

Central Zone Youth & Young Adult Injuries

INJURY PREVENTION CENTRE

October 2023

CENTRAL ZONE YOUTH AND YOUNG ADULT INJURIES

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Author

Colleen Drul,
Injury Data Analyst

Editing

Patti Stark
Dr. Kathy Belton
Cheyanne Welch
George Frost

Design / Layout

George Frost

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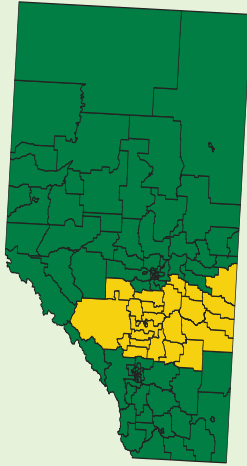
Injury Prevention Centre, School of Public Health
4-248 ECHA, University of Alberta
11405 87 Avenue NW
Edmonton AB T6G 1C9

Email: ipc@ualberta.ca
Phone: 780.492.6019
Web: www.injurypreventioncentre.ca

SUGGESTED CITATION

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CENTRAL ZONE



INTRODUCTION

SELECTION OF CAUSES

Injury is defined as the physical damage inflicted upon a body as a result of energy transfer including: mechanical energy (e.g. a motor vehicle crash), thermal energy (e.g. a burn from a flame), electrical energy (e.g. a shock) or chemical energy (e.g. poisoning) or from the absence of essentials such as heat (e.g. frost bite or hypothermia) or oxygen (e.g. suffocation). Injury can be further categorized as unintentional (unexpected), such as falling or drowning, or intentional (having an intent to harm oneself or others), such as suicide or violence.

The report includes the most significant causes of injuries with actionable injury prevention strategies based on injury-related deaths, hospital admissions and emergency department visits of Central Zone youth and young adult, 10-24 years of age.

DEFINITIONS FOR PREVENTABLE LEADING CAUSES

Motor Vehicle Collisions – traffic, nontraffic, and boarding incidents on/involving pedestrians, motorcycles, cars / pickup trucks / vans, heavy transport vehicles, buses, other land transport vehicles. Excludes: off-road vehicles which are reported separately.

Other Road:

- pedestrians injured in collision with pedal cycle, other nonmotor vehicle (animal-drawn vehicle, animal being ridden, streetcar)
- pedal cycle injured in collision with pedestrian or animal, other pedal cycle, other nonmotor vehicle, fixed or stationary object, falling / thrown from pedal cycle (without collision), overturning, not otherwise specified, other and unspecified transport accidents.
- Animal-rider or occupant of animal-drawn vehicle in a collision with pedestrian or animal, pedal cycle, 2 or 3 wheeled vehicle, car / pickup / van / heavy transport / bus, railway, collision with fixed / stationary object, collision with other unspecified nonmotor vehicle.
- Occupant of street car
- Other: person injured in other specified / unspecified (collision)(non-collision) transport accident involving nonmotor vehicle.

Falls – ice and snow, slipping / tripping / stumbling, due to collision with, or pushing by another person, while being carried or supported by another person, falls involving wheelchairs and other type of walking devices, from furniture, playground equipment including trampolines, stairs / steps, ladders / scaffolding, out of / from buildings or structures, falls from high place, falls from one level to another, falls on same level, unspecified falls.

Sports-related – falling involving ice skates, roller skates / in-line skates, skateboard, skis, snowboard, toboggan, other specified sports equipment, striking against or struck by sports equipment – ball, bat, hockey stick, hockey puck, other and unspecified sports equipment. Struck against or by objects or bumping into another person while skiing / snowboarding, tobogganing, playing hockey, football / rugby, soccer, baseball, other sports / recreation.

Suicide / self inflicted – purposely self-inflicted poisoning or injury.

Cutting / piercing – contact with sharp glass, sharp objects, knives, sword / dagger, edge of stiff paper, tin can lid, axe, can opener, chisel, fork, handsaw, hoe, ice-pick, needle, paper-cutter, pitchfork, rake, scissors, screwdriver, sewing-machine, shovel, powered lawn mower, power hand tools and household machinery, contact with plant thorns and spines and sharp leaves, foreign body or object entering through skin, body

Suffocation / choking / foreign body – accidental suffocation and strangulation in bed due to bed linen, mother's body, pillow, accidental hanging / strangulation, threats to breathing due to cave-in, falling earth, inhalation of gastric contents, inhalation and ingestion of food / foreign object causing obstruction of respiratory tract, confined or trapped in a low-oxygen environment, suffocation by plastic bag, asphyxiation / suffocation not otherwise specified. Foreign body entering into or through eye or natural orifice.

Overexertion – overexertion and strenuous or repetitive movements including lifting heavy object, weights, marathon running, rowing.

Struck by / against object / person – struck by thrown, projected or falling objects, striking against or by other objects / person in non-sports, and unspecified. Hit, struck, kicked, twisted, bitten or scratched by another person. Crushed, pushed or stepped on by crowd or human stampede. Caught, crushed, jammed or pinched in or between objects.

Violence – injuries inflicted by another with the intent to injure or kill, by any means. Including use of firearms, fight / brawl, sexual assault, cutting / piercing (stabbing), maltreatment / neglect / abandonment, drugs / liquid, being struck with a blunt object, and other / unspecified.

Maltreatment includes: mental cruelty, physical abuse, sexual abuse, torture by spouse / partner, parent, acquaintance / friend, official authorities, specified and unspecified person.

Neglect / Abandonment includes: neglect and abandonment by spouse / partner, parent, acquaintance / friend, specified and unspecified person.

Liquid / drugs includes: assault by drugs, medicament, biological substances, corrosive substance, pesticides, carbon monoxide and other gases and vapours, specified / unspecified chemicals and noxious substances .

Other violence includes: drowning / submersion, assault by hanging / strangulation / suffocation, explosive material, smoke / fire / flames, steam / hot vapours / hot objects, pushing from high place, pushing / placing victim before moving object, crashing a motor vehicle, assault by other / unspecified means.

Off-road vehicles – all motor vehicles designed primarily for off-road use. This includes, ATVs, quads, side-by-sides, utility vehicles, dirt bikes, and snowmobiles.

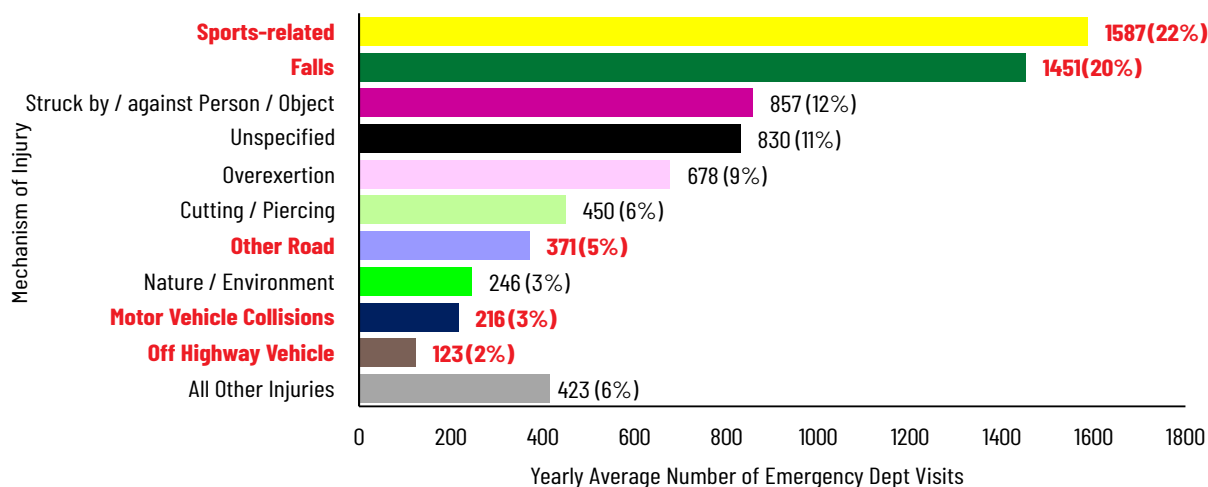
Unintentional / undetermined poisoning – a poisoning may occur when a substance (drug, medication or biological agent) is taken incorrectly. This includes wrong drug given / taken, wrong dosage, self-prescribed drug take in combination with a prescribed drug, any drug taken in combination with alcohol. According to coding standards, classify all poisonings as accidental unless there is clear documentation of intentional self-harm or undetermined intent.

Fire / flames – exposure to uncontrolled fire in building / structure / forest fire, fireplace/stove, campfire, contact with hot fluids, vapours / gases, household appliances, radiators / pipes, machinery / tools / metals and objects that are not normally hot (e.g. an object made hot by a house fire).

Nature / Environment – bites / sting of insects, venomous plants / animals, dog bites, lack of food / water, excessive heat, excessive cold, exposure to unspecified animated mechanical forces, exposure to man-made heat / cold, exposure to high / low air pressure and changes to air pressure, other unspecified man-made environmental factors, victim of lightning / earthquake / tsunami / volcano eruption, avalanche / landslide / other earth movements, cataclysmic snow / ice, hurricane / tropical storm, tornado, other and unspecified storm, victim of flood, travel and motion.

Youth 10–14 years, Central Zone, 1998–2020

Top 10 Mechanisms of Injury for Emergency Department Visits



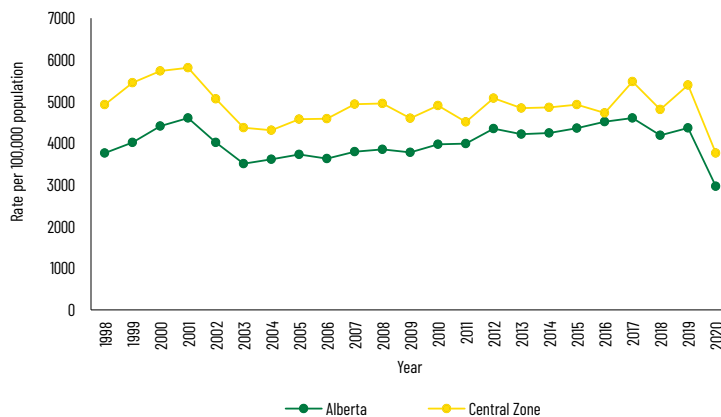
Not all of these mechanisms of injury have proven evidence-based injury prevention strategies. Mechanisms of injury emphasized in **bold red** font have effective evidence-based injury prevention strategies; these mechanisms will be further highlighted in the report.

Those mechanisms which do not have effective evidence-based interventions will not be included in the remainder of this report.

- Overall, injury-related emergency department visits (excluding adverse events medical complications) accounted for 166,340 visits. This equates to 7,282 injury-related visits each year.
- The top 10 mechanisms of injury accounted for 94% of all injury-related visits.
 - 1 in 4 (22%) of injury-related emergency department visits involved a sports-related injury, with an average of 1,587 visits each year.
 - Fall-related injuries accounted for 20% of injury-related visits, with 1,451 emergency department visits each year.
 - Injuries as a result of being struck by / against a person / object accounted for 12% of injury-related visits, with 857 visits each year.
 - Unspecified-related injuries (injuries in which there was inadequate documentation to further classify) accounted for 11% of injury visits, with 830 emergency department visits each year.
 - Overexertion-related injuries accounted for 9%, with an average of 678 emergency visits each year.
 - Cutting / piecing-related injuries accounted for 6% of injury-related visits, with 450 emergency department visits each year.
 - Other road-related injuries accounted for 5% of injury-related emergency department visits, with an average of 371 visits each year.
 - Nature / environmental related-injuries accounted for 3% of injury-related visits, with an average of 246 visits each year.
 - Motor vehicle collision-related injuries accounted for 3% of injury-related visits, with an average of 216 visits each year.
 - Off highway vehicle-related injuries accounted for 2% of injury-related visits, with an average of 123 visits each year.

Youth 10–14 years, Central Zone, 1998–2020

Injury-related Emergency Department Visit Rate Comparison



Injuries (excluding adverse events)

Over the 23-year period, Central Zone had overall injury rates higher than the provincial rates.

The Central Zone's overall injury rates experienced a statistically significant average decrease of 0.5% each year.

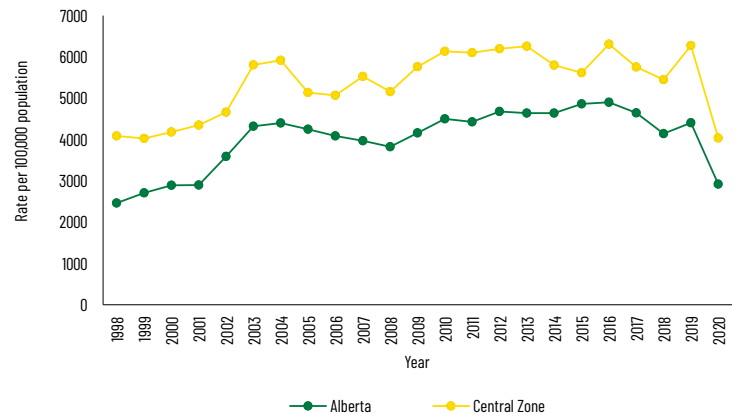
Alberta's overall injury rates stayed relative stable with a slight decrease of an average of 0.06% each year.

Sports-related Emergency Department Visit Rate Comparison

Over the 23-year time period, Central Zone had consistently higher sports-related injury emergency department visits than the provincial rates.

The Central Zone sports-related emergency department visit rate experienced a statistically significant average increase of 1.2% each year.

The rate for Alberta had a statistically significant increase of 1.5% each year.



Over the 23 year period:

- there were 36,502 sports-related emergency department visits of Central Zone's youth, 10 to 14 years of age. This equates to an average of 1,587 sports-related visits each year.
- 70% were male with an average of 1,113 sports-related injury emergency department visits each year. Females accounted for the remaining 30%, with an average of 474 sports-related emergency department visits each year.

Of the sports-related injury emergency department visits¹:

- 18% were hockey-related
- 11% were basketball-related
- 6% were football-related
- 6% soccer-related

¹ DIMR- Sport and Recreation Injury Code RMT# 20048 20180401- 20190331 Sept 2019

CENTRAL ZONE YOUTH AND YOUNG ADULT INJURIES

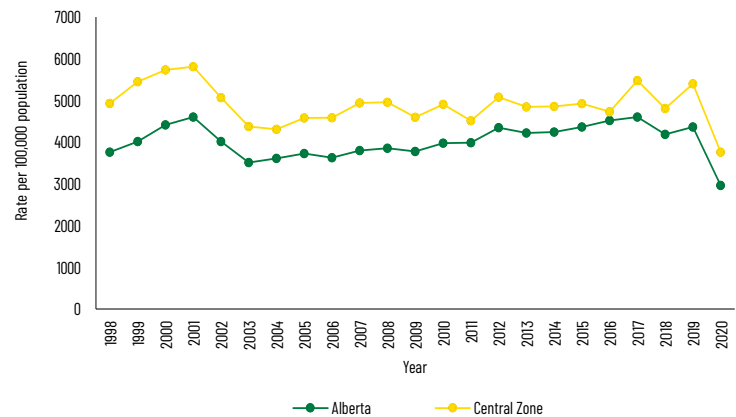
Youth 10–14 years, Central Zone, 1998–2020

Fall-related Emergency Department Visit Rate Comparison

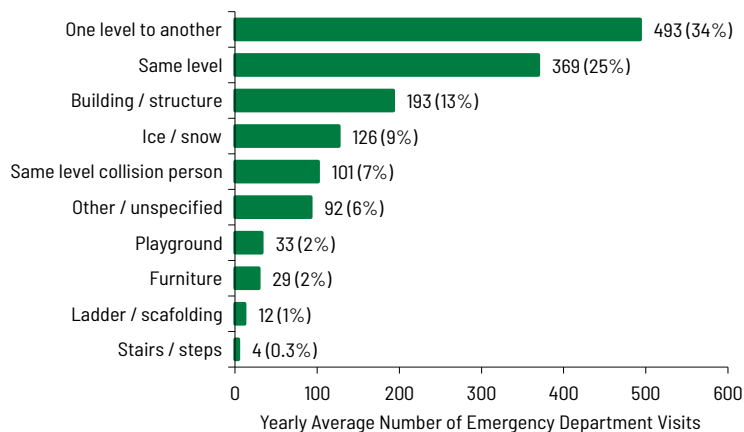
Over the 23-year period, Central Zone had fall-related injury visit rates higher than the provincial rates.

The Central Zone's fall-related emergency department visit rates decreased an annual average of 0.4% each year.

Alberta's fall-related emergency department visit rates increased an average of 0.2% each year



Fall-related Emergency Department Visit Rates by Mechanism



One in 3 fall-related emergency department visits was due to a fall from one level to another, accounting for 34% with an average of 493 visits each year.

