Wisconsin Death Report: Unintentional Injury Mortality

2017

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Wisconsin Department of Health Services
Division of Public Health
Office of Health Informatics

INTRODUCTION

This report presents information about deaths that occurred in 2017 among Wisconsin residents. Information from previous years (2008 onward) is also presented to show changes over time. This report includes information on the number and rate of deaths, demographic characteristics of the decedents, such as age and race/ethnicity, characteristics of deaths by geographic location, and disposition of bodies.

Mortality data presented in this report are primarily based on the underlying cause of death, which the World Health Organization defines as "the disease or injury that initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury."[1]

County and state rates in the report are age-adjusted rates per 100,000 or 10,000 population using the 2000 U.S. standard population.

Beginning September 1, 2013, Wisconsin began collecting data using a new web-based data entry system for funeral directors, medical examiners, coroners, and certifying physicians. The new system adopted the 2003 U.S. Standard Certificate of Death. Many changes have been made to the data collection process; some information is no longer collected, new information has been added, and some data definitions have been altered. Please refer to the technical notes for a more complete description of these changes.

All data refer to Wisconsin residents unless otherwise noted. Also, the information presented is based on the place of residence, which means that events have been assigned to the area where the person lived (usually legal residence) regardless of where the events occurred.

The cancer mortality data in this report are classified differently from what appears in publications from the Wisconsin Cancer Reporting System (WCRS) (https://www.dhs.wisconsin.gov/wcrs/data-pubs.htm) and its public use interactive query systems: WISH Query on Cancer Mortality (https://wish.wisconsin.gov/cancer/mortality.htm) and Cancer-Rates.Info (https://www.cancer-rates.info/wi/). WCRS follows the National Cancer Institute's definition of mortality cancer site groupings which are defined consistently over time to facilitate reporting of long-term cancer mortality trends (https://seer.cancer.gov/codrecode/1969_d03012018/index.html). Due to this different site group classification used by WCRS, the numbers in this report may not match the numbers found in the WCRS cancer-specific query modules or publications.

Note: Due to differences in cutoff dates and out-of-state reporting, U.S. rates for 2017 were from provisional data available from the National Center for Health Statistics. Provisional rate estimates were not available separated by sex.

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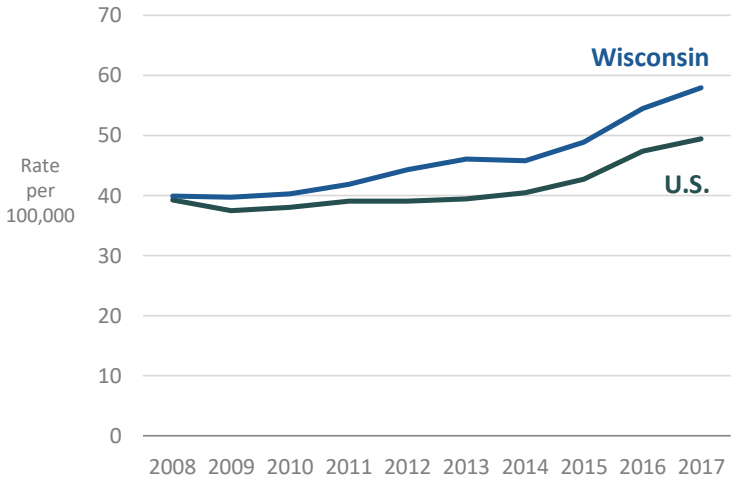
1 http://www.who.int/topics/mortality/en/

Unintentional injuries remained the leading cause of death among people aged 1-44 and the third leading cause of death overall (Table 2). The total number of unintentional injury deaths in Wisconsin has been increasing since 2009. Wisconsin's age-adjusted unintentional injury mortality rates have been higher than the U.S. rate for the past 10 years (Figure 12), with a widening gap; Wisconsin had a 17 percent higher mortality rate for unintentional injury compared to the U.S. in 2017 (57.9 versus 49.4 per 100,000).

