

# **VIOLENCE-RELATED INJURIES IN ALBERTA**

INJURY PREVENTION CENTRE

May 2023



# VIOLENCE-RELATED INJURIES IN ALBERTA

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## 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.

This report focuses on the violence and purposely inflicted injury-related deaths, hospital admissions and emergency department visits in Alberta.

**Other includes:** assault by hanging, strangulation, or suffocation, drowning and submersion, explosive material, smoke, fire and flames, steam, hot vapours and hot objects, pushing from high place, pushing or placing victim before moving object, deliberately hitting or running over with motor vehicle, assault by other specified means, assassination, attempted assassination, homicide, manslaughter, and murder, assault by unspecified means.

Due to coding changes, prior to April 1, 2002, hospital admissions and emergency department visits for *blunt object injury-related violence* were counted as other *violence-related*.

### DEFINITIONS FOR PREVENTABLE LEADING CAUSES

**Violence includes:** 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.

**Firearms includes:** assault by handgun, rifle, shotgun, larger firearm, BB gun, air gun, other firearms, and unspecified firearms.

**Fight / brawl includes:** unarmed brawl or fight.

**Sexual assault includes:** rape, attempted rape, sodomy, attempted sodomy.

**Cutting / piercing includes:** assault by sharp object, stabbing not otherwise specified.

**Blunt object includes:** assault by blunt object.

## VIOLENCE-RELATED COSTING

Number	Firearms	Fight / Brawl	Sexual Assault	Cutting/Piercing (stabbing)	Blunt Object	Other
Deaths 2010 - 2019 <sup>i</sup>	259	29	2	260	8	166
Hospital Admissions 2011 - 2020 <sup>i</sup>	473	6,230	166	3,179	1,219	1,818
ED Visits 2011 - 2020 <sup>i</sup>	806	117,116	5,093	14,705	12,789	24,173
Disability (23% of hospital #) <sup>ii</sup>	109	1,433	38	731	280	418
<b>Costing</b>						
Hospital Admissions <sup>iii</sup>	\$19,607	\$13,680	\$13,799	\$9,187	\$12,619	\$12,619
ED Visits <sup>iii</sup>	\$861	\$403	\$294	\$563	\$471	\$471
Disability (2016 CAD dollars) <sup>iii</sup>	\$68,501	\$68,501	\$68,501	\$68,501	\$68,501	\$68,501
<b>Workforce Productivity Losses</b>						
Deaths (2016 CAD dollars) <sup>iii</sup>	\$770,375	\$770,375	\$770,375	\$770,375	\$770,375	\$770,375
Hospital Admissions (2016 CAD dollars) <sup>iii</sup>	\$931	\$931	\$931	\$931	\$931	\$931
Disability from Hospital Admission (2016 CAD dollars) <sup>iii</sup>	\$47,539	\$47,539	\$47,539	\$47,539	\$47,539	\$47,539
<b>Human Costs</b>						
Loss of Life (deaths)(2016 CAD dollars) <sup>iii</sup>	\$7,530,000	\$7,530,000	\$7,530,000	\$7,530,000	\$7,530,000	\$7,530,000

Costs	Firearms	Fight / Brawl	Sexual Assault	Cutting/Piercing (stabbing)	Blunt Object	Other	10 yr Total	Yrly Avg.
Deaths	\$2,149,797,125	\$240,710,875	\$16,600,750	\$2,158,097,500	\$66,403,000	\$1,377,862,250	\$6,009,471,500	\$600,947,150
Hospital Admissions	\$27,528,168	\$97,959,573	\$15,137,711	\$37,757,251	\$27,130,897	\$34,689,691	\$240,203,291	\$24,020,329
Ed Visits	\$694,278	\$47,231,829	\$1,497,612	\$8,279,180	\$6,019,565	\$11,377,820	\$75,100,283	\$7,510,028
Disability	\$7,452,224	\$98,155,083	\$2,615,368	\$50,085,876	\$19,205,625	\$28,643,008	\$206,157,185	\$20,615,718
<b>Total</b>	<b>\$2,185,471,794</b>	<b>\$484,057,359</b>	<b>\$35,851,442</b>	<b>\$2,254,219,807</b>	<b>\$118,759,088</b>	<b>\$1,452,572,770</b>	<b>\$6,530,932,259</b>	<b>\$6,530,932,259</b>
<b>Trly Costs</b>	<b>\$218,547,179</b>	<b>\$48,405,736</b>	<b>\$3,585,144</b>	<b>\$225,421,981</b>	<b>\$11,875,909</b>	<b>\$145,257,277</b>	<b>\$653,093,226</b>	<b>\$653,093,226</b>
<b>Percent of Total Costs</b>	<b>33%</b>	<b>7%</b>	<b>1%</b>	<b>35%</b>	<b>2%</b>	<b>22%</b>	<b>100%</b>	<b>100%</b>

i Source: Injury Prevention Centre. Aggregate Data, received October 2021.

