



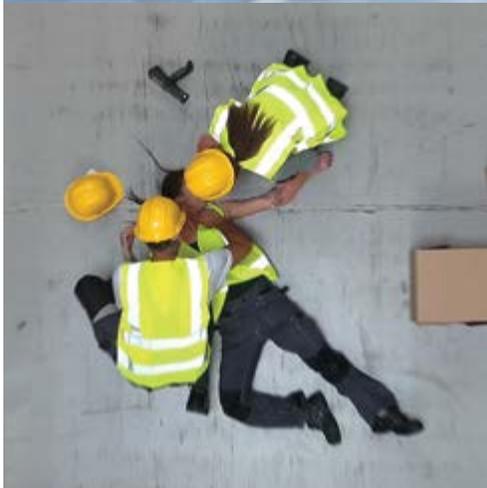
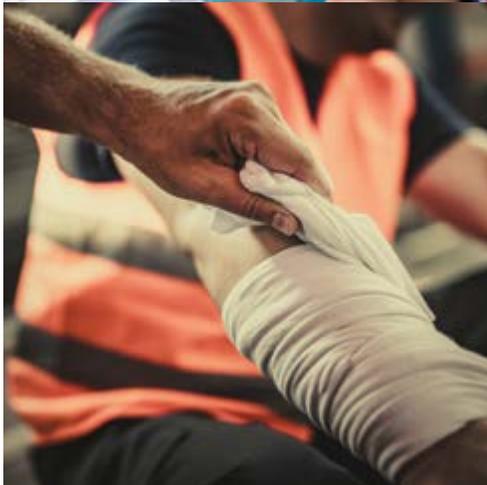
MONTANA INJURY PREVENTION ANNUAL REPORT

A SUMMARY OF 2020
INJURY INDICATOR DATA



MONTANA
EMS, TRAUMA SYSTEMS &
INJURY PREVENTION PROGRAM





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INTRODUCTION

“Injury” is defined as bodily damage produced by energy exchanges or deprivations resulting in relatively sudden, discernible effects.¹ Injuries can result from blunt or penetrating trauma, poisonings, drug overdoses, fire and chemical burns, electrocution, drowning, asphyxiation, bites and stings, and more. Injuries are typically classified by mechanism (cause of injury) and intent (unintentional, intentional self-harm, assault, legal intervention/war)²

Injuries are common, costly, and preventable. By identifying the problem and those affected through data analysis, informed prevention strategies can be developed and implemented broadly to prevent injuries before they occur, or, to provide care that minimizes the impact of injury once it occurs.

Each year, around 900 Montanans die from injuries, a loss that affects the individuals, their family and friends, their community, and society.³ In addition to the human toll, injury deaths create a substantial economic burden. In Montana, injury deaths in 2020 led to over \$10.2 billion in combined medical costs and work loss costs.⁴ Nonfatal injuries also result in medical bills for acute care and rehabilitation, and can temporarily or permanently disrupt the lives of those individuals.

The Montana Injury Prevention Program (MIPP) and the partners of the Injury Prevention Coalition will develop a 2022-2026 Montana Injury Prevention Strategic Plan to serve as a blueprint to guide the state’s injury prevention activities. The activities encompassed in the plan will strive to reduce the burden of prominent injury mechanisms through increased knowledge and utilization of emerging data sources and increased integration with multi-sectoral partners to enact evidence-based, sustainable public health actions. The plan will strive to ensure a better understanding of risk and protective factors around injury for disproportionately affected communities and ensure appropriate quality improvement practices are in place to assess our ongoing public health actions for injury prevention.

This report provides an overview of injury deaths, nonfatal hospitalizations, and nonfatal ED visits. It also highlights injury disparities present in Montana and includes the following focus areas that are aligned with MIPP priorities:

- Traumatic Brain Injuries (TBI)
- Firearm Suicides
- Motor Vehicle Crashes
- Poisonings and Overdoses
- Unintentional Falls

Montana has one of the highest rates of injury deaths in the nation, and injuries are the leading cause of death for Montanans ages 1-44.

OVERVIEW

Montana has one of the highest rates of injury deaths in the nation, and injuries are the leading cause of death for Montanans ages 1-44 (Figure 1, Table 1). In 2020, 9% of all deaths in Montana were due to an injury (Figure 2), and unintentional injuries were the fourth-leading cause of death for all Montanans after heart disease, malignant neoplasms, and COVID-19 (Table 1).

Figure 1. Age-adjusted death rate due to all injury in Montana and United States, 2011-2020

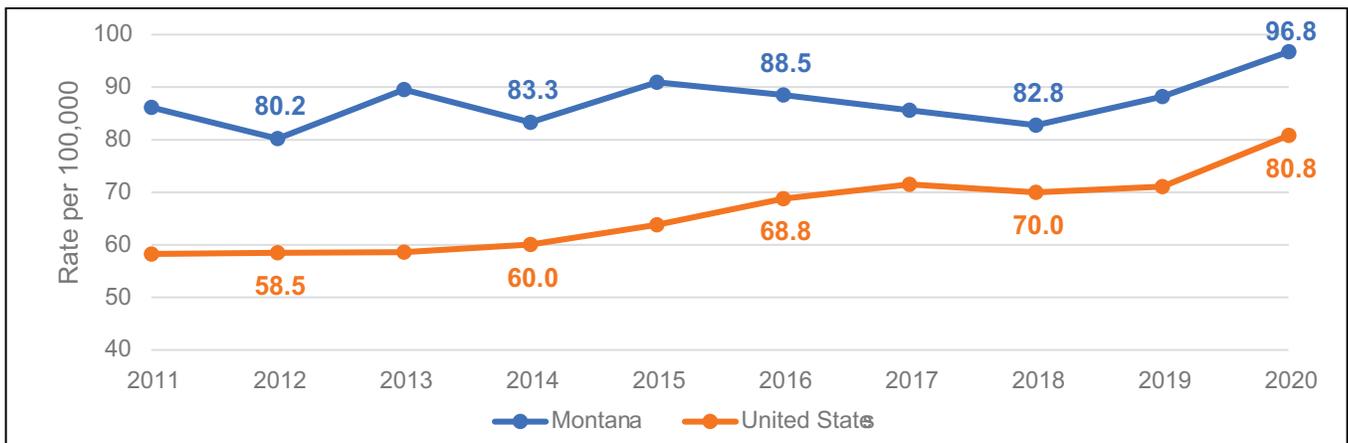


Figure 2. Percent of deaths attributable to injury by age, Montana, 2020

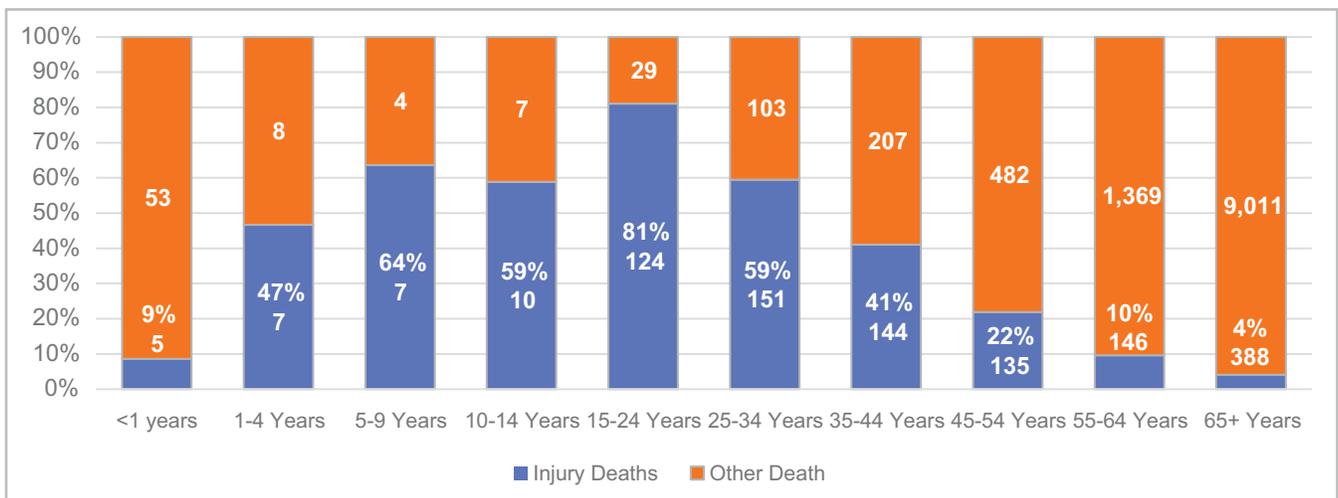


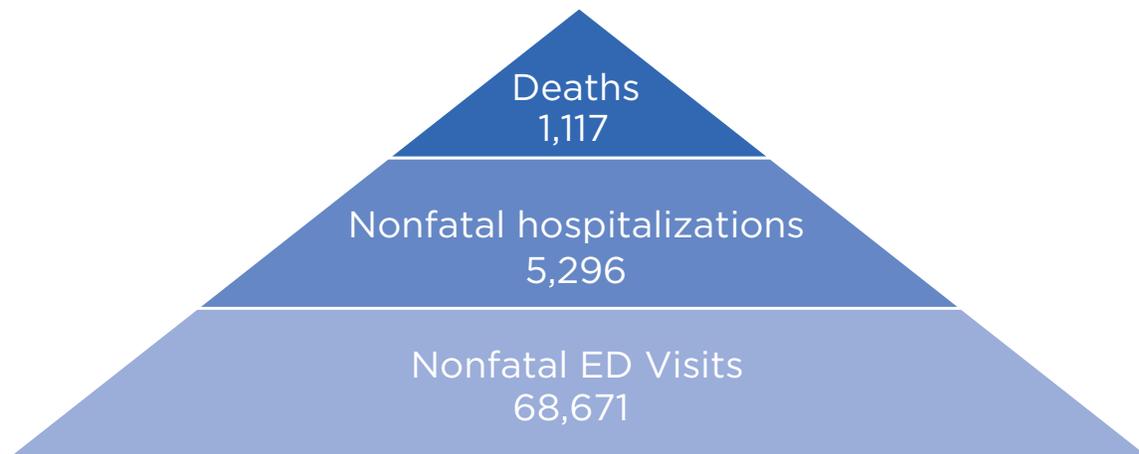
Table 1. Top 5 leading causes of death by age group, Montana, 2020

	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	All Ages
1	Congenital Anomalies	Homicide	Unintentional Injury	Malignant Neoplasms	Malignant Neoplasms	Heart Disease	Heart Disease				
2	Short Gestation	Unintentional Injury	Congenital Anomalies	Suicide	Suicide	Suicide	Suicide	Heart Disease	Heart Disease	Malignant Neoplasms	Malignant Neoplasms
3	Placenta Cord Membranes	Congenital Anomalies	Homicide	Homicide	Homicide	Homicide	Liver Disease	Unintentional Injury	COVID-19	COVID-19	COVID-19
4	Unintentional Injury	Malignant Neoplasms	Malignant Neoplasms	Heart Disease	Malignant Neoplasms	Liver Disease	Malignant Neoplasms	COVID-19	Unintentional Injury	CLRD	Unintentional Injury
5	SIDS			Septicemia	Heart Disease	Heart Disease	Heart Disease	Liver Disease	CLRD	Cerebrovascular	CLRD

Source: WISQARS, CLRD = Chronic Low Respiratory Disease

In 2020, there were 1,117 deaths associated with injury among Montana residents, as well as over 5,000 nonfatal hospitalizations and over 68,000 nonfatal emergency department visits (Figure 3). For every fatal injury, another 5 people are hospitalized due to injury, and 61 require care at an ED. While many nonfatal injuries are a minor or temporary inconvenience, other injuries may lead to disability, chronic pain, and significant changes in lifestyle.

Figure 3. Deaths, Hospitalizations, and ED Visits due to injury, Montana, 2020



Injuries and Health Equity

According to the CDC “health equity is achieved when every person has the opportunity to attain his or her full health potential and no one is disadvantaged from achieving this potential because of social position or other socially determined circumstances.”⁵

Disparities in injury incidence, treatment, and outcomes are well documented in peer-reviewed literature^{6,7}, and often stem from social and structural determinants of health (SDOH) - the conditions in which people are born, live, learn, work, play, and age. Understanding how SDOH drive the occurrence and outcomes of injuries in Montana is essential for contextualizing and understanding prevention strategies that promote health equity.



This report shows that injury fatalities, hospitalizations, and ED visits, occur at a higher rate among American Indian/Alaska Native residents than white residents of Montana. Males also have higher rates of injury mortality and morbidity than females, except when looking at nonfatal self-harm, nonfatal drug overdose, and nonfatal falls – which females experience at a higher rate.

Residents of certain counties in Montana are more likely to die from an injury than others. Place of residence influences health through many channels, including healthcare and information access, socioeconomic status, housing availability, and more. In this report, Montana counties were categorized by NCHS 2013 Urban-Rural classification scheme⁸, as well as the 2020 Index of Deep Disadvantage⁹ (Table 2). The NCHS urban-rural scheme groups counties into 6 levels of urbanicity (Large central metro - large fringe metro - medium metro- small metro - micropolitan - noncore).⁸ The IDD, developed by the University of Michigan, uses a composite measure of poverty, life expectancy, rate of low birthweight rate, and social mobility score to rank all US counties and the 500 most populated cities against each other on the same scale (most advantaged- advantaged- neutral- disadvantaged- most disadvantaged).⁹

Table 2. Montana Counties by NCHS Urban-Rural classification scheme and Index of Deep Disadvantage

Index of Deep Disadvantage (IDD)	NCHS Urban-Rural Classification			All
	Small Metro	Micropolitan	Non-core	
Most Advantaged	1	1	19	21
Advantaged	4	3	15	22
Neutral	0	1	6	7
Disadvantaged & Most Disadvantaged	0	0	6	6
All	5	5	46	56

Data presented in this report can be used to address Montana’s burden of injury in a way that prioritizes health equity and eliminates disparities resulting from SDOH.

METHODS

Fatality Data

Fatality information is pulled from the Montana Vital Statistics dataset,¹⁰ which collects demographic data, such as age, sex, race; circumstances of the death, such as date and place; the underlying cause of death; and the contributing causes of death. Deaths are required to be reported by law, ensuring nearly 100% registration.¹¹

Inclusion Criteria for Injury Deaths

The dataset was restricted to Montana residents who died between January 1, 2020, and December 31, 2020. To be included in this report as an injury death, the underlying cause of death had to be an injury fatality ICD-10 code (See [APPENDIX: Definitions for codes](#)).

Hospitalization and ED Visit Data

Nonfatal inpatient hospitalization and emergency department (ED) visit data in this report were taken from the Montana Hospital Discharge Data System (MHDDS)¹² which contains annual datasets developed using hospital discharge data elements that are based on the Uniform Billing 2004 form. MHDDS data is provided courtesy of participating Montana Hospital Association (MHA) members and represents approximately 85% of annual hospital discharges in Montana. The MHDDS does not include data from Federal facilities such as the U.S. Veterans Administration, Indian Health Service, or Montana State Hospital, and as a result may not be representative of all health events occurring within the state. ED visits resulting in admission are included in the hospitalization dataset only.

Both the hospitalization and ED visit data include demographic elements (such as patient age, sex, race/ethnicity, county and state of residence) and health-related elements (such as diagnosis codes and external cause of injury codes).¹¹

Inclusion criteria for inpatient hospitalizations

The dataset was restricted to Montana residents who were discharged alive between January 1, 2020, and December 31, 2020. To be included in this report as a hospitalization due to injury, the principal diagnosis code had to be an injury ICD-10-CM diagnosis code (See [APPENDIX: Definitions for codes](#)).

Inclusion criteria for ED visits

The dataset was restricted to Montana residents whose ED visit was between January 1, 2020, and December 31, 2020. To be included in this report as an injury-related ED visit, the record had to include an injury ICD-10-CM diagnosis code or injury ICD-10-CM external cause code in any field (See [APPENDIX: Definitions for codes](#)).

Terminology

What are injury diagnosis codes?

The injury diagnosis codes (or nature of injury codes) are ICD codes used to classify injuries by body region (for example, head, leg, chest) and nature of injury (for example, fracture, laceration, solid organ injury, poisoning).²

What are external cause of injury codes?

Two components are described in the external cause of injury: 1) the mechanism that transfers energy to the body (for example, fall, motor vehicle traffic accident, burns, poisoning), and 2) the intent of the injury (that is, whether the injury was inflicted purposefully and by whom [self or another person]). For deaths, the intent is also sometimes referred to as the “manner of death.”