Figure 12. Age-adjusted rate of unintentional injury deaths for the United States and Wisconsin



The age-adjusted mortality rate for males was 43 percent higher than for females. NH Native Americans had the highest age-adjusted mortality rates compared to all other racial and ethnic groups. When looking by region, the southern and southeastern regions had the highest unintentional injury mortality rates.

Table 7. Number of unintentional injury deaths and age-adjusted rates by demographics, 2017

Demographics	Total deaths	Percent of deaths	Crude rate per 100,000 population	Age-adjusted rate per 100,000 population
Age				
Less than 5	35	0.9%	10.4	N/A
5 to 17	53	1.4%	5.6	N/A
18 to 25	248	6.7%	44.9	N/A
26 to 64	1,611	43.5%	53.8	N/A
65 and older	1,760	47.5%	184.9	N/A
Sex				
Female	1,556	42.0%	53.6	42.1
Male	2,151	58.0%	74.8	73.8
Race/Ethnicity				
Non-Hispanic White	3,212	86.6%	67.6	56.9
Non-Hispanic African American	277	7.5%	69.3	81.0
Non-Hispanic Native American	52	1.4%	91.0	94.3
Non-Hispanic Asian/Pacific Islander	34	0.9%	19.5	28.1
Hispanic	129	3.5%	32.4	46.2
DHS Region				
Northeastern	724	19.5%	58.1	50.7
Northern	274	7.4%	56.1	46.3
Southeastern	1,520	41.0%	71.7	66.6
Southern	742	20.0%	65.4	59.6
Western	445	12.0%	56.4	51.0

UNINTENTIONAL INJURY MORTALITY

In 2017, the leading causes of death due to unintentional injuries were falls, poisoning, motor vehicle crashes, suffocation, drowning, and fire. Beginning in 2011, poisoning deaths surpassed motor vehicle crashes as the second leading cause of unintentional injury deaths. Poisoning refers to the ingestion of any natural or synthetic toxic substance (plant, metal, gaseous, venom, or other chemical byproducts/medicines), either by mouth, by skin contact, inhalation, or parental injection, that interferes with normal body functions. Additional information about poisonings can be found in the Drug Overdose Deaths section of this report.

Table 8. Number of unintentional injury deaths, 2008-2017

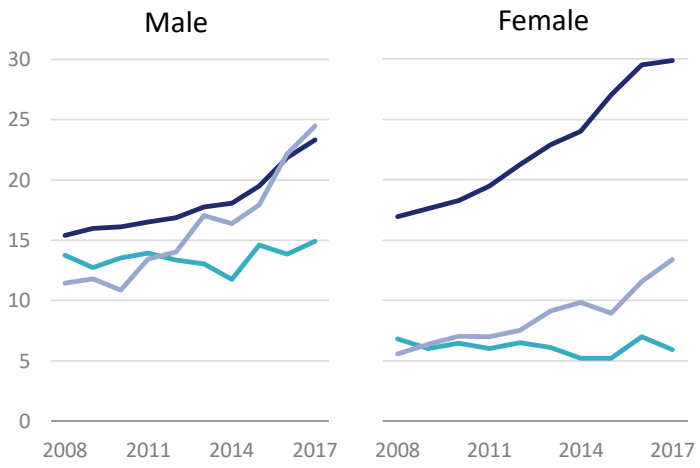
Cause of injury	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Fall	918	954	978	1,026	1,091	1,166	1,211	1,342	1,483	1,539
Poisoning	481	515	507	580	615	748	752	774	970	1,092
Motor Vehicle Crash (MVC)	581	531	567	566	566	547	486	569	600	599
Suffocation	101	94	94	99	103	93	120	104	98	100
Drowning	59	49	65	60	61	52	43	60	48	54
Fire/Flame	46	44	38	43	53	46	44	47	40	44
All others	257	245	247	241	300	275	284	290	263	279
Total	**2,443**	**2,432**	**2,496**	**2,615**	**2,789**	**2,927**	**2,940**	**3,186**	**3,502**	**3,707**

There were 1,539 deaths due to falls, 56 percent of which were women; 1,092 poisonings (36 percent women); and 599 motor vehicle crashes (29 percent women). The age-adjusted death rates show significant differences by sex as well.