Another 25% (369 visits each year) were due to a fall on the same level.

Falling from a building or structure accounted for another 13% with 193 visits each year.

Over the 23 year period:

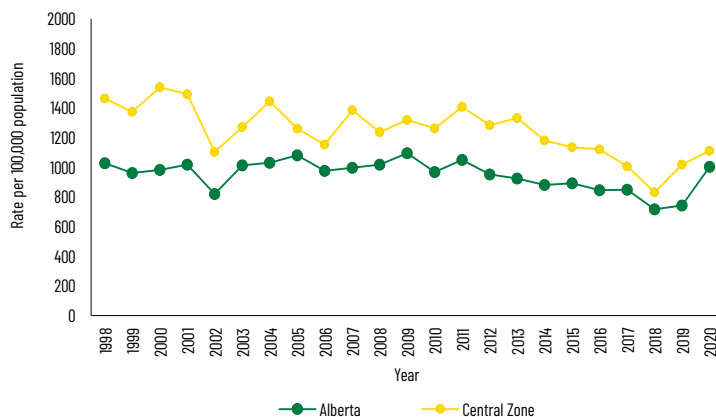
- there were 33,381 fall-related emergency department visits, with an average of 1,451 fall-related visits each year.
- 53% of the fall-related emergency department visits were males, with an average of 769 visits each year. Females accounted for 47%, with an average of 682 visits each year.

Youth 10–14 years, Central Zone, 1998–2020

Other Road Injuries Emergency Department Visit Rate Comparison

Other road mechanisms include:

- pedestrians injured in collision with pedal cycle, other nonmotor vehicle (animal-drawn vehicle, animal being ridden, streetcar)
- pedal cycle injured in collision with pedestrian or animal, other pedal cycle, other nonmotor vehicle, fixed or stationary object, falling / thrown from pedal cycle (without collision), overturning, not otherwise specified, other and unspecified transport accidents
- animal-rider or occupant of animal-drawn vehicle
- occupant of street car
- other: person injured in other specified / unspecified (collision)(noncollision) transport accident involving nonmotor vehicle.



The Central Zone's other road injury rates experienced a statistically significant average decrease of 1.5% each year.

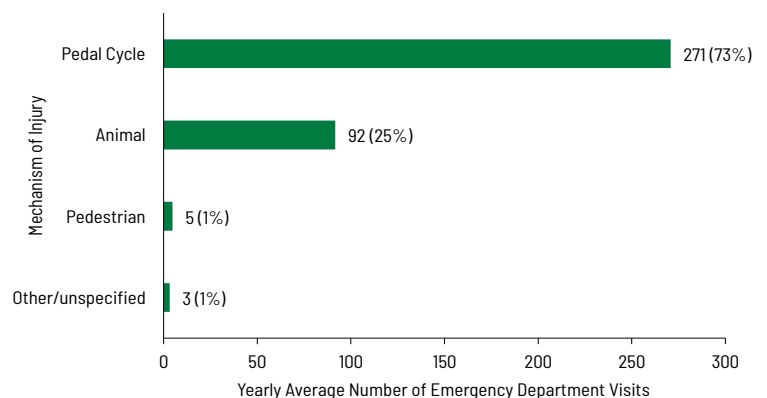
Alberta's other road-related injury rates had a statistically significant average decrease of 0.8% each year.

Other Road Injuries Emergency Department Visit Rates by Mechanism

Over the 23-year period, there were 8,522 other road-related injury emergency department visits of Central Zone's youth, 10 to 14 years of age. This equates to an average of 371 other road-related emergency department visits each year.

Almost 3 out of 4 (73%) other road injuries involved a pedal cycle (unicycle or bicycle), with an average of 271 emergency department visits each year.

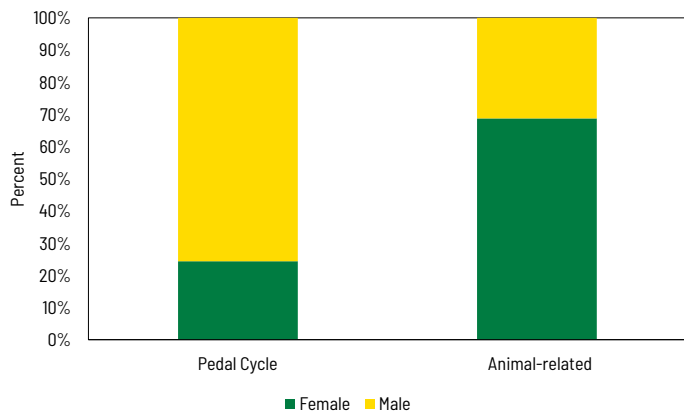
Another 25% of the emergency department visits (n=92) were as a result of an injury involving an animal. In most cases the activity was horseback riding.



CENTRAL ZONE YOUTH AND YOUNG ADULT INJURIES

Youth 10–14 years, Central Zone, 1998–2020

Other Road Injuries Emergency Department Visit Rates by Sex



Of the average 271 yearly pedal cycle-related injury emergency department visits, 76% were boys (205 visits each year) and the remaining 24% (66 visits each year) were girls.

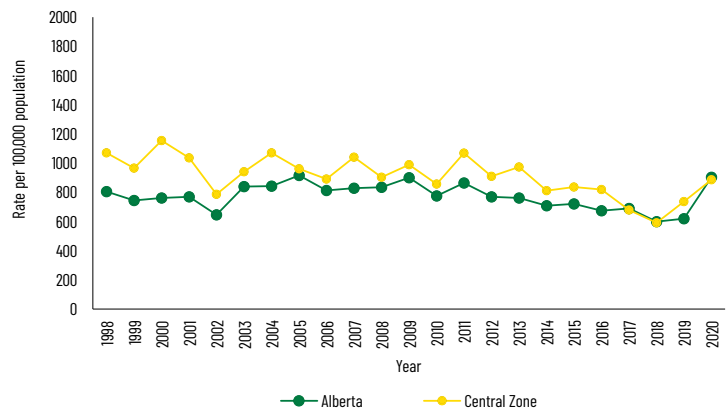
Of the average 92 yearly animal-related injury emergency department visits, 69% were girls, with an average of 63 visits each year. The remaining 31% were boys, with 29 animal-related injury emergency department visits each year.

Pedal Cycle-related Injuries Emergency Department Visit Rate Comparison

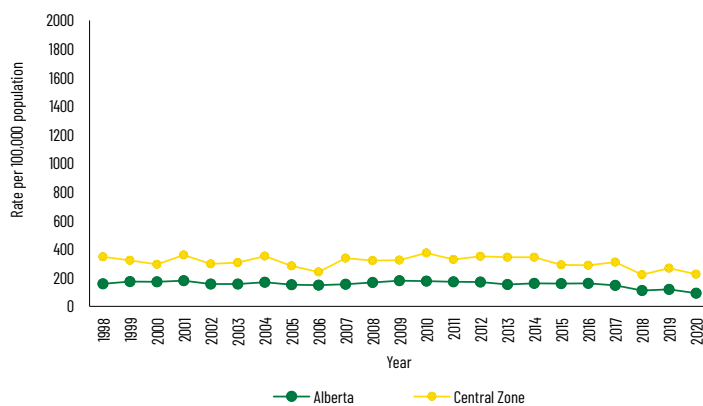
The Central Zone's pedal cycle-related injury rates were consistently higher than the Alberta rates. There were a couple of years in which the rates were similar.

The Central zone's pedal cycle-related injury rates experienced an average decrease of 0.5% each year.

Alberta's pedal cycle-related rates had a statistically significant average decrease of 1.5% each year.



Animal-related Injuries Emergency Department Visit Rate Comparison



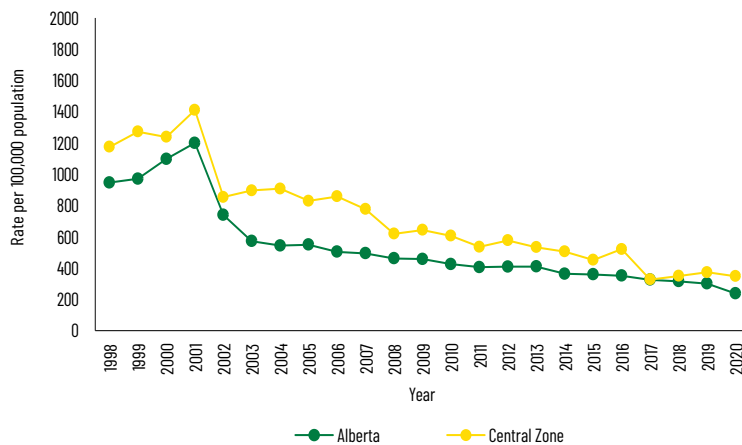
The Central Zone's animal-related rates were consistently higher than the Alberta rates.

The Central Zone's animal-related injury rates experienced an average increase of 0.8% each year.

Alberta's animal-related injury rates had a statistically significant average decrease of 0.8% each year.

Youth 10–14 years, Central Zone, 1998–2020

Motor Vehicle Collision-related Injuries Emergency Department Visit Rate Comparison



The Central Zone's motor vehicle collision injury rates experienced a statistically significant average annual decrease of 6.1% each year.

Alberta's motor vehicle collision rates had a statistically significant average decrease of 6.4% each year.

Over the 23-year period:

- there were 4,977 motor vehicle collision-related emergency department visits. This equates to an average of 216 motor vehicle collision-related emergency department visits each year.
- the majority, 61%, were males, with an average of 132 visits each year. Females accounted for the remaining 39%, with an average of 84 visits each year.

Youth 10–14 years, Central Zone, 1998–2020

Off-Highway Vehicle Collision-related Injuries Emergency Department Visit Rate Comparison

Off-Highway Vehicles include:

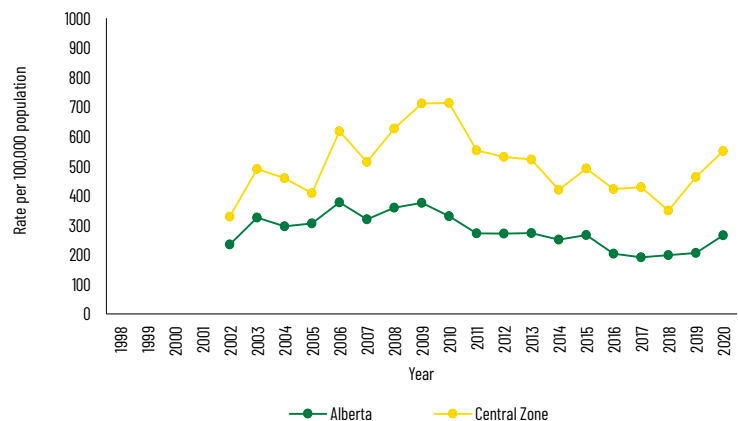
- drivers, passengers, bystander of all-terrain (a vehicle of special design to enable it to negotiate rough or soft terrain or snow), snowmobile or other off-road motor vehicles (including dirt bikes) injured in traffic or non-traffic

Due to changes in coding classification, data for off-highway vehicle collisions is available effective April 1, 2002.

Over the 19-year period, the Central Zone's off-highway vehicle collision rates were consistently higher than the provincial rates.

The Central Zone off-highway vehicle collision rates experienced an average annual decrease of 0.5% each year.

Alberta rates experienced a statistically significant decrease of 2.4% each year.

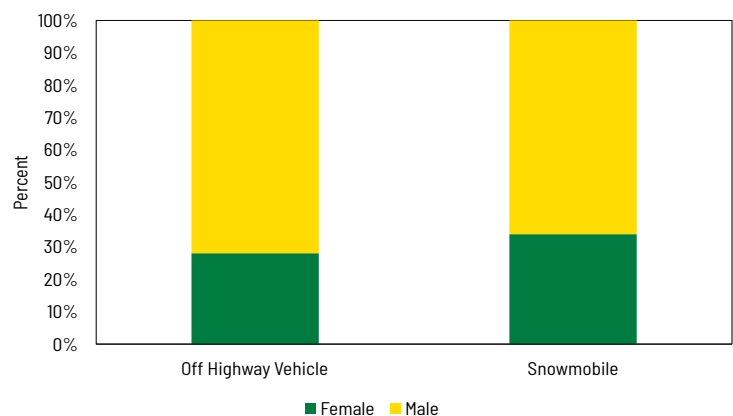


Off-Highway-related Injuries Emergency Department Visit Rates by Sex

Over the 23-year period, there were 2,820 off-highway-related emergency department visits of Central Zone's youth, 10 to 14 years of age. This equates to an average of 123 off-highway-vehicle collision-related emergency department visits each year.

Of the off-highway-related emergency department visits, 92% (2,596 visits, yearly average 113 visits) involved vehicles including 3 and 4 wheeled all-terrain vehicle, and dirt bikes. Of the off-highway-vehicle-related injury emergency department visits, 72% were males (average of 81 visits each year) and the remaining 28% (average of 32 visits each year) were female.

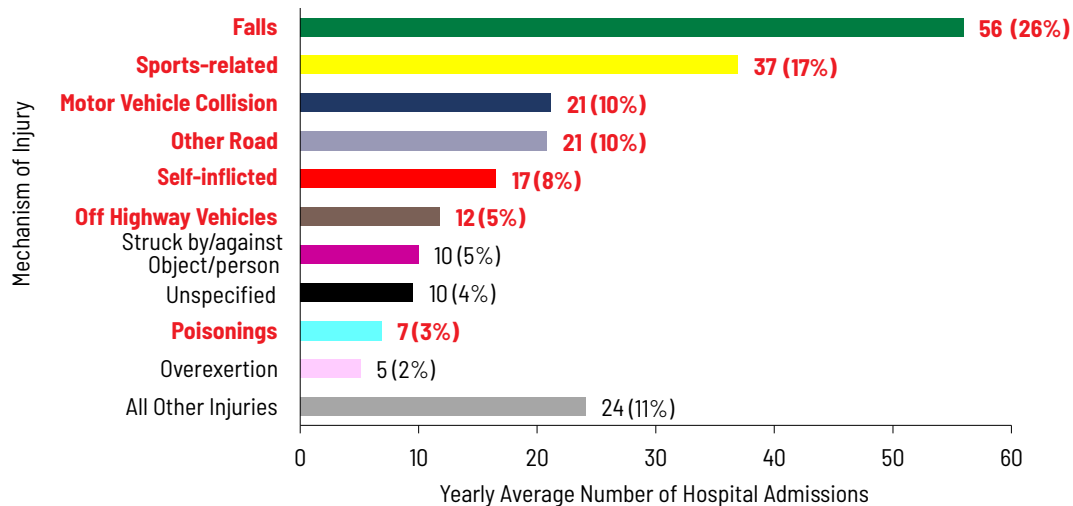
The remaining 8% of the off-highway-related emergency department visits involved snowmobiles with 148 visits over the 23-year period. This equates to an average of 9 yearly snowmobile-related injury emergency department visits each year. Of the snowmobile-related visits, 66% were boys with an



average of 6 snowmobile-related injury visits each year. The remaining 34% were girls with 3 snowmobile-related injury emergency department visits each year.

Youth 10–14 years, Central Zone, 1998–2020

Top 10 Mechanisms of Injury for Hospital Admissions



Not all of the leading mechanisms of injury have proven evidence-based injury prevention strategies. The mechanisms emphasized in **bold red** font have effective evidence-based injury prevention strategies; these mechanisms will be further highlighted in the report.

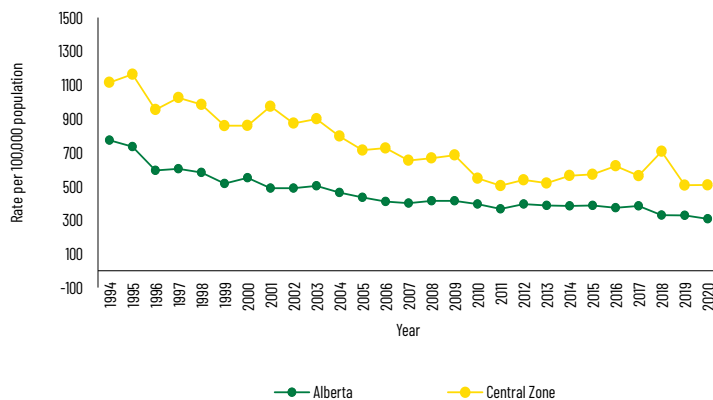
Those mechanisms, which do not have effective evidence-based interventions, will not be included in the remainder of this report.

- Overall, injuries (excluding adverse events medical complications) accounted for 5,903 hospital admissions. This equals 219 admissions each year.
- Top 10 mechanisms of injury accounted for 89% of all injury-related admission with 5,253 admissions. This equates to 195 admission each year.