External cause-of-injury codes are ICD codes used to classify injury events by mechanism and intent of injury. Intent of injury categories include unintentional, homicide/assault, suicide/intentional self-harm, legal intervention or war operations, and undetermined intent.²

Outcomes

This report presents results as both absolute counts and age-adjusted rates (per 100,000 population). Age-adjustment is a statistical process applied to rates of disease/injury, death, or other health events, that allows populations with different age structures to be compared. Age-adjusted rates are obtained using Direct Age Adjustment referenced to the US 2000 standard population.¹³



ALL INJURY

This section describes all injuries that occurred to Montana residents during 2020, in terms of mechanism, intent, and demographic factors. Table 5 shows all injury data in detail. All injury was defined as follows:

- Fatalities: underlying cause of death is an ICD-10 external cause of injury code
- Hospitalizations: principal diagnosis is an ICD-10-CM injury diagnosis code
- ED visits: any mention of an ICD-10-CM injury diagnosis code or external cause of injury code
- For detailed definitions, see [APPENDIX: All Injury](#)

Mechanism and intent information were derived from the first-listed external cause code in the death, hospitalization, or ED record. Approximately two-thirds of all injuries occurring in 2020 were unintentional (Table 3). Because external cause codes are not required for hospitalizations and ED visits, 25% of hospitalizations and 24% of ED visits were missing data on intent of the injury (Table 3).

Table 3. Injuries by intent category, Montana, 2020*

Intent Category	Deaths		Hospitalizations		ED Visits	
	N	%	N	%	N	%
Unintentional	727	65%	3,291	62%	48,266	70%
Self-Harm	300	27%	565	11%	1,378	2%
Assault	65	6%	114	2%	2,439	4%
Undetermined	14	1%	23	0%	166	0%
Legal/War	11	1%	2	0%	116	0%
Missing	0	0%	1,301	25%	16,306	24%
All	1,117	100%	5,296	100%	68,671	100%

*Intent category derived from first-listed external cause code

Unintentional transportation-related injuries were the leading cause of injury-related death, followed by unintentional falls, and then firearm suicide. Unintentional falls were the leading cause of injury-related hospitalizations and ED visits, followed by unintentional transportation-related injuries (Table 4).

Table 4. Top 5 leading causes of injury by intent and mechanism, Montana, 2020

	Fatalities	Hospitalizations	ED Visits
1	Unintentional Transportation 227	Unintentional Fall 1,864	Unintentional Fall 18,072
2	Unintentional Fall 209	Unintentional Transportation 695	Unintentional Transportation 6,509
3	Self-Harm Firearm 189	Self-Harm Poisoning 505	Unintentional Struck by/against 5,145
4	Unintentional Poisoning 152	Unintentional Poisoning 320	Unintentional Cut/pierce 4,368
5	Self-Harm Suffocation 62	Unintentional Natural/Environmental 83	Unintentional Overexertion 3,506

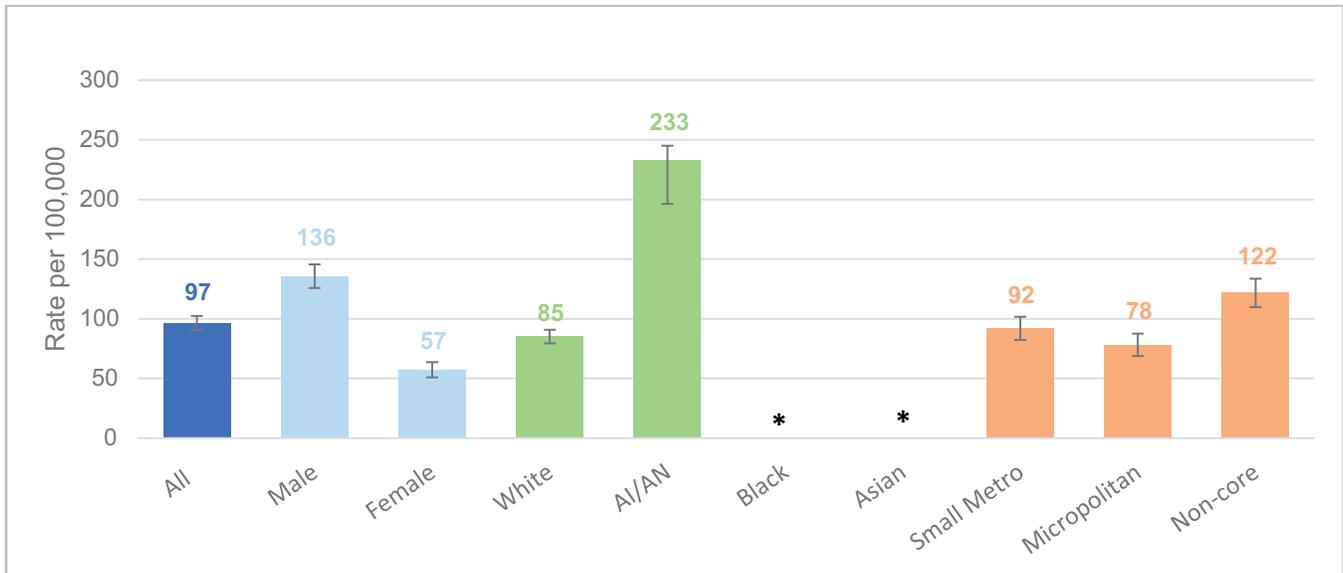
*Mechanism & Intent category derived from first-listed external cause code

Fatalities

There was a total of 1,117 injury deaths in Montana during 2020, resulting in an age-adjusted death rate of 96.5 deaths per 100,000 residents (Figure 4). The fatality rate was over 2 times higher for males than females (135.7 vs 57.3 deaths per 100,000), and 3 times higher among AI/AN people than white people (233.2 vs 85.1 per 100,000). Residents of non-core (the most rural) counties had a higher rate of all injury-related death than those who lived in either micropolitan or small metro counties (Figure 4).

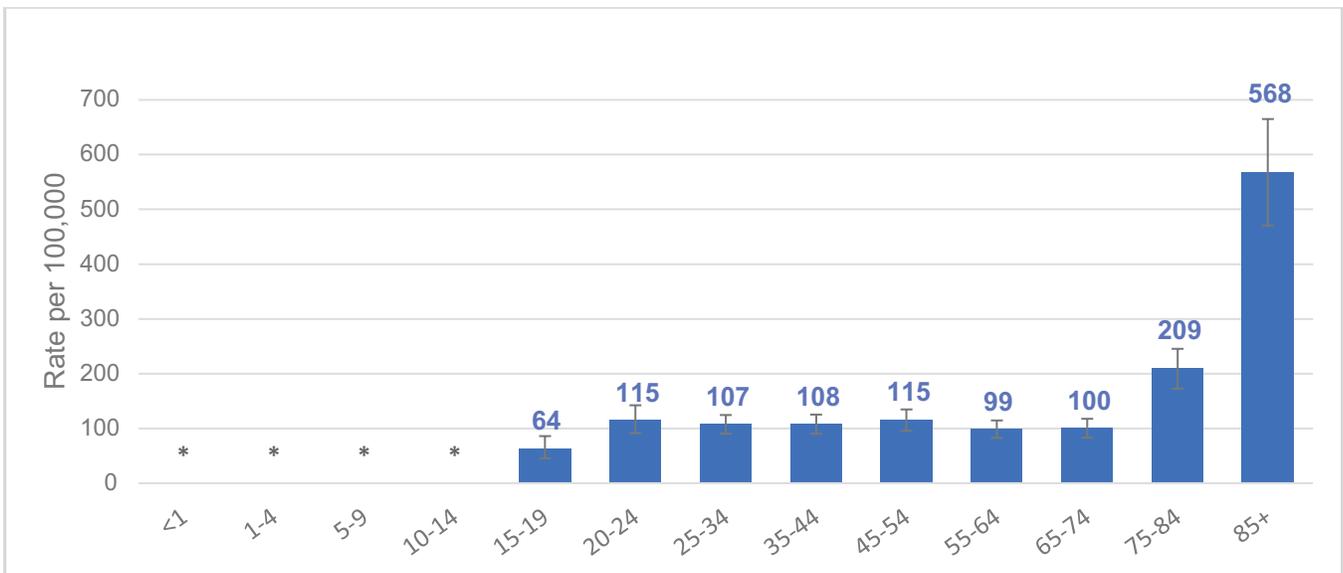
Ages 75 and older had significantly higher age-specific death rates due to injury than younger age groups (Figure 5).

Figure 4. All Injury age-adjusted death rates per 100,000 residents by select demographics, Montana, 2020



* Data suppressed due to counts <20

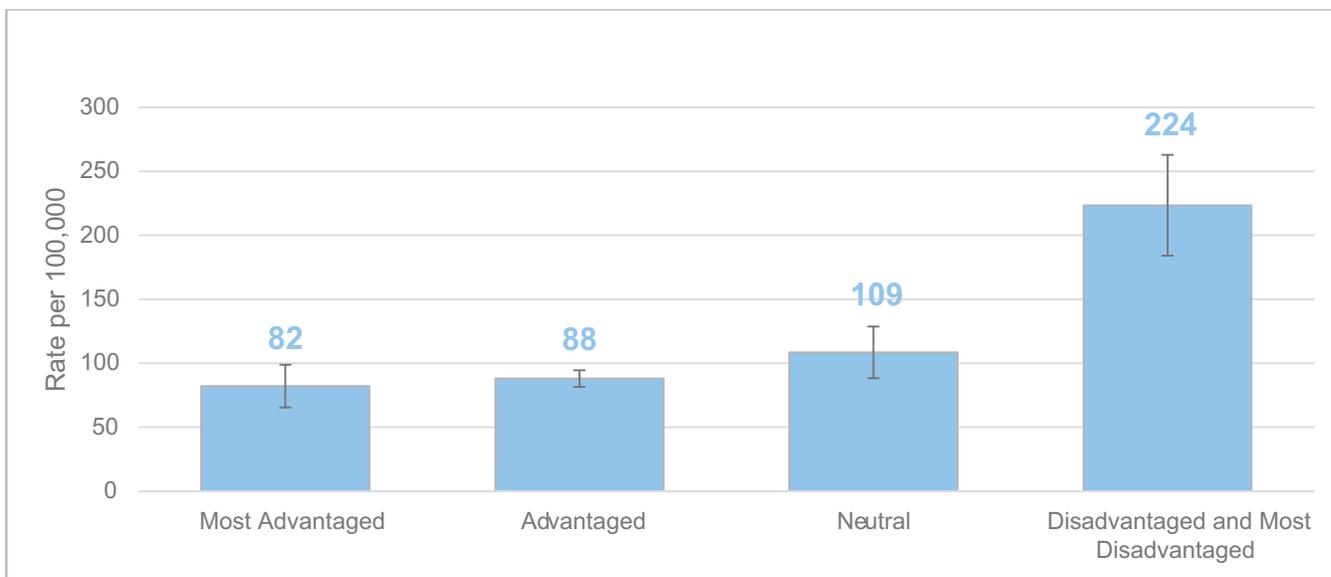
Figure 5. All injury age-specific death rates per 100,000 residents, Montana, 2020



* Data suppressed due to counts <20

Residents of disadvantaged and most disadvantaged counties had 2-3 times higher rates of injury death than residents of other counties (Figure 6).

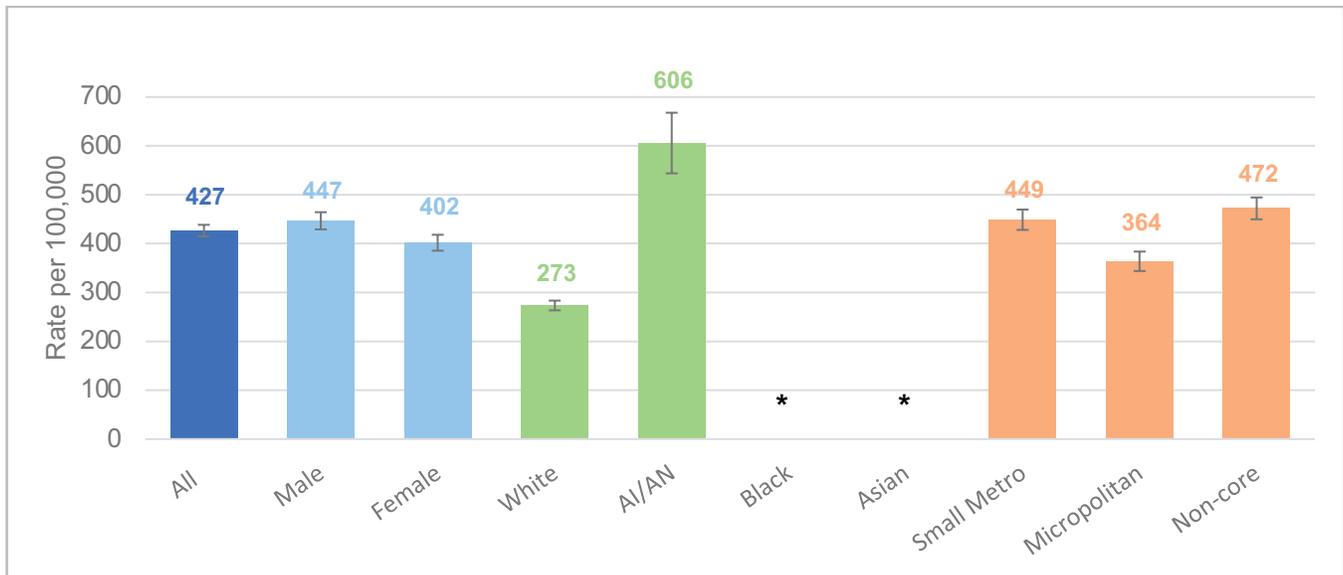
Figure 6. All Injury Age-adjusted death rates by county of residence IDD category, Montana, 2020



Hospitalizations

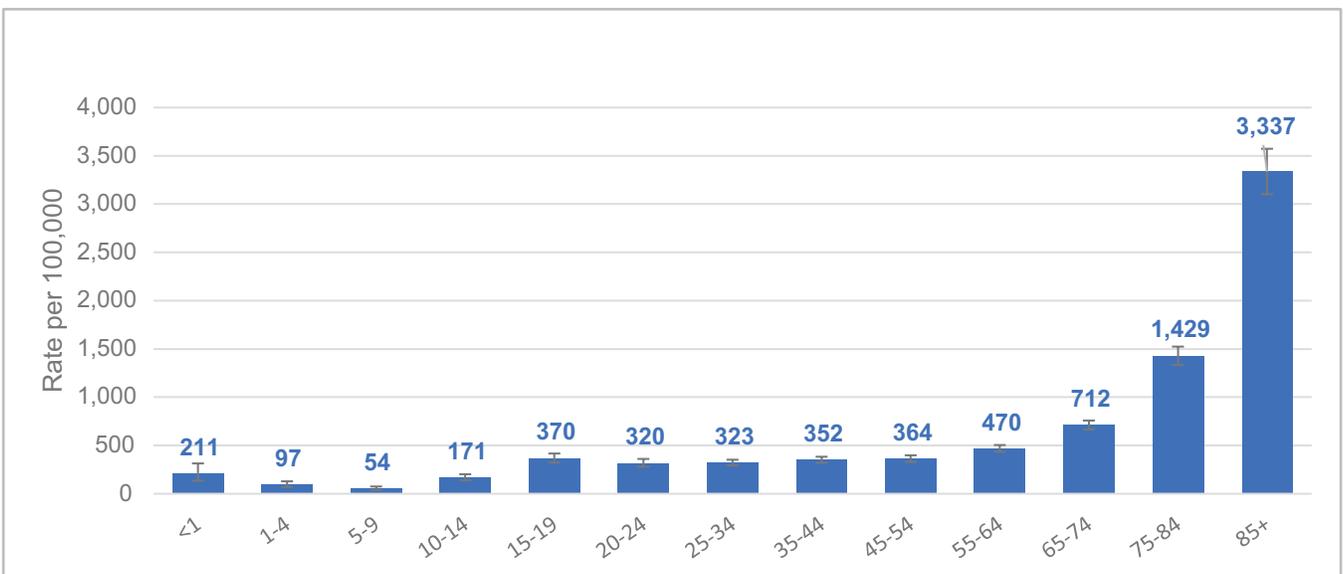
There were 5,296 nonfatal hospitalizations due to all injury, resulting in an age-adjusted hospitalization rate of 426.5 per 100,000 residents (Figure 7). Injury-related hospitalizations were slightly more common among males than females (446.7 vs 401.8 per 100,000) and were 2 times higher among AI/AN people than white people (605.8 vs 273.4 per 100,000). Residents of micropolitan counties had the lowest rates of all-injury hospitalization compared to small metro and non-core (Figure 7). Age-specific rates of all injury hospitalizations are shown in Figure 8. Transportation-related incidents likely drive the increase seen among ages 15-19 years and fall-related incidents likely drive the increases seen among ages 65 and up.