In 2016, the male age-adjusted death rate for poisonings overtook falls as the leading cause of unintentional injuries, and the rate continued to increase in 2017, more than doubling in the past 10 years.

Among females, falls have been the leading cause of unintentional injury deaths for the past 10 years, and the rate continues to increase, going up 76 percent in the same time period. In 2017, females had a 28 percent higher age-adjusted mortality rate for falls than males.

Figure 13. Age-adjusted rate for unintentional injury death (external causes) and 10-year rate increase, by injury type and sex



Male	10-Year Rate Increase	Female
+51%	Falls	+76%
+114%	Poisonings	+141%
+9%	Motor vehicle crashes	-13%

Table 9 presents the number and percent distribution of physical and anatomical locations of injuries that resulted in death. Twenty-four percent of unintentional injury deaths were due to multiple injuries. Head and neck injuries represented 16 percent of all unintentional injury deaths, and, stratified by sex, represented the second leading type of unintentional injury deaths for males. Lower extremity injuries were the second leading type of unintentional injuries among females. Drug overdose deaths are included in the "Other" category. However, drug overdose deaths are examined in more detail in the next section of this report.

Table 9. Number of unintentional injury deaths by injury location and sex, 2017

Injury Location	Male		Female		Total	
	N	%	N	%	N	%
Multiple Injuries	507	23.6%	391	25.1%	898	Multiple Injuries (24%)
Head/Neck	374	17.4%	202	13.0%	576	Head/Neck (16%)
Lower Extremities	142	6.6%	298	19.2%	440	Lower Extremities (12%)
Chest	40	1.9%	26	1.7%	66	Chest (2%)
Abdomen/Spine/Pelvis	19	0.9%	45	2.9%	64	Abdomen/Spine/Pelvis (2%)
Upper Extremities	7	0.3%	20	1.3%	27	Upper Extremities (1%)
Other/Foreign/Frostbite	1062	49.4%	574	36.9%	1,636	Other/Foreign/Frostbite (44%)
Total	**2,151**	**100.0%**	**1,556**	**100.0%**	**3,707**	

From 2008 to 2017, deaths from multiple injuries increased by 50 percent from 596 deaths to 898 deaths. The large increase seen in the "Other" category is likely due to drug overdose deaths being included in this group. Lower extremity injury deaths had a relatively consistent increase over time, though they decreased in 2017 (Table 10). Head and neck injury deaths increased by 18 percent over the past 10 years.

Table 10. Number of unintentional injury deaths by injury location, 2007-2017

Injury Location	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Multiple Injuries	596	597	587	637	642	649	616	717	826	898
Head/Neck	488	472	512	515	544	603	530	547	571	576
Lower Extremities	343	349	350	347	392	383	435	460	475	440
Chest	75	56	63	56	59	53	61	81	57	66
Abdomen/Spine/Pelvis	46	41	45	39	62	53	48	55	57	64
Upper Extremities	20	8	17	16	26	23	19	30	35	27
Other/Foreign/Frostbite	875	909	922	1,005	1,064	1,163	1,231	1,296	1,481	1,636
Total	**2,443**	**2,432**	**2,496**	**2,615**	**2,789**	**2,927**	**2,940**	**3,186**	**3,502**	**3,707**

In 2017, the highest unintentional injury mortality rates were in Marquette, Adams, and Columbia counties. The lowest reliable unintentional injury mortality rates were in Grant, Portage, and St. Croix counties (Map 4).

Map 4. Age-adjusted mortality rate (per 10,000) for unintentional injury cause of death by county, 2017