When analyzing the top 10 mechanisms of injury for emergency department visits, there are 2 mechanisms of injury which appear on the top 10 hospital admissions but not the top 10 emergency department visits: suicide / self-inflicted injury and poisonings (unintentional and undetermined). These two mechanisms are reported in more detail.

Youth 10–14 years, Central Zone, 1994–2020

Hospital Admission Rate Comparison by Mechanisms of Injury

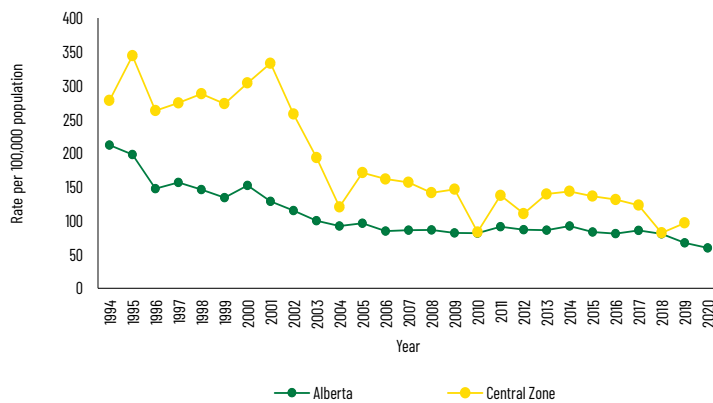


Overall Injuries

Over the 27-year period, Central Zone's overall injury (excluding adverse events and medical / surgical complications) hospital admissions rates were consistently higher than the provincial rates.

The Central Zone's overall injury admission rates experienced a statistically significant average decrease of 3.0% each year.

Alberta admission rates experienced a statistically significant average decrease of 2.9% each year.

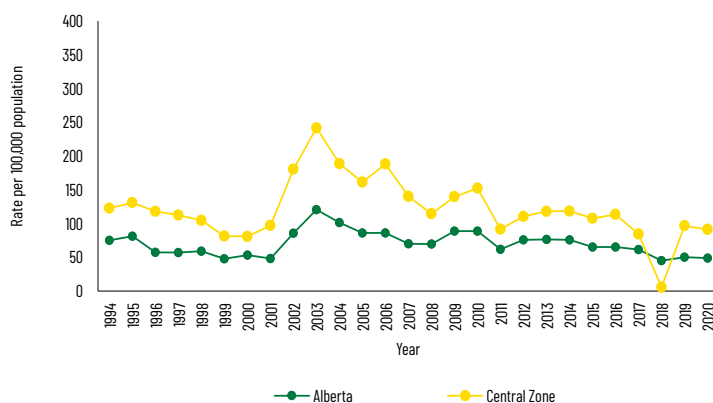


Falls

Over the 27-year period, Central Zone's fall-related hospital admissions injury rates were consistently higher than the provincial rates. There were a couple of years in which the Central Zone's rate was the same / similar to the provincial rate.

The Central Zone's fall-related injury admission rates experienced a statistically-significant average decrease of 4.8% each year.

Alberta admission rates experienced a statistically significant average decrease of 3.8% each year.



Sports-related

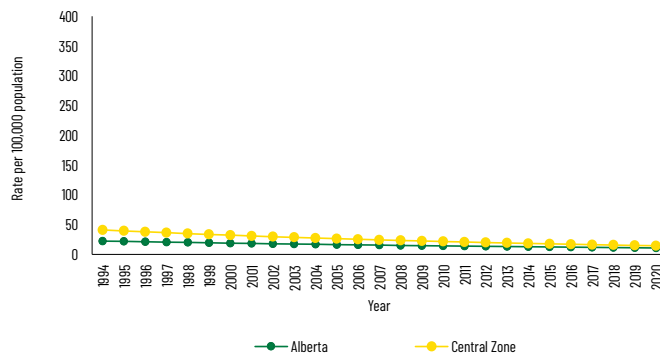
Over the 27-year period, Central Zone's sports-related hospital admission rates were slightly higher than the provincial rates.

The Central Zone's sports-related injury admission rates experienced an average decrease of 1.1% each year.

Alberta admission rates experienced an average decrease of 0.8% each year.

Youth 10–14 years, Central Zone, 1994–2020

Hospital Admission Rate Comparison by Mechanisms of Injury



Poisonings (unintentional and undetermined)

Over the 27-year period, there were many years in which the Central Zone's hospital admission rates were the same / similar to the provincial rates.

The Central Zone's poisoning admission rates experienced an average decrease of 4.0% each year.

Alberta's poisoning admission rates experienced an average decrease of 2.8% each year.

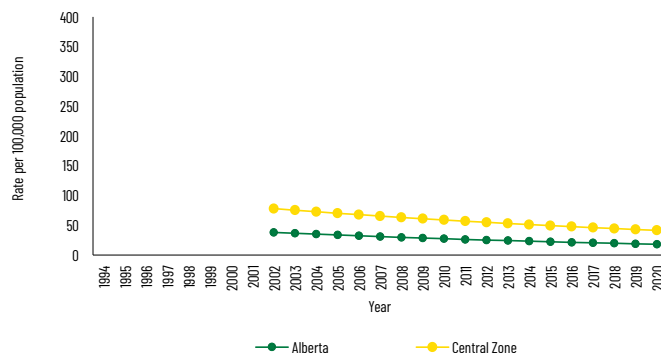
Poisoning-related (unintentional and undetermined) Injuries Hospital Admissions by Mechanism and Sex

Poisoning-related injuries were not included in the top 10 leading mechanisms for injury-related emergency department visits as they only accounted for 1% of the visits with an average of 58 each year. However, poisoning-related injuries are included in the top 10 leading mechanisms of injury for hospital admissions.

Poisoning-related hospital admissions accounted for 3% of all injury-related admissions with 185 admissions over the 27 year

period from 1994 to 2020. This equates to 7 poisoning-related admissions each year.

Females accounted for 63% of the admissions with an average of 4 admissions each year. Males accounted for 37% of the poisoning-related admissions with an average of 3 admissions each year.



Off-Highway Vehicles

Over the 27-year period, there were many years in which the Central Zone's hospital admission rates were the same / similar to the provincial rates.

The Central Zone's self-inflicted admission rates experienced an average decrease of 1.9% each year.

Alberta's self-inflicted admission rates experienced an average decrease of 0.4% each year.

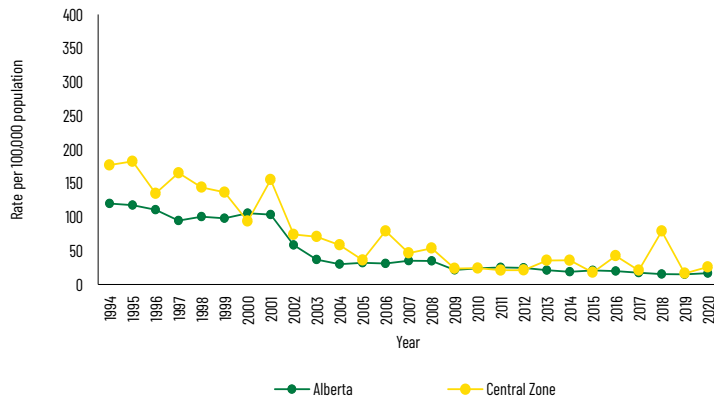
Off-Highway Vehicles include:

- drivers, passengers, bystander of all-terrain (a vehicle of special design to enable it to negotiate rough or soft terrain or snow), snowmobile or other off-road motor vehicles (including dirt bikes) injured in traffic or non-traffic

Due to changes in coding classification, data for off-highway vehicle collisions is available effective April 1, 2002.

Youth 10–14 years, Central Zone, 1994–2020

Hospital Admission Rate Comparison by Mechanisms of Injury

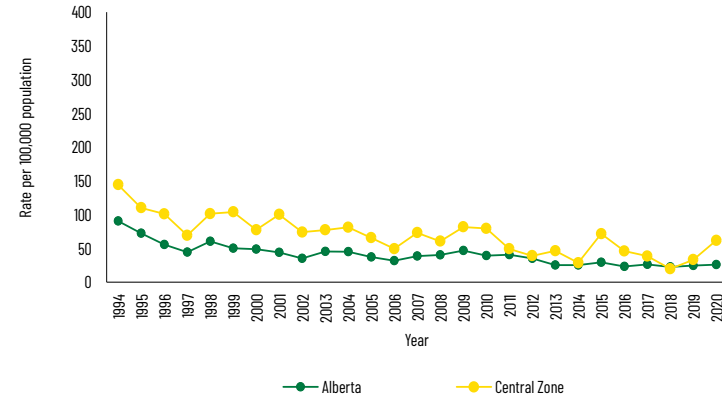


Motor Vehicle Collisions

Over the 27 years, Central Zone's motor vehicle collision hospital admission rates were slightly higher than the provincial rates. There were many years in which the rates were very similar.

The Central Zone's motor vehicle collision admission rates experienced a statistically significant average decrease of 7.2% each year.

Alberta admission rates experienced a statistically significant average decrease of 9.0% each year.



Other Road

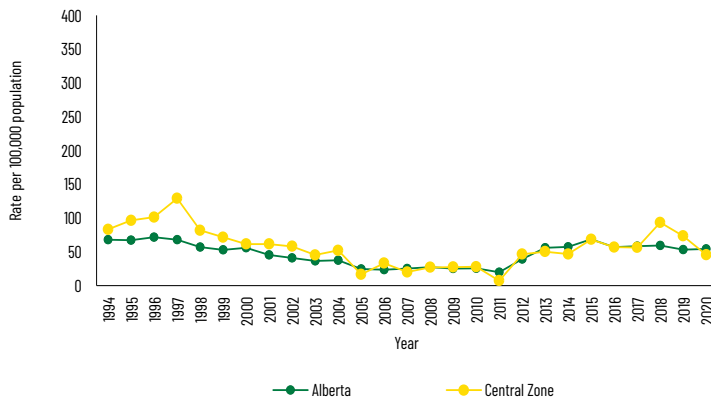
Over the 27-year period, Central Zone's other road hospital admission rates were higher than the provincial rates. There were a few years in which the Central Zone's rate was similar to the provincial rate.

The Central Zone's other road admission rates experienced a statistically significant average decrease of 4.0% each year.

Alberta's other road admissions rates experienced a statistically significant average decrease of 4.1% each year.

CENTRAL ZONE YOUTH AND YOUNG ADULT INJURIES

Youth 10–14 years, Central Zone, 1998–2020



Self-inflicted

Over the 27-year period, there were many years in which the Central Zone's hospital admission rates were the same / similar to the provincial rates.

The Central Zone's self-inflicted admission rates experienced an average decrease of 1.9% each year.

Alberta's self-inflicted admission rates experienced an average decrease of 0.4% each year.

Self-Inflicted Injuries Hospital Admissions by Mechanism and Sex



Self-inflicted injuries were not included in the top 10 mechanisms of injury-related emergency department visits as they only accounted for 1% of the visits, with an average of 50 each year. However, self-inflicted-related injuries are included in the top 10 mechanisms of injury for hospital admissions.

When we analyze the leading mechanism of self-inflicted injury hospital admissions by sex:

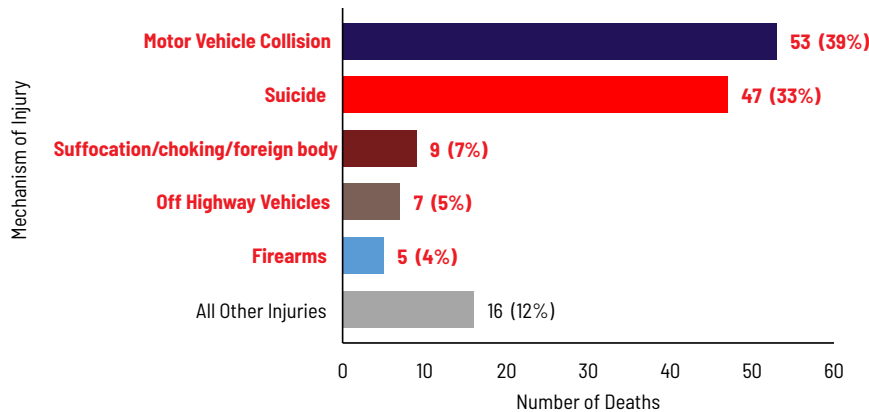
- Of the 17 yearly self-inflicted injury hospital admissions, taking a solid / liquid drug / medication accounted for 88% of all self-inflicted hospital admissions with an average of 15 admissions each year.
 - Females accounted for 81% of the self-inflicted injuries by taking a solid / liquid drug / medication with an average of 12 admissions each year. Males accounted for 3 self-inflicted injuries by taking a solid / liquid drug / medication admissions each year.
- Cutting / piercing accounted for 7% of all self-inflicted hospital admissions.
 - Females accounted for 91% of the self-inflicted injuries by cutting / piercing, with an average of 1 admission each year.

CENTRAL ZONE YOUTH AND YOUNG ADULT INJURIES

Youth 10–14 years, Central Zone, 1996–2019

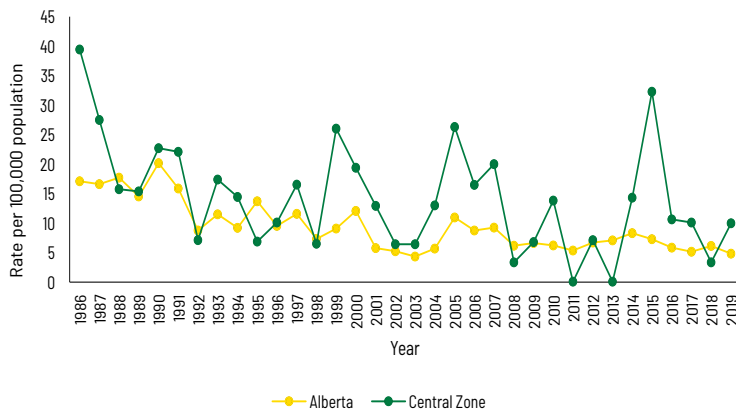
Top 5 Mechanism of Injury for Deaths

Due to the small number of deaths, deaths will be reported as a total over the 34 years and the reporting will be limited.



Over the 34-year period, there were 137 injury-related deaths of Central Zone youth aged 10 to 14 years. This equates to 4 deaths each year.

Injury-related Death Rate Comparison



Injuries (excluding adverse events)

Over the 34-year period, the Central Zone had overall injury death rates higher than the provincial rates.

The Central Zone's overall injury death rates experienced an average annual decrease of 1.7% each year.

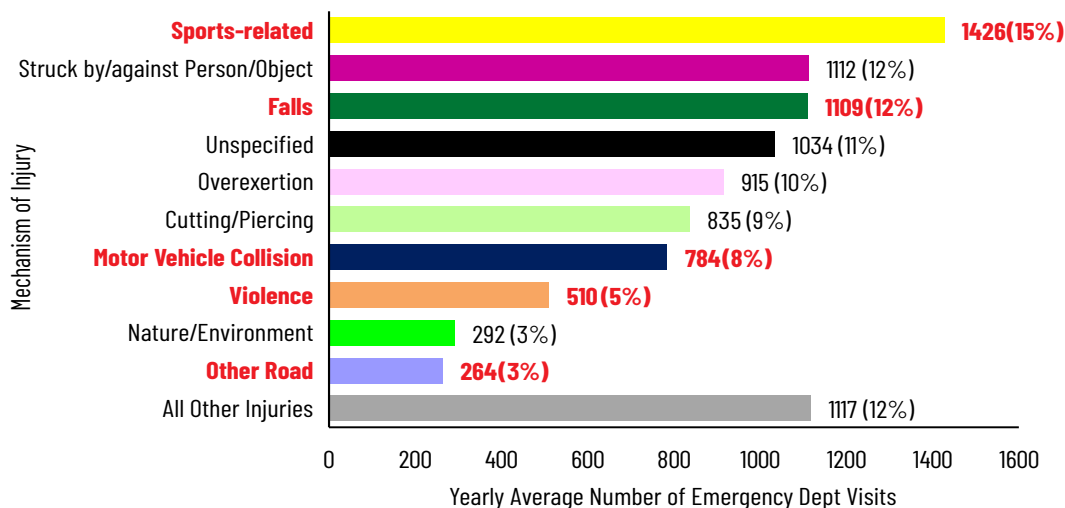
Alberta's overall injury rates experienced a statistically significant decrease of 3.5% each year.