Figure 7. All Injury nonfatal hospitalization age-adjusted rates per 100,000 residents by select demographics, Montana, 2020



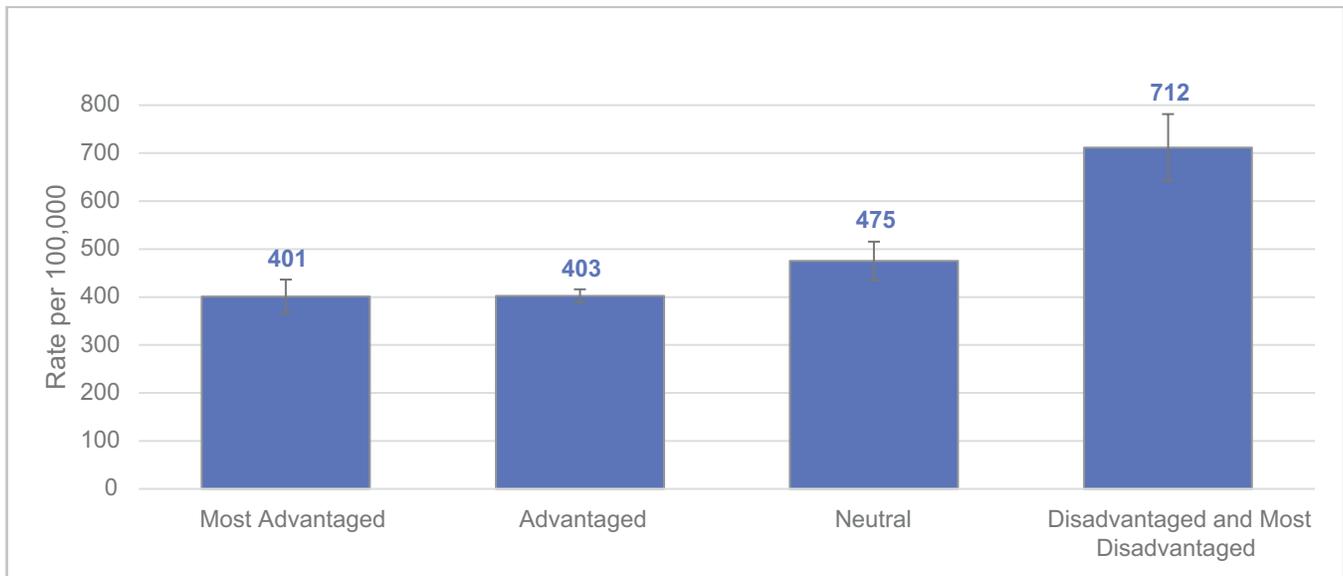
*Data suppressed due to counts <20

Figure 8. All injury age-specific hospitalization rates per 100,000 residents, Montana, 2020



Residents of more disadvantaged counties had nearly 2 times higher rates of injury hospitalization than residents of other counties. (Figure 9).

Figure 9. All injury age-adjusted nonfatal hospitalization rates by county of residence IDD category, Montana, 2020



Emergency Department Visits

There were 68,671 nonfatal injury-related ED visits, resulting in an age-adjusted ED visit rate of 6,468.6 per 100,000 residents (Figure 10). AI/AN people had the highest rates of ED visits (7,624.4 per 100,000) and Black people had the lowest rates of ED visits (443.6 per 100,000). Residents of small metro (the most urban) counties had the greatest rate of ED visits due to injury compared to micropolitan or non-core residents (Figure 10).

Age-specific rates of ED visits (Figure 11) follow a similar pattern as hospitalizations. Teenagers (ages 15-19) and older Montanans (ages 75+) had the highest rates of ED visits.

Residents of more disadvantaged counties had nearly 2 times higher rates of injury hospitalization than residents of other counties.

Figure 10. All Injury nonfatal ED visit age-adjusted rates per 100,000 residents by select demographics, Montana, 2020

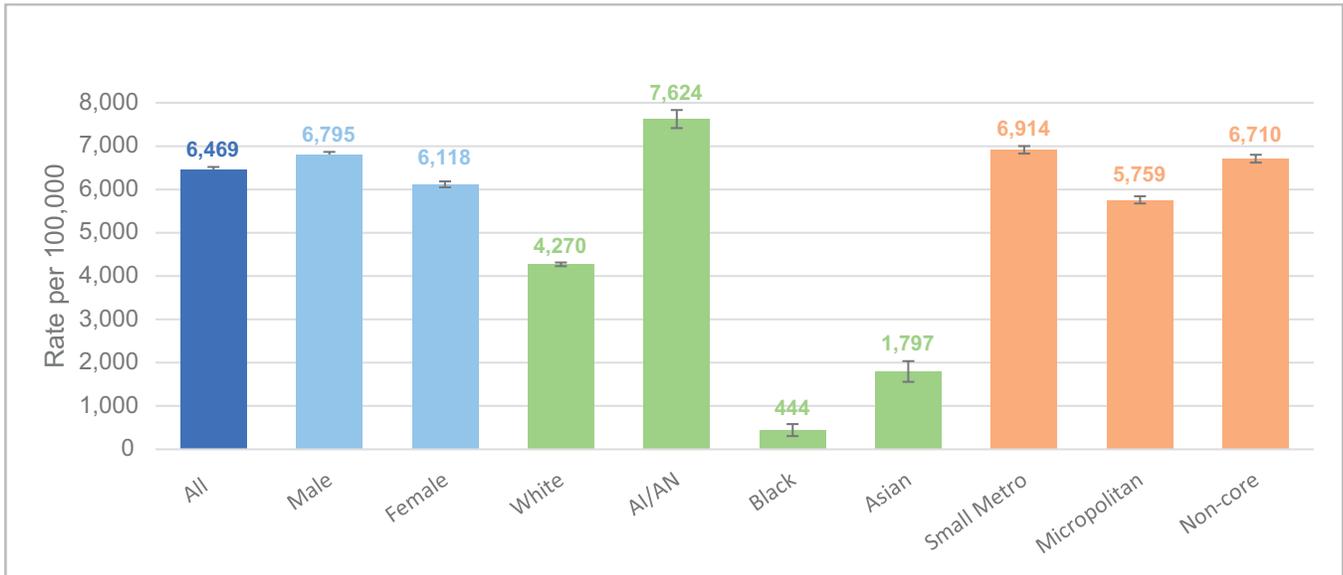
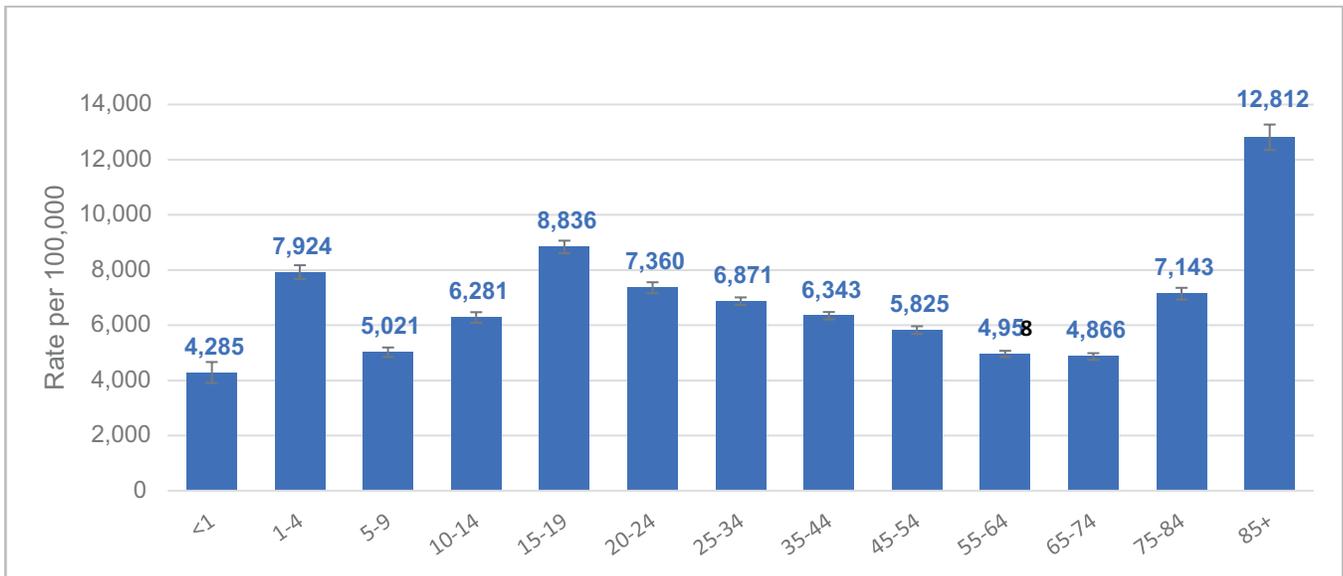
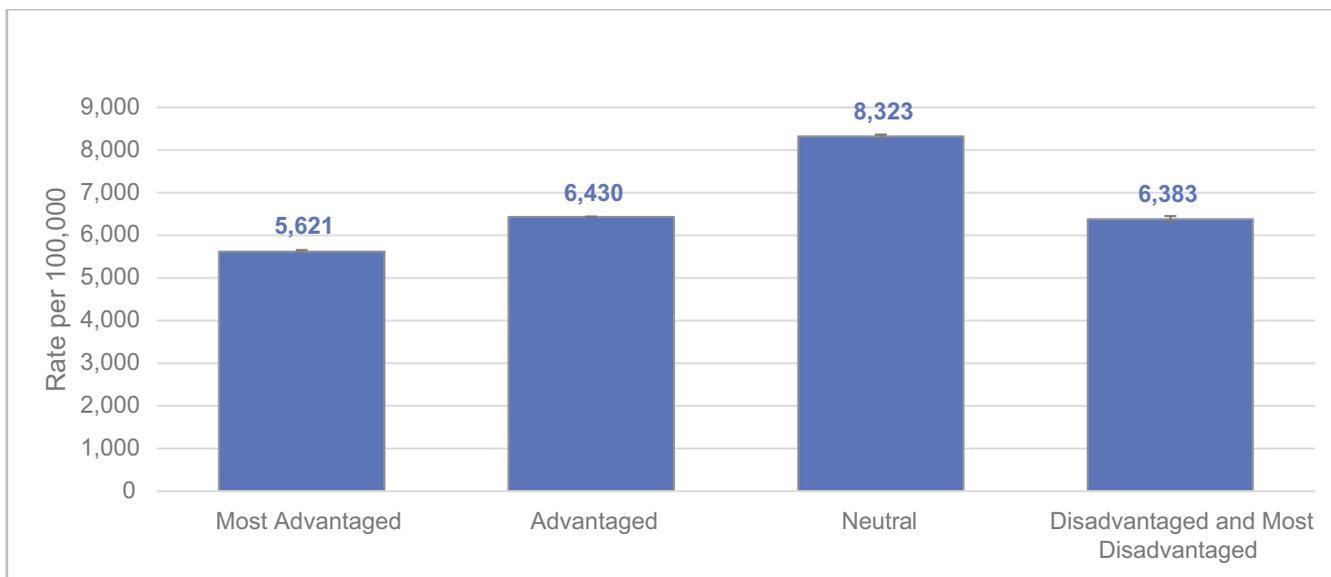


Figure 11. All injury age-specific ED visit rates per 100,000 residents, Montana, 2020



Residents of neutral counties had higher rates of injury ED visits than residents of other counties (Figure 12).

Figure 12. All injury age-adjusted nonfatal ED Visit rates by county of residence IDD category, Montana, 2020



All Injury Key Points

- Two-thirds of injuries are unintentional
- The top causes of fatal and nonfatal injury are unintentional motor vehicle crashes and unintentional falls
- American Indian/Alaska Native people have higher rates of all-cause injury fatalities and nonfatal injuries than other races
- Males are over twice as likely to die from an injury than females. They also have higher rates of nonfatal hospitalization and ED visits, but with a smaller margin
- Non-core (the most rural) counties have the highest injury fatality rate compared to micropolitan or small metro counties
- Residents of more disadvantaged counties experience higher injury death rates
- There are spikes in nonfatal injury hospitalizations and ED visits at ages 15-19, as well as over 75 years

American Indian/Alaska Native people have higher rates of all-cause injury fatalities and nonfatal injuries than other races

Table 5. All Injury Table, Montana, 2020

	Fatalities		Hospitalizations		Emergency Department Visits	
	N	Rate (95% CI)	N	Rate (95% CI)	N	Rate (95% CI)
All ¹	1,117	96.5 (90.6-102.4)	5,296	426.5 (414.5-438.5)	68,671	6,468.6 (6,418.7-6,518.5)
Sex¹						
Male	778	135.7 (125.8-145.5)	2,663	446.7 (429.1-464.4)	36,118	6,794.5 (6,722.5-6,866.5)
Female	339	57.3 (50.9-63.7)	2,633	401.8 (385.5-418.0)	32,550	6,117.7 (6,048.6-6,186.8)
Age²						
<1	5	¥	24	211.2 (135.5-314.1)	487	4,285.1 (3,904.5-4,665.7)
1-4	7	¥	47	96.8 (71.1-128.7)	3,847	7,924.0 (7,673.6-8,174.4)
5-9	7	¥	35	54.0 (37.6-75.1)	3,255	5,020.7 (4,848.3-5,193.1)
10-14	10	¥	113	171.1 (139.5-202.7)	4,148	6,281.2 (6,090.1-6,472.3)
15-19	41	63.5 (45.5-86.0)	239	370.0 (323.1-416.9)	5,708	8,835.8 (8,606.6-9,065.0)
20-24	83	114.8 (91.4-142.3)	231	319.6 (278.3-360.9)	5,320	7,359.5 (7,161.7-7,557.3)
25-34	151	107.4 (90.3-124.5)	454	322.9 (293.2-352.6)	9,662	6,871.1 (6,734.1-7,008.2)
35-44	144	107.7 (90.1-125.3)	470	351.6 (319.8-383.4)	8,480	6,343.3 (6,208.3-6,478.3)
45-54	135	115.3 (95.8-134.7)	426	363.8 (329.3-398.4)	6,820	5,824.5 (5,686.2-5,962.7)
55-64	146	98.6 (82.6-114.6)	696	469.9 (435.0-504.8)	7,344	4,958.1 (4,844.7-5,071.5)
65-74	130	100.3 (83.1-117.6)	923	712.3 (666.4-758.3)	6,305	4,865.9 (4,745.8-4,986.1)
75-84	127	209.1 (172.7-245.4)	868	1,428.9 (1,333.8-1,524.0)	4,339	7,142.9 (6,930.3-7,355.4)
85+	131	567.8 (470.6-665.0)	770	3,337.4 (3,101.6-3,573.1)	2,956	1,2812.1 (12,350.2-13,273.9)
Race¹						
White	933	85.1 (79.4-90.8)	3,193	273.4 (263.4-283.4)	41,154	4,270.4 (4,227.4-4,313.4)
Black	10	¥	‡	¥	48	443.6 (305.0-582.2)
AI/AN	165	233.2 (196.3-270.1)	407	605.8 (543.8-667.8)	5,622	7,624.4 (7,415.8-7,833.0)
Asian	9	¥	9	¥	233	1,796.5 (1,557-2,036)
Urban-Rural¹						
Small Metro	372	92.0 (82.3-101.6)	1,914	448.9 (428.1-469.7)	25,695	6,914.1 (6,827.4-7,000.8)
Micropolitan	283	78.2 (68.8-87.6)	1,371	363.8 (343.9-383.6)	19,369	5,759.1 (5,675.8-5,842.4)
Non-core	459	121.7 (109.8-133.6)	2,011	472.1 (449.7-494.4)	23,607	6,709.8 (6,619.5-6,800.1)

¹Age-adjusted rate per 100,000 population

²Age-specific rate per 100,000 population

¥ Rates are suppressed for <20 events

‡ Counts are suppressed for < 5 events

Urban-Rural based on NCHS Urban Rural 2013 Classification

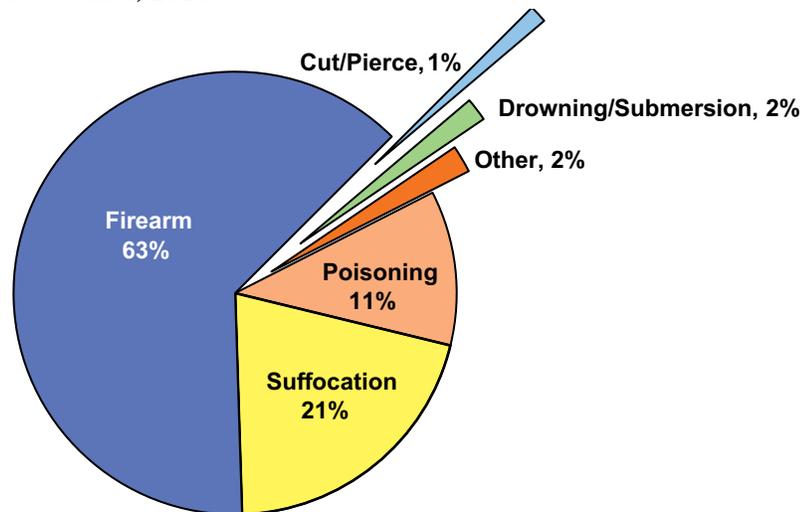
SUICIDE AND NONFATAL SELF-HARM INJURY

This section describes suicides and nonfatal self-harm injuries that occurred to Montana residents during 2020, in terms of mechanism, intent, and demographic factors. Table 7 shows suicide and self-harm injury data in detail. Suicide and nonfatal self-harm were defined as follows:

- Suicide: Underlying cause of death is an ICD-10 external cause of injury code indicating intent of self-harm
- Nonfatal self-harm hospitalizations: principal diagnosis is an ICD-10-CM injury diagnosis code AND the record contains any mention of an ICD-10-CM code indicating intent of self-harm
- Nonfatal self-harm ED visits: any mention of an ICD-10-CM code indicating intent of self-harm
- For detailed definitions, see [APPENDIX: Suicides and Intentional Self-Harm Injury](#)

Montana has had one of the highest (top 5) rates of suicide in the nation for the past thirty years. In 2020, Montana had the third highest suicide rate in the US (25.9 per 100,000) behind Wyoming and Alaska. Suicide was the ninth-leading cause of death in the state overall, and 63% of the 300 suicides in Montana in 2020 were firearm-related (Figure 13).