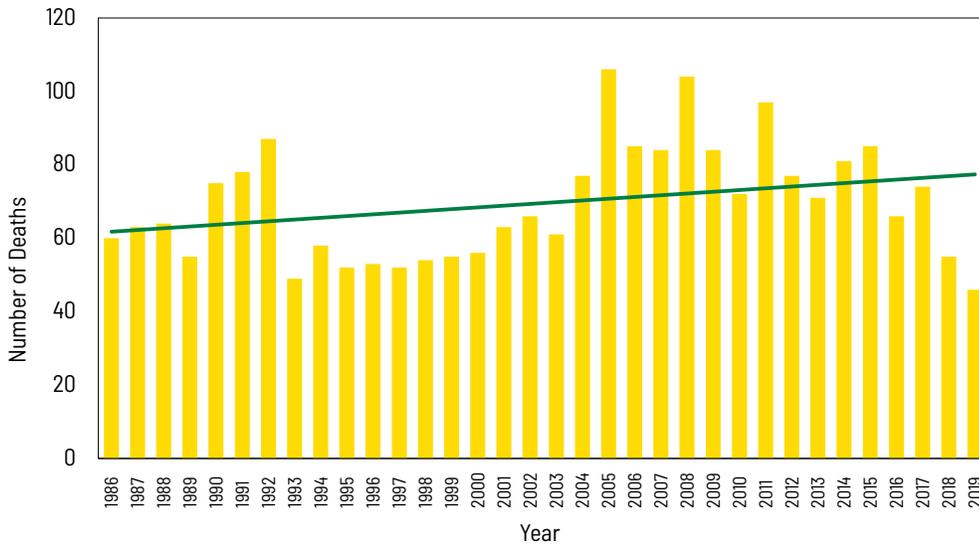
ii Source: BC Injury Research and Prevention Unit (BCIRPU). Accessed March 2023. Available at: <https://www.injuryresearch.bc.ca/the-price-we-pay-for-gun-violence-in-british-columbia>

iii Source: Alberta Health. Analytics Performance and Reporting Branch, Health Standards, Quality and Performance Division.

Overall, on average, violence-related injuries cost \$653 million each year. Cutting / piercings (stabbing)-related injuries accounted for 35% of the costs with \$225 million each year. Firearms-related injuries accounted for 33% with \$218 million each year. Other-related violence injuries accounted for 22% with \$145 million each year. Fight / brawl-related injuries accounted for 7% with \$48 million each year. Blunt object-related injuries accounted for 2% with \$12 million each year. Sexual assault-related injuries accounted for 1% with \$4 million each year.

