

# Preventable Deaths in Montana: Unintentional Injury Deaths by County

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## Background

Unintentional injury is categorized as an injury that was not caused on purpose with no intent to harm. Injuries can be caused by environmental exposure, objects (e.g. car, knife, etc.), animals, electricity, chemicals, or lack of air. While sometimes referred to as ‘accidents,’ that term is not appropriate because injuries are often predictable (not random) and therefore preventable. Unintentional injury is the leading cause of death among people aged 1-44 years and the rate has been steadily increasing in Montana since 1994.<sup>1</sup> The majority of unintentional injury deaths in Montana are related to motor vehicle crashes, falls, and poisonings.<sup>1</sup> The Montana Injury Prevention Program (MIPP) has chosen to focus on these priority areas. This report describes the rate of premature death due to unintentional injury at the county level. Comparing these rates across the state allows communities to identify potentially preventable deaths in their area and take steps to reduce the burden of unintentional injury for their population.

## Methods

Ten years of Montana death certificate data (from 2003 to 2012) were compiled to obtain sufficient data for county-specific unintentional injury death rates. Very rural counties were grouped with neighboring counties to ensure there were sufficient data in each area to produce stable rates (>20 events). County groupings were kept as small as possible. Only deaths of Montana residents under the age of 80 years were included in this analysis. Deaths before the age of 80 years were considered premature to be consistent with the average life expectancy for the total US population.<sup>2</sup> Deaths with an underlying cause of death coded as ICD-10 codes V01 to X59 and Y85 to Y86 were considered due to unintentional injury.<sup>3</sup> All rates were age-adjusted to the 2000 US standard population.<sup>4</sup> A benchmark was set by taking the average of the three lowest rates among counties and county groupings. This benchmark can serve as an attainable goal for other counties in Montana.

## Results

On average, 429 Montanans under the age of 80 die of unintentional injury each year (age-adjusted rate of 41.3 [40.0 – 42.6] per 100,000 people). The three lowest rates of unintentional injury deaths in Montana were in Lewis & Clark, Gallatin, and Yellowstone counties (Table 1). This set the benchmark for unintentional injury death rate at 31.2 deaths per 100,000 people. Nine counties had rates that were similar to the state rate (shaded in light gray). Twenty-five counties or county groupings had rates significantly higher than the state (shaded in dark gray). Four of these counties (Big Horn, Glacier, Roosevelt, and Mineral) and one county grouping (Garfield, Rosebud, and Treasure) had rates that were twice the state rate or more (shaded in black).

Table 1. Age-adjusted unintentional injury death rate per 100,000 people among Montanans aged 0 to 79 years, 2003-2012

County or County Grouping	Rate per 100,000 people	95% Confidence Interval
Big Horn	110.7	92.0 - 132.6
Glacier	106.1	88.1 - 127.0
Roosevelt	96.7	77.7 - 119.6
Mineral	92.4	61.9 - 134.2
Garfield, Rosebud, and Treasure	82.0	64.5 - 103.1
Deer Lodge	76.5	58.8 - 98.5
Lake	76.5	65.8 - 88.5
Sanders	72.8	56.2 - 93.5
Blaine and Phillips	70.3	53.9 - 90.8
Carbon	68.4	51.1 - 90.4
Lincoln	66.4	54.0 - 81.1
Custer, Powder River, Carter, and Fallon	65.6	53.4 - 80.1
Madison	65.0	46.5 - 89.2
Richland	62.8	47.3 - 82.2
Hill	61.5	49.5 - 75.9
Park	59.1	46.7 - 74.3
Pondera and Teton	59.1	45.0 - 76.6
Valley and McCone	57.1	40.8 - 78.6
Meagher, Jefferson, and Broadwater	56.3	44.2 - 71.0
Stillwater and Sweet Grass	55.0	41.4 - 72.4
Daniels and Sheridan	51.6	32.1 - 80.4
Central MT Health District	50.5	40.5 - 62.4
Flathead	48.2	43.4 - 53.3
Beaverhead	47.1	33.5 - 65.3
Silver Bow	46.5	39.4 - 54.7
Dawson, Prairie, and Wibaux	45.7	33.3 - 61.9
Ravalli	44.7	38.0 - 52.4
Granite and Powell	43.0	30.7 - 59.6
Chouteau	42.7	25.6 - 68.2
Cascade	38.9	34.6 - 43.7
Missoula	37.2	33.5 - 41.3
Toole and Liberty	35.6	23.0 - 53.3
Lewis & Clark	34.6	29.9 - 39.8
Gallatin	30.4	26.7 - 34.7
Yellowstone	28.7	25.9 - 31.7