Figure 13. Causes of suicide deaths in Montana, 2020



While firearms were the most common mechanism for suicide, they were not on the top 5 causes of nonfatal hospitalizations or ED visits. This is due to the lethality of firearms as a method of suicide compared to other methods. There was a total of 573 nonfatal self-harm hospitalizations for an age-adjusted rate of 57.6 per 100,000, and 1,393 nonfatal self-harm ED visits (145.5 per 100,000). In comparison, the national rate of self-harm ED visits in 2020 was 155.8 per 100,000.¹⁴

The most common mechanism behind nonfatal self-harm in Montana was poisoning (Table 6). 88% of nonfatal self-harm hospitalizations and 58% of nonfatal self-harm ED-visits were related to poisonings.

Table 6. Top 5 causes of suicide and nonfatal self-harm injury, Montana, 2020

	Deaths			Hospitalizations			ED Visits*		
1	Firearm	189	63%	Poisoning	505	88%	Poisoning	811	58%
2	Suffocation	62	21%	Cut/pierce	15	3%	Cut/pierce	364	26%
3	Poisoning	34	11%	Suffocation	14	2%	Unspecified	114	8%
4	Drowning/submersion	5	2%	Unspecified	11	2%	Other specified	42	3%
5	Cut/pierce	‡	1%	Transportation	5	1%	Suffocation	20	1%
	Total Suicides	300	100%	Total Self-Harm Hospitalizations	573	100%	Total Self Harm ED visits	1,393	100%

‡ Counts <5 are suppressed

*Mechanism determined from first-listed external cause

The suicide rate among males was over 3.5 times higher than among females. However, females had higher rates of nonfatal self-harm injury than males. (Figure 14). AI/AN people had higher rates of suicide, as well as nonfatal self-harm injuries, than white people (Figure 15). There were no significant differences in rates of suicide or nonfatal self-harm by urban/rural county of residence.

Figure 14. Suicides and self-harm injuries by sex, Montana, 2020

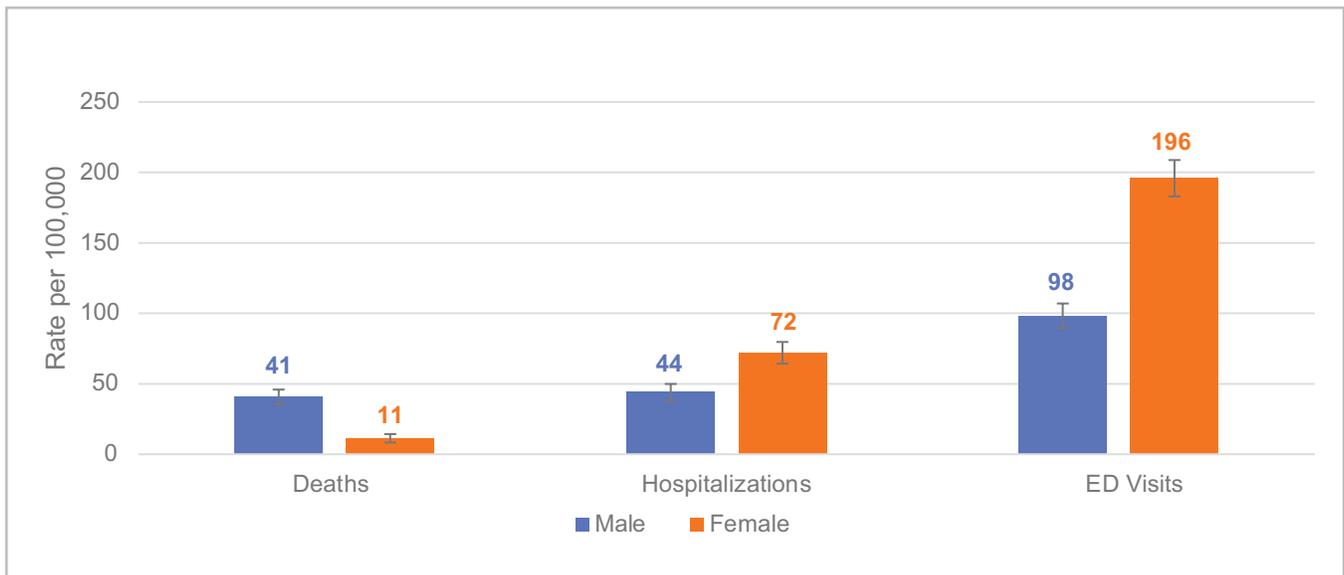
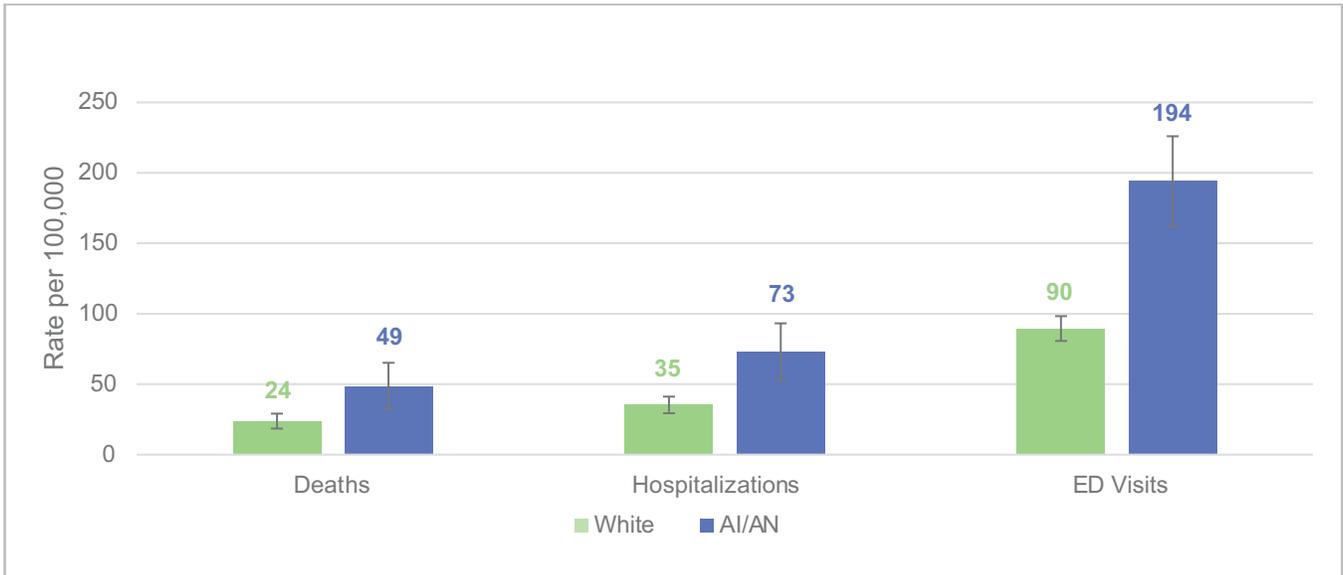
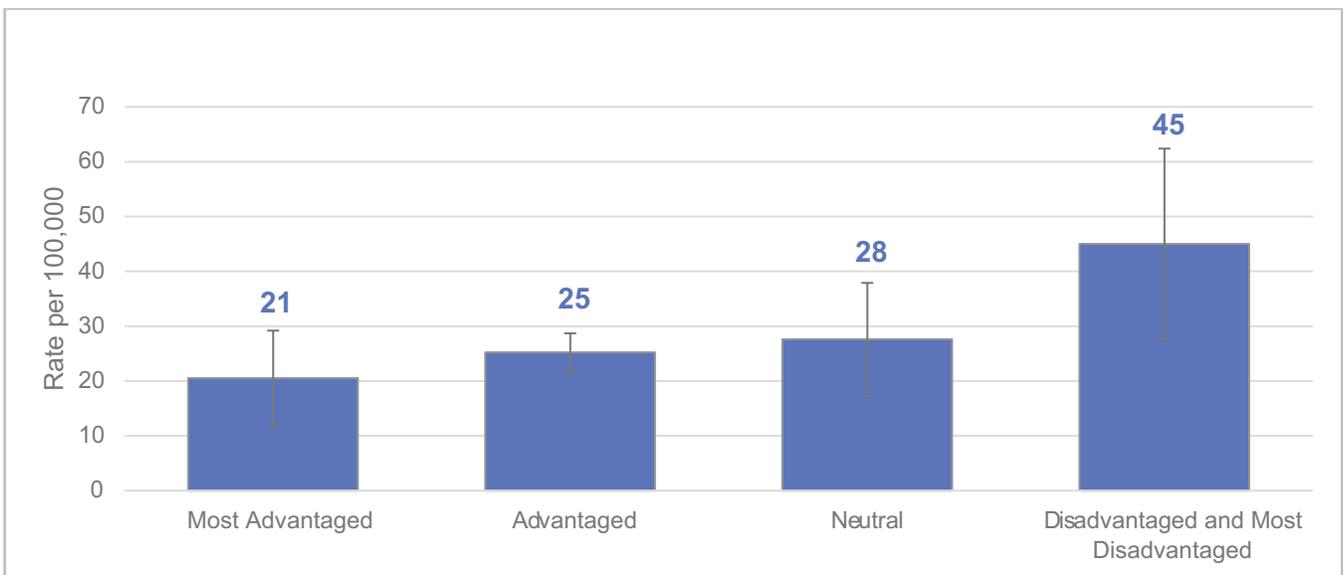


Figure 15. Suicide and Self-Harm injuries by Race, Montana, 2020



Residents of more disadvantaged counties had a higher suicide death rate (45 per 100,000 residents) than other counties, however the difference was not statistically significant due to small counts (Figure 16).

Figure 16. Age-adjusted death suicide rates by county of residence IDD category, Montana, 2020



Suicide rates were highest among the ages 20-24 and 75-84 (45.7 and 41.2 per 100,000, respectively). The age-specific rate of nonfatal self-harm was highest among the ages of 15-19 for both hospitalizations (144.0 per 100,000) and ED visits (574.3 per 100,000) (Table 7). One in four self-harm ED visits were for individuals aged 15-19 (N=371), and 72% of self-harm ED visits among those aged 15-19 were females (data not shown).

Suicide and Self-Harm Key Points

- Firearms accounted for 63% of all suicides
- Most nonfatal self-harm injuries were due to poisoning- 85% of hospitalizations, and 57% of ED Visits
- While males were more likely to die by suicide, females were more likely to be hospitalized or visit an emergency department for self-harm
- Suicide and self-harm injury disproportionately affect American Indian/Alaska Native people compared to white people
- Females aged 15-19 had the highest risk of nonfatal self-harm resulting in hospitalization or ED visit

Table 7. Suicide and nonfatal self-harm Injury, Montana, 2020

	Fatalities		Hospitalizations		Emergency Department Visits	
	N	Rate (95% CI)	N	Rate (95% CI)	N	Rate (95% CI)
All ¹	300	25.9 (22.8-28.9)	573	57.6 (52.8-62.4)	1,393	145.5 (137.8-153.3)
Sex¹						
Male	240	40.6 (35.3-46.0)	226	44.0 (38.1-49.9)	491	98.2 (89.4-107.0)
Female	60	11.3 (8.3-14.3)	347	72.0 (64.3-79.8)	902	195.9 (183.0-208.8)
Age²						
<1	0	0	0	0	0	0
1-4	0	0	0	0	0	0
5-9	0	0	0	0	‡	¥
10-14	‡	¥	54	81.8 (61.5-106.8)	187	283.2 (242.6-323.8)
15-19	13	¥	93	144.0 (116.3-176.3)	371	574.3 (515.9-632.7)
20-24	33	45.7 (31.4-64.0)	60	83.0 (63.4-106.8)	192	265.6 (228.0-303.2)
25-34	51	36.3 (27.0-47.7)	110	78.2 (63.6-92.8)	273	194.1 (171.1-217.2)
35-44	34	25.4 (17.6-35.5)	105	78.5 (63.5-93.6)	183	136.9 (117.1-156.7)
45-54	37	31.6 (22.3-43.5)	63	53.8 (41.3-68.8)	106	90.5 (73.3-107.8)
55-64	49	33.1 (24.5-43.7)	50	33.8 (25.0-44.5)	53	35.8 (26.8-46.8)
65-74	41	31.6 (22.7-42.9)	27	20.8 (13.7-30.3)	14	¥
75-84	25	41.2 (26.7-60.7)	8	¥	9	¥
85+	14	¥	‡	¥	‡	¥
Race¹						
White	260	23.8 (20.8-26.9)	311	35.3 (31.3-39.3)	761	89.5 (83.1-95.9)
Black	‡	¥	6	¥	11	¥
AI/AN	36	48.8 (32.4-65.3)	56	73.1 (53.0-93.1)	153	194.1 (162.2-225.9)
Asian	‡	¥	‡	¥	8	¥
Urban-Rural¹						
Small Metro	95	23.5 (18.6-28.4)	241	66.4 (57.8-74.9)	464	135.1 (122.7-147.6)
Micropolitan	91	25.0 (19.7-30.3)	154	49.3 (41.4-57.2)	454	144.4 (131.0-157.9)
Non-core	114	30.1 (24.2-36.0)	178	57.9 (49.2-66.7)	475	159.7 (145.1-174.2)

¹Age-adjusted rate per 100,000 population

²Age-specific rate per 100,000 population

¥ Rates are suppressed for <20 events

‡ Counts are suppressed for < 5 events

Urban-Rural based on NCHS Urban Rural 2013 Classification

INJURY TOPICS OF INTEREST

The Montana Injury Prevention Program and the partners of the Injury Prevention Coalition compiled the 2022-2026 Montana Injury Prevention Strategic Plan to serve as a blueprint to guide the state’s injury prevention activities. Based on data reflecting injury-related death and disability, the following were selected as topics of interest:

- Traumatic Brain Injuries (TBI) – Fatal and nonfatal
- Firearm-Related Suicides – Fatal only
- Motor Vehicle Traffic Crashes- Fatal and nonfatal
- Drug Overdoses – Fatal and nonfatal
- Unintentional Falls- Fatal and nonfatal

These groups are not mutually exclusive; traumatic brain injuries can be caused by falls or motor vehicle crashes.