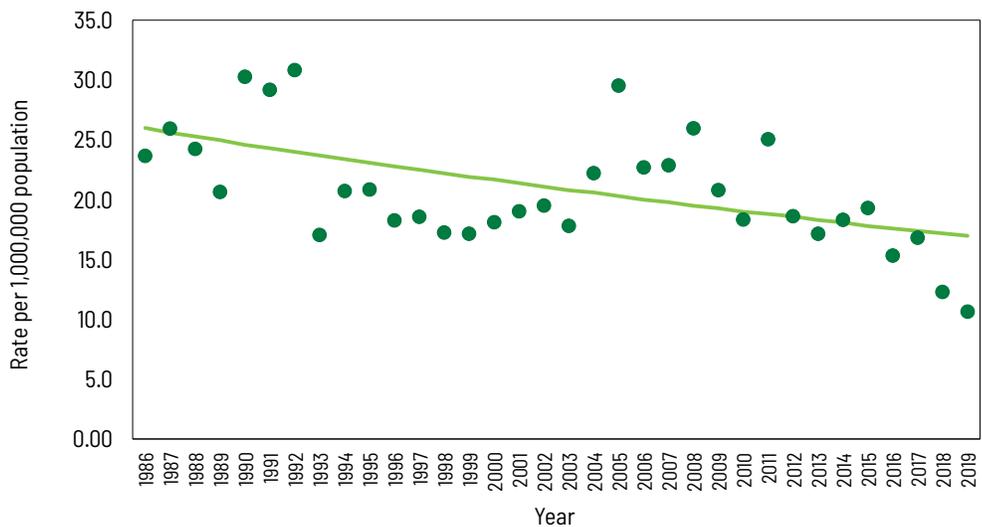
## VIOLENCE-RELATED INJURY DEATHS

**Number of Violence-related Injury Deaths, Alberta, 1986 - 2019**



Over the 34-year period from 1986 to 2019, there were 2,365 violence-related deaths. There was an increase in the number of violence-related deaths during this time period. During the first 17 years (1986 to 2002), on average, there were 61 violence-related deaths each year. During the latter 17 years (2003 to 2019), on average, there were 79 violence-related deaths each year. This is a 30% increase between the averages for the two time periods.

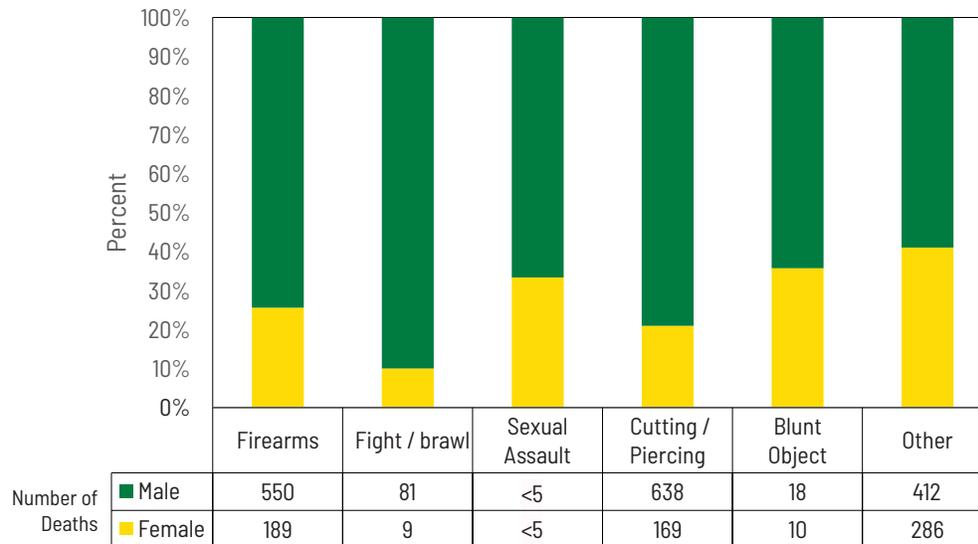
**Violence-related Injury Death Rates, Alberta, 1986 - 2019**



Over the 34-year period from 1986 to 2019, the violence-related injury death rate experienced a statistically-significant decrease of 1.3% each year. Even though the number of violence-related deaths increased, the age-standardized rate decreased. This is due to an increase in the Alberta population.

## VIOLENCE-RELATED INJURY DEATHS

### Percent of Violence-related Injury Deaths by Mechanism and Sex, Alberta, 1986 - 2019



Over the 34-year period from 1986 to 2019, there were 2,365 violence-related deaths in Alberta. Males accounted for 72% (n=1,701). Females accounted for the remaining 28% (n=664).

Of the violence-related deaths:

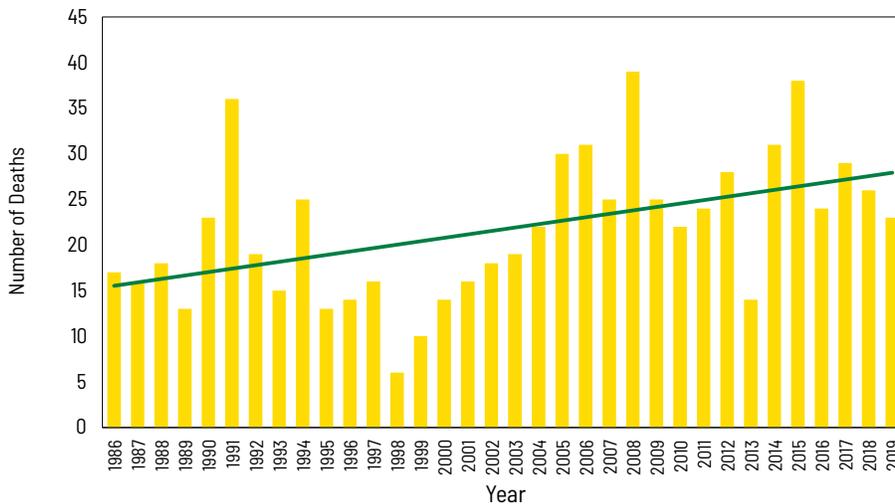
- 74% of the firearms-related deaths were males (n=550), 26% were females (n=189)
- 90% of the fight / brawl-related deaths were males (n=81), 10% were females (n=9)
- 67% of the sexual assault-related deaths were females (n=<5), 33% were males (n=<5)
- 79% of the cutting / piercing (stabbing)-related deaths were males (n=638), 21% were females (n=169)
- 64% of the blunt object-related deaths were males (n=18), 36% were females (n=10)
- 59% of other violence-related deaths were males (n=412), 41% were females (n=286)

Due to small numbers, the following violence-related mechanisms will not be reported in detail:

- sexual assault
- blunt object

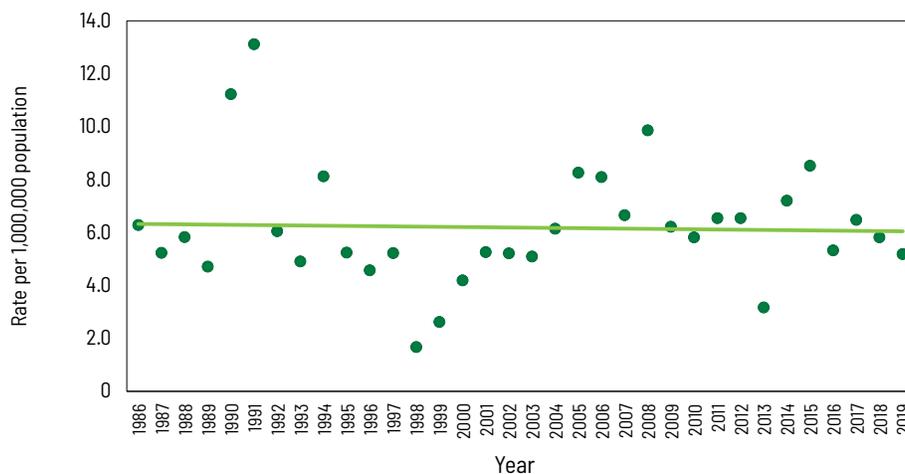
## FIREARMS-RELATED DEATHS

**Number of Firearms-related Injury Deaths, Alberta, 1986 - 2019**



Over the 34-year period from 1986 to 2019, there were 739 firearms-related deaths in Alberta. There was an increase in the number of firearm-related deaths during this time period. During the first 17 years (1986 to 2002), on average, there were 17 firearms-related deaths each year. During the latter 17 years (2003 to 2019), on average, there were 26 firearms-related deaths each year. This is a 53% increase between the averages for the two time periods.

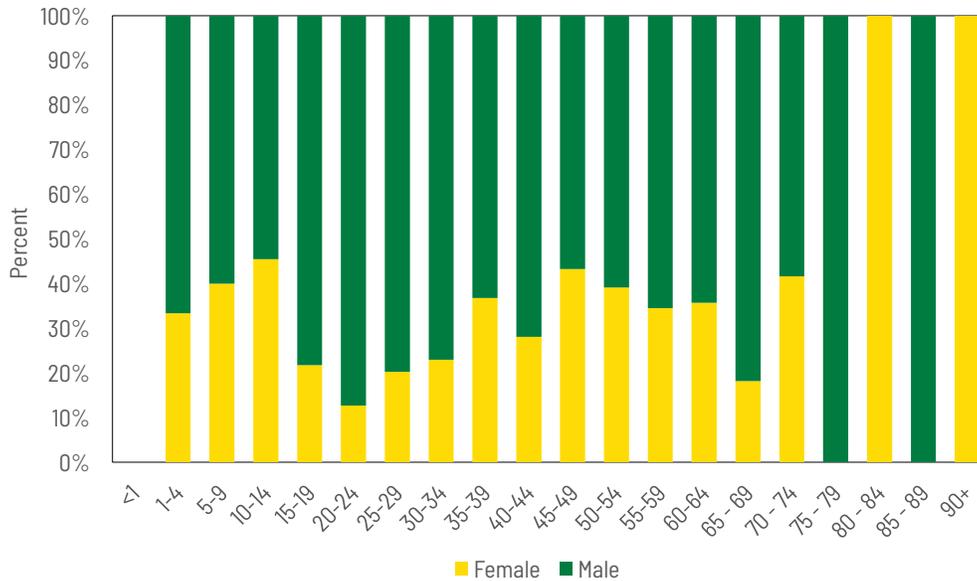
**Firearms-related Injury Death Rates, Alberta, 1986 - 2019**