Top 5 Mechanism of Injury of Deaths by Sex

Mechanism of Injury	Number of Deaths			Percent	
	Total	Female	Male	Female	Male
All Injuries (excluding adverse events / complications)	137	49	88	36%	64%
Motor Vehicle Collisions	53	19	34	36%	64%
Suicide	47	17	30	36%	64%
Suffocation / choking / foreign body	9	3	6	33%	67%
Firearms	5	0	5	0%	100%
Off Highway Vehicles	7	2	5	29%	71%

Youth 15–19 years, Central Zone, 1998–2020

Top 10 Mechanism of Injury for Emergency Department Visits



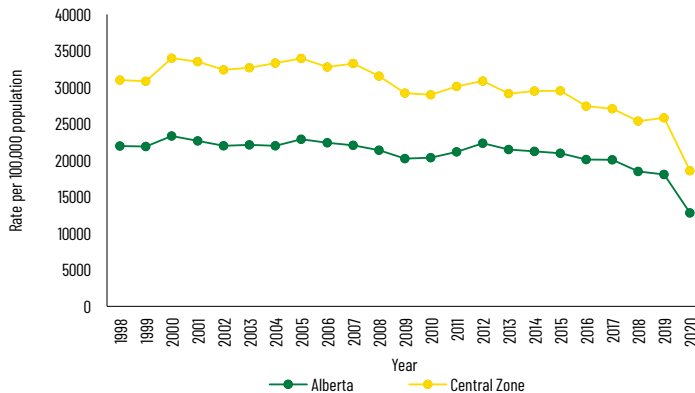
Not all of the leading mechanisms of injury have proven evidence-based injury prevention strategies. The mechanisms emphasized in **bold red** font have proven evidence-based injury prevention strategies; these mechanisms will be further highlighted in the report.

Those mechanisms which do not have proven evidence-based interventions will not be included in the remainder of this report.

- Overall, injuries (excluding adverse events medical complications) accounted for 215,941 ED visits for this population. This equals 9,389 visits each year.
- The top 10 mechanisms of injury accounted for 88% of all injury-related visits.
 - Sports-related injuries were the leading cause of emergency department visits with an average of 1,426 visits each year. This accounts for 15% of all injury-related visits
 - Injuries as a result of being struck by / against a person / object accounted for 12% of injury-related visits, with 1,112 visits each year.
 - Fall-related injuries accounted for 12% of injury-related visits, with 1,109 emergency department visits each year.
 - Other / unspecified-related injuries (injuries in which there was inadequate documentation to further classify) accounted for 11% of injury visits, with 1,034 emergency department visits each year.
 - Overexertion-related injuries accounted for 10%, with an average of 915 emergency visits each year.
 - Cutting / piecing-related injuries accounted for 9% of injury-related visits, with 835 emergency department visits each year.
 - Motor vehicle collision-related injuries accounted for 8% of injury-related visits, with an average of 784 visits each year.
 - Violence-related injuries accounted for 5% of injury-related visits with an average of 510 visits each year.
 - Nature / environmental-related injuries accounted for 3% of all injury-related visits, with an average of 292 visits each year.
 - Other road-related injuries accounted for 3% of injury-related visits with an average of 264 visits each year.

Youth 15–19 years, Central Zone, 1998–2020

Injury-related Emergency Department Visit Rate Comparison



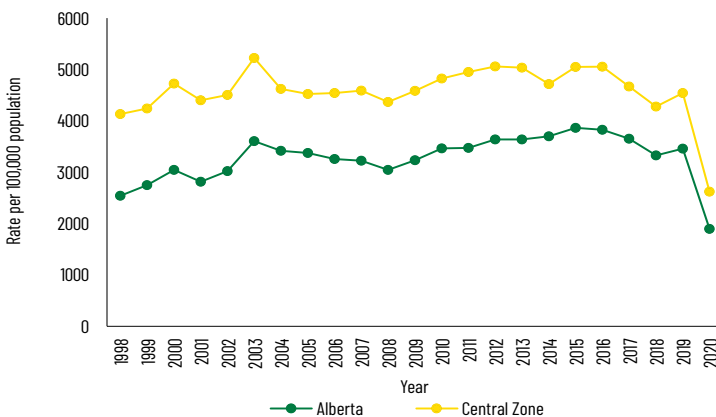
Injuries (excluding adverse events)

Over the 23-year period, Central Zone had overall injury rates higher than the provincial rates.

The Central Zone's overall injury rates experienced a statistically significant average decrease of 1.3% each year.

Alberta's overall injury rates stayed relative stable with a slight average decrease of 1.0% each year.

Sport-related Emergency Department Visit Rates Comparison



Over the 23 year period, Central Zone had consistently higher sports-related injury emergency department visit rates than the provincial rates.

The Central Zone sports-related emergency department visit rate experienced no increase or decrease.

The visit rate for Alberta had a statistically significant increase of 0.7% each year.

Over the 23-year period:

- there were 32,809 sports-related emergency department visits. This equates to an average of 1,426 sports-related visits each year.
- 77% were male with an average of 1,092 sports-related visits each year. Females accounted for the remaining 23% with an average of 334 sports-related emergency department visits each year.

Of the sports-related injury emergency department visits¹:

- 24% were hockey-related
- 12% were basketball-related
- 7% were football-related
- 5% were volleyball-related
- 5% were soccer-related

¹ DIMR- Sport and Recreation Injury Code RMT# 20048 20180401- 20190331 Sept 2019

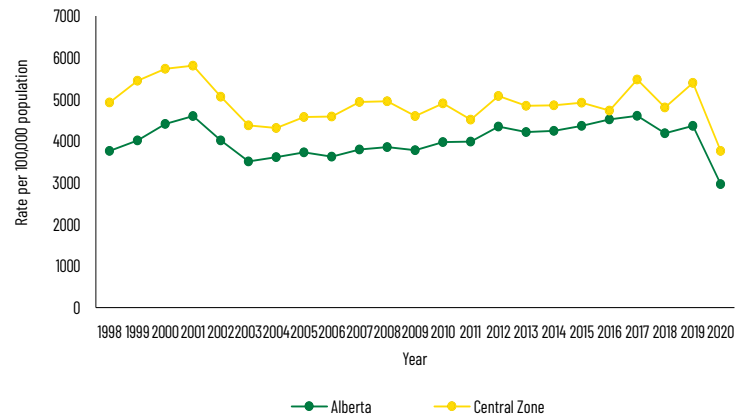
Youth 15–19 years, Central Zone, 1998–2020

Fall-related Emergency Department Visit Rates

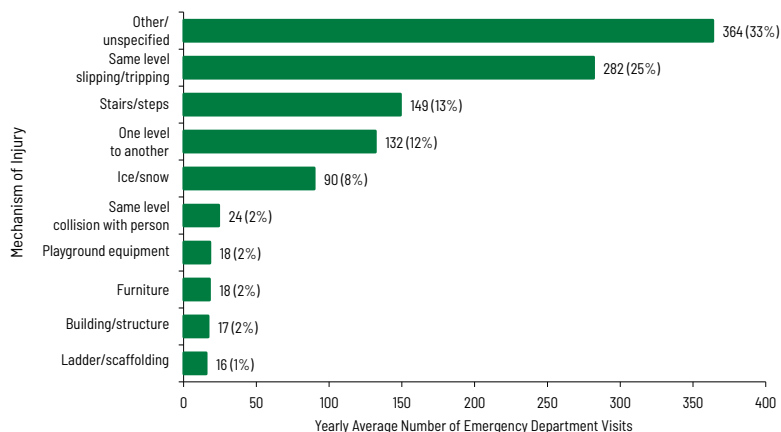
Over the 23-year period, Central Zone had fall-related injury visit rates higher than the provincial rates.

The Central Zone's fall-related emergency department visit rates decreased an average of 0.8% each year.

Alberta's fall-related emergency department visit rates decreased an average of 0.3% each year.



Fall-related Emergency Department Visit Rates



One in 3 (33%) fall-related emergency department visits was for other / unspecified cause, with an average of 364 visits each year. This is due to the lack of detailed documentation to further describe the fall.

Another 25% of visits each year (n=282) were due to a fall from slipping or tripping on the same level.

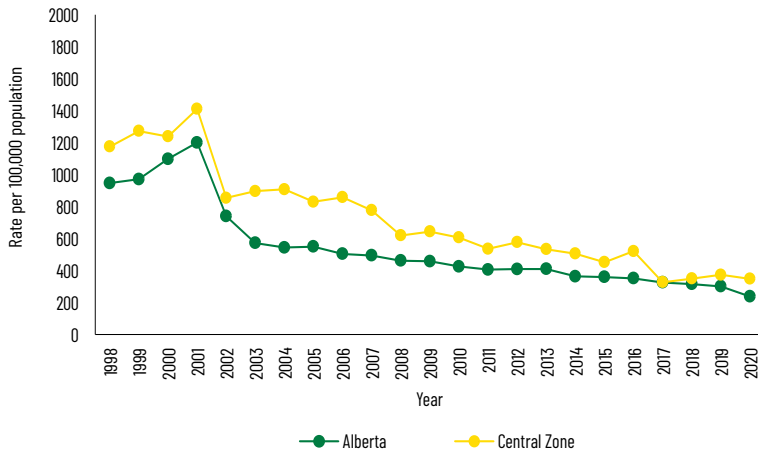
Falling from stairs / steps accounted for another 13% with 149 visits each year.

Over the 23-year period:

- there were 25,500 fall-related emergency department visits. This equates to an average of 1,109 fall-related emergency department visits each year.
- 54% of the fall-related emergency department visits were males, with an average of 595 visits each year. Females accounted for 46%, with an average of 514 visits each year.

Youth 15–19 years, Central Zone, 1998–2020

Motor Vehicle Collision-related Injuries Emergency Department Visit Rates



The Central Zone's motor vehicle collision injury rates experienced a statistically significant average decrease of 4.2% each year.

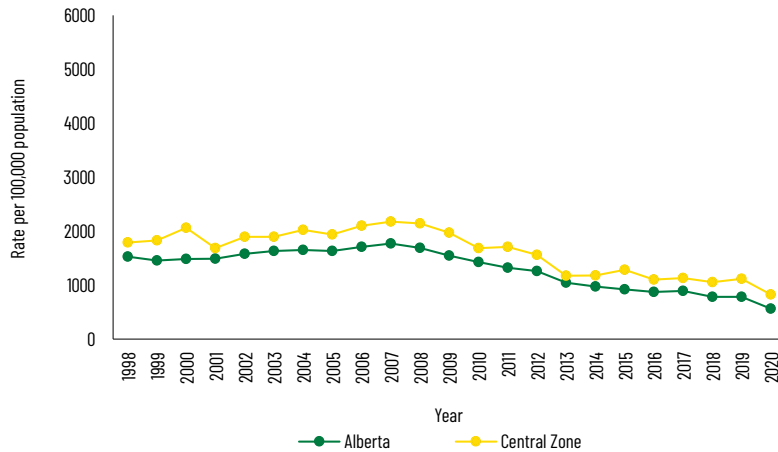
Alberta's motor vehicle collision rates had a statistically significant average decrease of 4.5% each year.

Over the 23-year period:

- there were 18,029 motor vehicle collision-related emergency department visits. This equates to an average of 784 motor vehicle collision-related emergency department visits each year.
- the majority (61%) were males, with an average of 417 visits each year. Females accounted for the remaining 39%, with an average of 367 visits each year.

Youth 15–19 years, Central Zone, 1998–2020

Violence-related Injuries Emergency Department Visit Rates



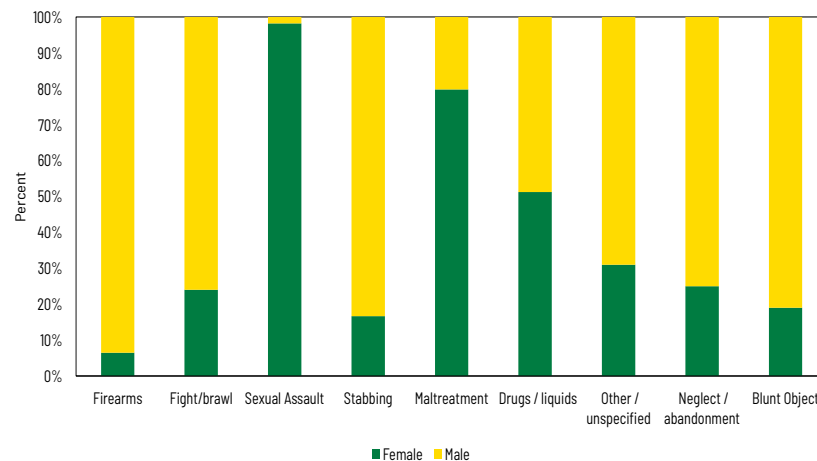
The Central Zone's violence-related injury visit rates consistently were slightly higher than the Alberta rates.

The Central Zone's violence-related injury visit rates experienced a statistically significant average decrease of 3.0% each year.

Alberta's violence-related injury visit rates had a statistically significant average decrease of 3.5% each year.

Youth 15–19 years, Central Zone, 1998–2020

Percent of Violence-related Injuries Emergency Department Visit Rates by Mechanism and Sex



Over the 23-year period, there were 11,729 violence-related emergency department visits of Central Zone's youth, 15 to 19 years of age. This equates to an average of 510 violence-related emergency department visits each year.

Overall, males accounted for 72% of the violence-related injury emergency department visits, with an average of 368 visits each year. Females accounted for the remaining 28%, with an average of 142 violence-related visits each year.

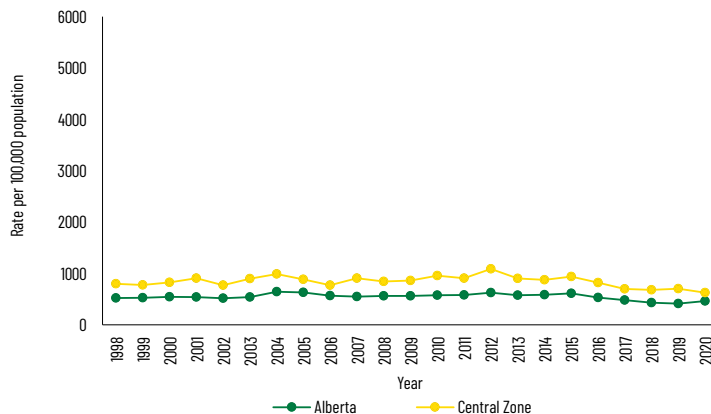
- Males accounted for 94% of the firearm involved violence-related injuries, with an average of 1 visits each year.
- Males accounted for 76% of the fight / brawls violence-related injuries, with an average of 291 visits each year. Females accounted for 24% with 92 fight / brawl violence-related visits each year.
- Females accounted for 98% of the sexual assault violence-related injuries, with an average of 19 sexual assault visits each year. Males accounted for the remaining 2%, with less than 1 sexual assault visit each year.
- Males accounted for 83% of the stabbing-related injury emergency department visits, with an average of 23 visits each year. Females accounted for 17%, with an average of 5 stabbing-related injury visits each year.
- Females accounted for 80% of the maltreatment-related emergency department visits, with an average of 7 visits each year. Males accounted for remaining 20%, with an average of 2 maltreatment-related visits each year.
- Females accounted for 51% of the drug / liquid violence-related emergency department visits, with an average of 3 visits each year. Males accounted for the remaining 49%, with an average of 3 visits each year.
- Males accounted for 69% of the other / unspecified violence-related emergency department visits, with an average of 28 visits each year. Females accounted for the remaining 31%, with an average of 13 visits each year.
- Males accounted for 75% of the neglect / abandonment violence-related emergency department visits, with an average of less than 1 visit each year. Females accounted for the remaining 25%, with an average of less than 1 visit each year.
- Males accounted for 81% of the blunt object violence-related emergency department visits, with an average of 19 visits each year. Females accounted for the remaining 19%, with an average of 4 blunt object violence-related emergency department visits each year.

Youth 15–19 years, Central Zone, 1998–2020

Other Road-related Injuries Emergency Department Visit Rate Comparison

Other road mechanisms include:

- pedestrians injured in collision with pedal cycle, other nonmotor vehicle (animal-drawn vehicle, animal being ridden, streetcar)
- pedal cycle injured in collision with pedestrian or animal, other pedal cycle, other nonmotor vehicle, fixed or stationary object, falling / thrown from pedal cycle (without collision), overturning, not otherwise specified, other and unspecified transport accidents.
- animal-rider or occupant of animal-drawn vehicle
- occupant of street car
- other: person injured in other specified / unspecified (collision)(noncollision) transport accident involving nonmotor vehicle.



The Central Zone's other road-related injury visit rates were consistently higher than the Alberta rates.

The Central Zone's other road-related visit injury rates experienced an average decrease of 0.4% each year.

Alberta's other road-related visit rates decreased an average of 0.6% each year.