Figure 17. Age-adjusted death rates for selected injury indicators, Montana, 2020

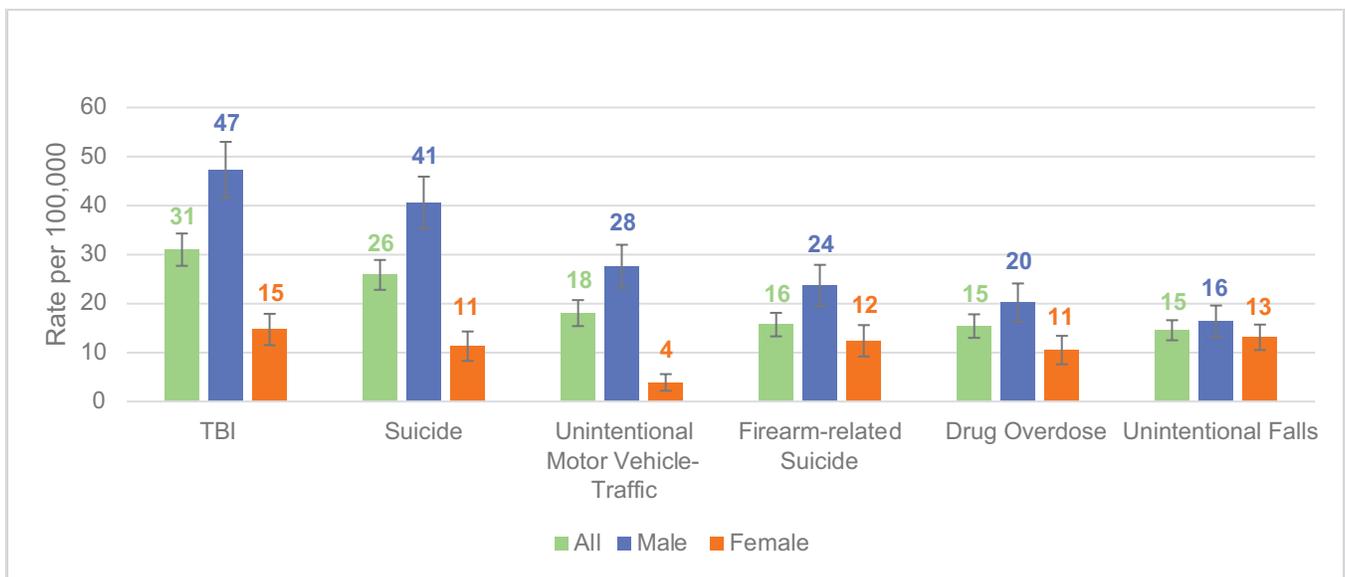


Figure 18. Age-adjusted nonfatal hospitalization rates for selected injury indicators, Montana, 2020

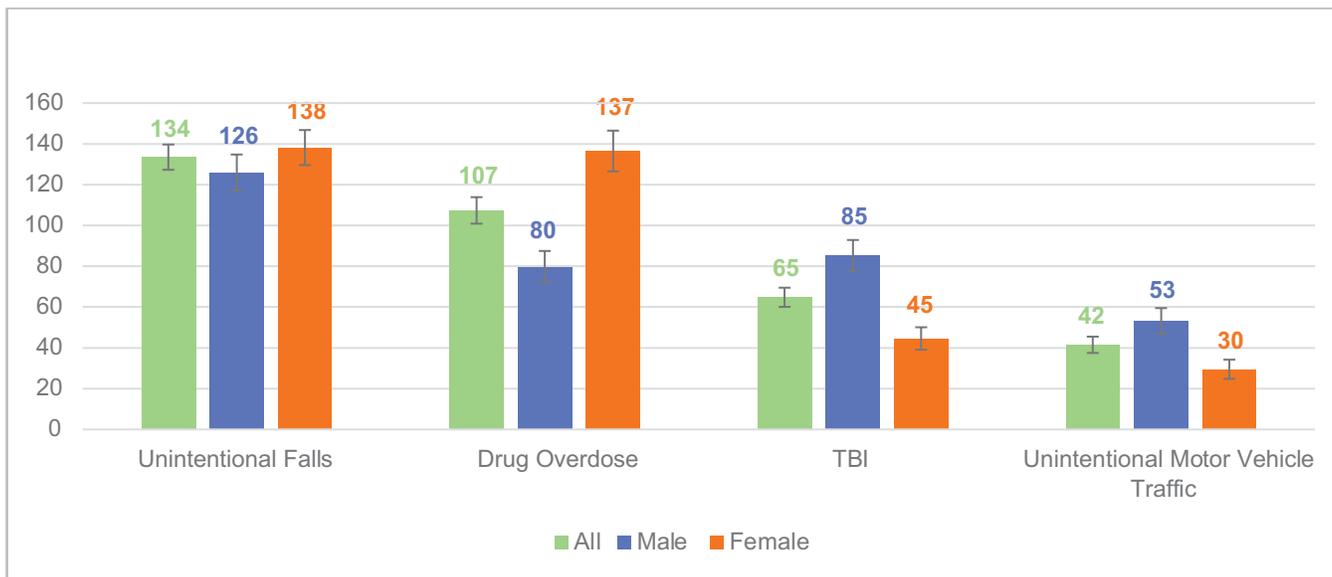
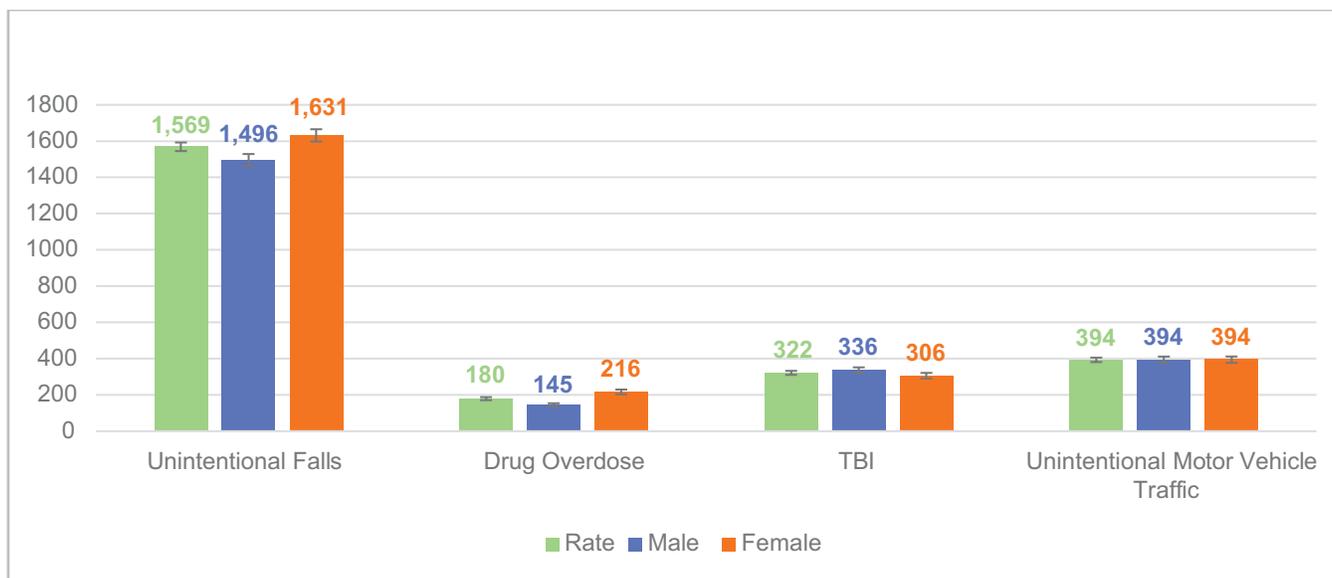


Figure 19. Age-adjusted nonfatal ED visit rates for selected injury indicators, Montana, 2020

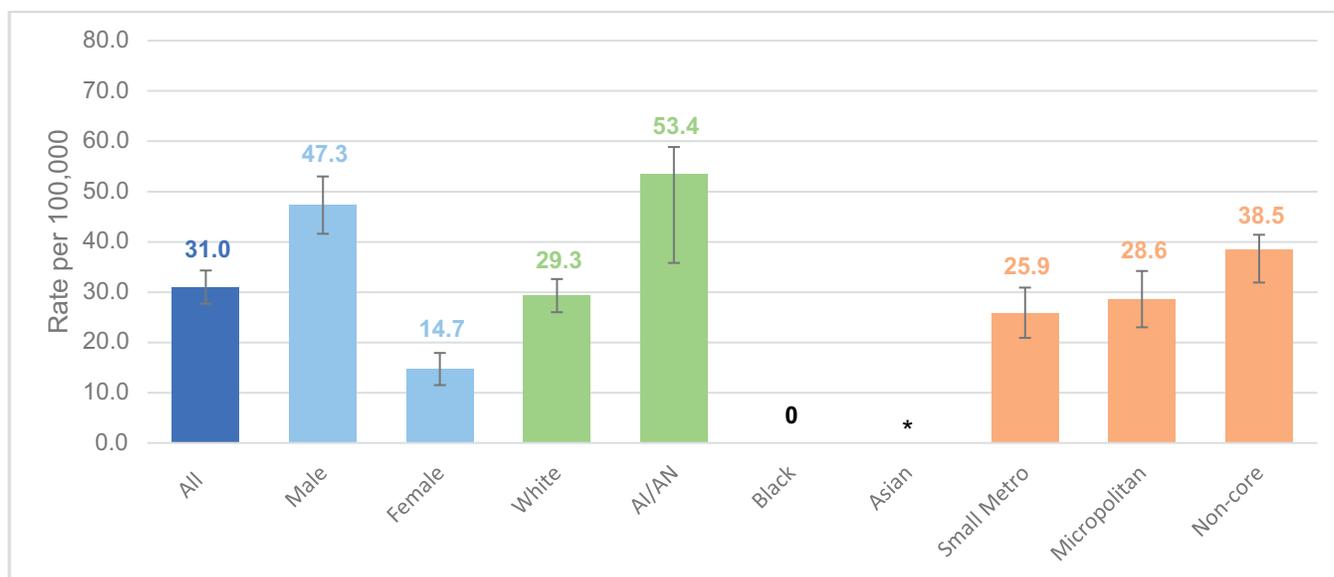


TRAUMATIC BRAIN INJURY (TBI)

A traumatic brain injury (TBI) includes open wounds to the head, fractures of the skull or facial bones, intracranial injury, and injury to the optic nerve and pathways. This includes shaken infant syndrome. In our definition, we do not include records with the code unspecified injury of the head, since it was found that 75.3% of emergency department records coded with unspecified head injury in ICD-9-CM did not meet the clinical criteria for TBI. For detailed definitions, see: [APPENDIX: Traumatic Brain Injury](#).

In 2020, there were 370 TBI-related deaths with an age-adjusted rate of 31.0 per 100,000 residents. Males were three times more likely to die of a TBI than females (Figure 20).

Figure 20. Age-adjusted death rates due to TBI by selected demographic factors, Montana, 2020



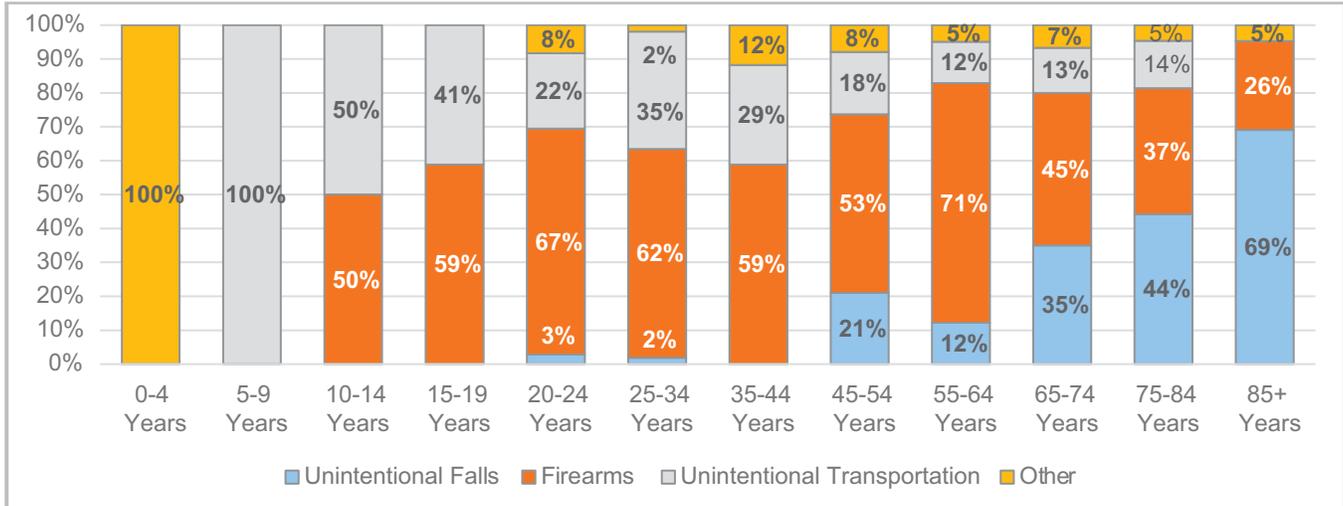
*Data suppressed due to low numbers

51% of TBI deaths were due to firearms (N=190), predominantly suicide (N=169) and homicide (N=15). Unintentional falls accounted for 23% of TBI deaths (N=84), while unintentional transportation-related injuries accounted for 20% (N=73). The top causes of TBI varied by age. Most TBIs among those aged under 65 were due to firearms (60%) and transportation-related injuries (26%), whereas among people aged 65+, 48% were due to falls and 37% due to firearms (Figure 21).



**On average, one Montanan
dies every day from
Traumatic Brain Injury.**

Figure 21. Causes of fatal TBI by age group, Montana, 2020



There were 798 nonfatal hospitalizations due to TBI (age-adjusted rate 64.8 per 100,000) and 3,429 TBI-related nonfatal ED visits (age-adjusted rate 321.6 per 100,000). 19% of ED visits and 19% of hospitalizations were missing external cause information. Of TBI hospitalizations with external cause information, 56% were due to unintentional falls and 31% were due to unintentional transportation-related injuries. Of TBI ED visits with external cause information, 48% were due to unintentional falls and 27% were due to unintentional transportation-related injuries, and 20% were due to striking by or against an object. Similar to fatal TBIs, the top causes of nonfatal TBI varied by age (Figure 22, Figure 23).

Figure 22. Causes of Nonfatal TBI Hospitalization, Montana, 2020

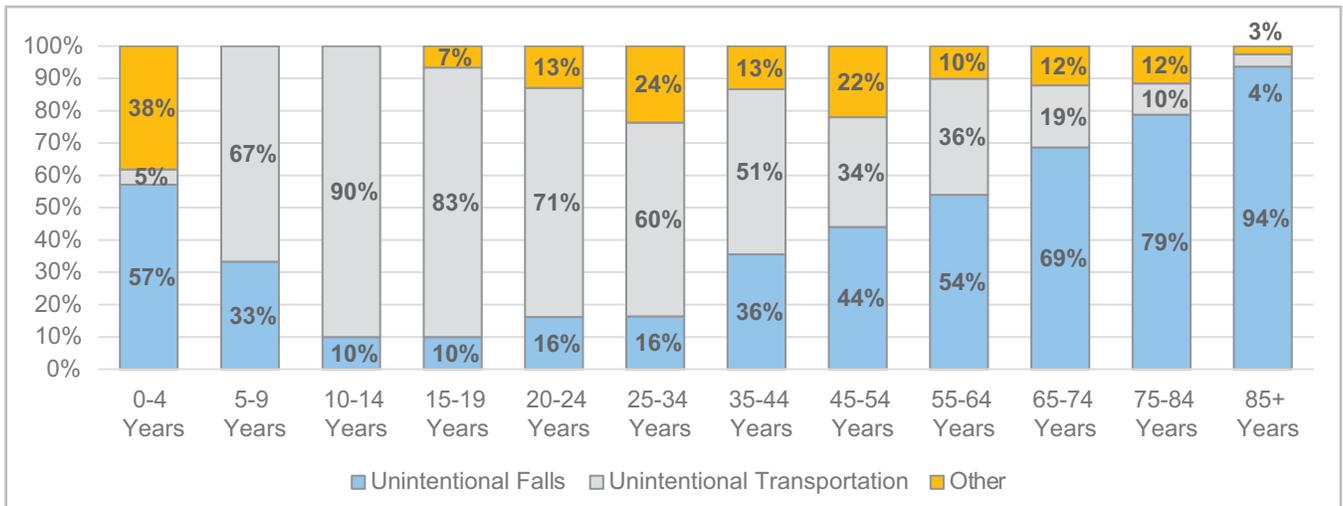


Figure 23. Causes of nonfatal TBI ED Visits, Montana, 2020

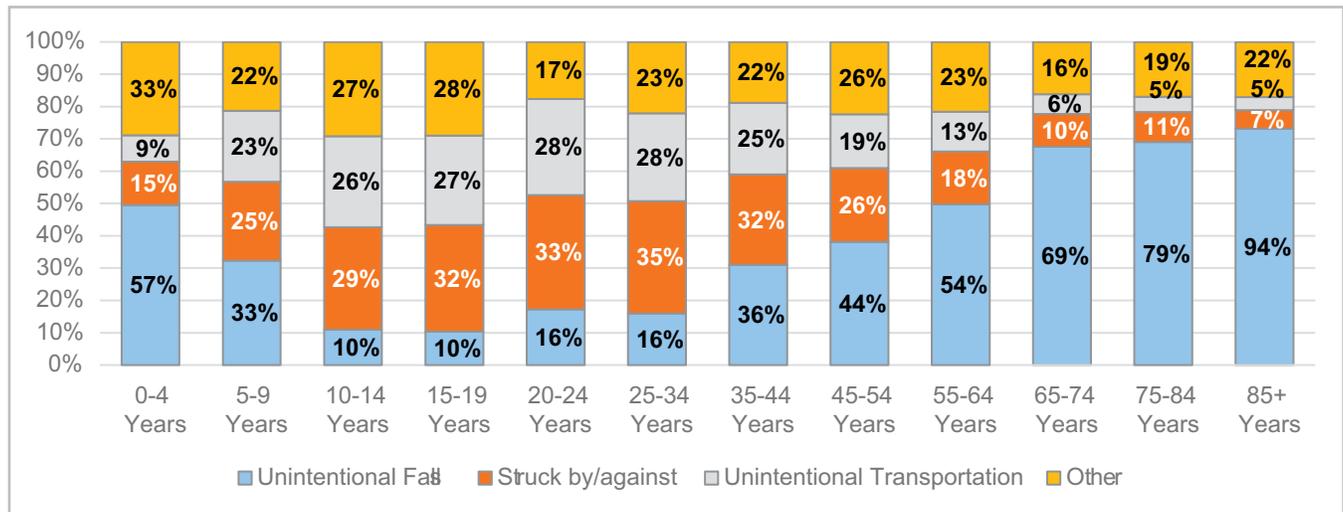


Table 8. Nonfatal TBI Injury, Montana, 2020

	Hospitalizations		Emergency Department Visits	
	N	Rate (95% CI)	N	Rate (95% CI)
All ¹	798	64.8 (60.1-69.5)	3,429	321.6 (310.5-332.8)
Sex¹				
Male	513	85.3 (77.7-93.0)	1,812	336.2 (320.3-352.1)
Female	285	44.6 (39.1-50.0)	1,617	306.1 (290.7-321.6)
Race¹				
White	482	41.7 (37.8-45.7)	1,970	206.0 (196.6-215.5)
Black	‡	¥	14	¥
AI/AN	75	113.0 (86.1-140.0)	189	247.5 (210.5-284.5)
Asian	‡	¥	12	¥
Urban-Rural¹				
Small Metro	298	69.2 (61.1-77.3)	1,136	307.7 (289.4-326.0)
Micropolitan	221	58.8 (50.8-66.9)	1,169	343.2 (323.0-363.4)
Non-core	279	68.3 (59.6-76.9)	1,124	313.3 (294.0-332.7)