Over the 34-year period from 1986 to 2019, the firearms-related injury death rate experienced a slight decrease of 0.4% each year. Even though the number of firearms-related deaths increased, the age-standardized rate decreased. This is due to an increase in the Alberta population.

## FIREARMS-RELATED DEATHS

**Percent of Firearms-related Injury Deaths by Age Group and Sex, Alberta, 1986 - 2019**



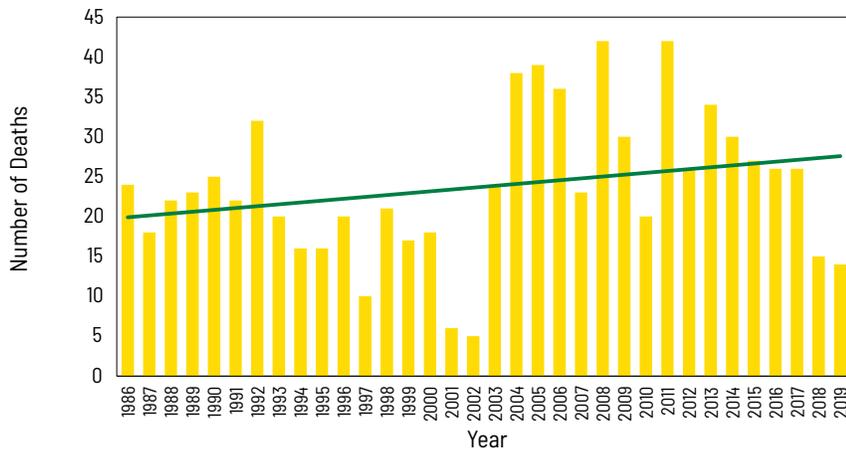
Over the 34-year period from 1986 to 2019, there were 739 firearms-related deaths in Alberta. The majority of the deaths (74%), were males (n=550). The remaining 26% were females (n=189).

For firearms-related deaths of the age groups 75 to 79, and 85 to 89 years of age, males accounted for 100%. The number of deaths in each age group is less than 5 deaths.

For firearms-related deaths of the age groups 80 to 84, and 90+ years of age, females accounted for 100%. The number of deaths in each age group is less than 5 deaths.

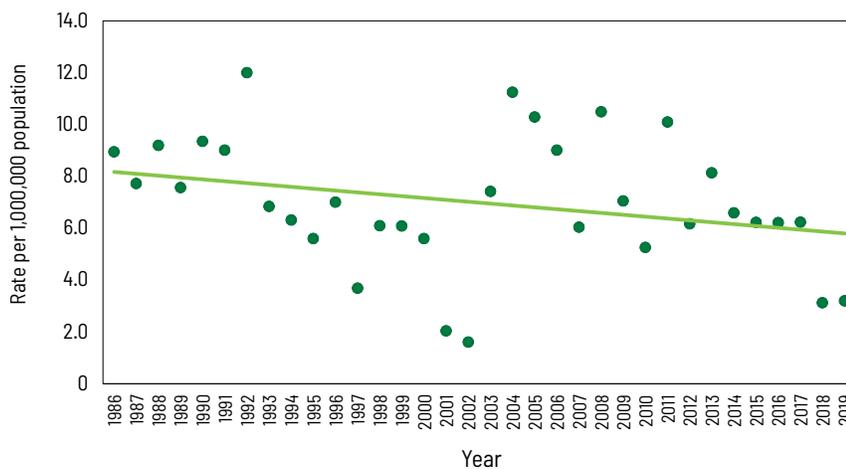
## CUTTING / PIERCING (STABBING)-RELATED DEATHS

### Number of Cutting / Piercing (stabbing)-related Injury Deaths, Alberta, 1986 - 2019



Over the 34-year period from 1986 to 2019, there were 807 cutting / piercing (stabbing)-related deaths in Alberta. There was an increase in the number of cutting / piercing (stabbing)-related deaths during this period. During the first 17 years (1986 to 2002), on average, there were 19 cutting / piercing (stabbing)-related deaths each year. During the latter 17 years (2003 to 2019), on average, there were 29 cutting / piercing (stabbing)-related deaths each year. This is a 53% increase between the averages for the two time periods.