Other Road-related Injuries Emergency Department Visit Rates

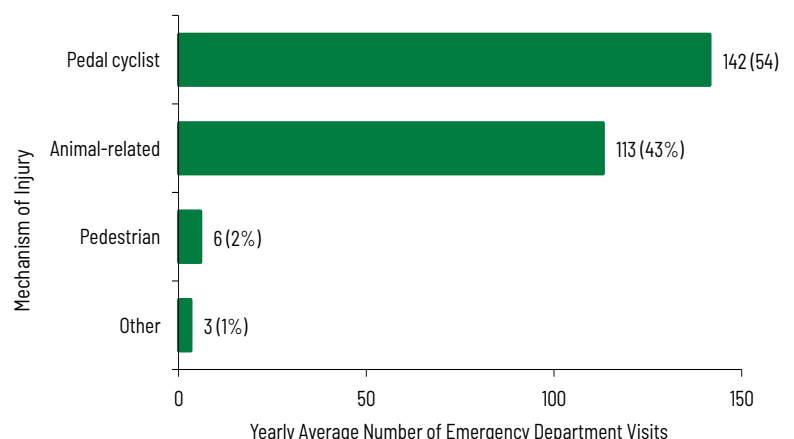
Over the 23-year period, there were 6,067 other road-related emergency department visits of Central Zone's youth 15 to 19 years of age. This equates to an average of 264 other road-related emergency department visits each year.

Injuries as a result of a pedal cycle incident accounted for 54% of other road-related injuries with an average of 142 visits each year.

This was followed by animal-related injuries which accounted for 43% of the other road-related injuries, with an average 113 visits each year.

Pedestrian in collision with a pedal cycle or other nonmotor vehicle accounted for 2%, with an average of 2 visits each year.

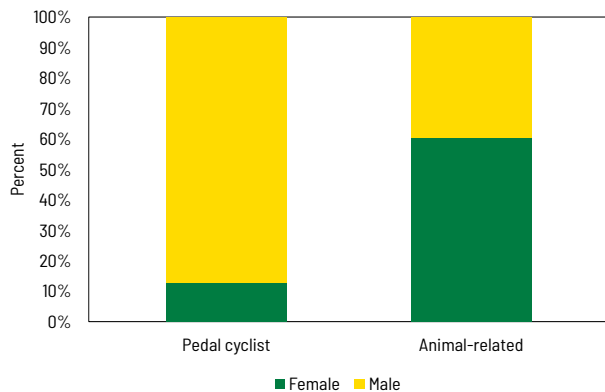
Other road-related injuries accounted for 1%, with an average of 3 visits each year.



CENTRAL ZONE YOUTH AND YOUNG ADULT INJURIES

Youth 15–19 years, Central Zone, 1998–2020

Percent of Other Road-related Injuries Emergency Department Visit Rates by Mechanism and Sex



Of the yearly average of 142 pedal cycle-related injury emergency department visits, 87% were males, with an average of 123 visits each year. Females accounted for the remaining 13%, with an average of 18 visits each year.

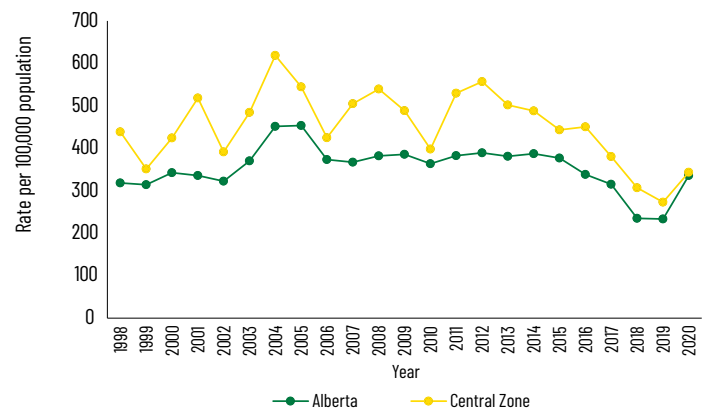
Of the 113 yearly average animal-related injury emergency department visits, 60% were females, with an average of 68 animal-related visits each year. Males accounted for the remaining 40%, with an average of 45 animal-related visits each year.

Pedal Cycle-related Injuries Emergency Department Visit Rates

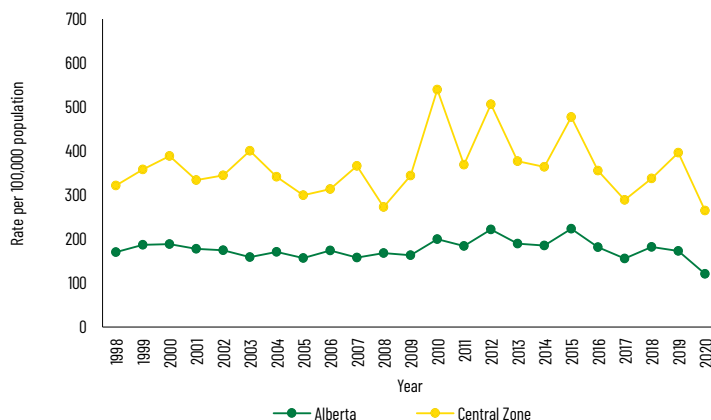
The Central Zone's pedal cycle-related visit rates were consistently higher than the Alberta rates.

The Central Zone's pedal cycle-related injury visit rates experienced an average decrease of 0.9% each year.

Alberta's pedal cycle-related visit rates decreased an average of 0.6% each year.



Animal-related Injuries Emergency Department Visit Rates



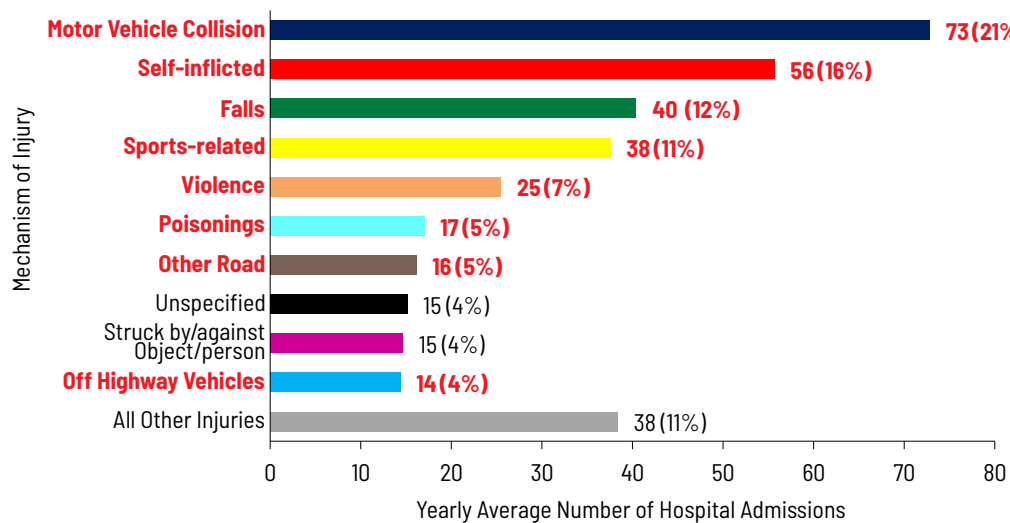
The Central Zone's animal-related injury visit rates were consistently higher than the Alberta rates.

The Central zone's animal-related injury visit rates experienced an average increase of 0.4% each year.

Alberta's animal-related injury visit rates had an average increased of 0.1% each year.

Youth 15–19 years, Central Zone, 1998–2020

Top 10 Mechanisms of Injury for Hospital Admissions



Not all of the leading mechanisms of injury have proven evidence-based injury prevention strategies. The mechanisms emphasized in **bold red** font have proven evidence-based injury prevention strategies; these mechanisms will be further highlighted in the report.

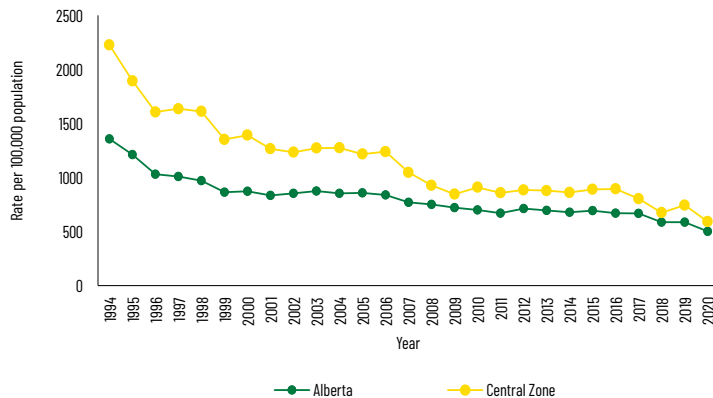
Those mechanisms which do not have proven evidence-based interventions will not be included in the remainder of this report.

- Overall, injuries (excluding adverse events medical complications) accounted for 9,387 hospital admissions. This equates to 348 admissions each year.
- The top 10 mechanisms of injury accounted for 89% of all injury-related admissions, with 8,352 admissions. This equates to 309 admission each year.

When analyzing the top 10 mechanisms of injury for hospital admission, there are 2 mechanisms of injury which appear on the top 10 hospital admissions but not the top 10 emergency department visits: suicide/self-inflicted and poisonings (unintentional and undetermined). These 2 mechanisms are reported in more detail.

Youth 15–19 years, Central Zone, 1998–2020

Hospital Admissions by Mechanism of Injury

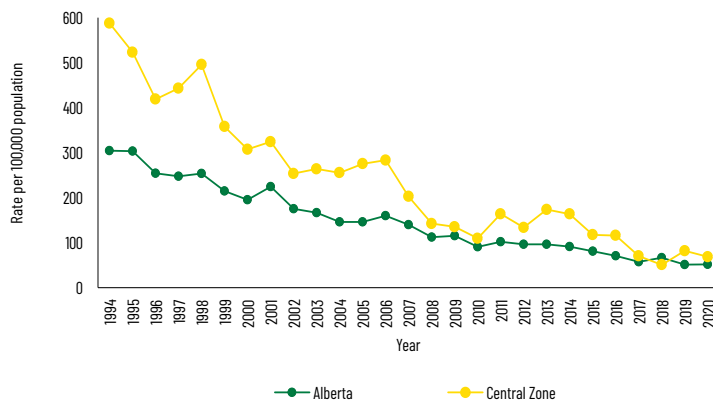


Overall Injuries

Over the 27-years, Central Zone's overall injury (excluding adverse events and medical / surgical complications) rates were consistently higher than the provincial rates.

The Central Zone's overall injury rates experienced a statistically-significant average decrease of 4.0% each year.

Alberta rates experienced a statistically-significant average decrease of 2.6% each year.



Motor Vehicle Collision

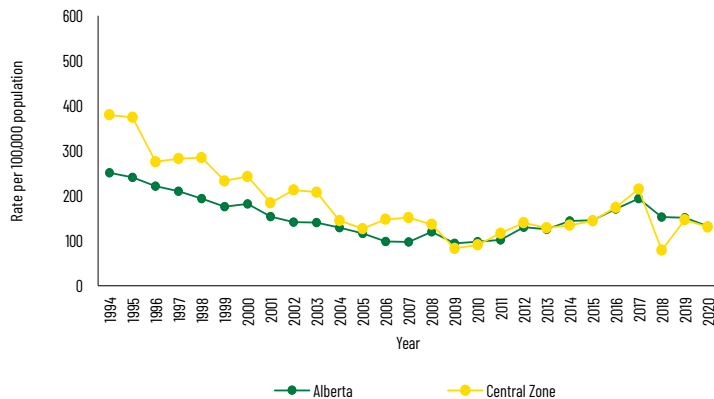
Over the 27-years Central Zone's motor vehicle collision rates were slightly higher than the provincial rates. There were many years in which the rates were very similar.

The Central Zone's motor vehicle collision rates experienced a statistically-significant average decrease of 7.4% each year.

Alberta rates experienced a statistically-significant average decrease of 6.4% each year.

Youth 15–19 years, Central Zone, 1998–2020

Hospital Admissions by Mechanism of Injury



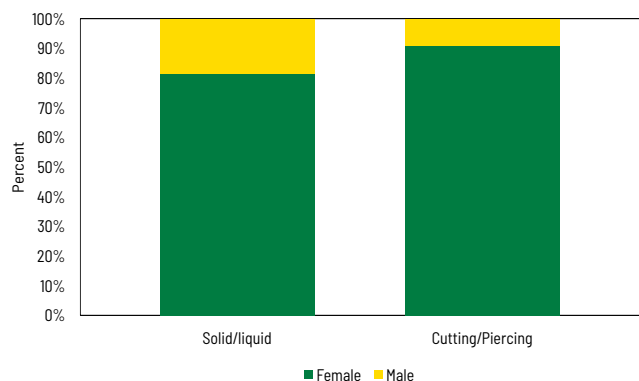
Suicide / self-inflicted

Over the 27-year period, Central Zone's suicide/self-inflicted injury rates were slightly higher than the provincial rates. There were many years in which the rates were very similar or lower.

The Central Zone's suicide / self-inflicted injury rates experienced a statistically-significant average decrease of 4.0% each year.

Alberta rates experienced a statistically significant average decrease of 1.6% each year.

Self-Inflicted Injuries Hospital Admissions by Mechanism and Sex



Over the 23-year period from 1998 to 2020, there were 3,838 self-inflicted-related injury emergency department visits. These accounted for 2% of all injury emergency department visits, with an average of 167 visits each year.

When we analyze the leading mechanism of self-inflicted injury hospital admissions:

- There were 1,503 self-inflicted hospital admissions over the 27 years. This equates to an average of 56 self-inflicted hospital admissions each year.
 - taking a solid / liquid drug / medication accounted for 85% of all self-inflicted hospital admissions, with an average of 48 admissions each year.
 - Females accounted for 76% of the self-inflicted injuries by taking a solid / liquid drug / medication, with an average of 36 admissions each year. Males accounted for 11 self-inflicted injuries by taking a solid / liquid drug / medication admissions each year.

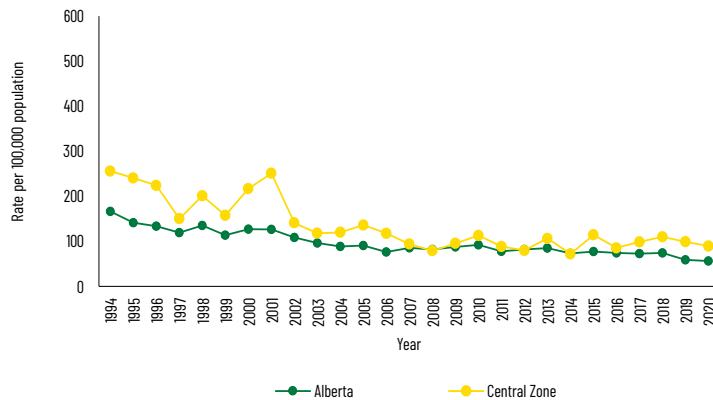
- There were 149 cutting / piercing self-inflicted hospital admissions over the 27 years. This equates to an average of 6 cutting / piercing self-inflicted admissions each year.
 - Females accounted for 69% of the self-inflicted injuries by cutting / piercing, with an average of 4 admissions each year. Males accounted for the remaining 31%, with an average of 2 cutting / piercing self-inflicted injury hospital admissions each year.

There were a number of self-inflicted mechanisms in which the numbers are too small to provide detailed analysis. Over the 27- year period from 1994 to 2020 there were:

- 9 self-inflicted hospital admissions as a result of gas / vapours.
- 39 self-inflicted hospital admissions as a result of hanging.
- 8 self-inflicted hospital admissions as a result of firearms.
- 15 self-inflicted hospital admissions as a result of other or unspecified mechanism of injury.

Youth 15–19 years, Central Zone, 1998–2020

Hospital Admissions by Mechanism of Injury

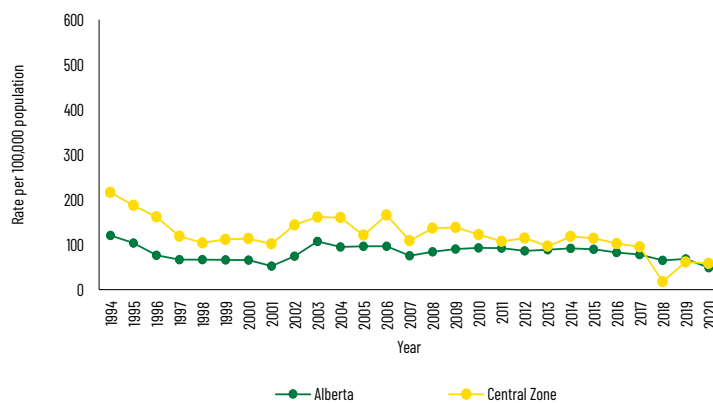


Falls

Over the 27-years Central Zone's fall-related injury rates were higher than the provincial rates. There were a number of years in which the Central Zone rate was similar to the provincial rate.