¹Age-adjusted rate per 100,000 population

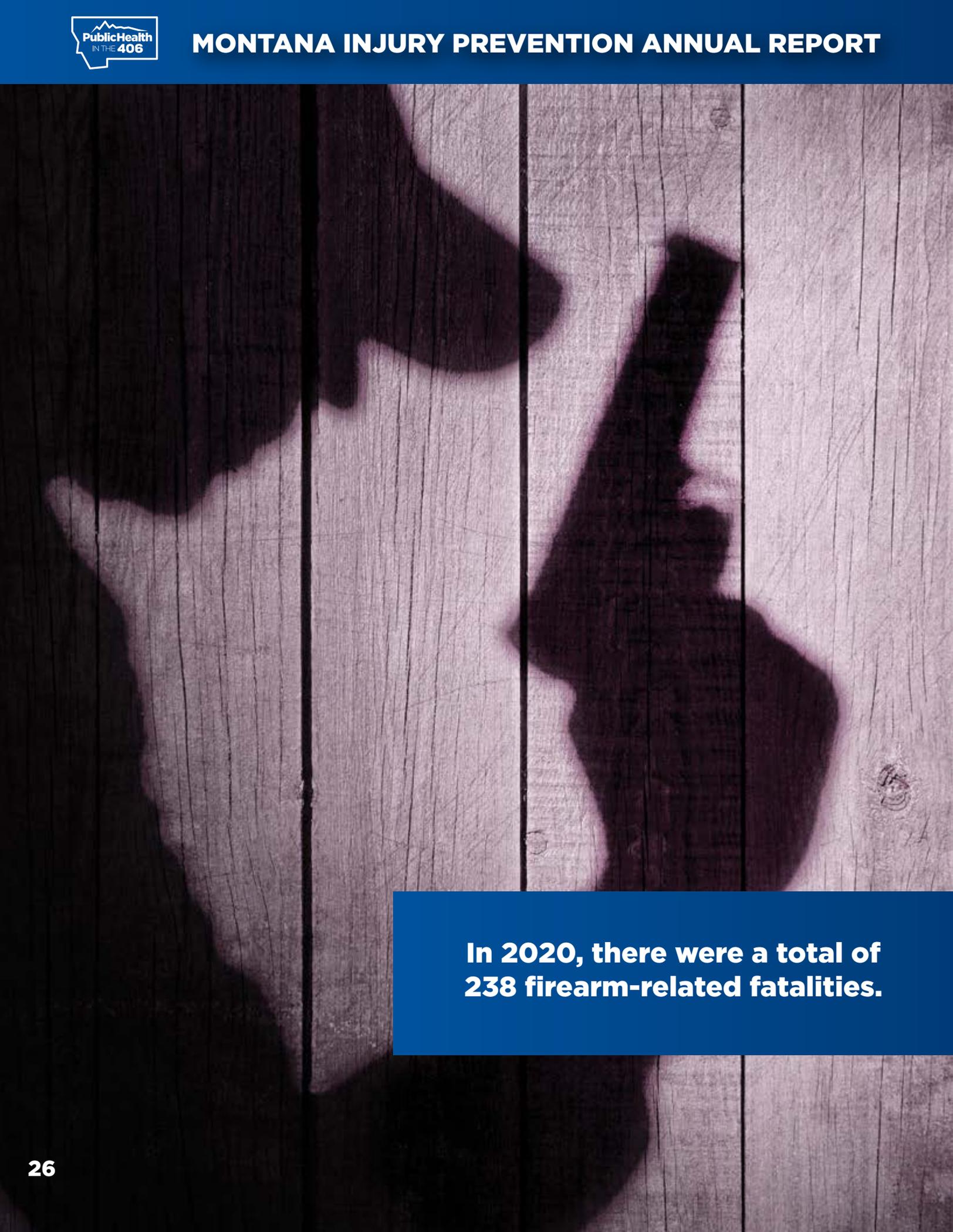
¥ Rates are suppressed for <20 events

‡ Counts are suppressed for < 5 events

Urban-Rural based on: NCHS Urban Rural 2013 Classification

Traumatic Brain Injury Key Points

- On average, one Montanan dies every day from a TBI, with over half of TBI deaths in 2020 resulting from firearm suicide
- Males are three times more likely to die from a TBI than females
- Those over age 65 are most likely to suffer a TBI due to falling



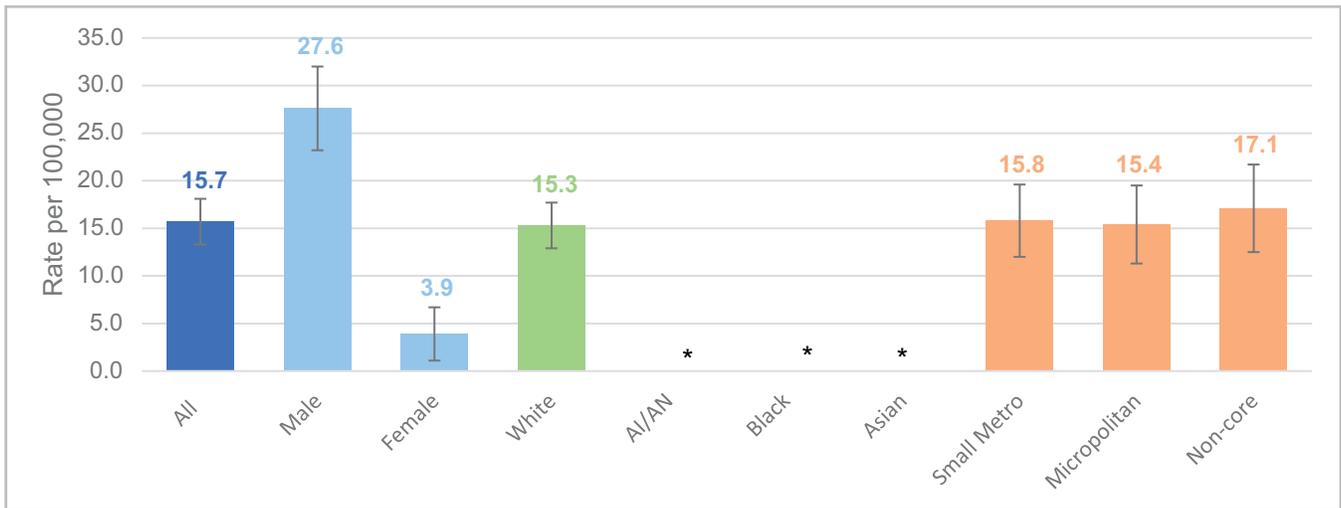
In 2020, there were a total of 238 firearm-related fatalities.

FIREARM-RELATED SUICIDES

A firearm death is defined as a fatal penetrating injury from a weapon that uses a powder charge to fire a projectile. The case definition includes injuries sustained from handguns, rifles, shotguns, and other larger firearms, and excludes injuries related to gas, air, or spring-operated guns (e.g., air guns, BB guns, paintball guns, etc.), injuries from rubber bullets, and non-penetrating injuries associated with firearms (e.g., “pistol whipping”). For detailed definitions, see [APPENDIX: Firearm Suicide](#).

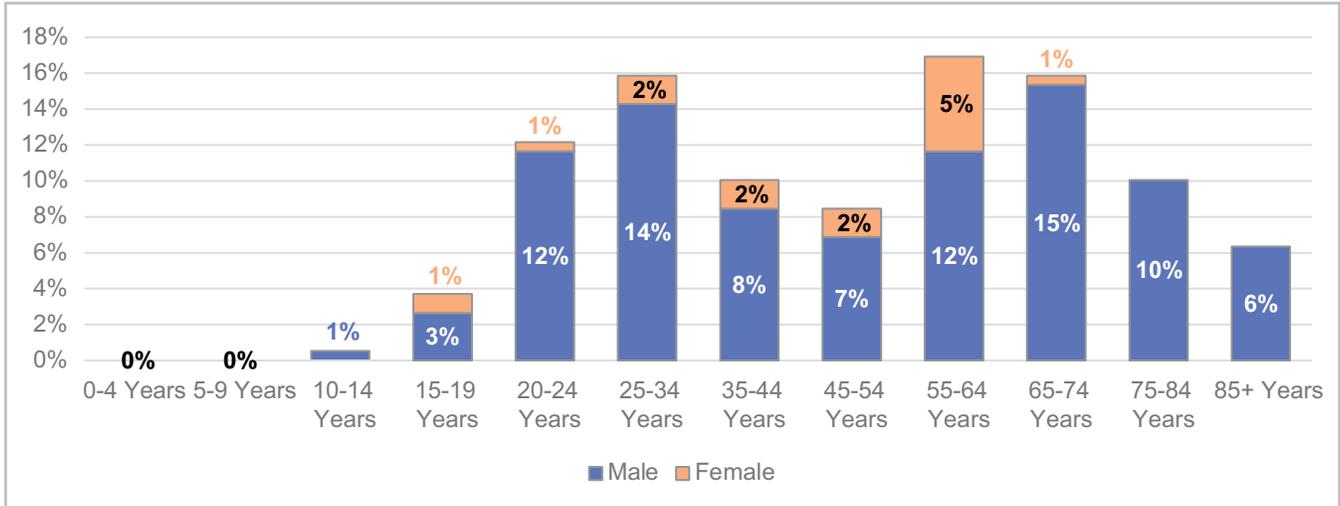
In 2020, there were a total of 238 firearm-related fatalities, 14% of which were homicides and 79% of which were suicides. The age adjusted death rate due to firearm suicides was 15.7 per 100,000. Males were 7 times more likely to die of firearm suicide than females. There was no significant difference in the death rate by urban/rural county of residence (Figure 24). Figure 25 shows the percentage of firearm suicides by age group and sex.

Figure 24. Firearm-Related suicide age-adjusted death rates by selected demographics, Montana, 2020



*Data suppressed due to low numbers

Figure 25. Age and sex distribution of firearm-related suicides, Montana, 2020



Firearm Suicide Key Points

- Montana has one of the highest rates of suicide in the U.S., and firearms account for almost two-thirds of suicides annually
- Most firearm deaths were intentional (79%)
- Males had a 7 times higher death rate due to firearms than females

Montana has one of the highest rates of suicide in the U.S.

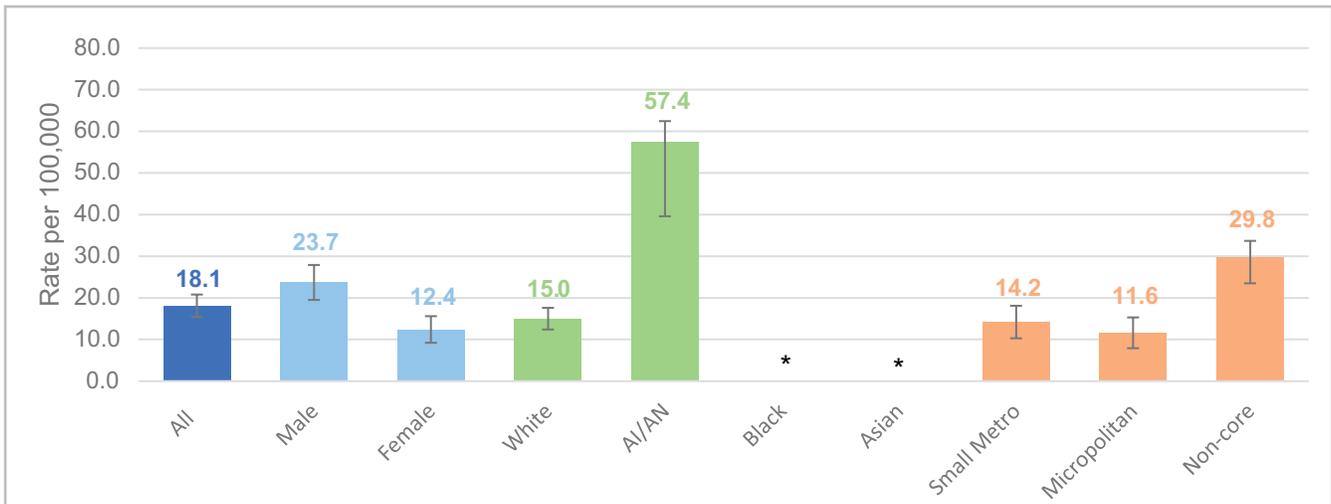
UNINTENTIONAL MOTOR VEHICLE TRAFFIC (MVT) INJURIES

Motor vehicle traffic includes injuries resulting from vehicle collisions occurring on a public highway or street. This includes injuries to motorcycle and vehicle occupants, as well as cyclists and pedestrians whose injury involved a motor vehicle. For detailed definitions, see [APPENDIX: Unintentional Motor Vehicle - Traffic](#).

In 2020, there were 191 MVT-related deaths with an age-adjusted rate of 18.1 per 100,000 residents. Impaired driving and lack of restraint use are the main risk factors for MVT death. Data from the Montana Department of Transportation indicates that 66% of crash fatalities in 2020 were the result of impaired driving.¹⁵ The 2020 BRFSS survey stated that 25% of Montana adults do not always wear seatbelts,¹⁶ and the 2020 Indian Health Service annual seatbelt use observational survey reported that 59% of drivers and 73% of passengers were observed not wearing a seatbelt.¹⁷

Males were two times more likely to die of a MVT injury than females, and AI/AN people were nearly four times more at risk than white people. Residents of rural (non-core) counties were 2-3 times more likely to die from MVT injuries than residents of more urban counties (small metro and micropolitan) (Figure 26).

Figure 26. Motor vehicle traffic injury age-adjusted rates by selected demographics, Montana, 2020



*Data suppressed due to low numbers

There were 450 nonfatal hospitalizations due to MVT (age-adjusted rate 41.5 per 100,000) and 4,042 MVT-related nonfatal ED visits (age-adjusted rate 393.5 per 100,000). While males were more likely than females to be hospitalized for a nonfatal MVT injury; the rates of ED visits were similar by sex. AI/AN people had higher rates of both hospitalization and ED visits than white people. Residents of rural (non-core) counties were most likely to be hospitalized for MVT injuries, while residents of micropolitan counties were most likely to visit the ED (Table 9).

Ages 20-24 had the highest age-specific hospitalization rate (70.6 per 100,000) while ages 15-19 had the highest age-specific ED visit rate (910.2 per 100,000).