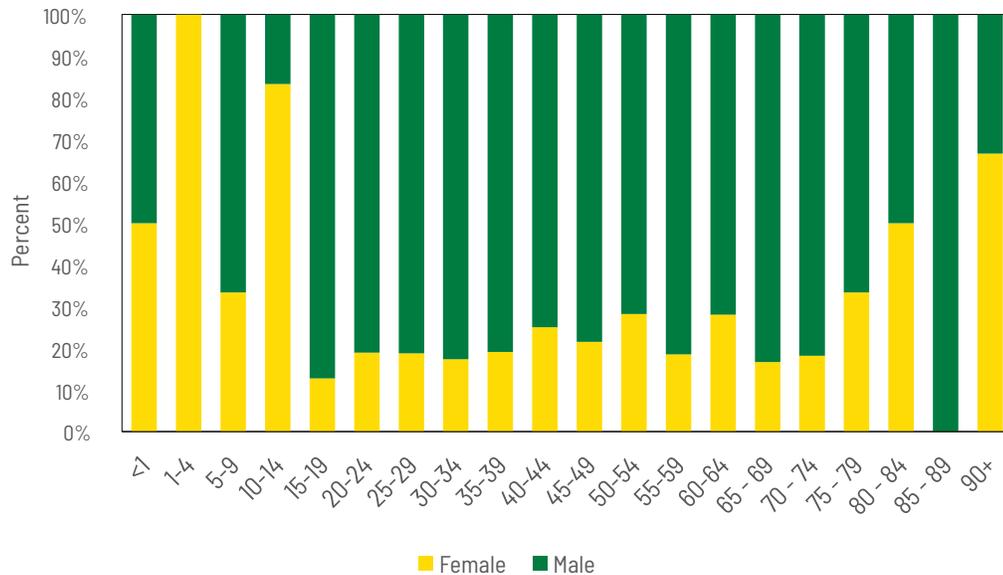
### Cutting / piercing (stabbing)-related Injury Death Rates, Alberta, 1986 - 2019



Over the 34-year period from 1986 to 2019, the cutting / piercing (stabbing)-related injury death rate experienced a decrease of 1.0% each year. Even though the number of cutting / piercing (stabbing)-related deaths increased, the age-standardized rate decreased. This is due to an increase in the Alberta population.

## CUTTING / PIERCING (STABBING)-RELATED DEATHS

**Percent of Cutting / piercing (stabbing) Injury-related Deaths by Age Group and Sex, Alberta, 1986 - 2019**



Over the 34-year period from 1986 to 2019, there were 807 cutting / piercing (stabbing) injury-related deaths in Alberta. The majority of the deaths (79%) were males (n=638). The remaining 21% were females (n=169).

For cutting / piercing (stabbing) injury-related deaths of the age group 1 to 4 years of age, females accounted for 100%. The number of deaths in this age group is less than 5 deaths.

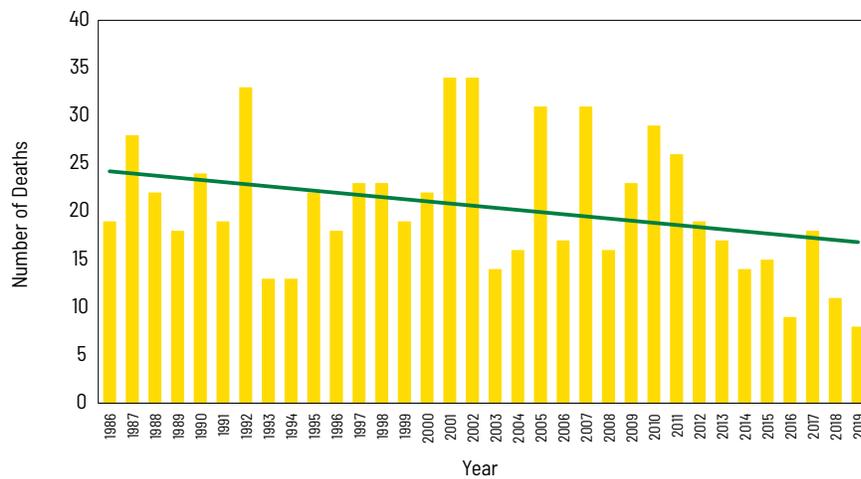
For cutting / piercing (stabbing) injury-related deaths of the age group 85 to 90 years of age, males accounted for 100%. The number of deaths in this age group is less than 5 deaths.

