Table A-1 (Page 1 of 2)
Index of ICD-10 Codes for Tables 17 & 18

Mechanism	Manner/Intent					
	Unintentional	Suicide	Homicide	Undetermined	Other	
Cut/pierce	W25-W29, W45	X78	X99	Y28	Y35.4	
Drowning*	W65-W74, V90, V92	X71	X92	Y21		
Non-boat-related	W65-W74					
Boat-related	V90, V92					
Fall	W00-W19	X80	Y01	Y30		
Fire/hot object or substance	X00-X19	X76, X77	X97, X98	Y26, Y27	Y36.3	
Fire/flame/smoke	X00-X09	X76	X97	Y26		
Hot object/substance	X10-X19	X77	X98	Y27		
Firearm	W32-W34	X72-X74	X93-X95	Y22-Y24	Y35.0	
Machinery	W24, W30, W31					
All Transport	V01-V89, V91, V93-V99	X82	Y03	Y32	Y36.1	
Motor vehicle traffic						
Occupant	V30-V79 (.4-.9), V83-V86 (.0-.3)					
Motorcyclist	V20-V28 (.3-.9), V29.4-V29.9					
Pedal Cyclist	V12-V14 (.3-.9), V19 (.4-.6)					
Pedestrian	V02-V04 (.1, .9), V09.2					
Other specified	V80 (.3-.5), V81.1, V82.1					
Unspecified	V87 (.0-.8), V89.2					

*The ICD-10 injury mortality matrix⁰ developed by the International Collaborative Effort (ICE) on Injury Statistics and the Injury Control and Emergency Health Services (ICEHS) section of APHA does not include boat-related drownings among the Drowning category (it is grouped in Other Transport). It is separated out here due to local interest in this cause of death.

Table A-1 (Page 2 of 2)
Index of ICD-10 Codes for Tables 17 & 18

Mechanism	Manner/Intent					Other
	Unintentional	Suicide	Homicide	Undetermined	Other	
Pedal Cyclist, non-traffic	V10, V11, V12-V14 (.0-.2), V15-V18, V19 (.0-.3, .8, .9)					
Pedestrian, non-traffic	V01, V02-V04 (.0), V05, V06, V09 (.0, .1, .3, .9)					
Other land transport	V20-V28 (.0-.2), V29 (.0-.3), V30-V79 (.0-.3), V80 (.0-.2, .6-.9), V81-V82 (.0, .2-.9), V83-V86 (.4-.9), V87.9, V88, V89 (.0, .1, .3, .9)	X82	Y03	Y32		
Transport, other	V91, V93-V99					Y36.1
Natural/environmental	W42, W43, W53-W64, W92-W99, X20-X39, X51-X57					
Overexertion	X50					
Poisoning	X40-X49	X60-X69	X85-X90	Y10-Y19		Y35.2
Struck by, against	W20-W22, W50-W52	X79	Y00, Y04	Y29		Y35.3
Suffocation, strangulation, hanging	W75-W84	X70	X91	Y20		
Other specified & classifiable	W23, W35-W41, W44, W49, W85-W91, Y85	X75, X81	X96, Y02, Y05-Y07	Y25, Y31		Y35 (.1, .5), Y36 (.0, .2, .4-.8)
Other specified, not elsewhere classifiable	X58, Y86	X83, Y87.0	Y08, Y87.1	Y33, Y87.2		Y35.6, Y89 (.0, .1)
Unspecified	X59	X84	Y09	Y34, Y89.9		Y35.7, Y36.9
Total	V01 – X59, Y85, Y86	X60 – X84, Y87.0	X85 – Y09, Y87.1	Y10-Y34, Y87.2, Y89.9		Y35 (.0-.7), Y36, Y89 (.0, .1)

Table does not include ICD-10 codes for deaths pertaining to terrorism. It also excludes deaths due to adverse effects of drugs and medical care.
Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics.¹⁰

APPENDIX B

Description of Methodology to Improve Person Type Assignments within the Motor Vehicle Traffic Crash Category

Methodology to Improve Person Type Assignments Within the Motor Vehicle Traffic Crash Category

Between 1999 and 2010, there were 14,123 Michigan resident deaths due to motor vehicle traffic crashes (MVTCS). These deaths were identified as decedents who had underlying cause of death codes among the list of ICD10 codes illustrated in Appendix A for the subcategories within “Motor vehicle traffic.” These subcategories and their associated number of deaths between 1999 and 2010 are as follows:

<u>Motor Vehicle Traffic Crash Category</u>	<u>Number of Deaths</u>	<u>Percent</u>
Occupant	5,041	35.7
Motorcyclist	1,201	8.5
Pedestrian	1,780	12.6
Pedal cyclist	278	2.0
Other specified	5	0.0
Unspecified	5,818	41.2
Total	14,123	100.0

The substantial number of deaths classified as “Unspecified” produces results that understate the number of deaths in one or more of the specific categories. A two-step process was undertaken to classify those within the “Unspecified” category.

1. Linkage to FARS

The Fatality Analysis Reporting System (FARS) is maintained by the National Highway Traffic Safety Administration. For traffic crashes that result in a death within 30 days of the incident, the system collects a wide range of information on drivers, decedents, vehicles, and the crash. Sources of information include death certificates and crash reports completed by the investigating law enforcement agency. The Michigan State Police Criminal Justice Information Center coordinates the FARS in Michigan. The Center provided a dataset containing death certificate number, year of death, and person type killed for the period 1999-2010. Death certificate data for the 5,818 unspecified MVTC deaths were then linked to the FARS data using year of death and death certificate number. For those records that linked, the person type killed based per FARS was assigned as “Occupant,” “Motorcyclist,” “Pedestrian,” “Pedal cyclist,” or “Other specified.” The results of this reassignment are as follows:

<u>Motor Vehicle Traffic Crash Category</u>	<u>Number of Deaths</u>	<u>Percent</u>
Occupant	4,765	81.9
Motorcyclist	122	2.1
Pedestrian	29	0.5
Pedal cyclist	3	0.1
Other specified	25	0.4
Unspecified (could not be linked to FARS)	874	15.0
Total Originally Unspecified	5,818	100.0

2. Manual Recoding

For the 874 deaths for which person type remained unspecified, the brief descriptions of injury provided on death certificates were reviewed. Reassignments were made only for unequivocal descriptions. Listed below are examples:

Occupant: “front seat belted passenger,” “automobile collided with truck,” “vehicle rollover unrestrained driver killed,” “ejected occupant of motor vehicle,” “passenger in car that was struck by car that ran stop sign”

Motorcyclist: “motorcycle/dirt bike accident”

Pedal cyclist: “minivan collision with bicycle on roadside”

Of the 874 “unspecified” deaths, 71 were reassigned as occupants, one was reassigned as motorcyclist, and one was reassigned as pedal cyclist.

Result

The table below illustrates person type for motor vehicle traffic crashes among Michigan residents for 1999-2010 following the two reassignment methods described above.

<u>Motor Vehicle Traffic Crash Category</u>	<u>Number of Deaths</u>	<u>Percent</u>
Occupant	9,877	69.9
Motorcyclist	1,324	9.4
Pedestrian	1,809	12.8
Pedal cyclist	282	2.0
Other specified	30	0.2
Unspecified	801	5.7
Total	14,123	100.0

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