Table 9. Nonfatal MVT Injury, Montana, 2020

	Hospitalizations		Emergency Department Visits	
	N	Rate (95% CI)	N	Rate (95% CI)
All ¹	450	41.5 (37.5-45.5)	4,042	393.5 (381.1-405.9)
Sex¹				
Male	290	53.2 (46.9-59.5)	2,075	394.2 (376.8-411.5)
Female	160	29.5 (24.8-34.3)	1,967	394.4 (376.5-412.3)
Race¹				
White	272	27.3 (23.9-30.7)	2,554	276.7 (265.6-287.7)
Black	‡	¥	48	443.6 (305.0-582.2)
AI/AN	53	72.0 (52.0-92.1)	334	447.5 (397.6-497.4)
Asian	‡	¥	7	¥
Urban-Rural¹				
Small Metro	131	34.6 (28.5-40.7)	1,290	349.8 (330.3-369.3)
Micropolitan	141	39.2 (32.5-45.8)	1,569	472.4 (448.5-496.3)
Non-core	178	52.8 (44.6-60.9)	1,183	362.8 (341.3-384.3)

¹Age-adjusted rate per 100,000 population

¥ Rates are suppressed for <20 events

‡ Counts are suppressed for < 5 events

Urban-Rural based on: NCHS Urban Rural 2013 Classification

Motor Vehicle Crash Key Points

- Males are almost twice as likely to be hospitalized or die than females due to MVT injuries
- AI/AN people are four times more likely at risk to die of MVT injuries than white people
- Over half of MVT fatalities are due to impaired driving

**Over half of MVT fatalities
are due to impaired driving.**





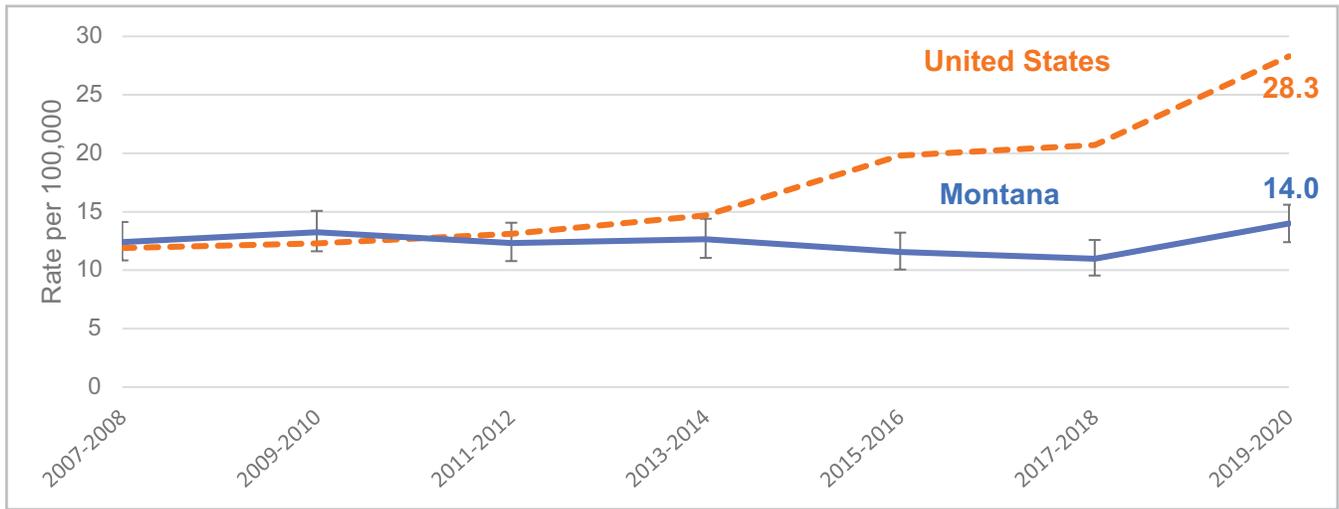
After over 10 years of declining drug overdose deaths, rates increased in 2019-2020.

DRUG OVERDOSES

A drug overdose is the accidental or intentional use of a drug or medicine in an amount that is higher than is normally used. An overdose can be fatal or nonfatal. For detailed definitions, see [APPENDIX: Drug overdose](#).

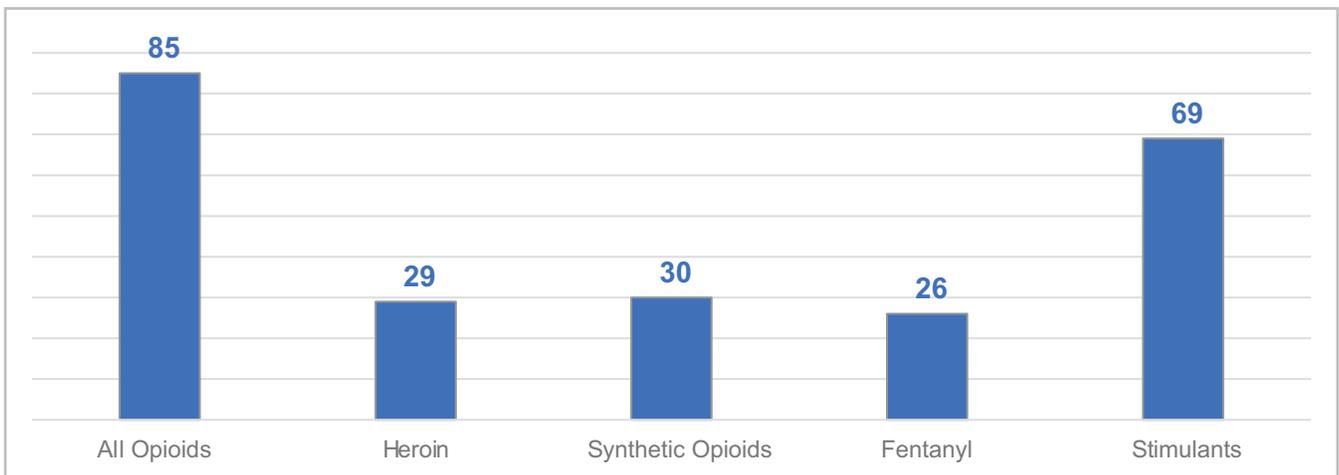
Drug overdoses are the 4th leading cause of injury-related death in Montana and have risen significantly over time (Figure 27). In 2020 there were 161 drug overdose fatalities in Montana. 83% were unintentional (N=133) and 16% (N=26) were suicides.

Figure 27. Drug overdose age-adjusted death rates in Montana and US, 2007-2020¹⁸



Opioids were the most commonly reported substance associated with a fatal drug overdose, with 53% of drug overdose deaths involving opioids (N=85). Among these, there were 29 deaths mentioning heroin, and 30 deaths mentioning synthetic opioids including fentanyl (N=26) (Figure 28). Psychostimulants were mentioned in 43% of the drug overdose deaths in 2020.

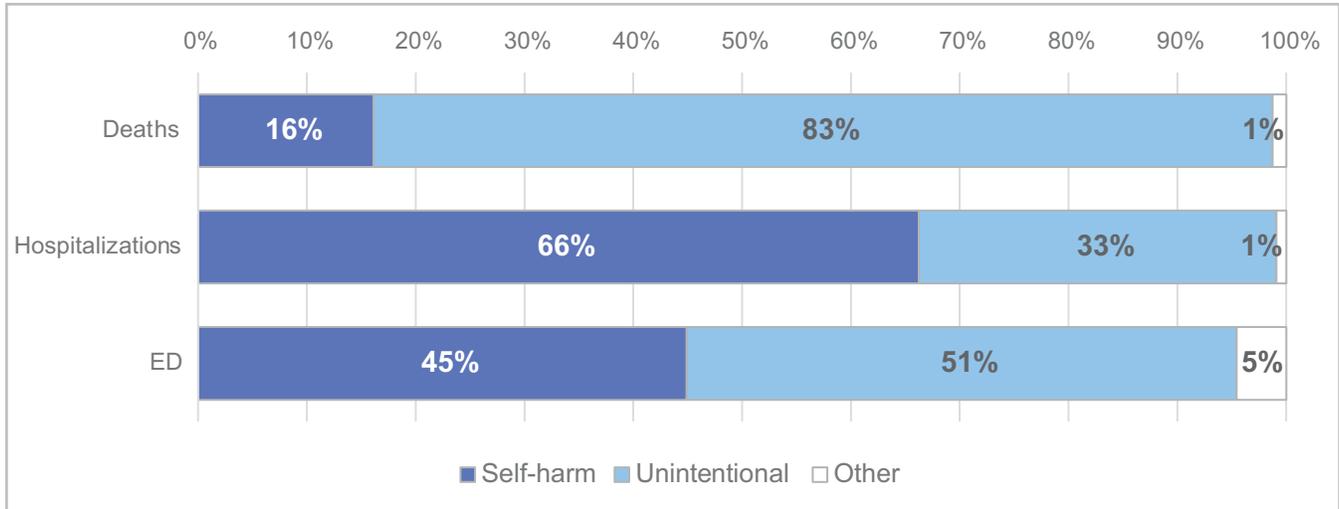
Figure 28. Number of drug overdose deaths by substance, Montana, 2020



* These categories are not mutually exclusive; more than one substance can be implicated in a death.

In 2020, there were 1,120 nonfatal hospitalizations and 1,782 nonfatal ED visits associated with a drug overdose. Unlike drug overdose fatalities, most hospitalizations (66%) were due to an intentional self-harm overdose. 45% of ED visits were self-harm and 51% were unintentional (Figure 29).

Figure 29. Fatal and nonfatal drug overdoses by intent, Montana, 2020



While males were more likely to die of a drug overdose than females, females were more likely to be hospitalized or visit the ED due to a drug overdose. AI/AN people experienced higher rates of both fatal and nonfatal overdose (Table 10).

Table 10. Fatal and nonfatal drug overdoses, Montana, 2020

	Fatalities		Hospitalizations		Emergency Department Visits	
	N	Rate (95% CI)	N	Rate (95% CI)	N	Rate (95% CI)
All ¹	161	15.4 (13.0-17.9)	1,120	107.4 (100.9-113.9)	1,782	179.5 (171.0-188.0)
Sex¹						
Male	108	20.2 (16.3-24.2)	432	79.8 (72.1-87.6)	741	144.6 (134.0-155.2)
Female	53	10.5 (7.6-13.4)	688	136.5 (126.0-147.1)	1,041	216.2 (202.8-229.6)
Race¹						
White	132	13.8 (11.3-16.2)	627	67.4 (61.9-72.8)	1,009	113.4 (106.2-120.6)
Black	‡	¥	12	¥	10	¥
AI/AN	25	36.1 (21.5-50.7)	116	157.9 (127.5-188.2)	201	262.2 (224.4-299.9)
Asian	‡	¥	5	¥	6	¥
Urban-Rural¹						
Small Metro	68	18.2 (13.8-22.7)	489	131.8 (119.8-143.8)	632	178.5 (164.3-192.7)
Micropolitan	38	11.5 (7.8-15.3)	288	87.1 (76.8-97.4)	557	175.1 (160.3-190.0)
Non-core	55	16.4 (11.8-21.0)	343	103.0 (91.6-114.4)	593	187.2 (171.6-202.7)

¹Age-adjusted rate per 100,000 population

¥ Rates are suppressed for <20 events

‡ Counts are suppressed for < 5 events

Urban-Rural based on: NCHS Urban Rural 2013 Classification

Drug Overdose Key Points

- After over 10 years of declining drug overdose deaths, rates increased in 2019-2020
- Over 50% of fatal overdoses involved opioids
- Most deaths are polysubstance-related, where more than one drug is associated with the overdose
- AI/AN people experienced higher rates of both fatal and nonfatal overdose

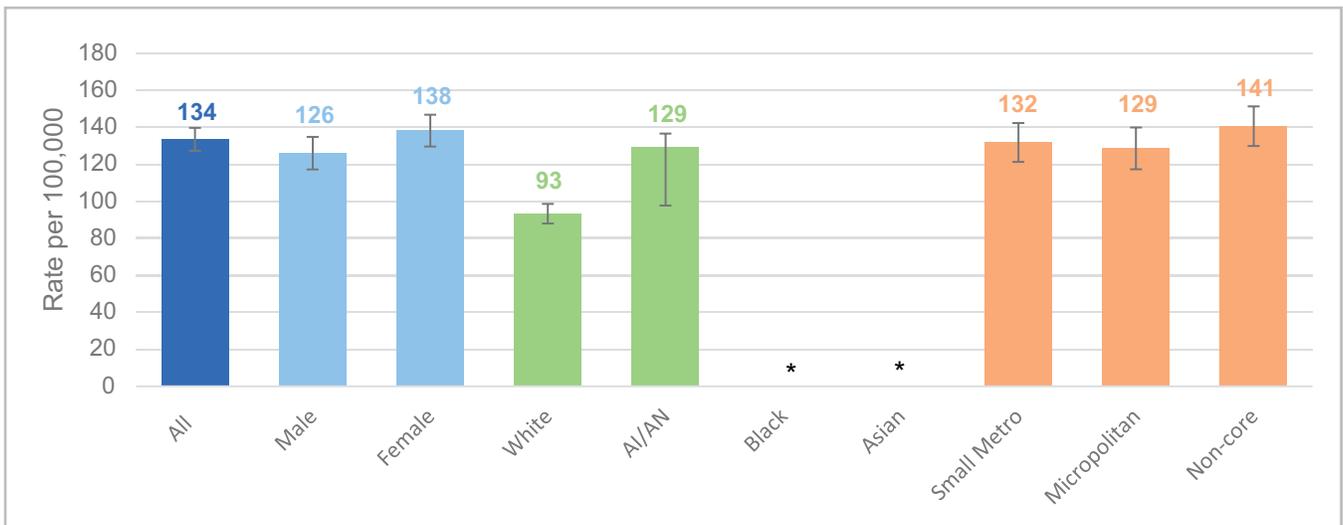


UNINTENTIONAL FALLS

A fall is an event that results in a person coming to rest inadvertently on the ground or floor or other lower level. A fall may be from a height or the result of slipping or tripping at ground level. While a fall can occur at any age, falls are much more dangerous among older age groups, particularly those age 85+. For detailed definitions, see [APPENDIX: Unintentional Falls](#).

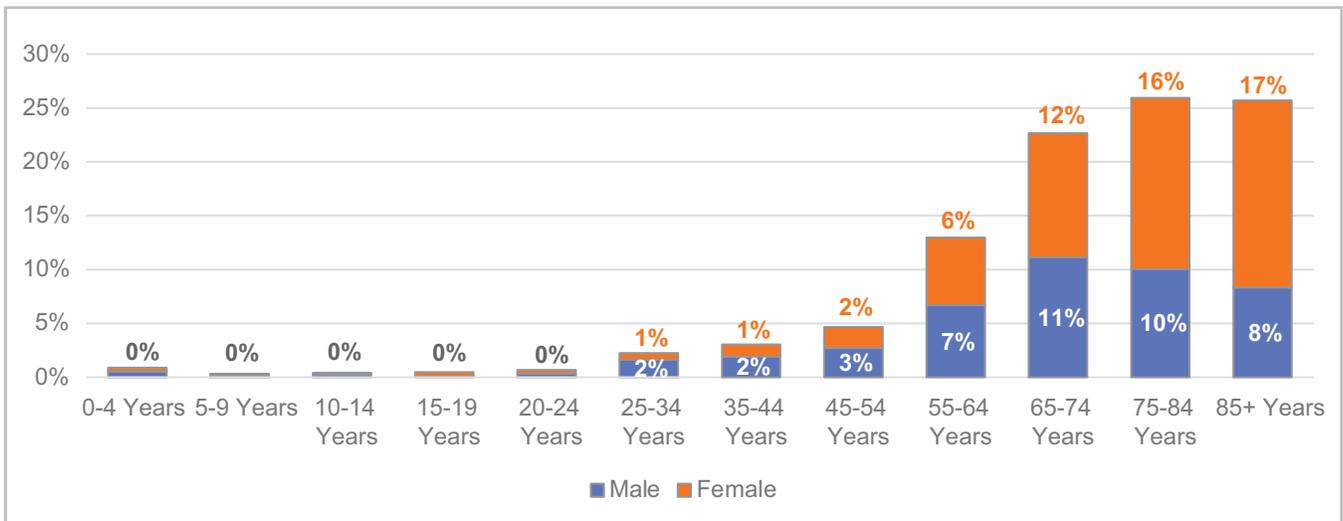
In 2020, there were 209 unintentional fall-related deaths with an age-adjusted rate of 14.6 per 100,000 residents (Table 11). 72% of those who died from unintentional falls were aged 75 or older (Figure 31). There were 1,911 nonfatal hospitalizations due to unintentional falls (age-adjusted rate 133.5 per 100,000) and 18,281 nonfatal ED visits (age-adjusted rate 1,596.8 per 100,000) (Figure 30, Figure 32).