For cutting / piercing (stabbing) injury-related deaths of the age groups for 75 years of age and older, there were fewer than 5 deaths in each age group.

## DEATHS FROM OTHER INJURIES

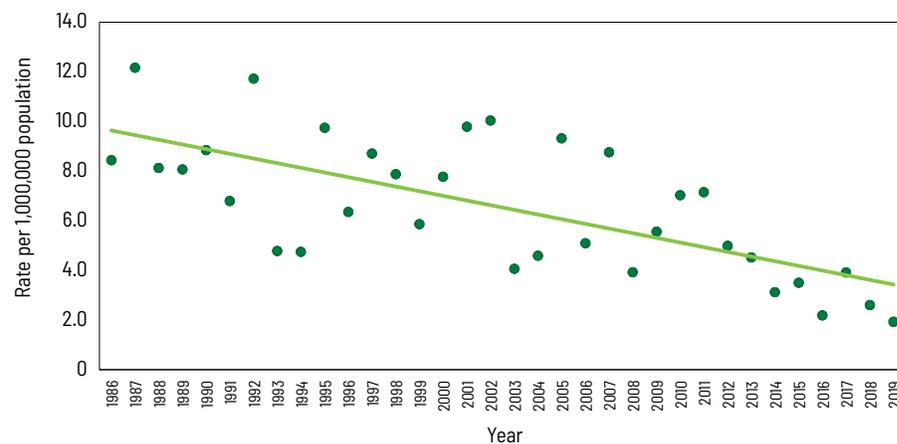
**Other includes:** assault by hanging, strangulation, or suffocation; drowning and submersion; explosive material, smoke, fire and flames, steam, hot vapours and hot objects; pushing from high place, pushing or placing victim before moving object; deliberately hitting or running over with motor vehicle; assault by other specified means; assassination, homicide, manslaughter, and murder; assault by unspecified means.

### Number of Other Violence-related Injury Death, Alberta, 1986 - 2019



Over the 34-year period from 1986 to 2019 there were 698 other violence-related deaths in Alberta. There was a decrease in the number of other violence-related deaths during this time period. During the first 17 years (1986 to 2002), on average, there were 23 other violence-related deaths each year. During the latter 17 years (2003 to 2019), on average, there were 18 other violence-related deaths each year. This is a 28% decrease between the averages for the two time periods.

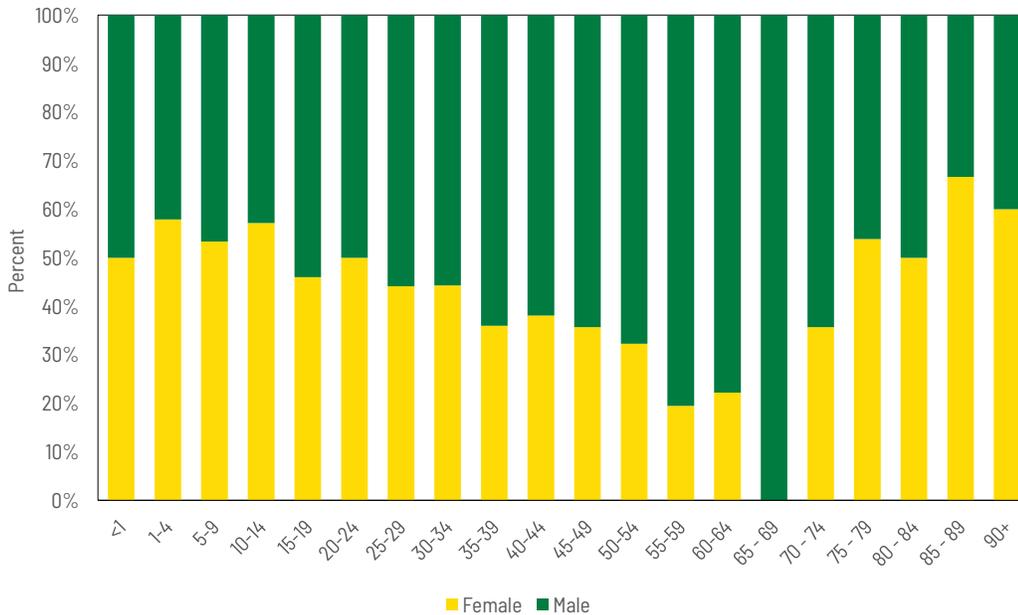
### Other Violence-related Injury Death Rates, Alberta, 1986 - 2019