The Central Zone's fall-related injury rates experienced a statistically-significant average decrease of 4.2% each year.

Alberta's fall-related injury rates experienced a statistically-significant average decrease of 3.2% each year.

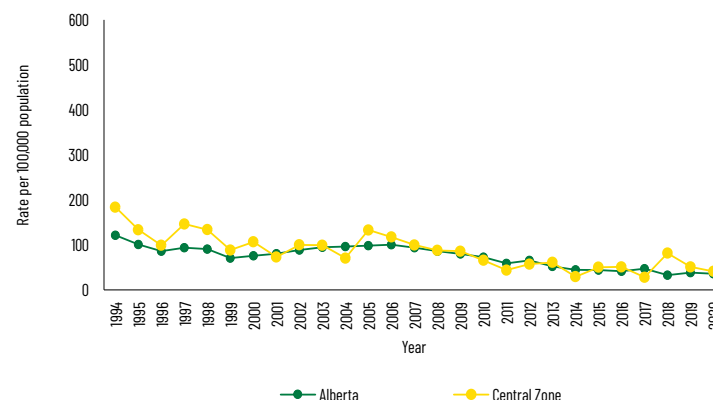


Sports-related

Over the 27-year period, Central Zone's sports-related injury rates were slightly higher than the provincial rates. There were many years in which the Central Zone's rate was similar or even lower than the provincial rate.

The Central Zone's sports-related injury rates experienced a statistically-significant average decrease of 2.7% each year.

Alberta rates experienced an average decrease of 0.6% each year.



Violence

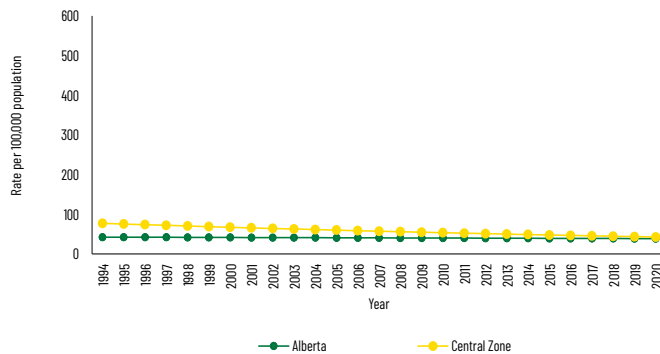
Over the 27-year period, Central Zone's violence-related injury rates were similar to the provincial rates. There were many years in which the Central Zone's rates were lower than the provincial rates.

The Central Zone's violence-related injury rates experienced a statistically-significant average decrease of 4.3% each year.

Alberta's rates experienced a statistically-significant average decrease of 3.6% each year.

Youth 15–19 years, Central Zone, 1998–2020

Hospital Admissions by Mechanism of Injury



Poisoning (unintentional and undetermined)

Over the 27-years there were a number of years in which the Central Zone rate was similar to the provincial rate.

The Central Zone's fall-related injury rates experienced a statistically-significant average decrease of 2.3% each year.

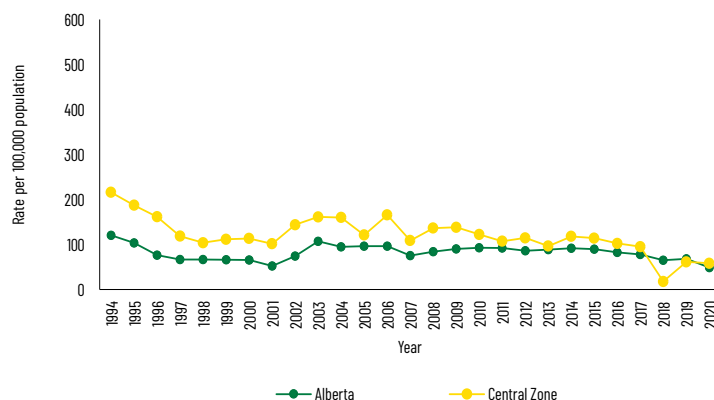
Alberta's fall-related injury rates experienced a decrease of 0.42% each year.

Poisoning-related Injuries Hospital Admissions by Mechanism and Sex

Poisoning-related injuries were not included in the top 10 leading mechanisms for injury-related emergency department visits as they only accounted for 2% of the visits, with an average of 184 each year. However, poisoning-related injuries are included in the top 10 leading mechanisms of injury for hospital admissions.

Poisoning-related hospital admissions accounted for 3% of all injury-related admissions, with 460 admissions over the 27-year period from 1994 to 2020. This equates to 17 poisoning-related admissions each year.

Females accounted for 51% of these admissions, with an average of 9 admissions each year. Males accounted for 49%, of the poisoning-related admissions, with an average of 8 admissions each year.



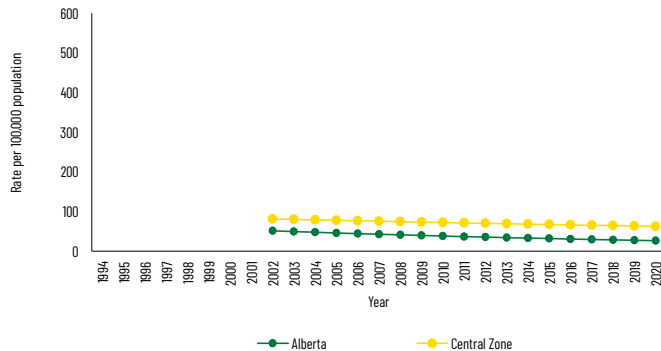
Other Road

Over the 27-year period, the Central Zone's other road injury rates experienced a statistically-significant average decrease of 2.7% each year.

Alberta rates experienced a statistically significant average decrease of 2.0% each year.

Youth 15–19 years, Central Zone, 1998–2020

Hospital Admissions by Mechanism of Injury



Off Highway Vehicle

Over the 27-years Central Zone's fall-related injury rates were higher than the provincial rates. There were a number of years in which the Central Zone rate was similar to the provincial rate.

The Central Zone's fall-related injury rates experienced a statistically-significant average decrease of 4.2% each year.

Alberta's fall-related injury rates experienced a statistically-significant average decrease of 3.2% each year.

Off-Highway Vehicles include:

- drivers, passengers, bystander of all-terrain (a vehicle of special design to enable it to negotiate rough or soft terrain or snow), snowmobile or other off-road motor vehicles (including dirt bikes) injured in traffic or non-traffic

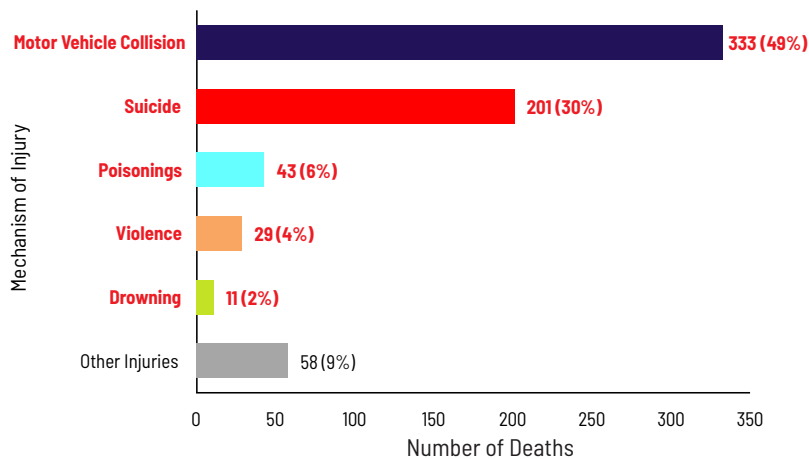
Due to changes in coding classification, data for off-highway vehicle collisions is available effective April 1, 2002.

CENTRAL ZONE YOUTH AND YOUNG ADULT INJURIES

Youth 15–19 years, Central Zone, 1998–2020

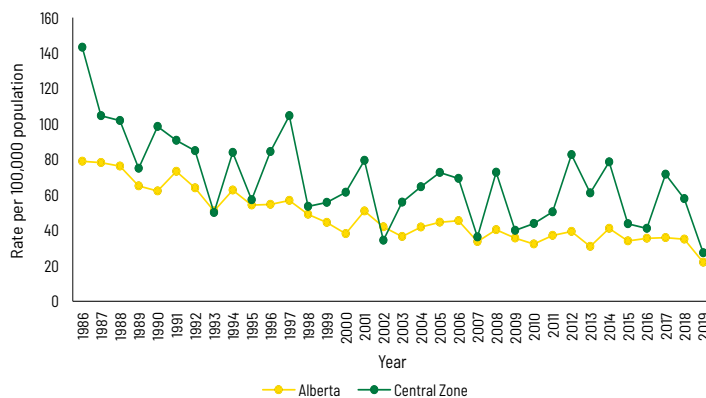
Top 5 Mechanism of Injury of Deaths

Due to the small number of deaths, deaths will be reported as a total over the 34 years.



Over the 34-year period, there were 675 injury-related deaths (excluding adverse events and medical / surgical complications) of Central Zone's youth aged 15 to 19 years.

Injury-related Death Rates



Injuries (excluding adverse events)

Over the 34-year period, the Central Zone had overall injury death rates higher than the provincial rates.

The Central Zone's overall injury death rates experienced a statistically-significant average annual decrease of 2.2% each year.

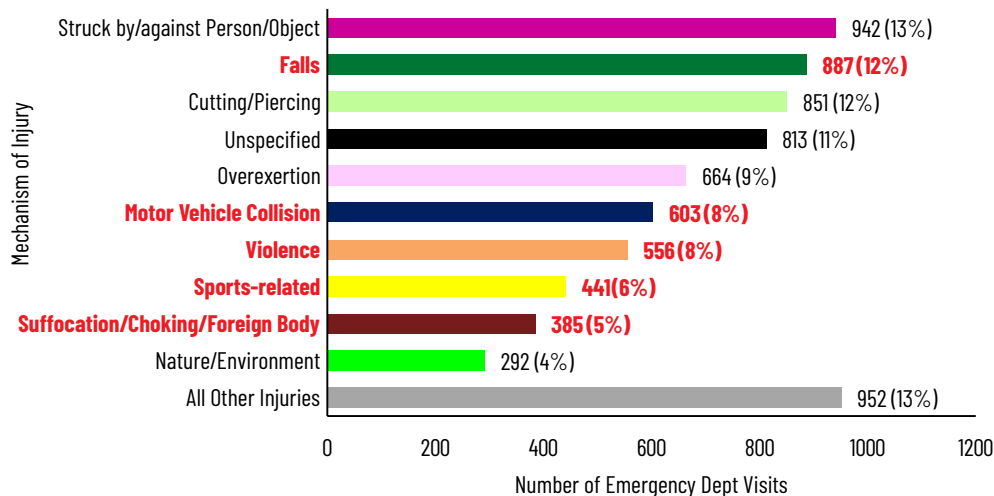
Alberta's overall injury rates experienced a statistically-significant decrease of 2.8% each year.

Top 5 Mechanism of Injury of Deaths by Sex

Mechanism of Injury	Number of Deaths			Percent	
	Total	Female	Male	Female	Male
All Injuries (excluding adverse events / complications)	675	191	484	28%	72%
Poisonings	43	8	35	19%	81%
Motor Vehicle Collisions	333	100	233	30%	70%
Drowning	11	2	9	18%	82%
Suicide	201	59	142	29%	71%
Violence	29	7	22	24%	76%

Youth 20–24 years, Central Zone, 1998–2020

Top 10 Mechanisms of Injury for Emergency Department Visits



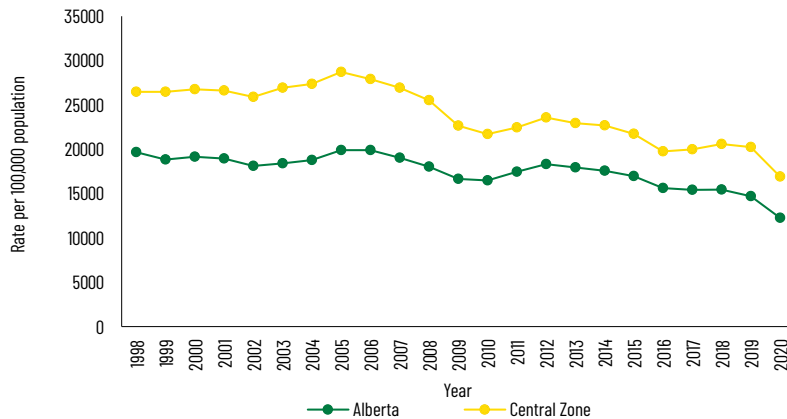
Not all of the leading mechanisms of injury have proven evidence-based injury prevention strategies. The mechanisms emphasized in **bold red** font have proven evidence-based injury prevention strategies; these mechanisms will be further highlighted in the report.

Those mechanisms which do not have proven evidence-based interventions will not be included in the remainder of this report.

- Overall, injuries (excluding adverse events medical complications) accounted for 169,888 visits. This equals 7,386 visits each year.
 - The top 10 mechanisms of injury accounted for 87% of all injury-related visits.
 - The leading cause of injury was the result of being struck by / against a person / object which accounted for 13% of injury-related visits, with an average of 942 visits each year.
 - Fall-related injury emergency department visits accounted for 12% of all injury-related visits, with an average of 887 visits each year.
 - Cutting / piecing-related injuries accounted for 12% of injury-related visits with 851 emergency department visits each year.
 - Other / unspecified-related injuries (injuries in which there was inadequate documentation to further classify) accounted for 11% of injury visits, with 813 emergency department visits each year.
 - Overexertion-related injuries accounted for 9%, with an average of 664 emergency visits each year.
 - Motor vehicle collision-related injuries accounted for 8% of injury-related visits, with an average of 603 visits each year.
 - Violence-related injuries accounted for 8% of injury-related visits, with an average of 556 visits each year.
 - Sports-related injuries accounted for 6% of injury-related visits, with an average of 441 visits each year.
 - Injuries as a result of suffocation / choking / foreign body accounted for 5%, with an average of 385 visits each year.
 - Injuries as a result of nature / environment accounted for 4%, with an average of 292 visits each year.

Young Adults 20–24 years, Central Zone, 1998–2020

Injury-related Emergency Department Visit Rates



Injuries (excluding adverse events)

Over the 23-year period, Central Zone had an overall injury emergency department visit rates consistently higher than the provincial rates.

The Central Zone's overall injury visit rates experienced a statistically significant decrease of 1.8% each year.

The Alberta visit rates also experienced a statistically significant decrease of 1.3% each year.

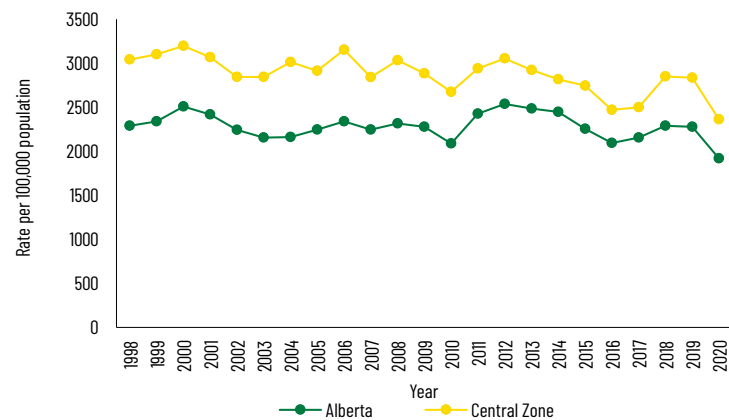
Young Adults 20–24 years, Central Zone, 1998–2020

Fall-related Emergency Department Visit Rates

Over the 23-year period, Central Zone had fall-related injury visit rates higher than the provincial rates.

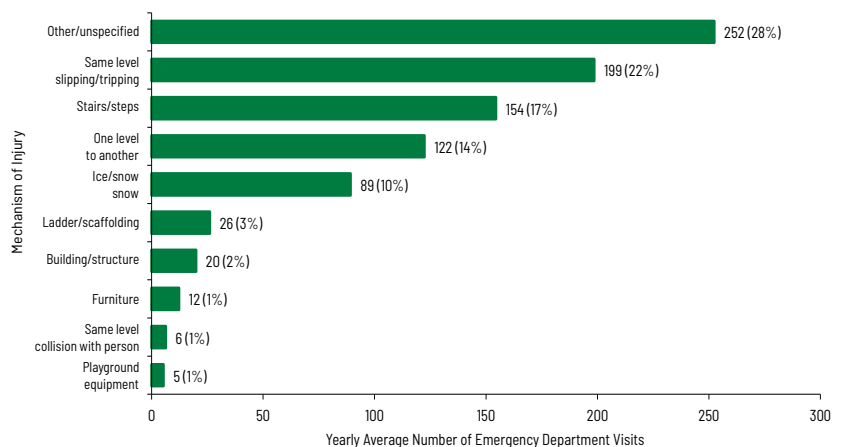
The Central Zone's fall-related emergency department visit rates had a statistically significant average decrease of 0.8% each year.