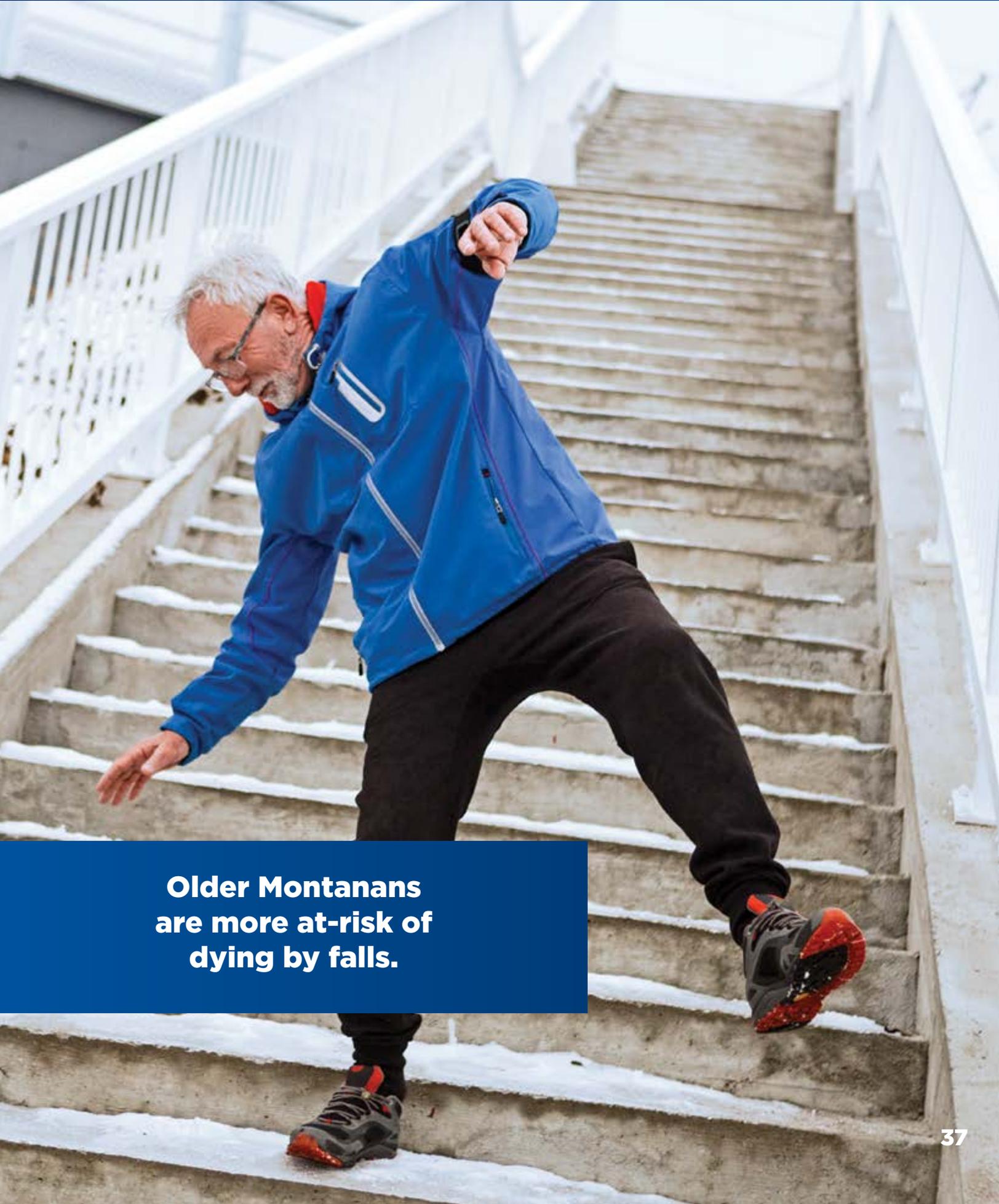
Figure 30. Unintentional fall age-adjusted nonfatal hospitalization rates by selected demographics, Montana, 2020



*Data suppressed due to low numbers

Figure 31. Age and sex distribution of nonfatal unintentional fall hospitalizations, Montana, 2020

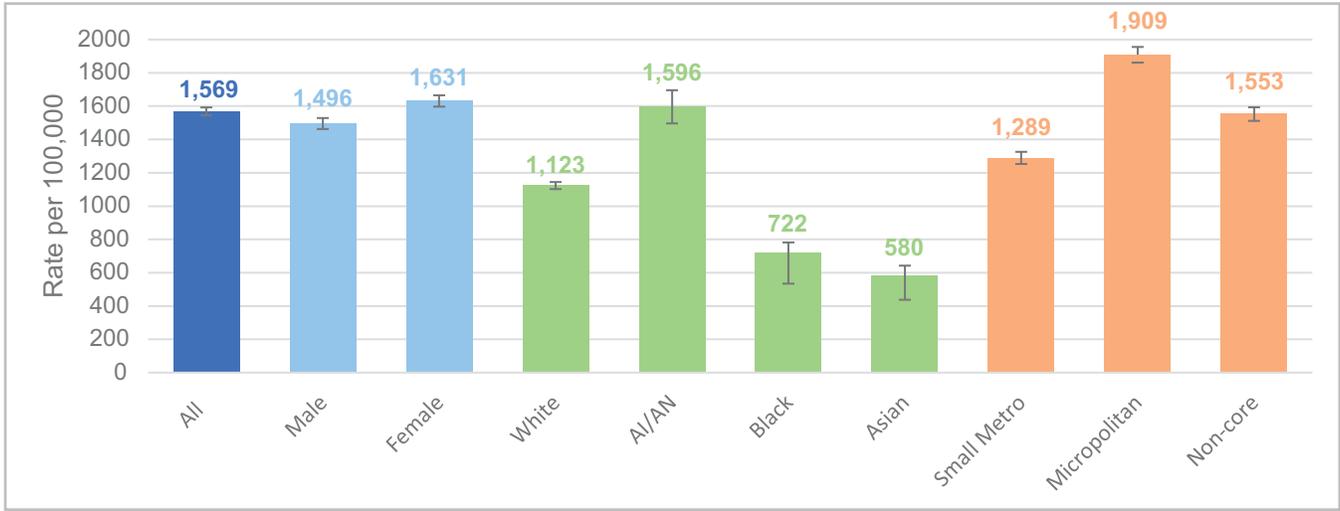




**Older Montanans
are more at-risk of
dying by falls.**

Sex differences are most pronounced in the older age groups when looking at hospitalizations due to falls. 45% of fall-related hospitalizations occurred among women aged 65+.

Figure 32. Unintentional Fall age-adjusted nonfatal ED visit rate by selected demographics, Montana, 2020



Unintentional Fall Key Points

- Older Montanans are more at-risk of dying by falls, with 72% of deaths in 2020 occurring among those age 75 or older
- Women are more likely than men to visit the ED or be hospitalized for a fall, especially among older age groups

Table 11. Nonfatal Unintentional Fall Injury, Montana, 2020

	Hospitalizations		Emergency Department Visits	
	N	Rate (95% CI)	N	Rate (95% CI)
All ¹	1,911	133.5 (127.3-139.7)	18,281	1,568.8 (1,545.0-1,592.5)
Sex¹				
Male	838	126.0 (117.2-134.9)	8,436	1,495.8 (1,462.8-1,528.9)
Female	1,073	138.2 (129.6-146.8)	9,845	1,631.3 (1,597.2-1,665.4)
Race¹				
White	1,279	93.3 (88.0-98.6)	12,006	1,123.4 (1,102.2-1,144.7)
Black	‡	¥	74	721.9 (534.3-909.4)
AI/AN	73	129.2 (97.7-160.7)	1,107	1,596.1 (1,496.4-1,695.8)
Asian	‡	¥	68	579.8 (437.5-722.1)
Urban-Rural¹				
Small Metro	637	131.8 (121.3-142.3)	5,148	1,289.4 (1,252.9-1,325.8)
Metropolitan	521	128.6 (117.3-140.0)	6,739	1,908.6 (1,861.5-1,955.7)
Non-core	753	140.6 (129.9-151.2)	6,394	1,552.6 (1,511.6-1,593.5)

¹Age-adjusted rate per 100,000 population

¥ Rates are suppressed for <20 events

‡ Counts are suppressed for < 5 events

Urban-Rural based on: NCHS Urban Rural 2013 Classification



APPENDIX: Definitions

For further information on these definitions please visit:

- CDC’s Instructions for Preparing 2019 Data for fatal injuries
- The CSTE Injury Surveillance Toolkit for nonfatal injuries.

All Injury

The following ICD codes were used to pull data for all injuries

Fatalities

ICD-10 Codes	Description
V01-Y36, Y85-Y87, Y89, U01-U03	Injury and poisoning

Hospital and Emergency Department Discharge

Injury diagnosis codes (S & T codes) included for injury surveillance:

ICD-10-CM Codes*	Description
S00-S99	Anatomic injuries
T07-T34	Foreign bodies, burns, corrosions, frostbite
T36-T50 with an intent character of 1, 2, 3, or 4 <i>Note: Intent information is captured in the 5th character of the following codes: T36.9, T37.9, T39.9, T41.4, T42.7, T43.9, T45.9, T47.9, and T49.9. Intent is captured in 6th character of all other T36-T50 codes.</i>	Poisoning by drugs, medicaments, and biological substances (Includes unintentional, intentional, self-harm, assault, and undetermined intents; Excludes adverse effects and underdosing)
T51-T65	Toxic effects of substances nonmedicinal as to source
T66-T76	Other and unspecified effects of external causes
T79	Certain early complications of trauma, not elsewhere classified
O9A.2-O9A.5	Traumatic injuries and abuse complicating pregnancy, childbirth, and the puerperium
T84.04**, M97**	Periprosthetic fracture around internal prosthetic joint

*7th character of A, B, C, or missing (reflects initial encounter, active treatment). Exceptions: T30-T32 have 4-5 characters, only O9A2-O9A5 have 5-6 characters only

** T84.04 was retired and replaced by M97 in the FY2017 version of ICD-10-CM which went into effect on Oct 1, 2016.

External cause of injury codes (V, W, X, Y codes) included for injury surveillance

ICD-10-CM Codes*	Description
V00-V99	Transport accidents
W00-X58	Other external causes of accidental injury
X71-X83	Intentional self-harm
X92-Y09	Assault
Y21-Y33	Event of undetermined intent
Y35-Y38	Legal intervention, operations of war, military operations, and terrorism

*7th character of A or missing (reflects initial encounter, active treatment).

Suicides and Intentional Self-Harm Injury

The following ICD codes were used to pull data on suicides and unintentional injuries

Fatalities

ICD-10 Codes	Description
X60- X84	Intentional self-harm
Y87.0	Sequelae of intentional self-harm
U03	Terrorism-intentional self-harm

Hospital and Emergency Department Discharge

ICD-10-CM Codes*	Description
T36-T50 with an intent character of 2 <i>Note: Intent information is captured in the 5th character of the following codes: T36.9, T37.9, T39.9, T41.4, T42.7, T43.9, T45.9, T47.9, and T49.9. Intent is captured in 6th character of all other T36-T50 codes.</i>	Self-harm by poisoning with drugs, medications and biological substances
T51-T65 with an intent character of 2 <i>Note: Intent information is captured in the 5th character of the following codes: T51.9, T52.9, T53.9, T54.9, T56.9, T57.9, T58.0, T58.1, T58.9, T59.9, T60.9, T61.0, T61.1, T61.9, T62.9, T63.9, T64.0, T64.8, and T65.9. Intent is captured in 6th character of all other T51-T65 codes.</i>	Self-harm by toxic effects of non-medicinal substances
X71- X83	Self-harm
T71 with 6 th character of 2	Self-harm by asphyxiation, suffocation, hanging
T14.91	Suicide attempt

*7th character of A or missing (reflects initial encounter, active treatment).

Traumatic Brain Injury

The following ICD codes were used to pull data on traumatic brain injury (TBI)-related injuries

Fatalities

ICD-10 Codes*	Description
S01.0-S01.9	Open wound of the head
S02.0, S02.1, S02.3, S02.7-S02.9	Fracture of skull and facial bones
S04.0	Injury of optic nerve and pathways
S06.0-S06.9	Intracranial injury
S07.0, S07.1, S07.8, S07.9	Crushing injury of head
S09.7-S09.9	Other and unspecified injuries of head
T90.1, T90.2, T90.4, T90.5, T90.8, T90.9	Sequelae of injuries of head

Hospital and Emergency Department Discharge

Note: These codes do NOT include "Unspecified injury of head" (S09.90). A study by Bazarian et al found that 75.3% of emergency department records coded with unspecified head injury in ICD-9-CM (959.01) did not meet the clinical criteria for TBI.

ICD-10-CM Codes*	Description
S02.0, S02.1	Fracture of skull
S02.8X**, S02.80, S02.81, S02.82	Fracture of other specified skull and facial bones
S02.91	Unspecified skull fracture
S04.02, S04.03, S04.04	Injury of optic chiasm; injury of optic tract and pathways; injuries of visual cortex
S06	Intracranial injury
S07.1	Crushing injury of skull
T744	Shaken infant syndrome

*7th character of A, B, or missing (reflects initial encounter, active treatment).

**In the FY2017 ICD-10-CM code set, which went into effect on Oct 1, 2016, the S02.8 code was expanded to include several subcodes (S02.80, S02.81, and S02.82) and the parent code S02.8X was retired. These subcodes should be included in the selection criteria for the indicator if using data for hospital discharges after Oct 1, 2016. In FY2020, the S02.8 code was expanded again to include S02.83-, S02.84- and S02.85. These subcodes are not included in the selection criteria for the indicator as they represent fractures to the medial and lateral orbital wall, or unspecified fractures of the orbit and are not considered to be TBI.

Firearm Suicide

The following ICD codes were used to pull data on firearm-related injuries

Fatalities

ICD-10 Codes	Description
X72-X74	Intentional self-harm by firearm discharge

Unintentional Motor Vehicle - Traffic

The following ICD codes were used to pull data on unintentional MV-T-related injuries

NOTE: A “traffic” crash is any vehicle crash occurring on a public highway or street, whereas a “non-traffic” crash occurs entirely in any place other than a public highway or street. Vehicle collisions are assumed to have occurred on a public road unless another place is specified, except for incidents involving only off-road motor vehicles, which are classified as “non-traffic” unless the contrary is stated.

Fatalities

ICD-10 Codes	Description
V02-V04 (.1, .9), V09.2	Pedestrian injured in transport accident
V12-V14 (.3-.9), V19.4-V19.6	Pedal cyclist injured in transport accident
V20-V28 (.3-.9), V29.4-V29.9	Motorcycle rider injured in transport accident
V30-V39 (.4-.9)	Occupant of three-wheeled motor vehicle injured in transport accident
V40-V49 (.4-.9)	Car occupant injured in transport accident
V50-V59 (.4-.9)	Occupant of pick-up truck or van injured in transport accident
V60-V69 (.4-.9)	Occupant of heavy transport vehicle injured in transport accident
V70-V79 (.4-.9)	Bus occupant injured in transport accident
V80.3-V80.5, V81.1, V82.1, V83-V86 (.0-.3), V87.0-V87.8, V89.2	Other land transport accidents

Hospital and Emergency Department Discharge

ICD-10-CM Codes*	Description
V02-V04 (.1, .9), V09.2, V09.3	MVT- Pedestrian
V12-V14 (.3-.9), V19.4-V19.6, V19.9	MVT- Pedal Cycle
V20-V28 (.3-.9), V29.4-V29.9	MVT- Motorcycle
V30-V79 (.4-.9), V83-V86 (.0-.3), V87.0-V87.8, V89.2	MVT- Occupant
V80.3-V80.5, V81.1, V82.1	MVT-Other

*7th character of A or missing (reflects initial encounter, active treatment).

Drug Overdose

The following ICD codes were used to pull data on drug overdoses

Fatalities

ICD-10 Codes	Description
X40-X44	Accidental drug poisoning
X60-X64	Drug poisoning – suicide
X85	Drug poisoning – homicide
Y10-Y14	Drug poisoning of undetermined intent

Hospital and Emergency Department Discharge

ICD-10-CM Codes*	Description
T36-T50 with an intent character of 1, 2, 3, or 4 <i>Note: Intent information is captured in the 5th character of the following codes: T36.9, T37.9, T39.9, T41.4, T42.7, T43.9, T459, T47.9, and T49.9. Intent is captured in 6th character of all other T36-T50 codes.</i>	Poisoning by drugs, medicaments, and biological substances (Includes unintentional, intentional self-harm, assault, and undetermined intents; Excludes adverse effects and underdosing)

Unintentional Falls

The following ICD codes were used to pull data on unintentional falls

Fatalities

ICD-10 Codes	Description
W00-W19	Falls

Hospital and Emergency Department Discharge

ICD-10-CM Codes*	Description
V00.1-V00.8 with 6 th character of 1	Falls related to pedestrian conveyance
W00-W15, W17, W19	Falls
W16.0-W16.3, W16.5-W16.8 with 6 th character of 2	Fall, jump, or diving into water causing other injury
W16.4 and W16.9 with 5 th character of 2	
W18.1, W18.2, W18.3	Other falls

*7th character of A or missing (reflects initial encounter, active treatment).



Each year, around 900 Montanans die from injuries, a loss that affects the individuals, their family and friends, their community, and society.

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