## Steps for Prevention

### Seatbelt Use

The MIPP works collaboratively with several groups whose mission is to increase seat belt use in Montana. The groups that MIPP partners with include Buckle Up Montana, Children's Safety Network, National Highway Traffic Safety Administration, and Traffic Education-Office of Public Instruction. These groups conduct a variety of activities including increasing local awareness of seat belt use by making information available for interested parties wishing to talk about seat belt use in their community and engaging youth in seat belt awareness. For more information regarding seatbelt awareness including statistics, how this is impacting our community, and how to get involved please visit:

<http://dphhs.mt.gov/publichealth/EMSTS/prevention/seatbelt>.

### Fall Prevention

There are 29 sites in Montana that offer the fall prevention intervention called Stepping On.<sup>5</sup> The program is an evidence based intervention shown to prevent falls among seniors by teaching about strength and balance exercises, home hazard reviews, and encouraging participants to have conversations with their health care providers on vision, nutrition, medications, and assistive devices.

### Poison Control

The MIPP supports the Rocky Mountain Poison Center in providing hotline services to Montana residents on potential poisonings and medication identification. (The poison helpline can be contacted 24 hours a day, 7 days a week at 1-800-222-1222.) The MIPP also works with the Department of Justice's 'Medication Take Back Program,' which works with pharmacies across the state to accept back any unused and/or expired medication (prescription or over the counter) in order to prevent unintentional poisonings.

### What you can do in your community to prevent injury deaths

- Promote the use of seatbelts, helmets, personal flotation devices, and other safety equipment to help prevent injuries while engaging in activities like skiing, skateboarding, horse riding, boating, and operating motor vehicles like cars, motorcycles, and all-terrain vehicles (ATVs).
- Stress avoidance of alcohol while operating any form of transport, swimming, and boating.
- Do not text and drive.
- To prevent falls, eliminate hazards in the home, promote regular vision exams, review medications, and encourage regular exercise among seniors.
- Refer seniors to a fall prevention class, like Stepping On. To find out more about the program and to find a class in your community visit:  
<http://dphhs.mt.gov/publichealth/EMSTS/prevention/falls#173772332-stepping-on-fall-prevention-program>
- Learn about poison exposures in Montana and how to properly handle an emergency. The national poison control hotline can be reached 24/7 at 1-800-222-1222 and the following link will help answer any other questions:  
<http://dphhs.mt.gov/publichealth/EMSTS/prevention/poison>

- Discuss proper storage and elimination of medications with clients and patients. Promote the use of a medication drop box or “Take Back” event for unwanted medications.
- Ensure homes have functioning smoke and carbon monoxide detectors.
- Promote safe sleeping practices for infants and small children.

## Citations

- 1) Montana Injury Prevention Program. *Montana Injury Prevention Burden Report, 2010*. Retrieved from <http://dphhs.mt.gov/Portals/85/publichealth/documents/EMSTS/prevention/BurdenOfInjuryReport2010.pdf>
- 2) Murphy SL, Xu JQ, Kochanek KD. (2013). *Deaths: final data for 2010*. Natl Vital Stat Rep, 61(4).
- 3) World Health Organization. *International Statistical Classification of Diseases and Related Health Problems 10<sup>th</sup> Revision*. Retrieved from <http://apps.who.int/classifications/icd10/browse/2010/en>
- 4) Centers for Disease Control and Prevention.(2001, January) *Age Adjustment Using the 2000 Projected U.S. Population*. Statistical Notes, 20. Retrieved from <http://www.cdc.gov/nchs/data/statnt/statnt20.pdf>
- 5) Montana Injury Prevention Program. *Successfully Preventing Falls*. Retrieved from <http://www.dphhs.mt.gov/Portals/85/publichealth/documents/EMSTS/prevention/SuccessfullyPreventingFalls.pdf>