Alberta's fall-related emergency department visit rates increased an average of 0.3% each year



Fall-related Emergency Department Visit Rates by Mechanism

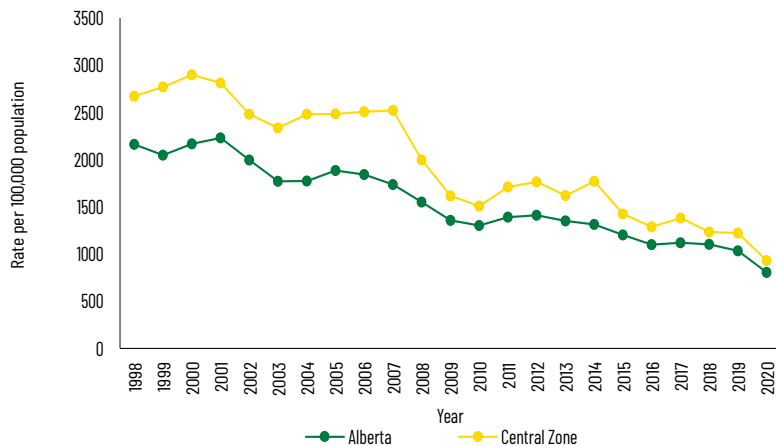
- For more than 1 in 4 (28%) fall-related emergency department visits, there was inadequate documentation to specify the mechanism of the fall. This was an average of 252 visits each year.
- Falls from one level to another from slipping and tripping accounted for 22% of the fall-related emergency department visits, with an average of 199 visits each year.
- 17% (average of 154 visits each year) was due to a fall on stairs / steps.
- 14% (average of 122 visits each year) was due to a fall from one level to another.
- Injuries as a result of a fall on ice / snow accounted for 10% of fall-related emergency department visits with an average of 89 visits each year.
- Falls involving a ladder / scaffolding accounted for another 3% of fall-related visits with an average of 26 visits each year.



- Falling from a building / structure accounted for 3% of the fall-related visits with an average of 26 visits each year.
- Falls from furniture accounted for 1% of fall-related visits with an average of 12 visits each year.
- Fall on the same level as a result of a collision with another person accounted for 1% of fall-related visits with an average of 6 visits each year.
- Falls from playground equipment accounted for 1% of fall-related visits with an average of 5 visits each year.

Young Adults 20–24 years, Central Zone, 1998–2020

Motor Vehicle Collision-related Injuries Emergency Department Visit Rates



Over the 23 year period, Central Zone had motor vehicle collision-related injury visit rates higher than the provincial rates.

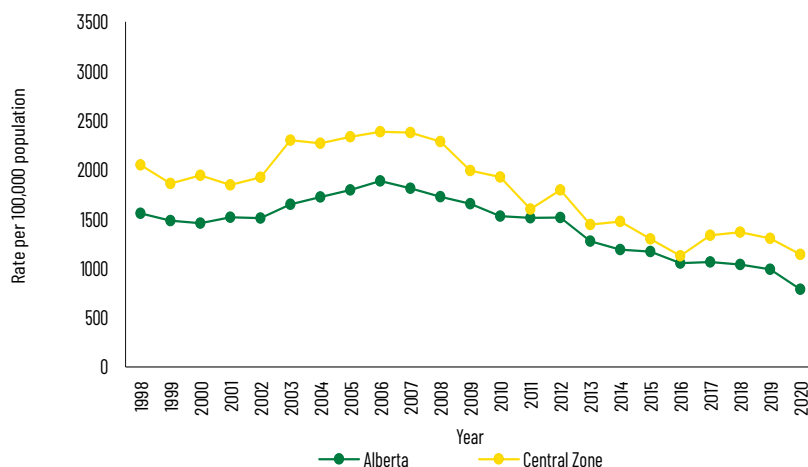
The Central zone's motor vehicle collision injury visit rates experienced a statistically significant average decrease of 4.3% each year.

Alberta's motor vehicle collision visit rates had a statistically significant average decrease of 3.8% each year.

Over the 23-year period:

- There were 13,868 motor vehicle collision-related emergency department visits. This equates to an average of 603 motor vehicle collision-related emergency department visits each year.
- Males made up the majority with 60%, with an average of 364 visits each year. Females accounted for the remaining 40% with an average of 239 visits each year.

Violence-related Injuries Emergency Department Visit Rates



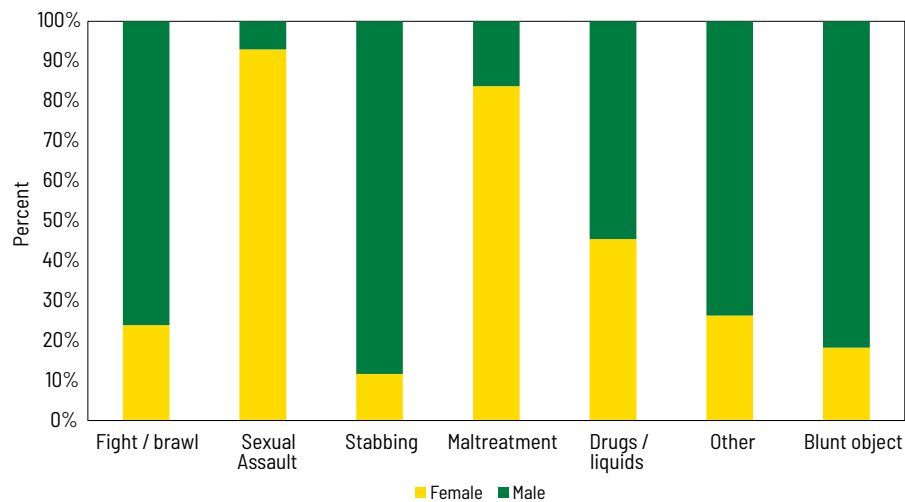
The Central Zone's violence-related injury rates were consistently higher than the Alberta rates with a couple of years in which the Central Zone rate was same / similar to the Alberta rate.

The Central Zone's violence-related injury rates experienced a statistically-significant average decrease of 2.8% each year.

Alberta's violence-related injury rates had a statistically-significant average decrease of 2.5% each year.

Young Adults 20–24 years, Central Zone, 1998–2020

Percent of Violence-related Injuries Emergency Department Visit Rates by Mechanism and Sex



Over the 23-year period, there were 12,784 violence-related emergency department visits of Central Zone's young adults aged 20 to 24 years. This equates to an average of 556 violence-related emergency department visits each year.

Overall, males accounted for 74% of the violence-related injury emergency department visits, with an average of 412 visits each year. Females accounted for the remaining 26%, with an average of 144 violence-related visits each year.

- Males accounted for 76% of the fight /brawl-related injuries, with an average of 303 visits each year. Females accounted for 24% with 95 fight / brawl violence-related visits each year.
- Females accounted for 93% of the sexual assault-related injuries, with an average of 12 sexual assault visits each year. Males accounted for the remaining 7%, with 1 sexual assault visit each year.
- Males accounted for 88% of the stabbing-related injury emergency department visits, with an average of 33 visits each year. Females accounted for 13%, with an average of 4 stabbing-related injury visits each year.
- Females accounted for 84% of the maltreatment-related emergency department visits, with an average of 9 visits each year. Males accounted for remaining 16%, with an average of 2 maltreatment-related visits each year.

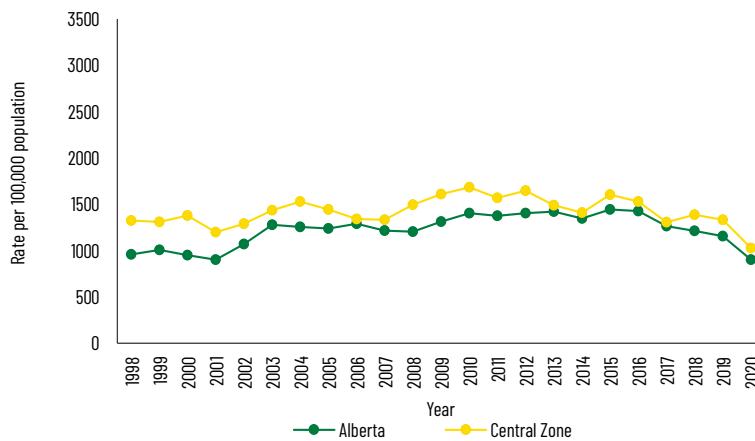
- Males accounted for 55% of the drug / liquid violence-related emergency department visits, with an average of 2 visits each year. Females accounted for the remaining 45%, with an average of 2 visits each year.
- Males accounted for 74% of the other / unspecified violence-related emergency department visits, with an average of 42 visits each year. Females accounted for the remaining 26%, with an average of 15 visits each year.
- Males accounted for 82% of the blunt object violence-related emergency department visits, with an average of 28 visits each year. Females accounted for the remaining 18%, with an average of 6 visits each year.

There were a couple of violence-related mechanisms in which the numbers are too small to provide detailed analysis. Over the 23 year period from 1998 to 2020 there were:

- 38 firearms-related injury visits
- 4 neglect / abandonment injury visits

Young Adults 20–24 years, Central Zone, 1998–2020

Sports-related Injuries Emergency Department Visit Rates



The Central Zone's sports-related injury visit rates were slightly higher than the Alberta rates with a couple of years in which the Central Zone rate was same / similar to the Alberta rate.

The Central Zone's sports-related injury rates experienced a slight increase average of 0.2% each year.

Alberta's sports-related injury rates increased an average of 0.9% each year.

Over the 23-year period:

- there were 10,154 sports-related emergency department visits of Central Zone's young adults aged 20 to 24 years. This equates to an average of 441 sports-related each year.
- 77% were male with an average of 341 sports-related emergency department visits each year. Females accounted for the remaining 23%, with an average of 101 sports-related emergency department visits each year.

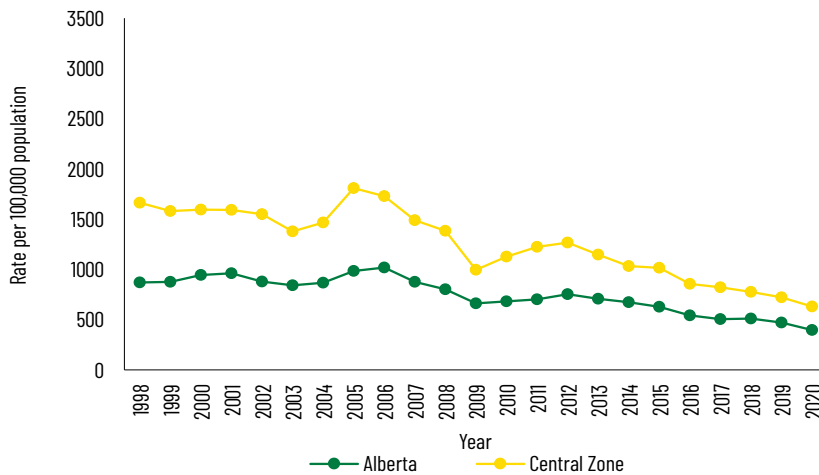
Of the sports-related injury emergency department visits¹:

- 20% were hockey-related
- 6% baseball-related
- 6% skateboard-related
- 5% basketball-related

¹ DIMR- Sport and Recreation Injury Code RMT# 20048 20180401- 20190331 Sept 2019

Young Adults 20–24 years, Central Zone, 1998–2020

Suffocation / choking / foreign body-related Injuries Emergency Department Visit Rates



The Central Zone's suffocation / choking / foreign body-related visit rates were consistently higher than the Alberta rates.

The Central Zone's suffocation / choking / foreign body-related visit rates experienced a statistically significant average decrease of 3.8% each year.

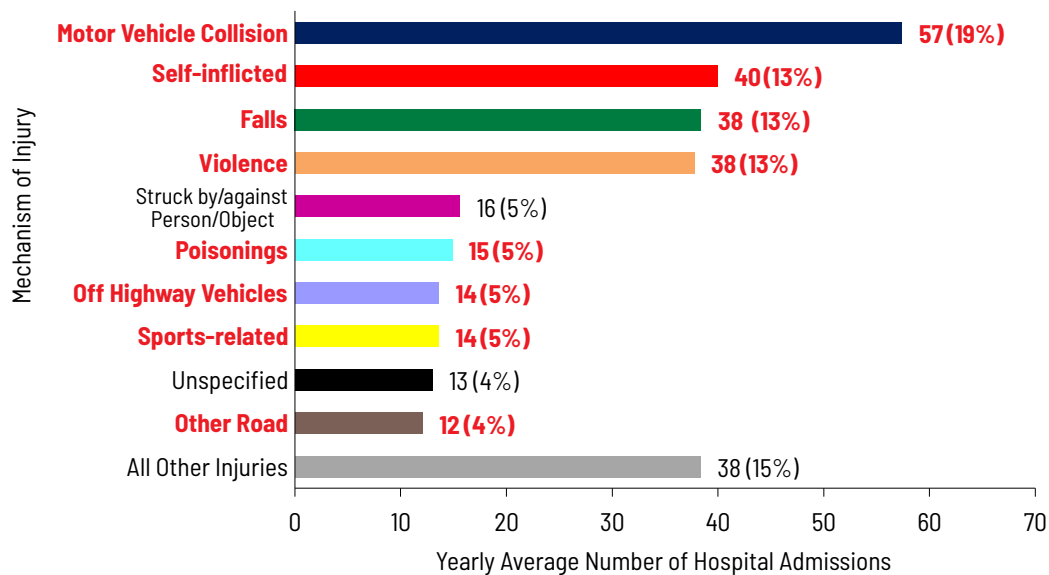
Alberta's suffocation / choking / foreign body-related visit rates had a statistically significant average decrease of 3.2% each year.

On average, there were 385 suffocation / choking / foreign body emergency department visits each year.

- 99% were as a result of a foreign body, with an average of 382 visits each year.
 - of the 382 foreign body injury-related visits, males accounted for 84%, with an average of 320 visits each year. Females accounted for the remaining 16%, with an average of 62 foreign body injury-related visits each year.

Young Adults 20–24 years, Central Zone, 1998–2020

Top 10 Mechanisms of Injury for Hospital Admissions



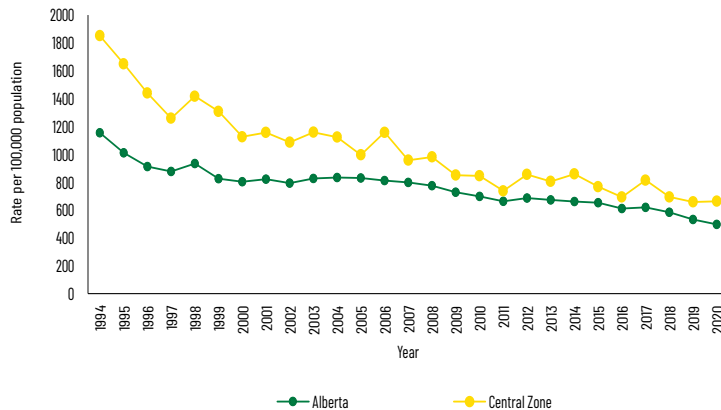
Not all of the leading mechanisms of injury have proven evidence-based injury prevention strategies. The mechanisms emphasized in **bold red** font have proven evidence-based injury prevention strategies; these mechanisms will be further highlighted in the report.

Those mechanisms which do not have proven evidence-based interventions will not be included in the remainder of this report.

- Overall, injuries (excluding adverse events medical complications) accounted for 8,104 hospital admissions. This equates to 300 admissions each year.
- the top 10 mechanisms of injury accounted for 85% of all injury-related visits with 6,915 admissions. This equates to 256 admission each year.

Young Adults 20–24 years, Central Zone, 1998–2020

Hospital Admissions by Mechanism of Injury

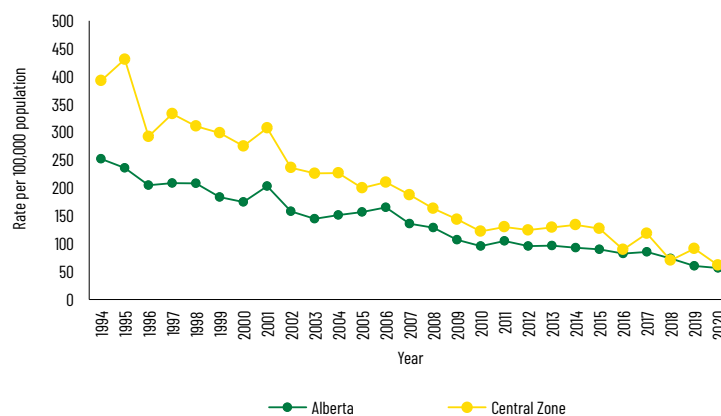


Overall Injuries

Over the 27-year period, Central Zone's overall injury (excluding adverse events and medical / surgical complications) rates were consistently higher than the provincial rates.

The Central Zone's overall injury hospital admission rates experienced a statistically significant average decrease of 3.4% each year.

Alberta rates experienced a statistically significant average decrease of 2.3% each year.

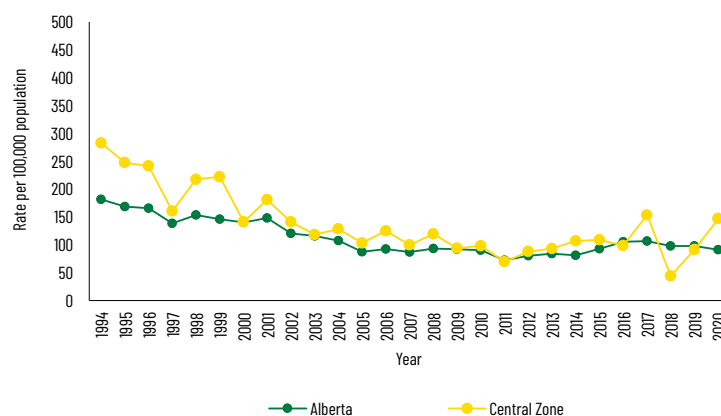


Motor Vehicle Collision

Over the 27-year period, Central Zone's motor vehicle collision injury admission rates were slightly higher than the provincial rates. There were many years in which the rates were very similar.

The Central Zone's motor vehicle collision injury admission rates experienced a statistically significant average decrease of 5.0% each year.

Alberta rates experienced a statistically significant average decrease of 6.1% each year.



Self-inflicted

Over the 27-year period, Central Zone's self-inflicted-related injury admission rates were similar to the provincial rates. There were a number of years in which the Central Zone was similar to the provincial rate.

The Central Zone's self-inflicted-related injury hospital admission rates experienced a statistically significant average decrease of 3.7% each year.

Alberta's self-inflicted-related injury admission rates experienced a statistically significant average decrease of 2.6% each year.

Young Adults 20–24 years, Central Zone, 1998–2020

Self-Inflicted Injuries Emergency Department Visits by Mechanism and Sex



Over the 23-year period from 1998 to 2020, there were 2,671 self-inflicted-related injury emergency department visits. These accounted for 2% of all injury emergency department visits, with an average of 116 visits each year.

Analysis of the leading mechanisms of self-inflicted injury hospital admissions by sex indicates:

- Of the yearly average of 40 self-inflicted injury hospital admissions, taking a solid / liquid drug / medication accounted for 79% of all self-inflicted hospital admissions, with an average of 32 admissions each year.
 - Females accounted for 62% of the self-inflicted injuries by taking a solid / liquid drug / medication, with an average of 19 admissions each year. The remaining 38% were males. Males experienced 12 self-inflicted injuries by taking a solid / liquid drug / medication admissions each year.

- Cutting / piercing accounted for 13% of all self-inflicted hospital admissions.
 - Males accounted for 53% of the self-inflicted injuries by cutting / piercing, with an average of 3 admissions each year. Females accounted for the remaining 47%, with an average of 2 hospital admissions of self-inflicted injuries by cutting / piercing.

There were a number of self-inflicted mechanisms in which the numbers are too small to provide detailed analysis. Over the 27-year period from 1994 to 2020, each year there were an average of:

- 5 cutting / piercing self-inflicted hospital admissions
- 2 admissions as a result of hanging
- 1 admission as a result of gas / vapours
- 1 admission due to other and unspecified means

Poisoning-related Injuries Hospital Admissions by Mechanism and Sex

Over the 23-year period, there were 4,255 unintentional and undetermined poisonings emergency department visits, accounting for 3% of all injury-related emergency department visits. This equates to an average of 185 unintentional / undetermined poisonings visits a year.

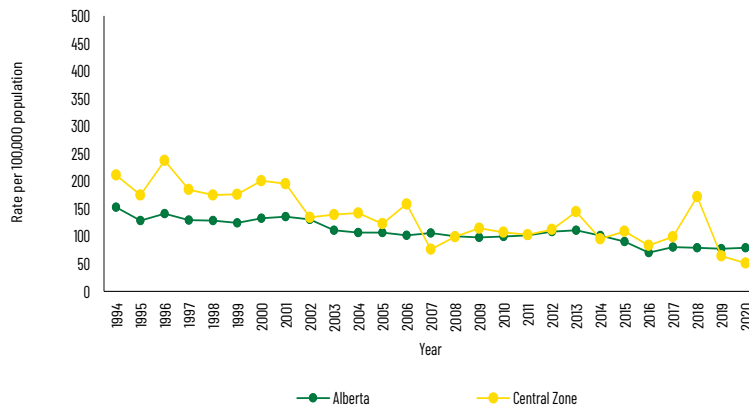
Poisoning-related hospital admissions accounted for 5% of all injury-related admissions, with 401 admissions over the 27

year-period from 1994 to 2020. This equates to 15 poisoning-related admissions each year.

Males accounted for 56% of the admissions, with an average of 8 admissions each year. Females accounted for 44% of the poisoning-related admissions, with an average of 6 admissions each year.

Young Adults 20–24 years, Central Zone, 1998–2020

Hospital Admissions by Mechanism of Injury

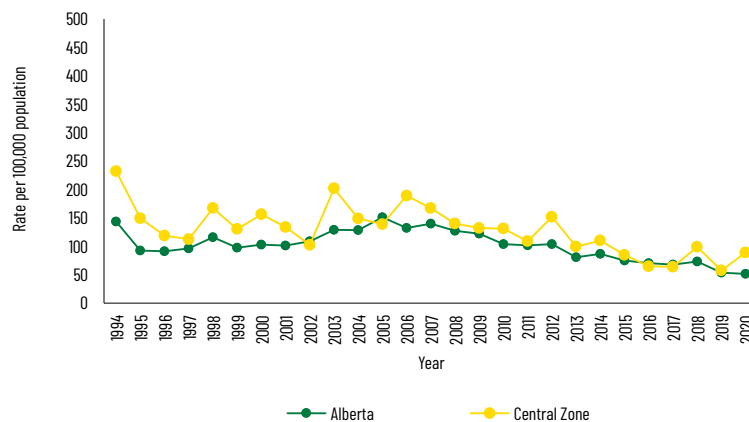


Falls

Over the 27-year period, Central Zone's fall-related hospital admission rates decreased similar to those of the province.

The Central Zone's fall-related injury hospital admission rates experienced a statistically significant average decrease of 3.1% each year.

Alberta rates experienced a statistically significant average decrease of 2.3% each year.

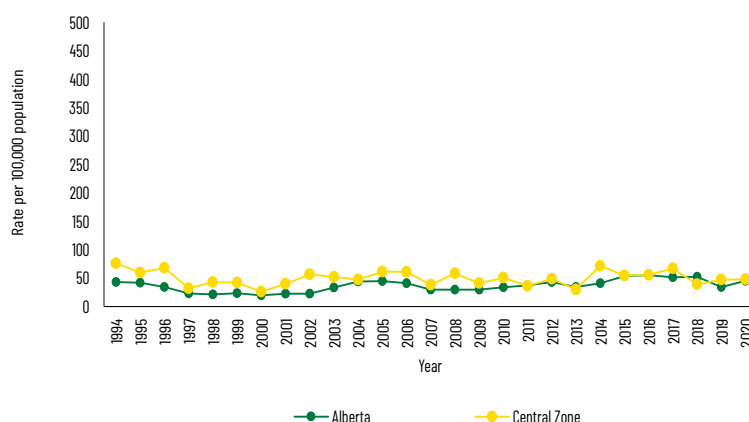


Violence

Over the 27-year period, Central Zone's violence-related injury admission rates were higher than the provincial rates.

The Central Zone's violence-related admission rates experienced a statistically significant average decrease of 2.8% each year.

Alberta admission rates experienced a statistically significant average decrease of 2.2% each year.



Poisonings (unintentional and undetermined)

Over the 27-year period, Central Zone's poisoning-related injury admission rates were higher than the provincial rates. There were a number of years in which the Central Zone's admission rate was similar to the provincial rate.

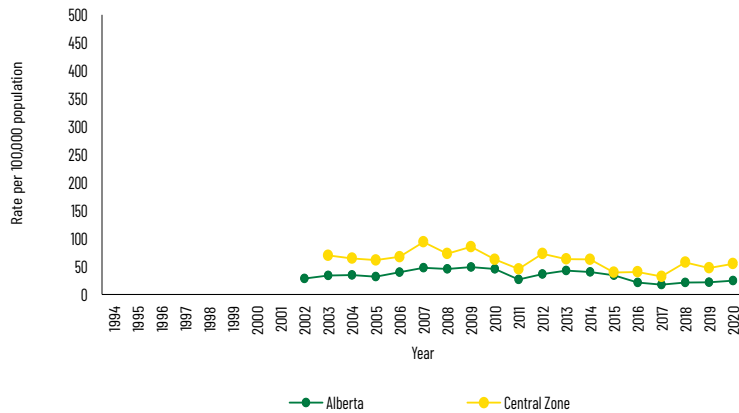
The Central Zone's poisoning-related admission rates had a decrease of 0.2% each year.

Alberta's poisoning-related admission rates experienced a statistically significant average decrease of 2.3% each year.

CENTRAL ZONE YOUTH AND YOUNG ADULT INJURIES

Young Adults 20–24 years, Central Zone, 1998–2020

Hospital Admissions by Mechanism of Injury, Young Adults 20–24 years, Central Zone, 1994–2020



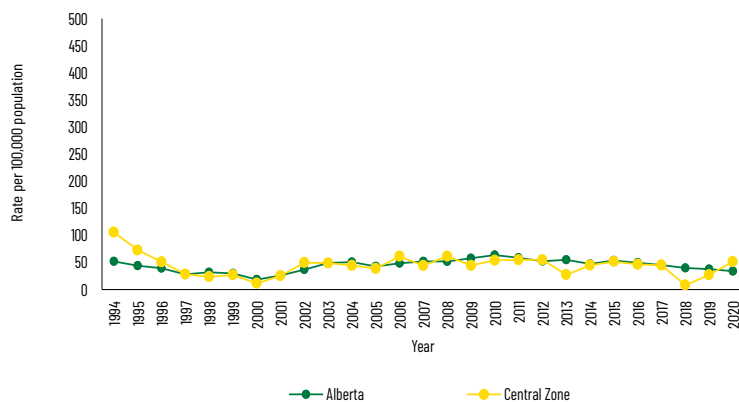
Off Highway Vehicles

Due to changes in coding classification, data for off-highway vehicle collisions is available effective April 1, 2002.

Over the 19 years Central Zone's off-highway vehicle collision injury hospital admission rates were consistently slightly higher than the provincial rates.

The Central Zone's off-highway vehicle collision injury rates experienced a statistically significant decrease of 2.7% each year.

Alberta rates experienced a statistically significant decrease of 2.7% each year.

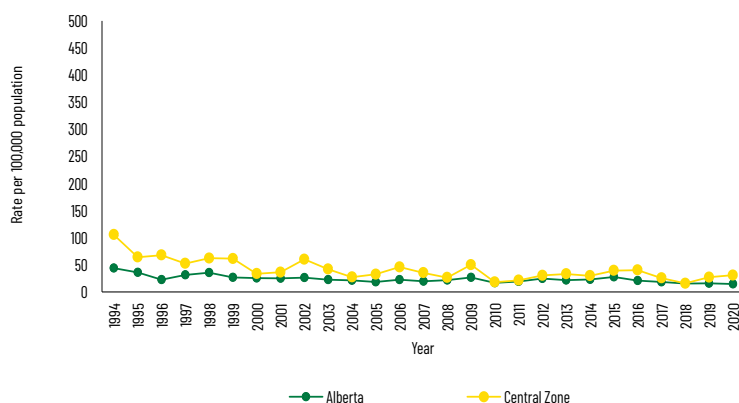


Sports-related

Over the 27 years the Central Zone's sports-related injury hospital admission rates were very similar to the provincial rates.

The Central Zone's sports-related admission rates experienced an average decrease of 1.4% each year.

Alberta admission rates experienced a decrease of 0.9% each year.



Other Road

Over the 27-year period, Central Zone's other road-related injury admissions rates were similar to the provincial rates.

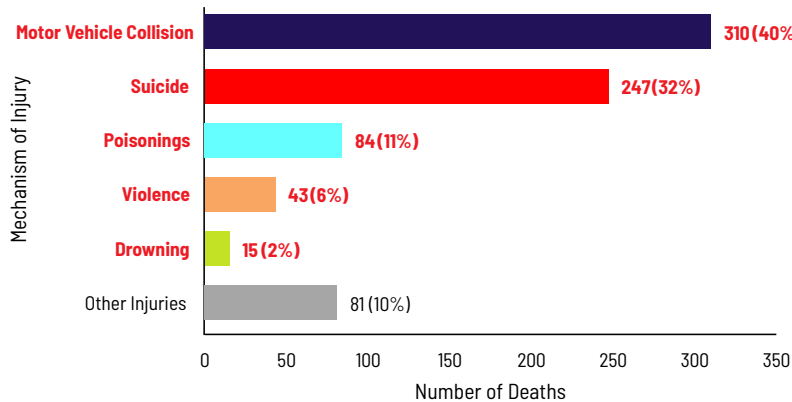
The Central Zone's other road-related rates experienced a statistically significant average decrease of 4.2% each year.

Alberta's other road-related rates experienced a statistically significant average decrease of 2.5% each year.

Young Adults 20–24 years, Central Zone, 1998–2020

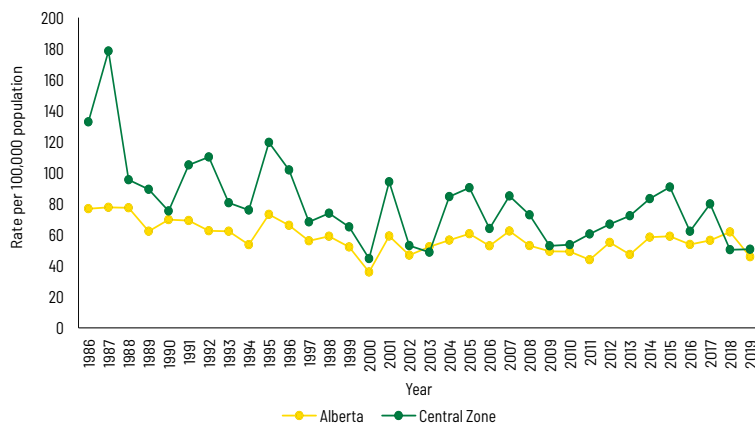
Top 5 Mechanisms of Injury for Deaths

Due to the low number of deaths, they will be reported as a total over the 34 years.



Over the 34-year period, there were 780 injury-related deaths (excluding adverse events and medical / surgical complications) of Central Zone's young adults aged 20 to 24 years. This equates to 23 injury deaths each year.

Injury-related Death Rates



Injuries (excluding adverse events)

Over the 34-year period, the Central Zone had overall injury death rates higher than the provincial rates.

The Central Zone's overall injury death rates experienced a statistically significant average annual decrease of 2.1% each year.

Alberta's overall injury rates experienced a statistically significant decrease of 1.0% each year.

Top 5 Mechanism of Injury of Deaths by Sex

Mechanism of Injury	Number of Deaths			Percent	
	Total	Female	Male	Female	Male
All Injuries (excluding adverse events / complications)	780	180	600	23%	77%
Poisonings	84	22	62	26%	74%
Motor Vehicle Collisions	310	76	234	25%	75%
Drowning	15	1	14	7%	93%
Suicide	247	51	196	21%	79%
Violence	43	16	27	37%	63%

If you would like additional information about this topic or other types of injuries, please visit <http://injurypreventioncentre.ca> or contact us via phone at **780.492.6019** or email ipc@ualberta.ca



INJURY PREVENTION CENTRE
4-248 ECHA, University of Alberta
11405 87 Ave NW
Edmonton AB T6G 1C9

Phone 780.492.6019
ipc@ualberta.ca

injurypreventioncentre.ca

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