Over the 34-year period from 1986 to 2019, the other violence-related injury death rate experienced a statistically significant decrease of 3.0% each year.

## DEATHS FROM OTHER INJURIES

**Percent of Other Violence-related Injury Deaths by Age Group and Sex, Alberta, 1986 - 2019**

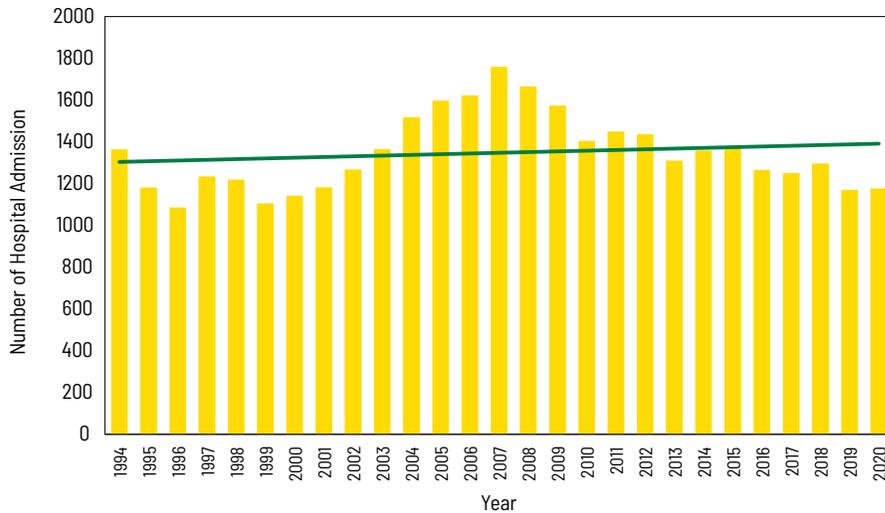


Over the 34-year period from 1986 to 2019, there were 698 other violence-related deaths in Alberta. The majority of the deaths (59%) were males (n=412). The remaining 41% were females (n=286).

For other violence-related deaths of the age group 65 to 69 years of age, males accounted for 100%.

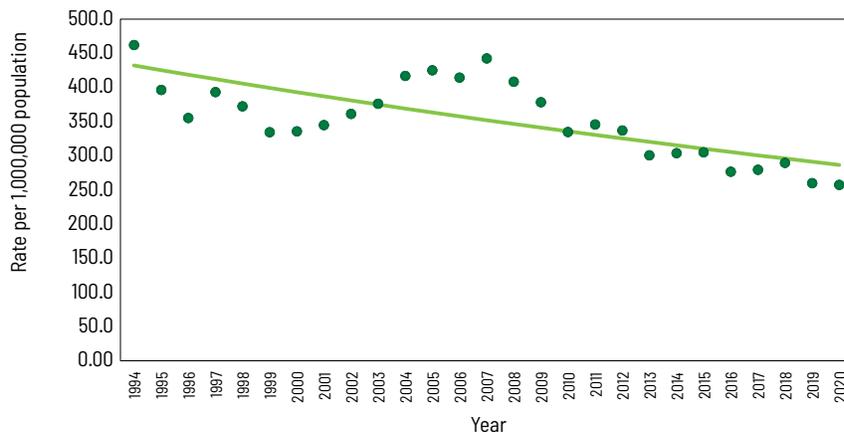
## VIOLENCE-RELATED HOSPITAL ADMISSIONS

**Number of Violence-related Injury Hospital Admissions, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, there were 36,379 violence-related hospital admissions. This equates to 1,347 violence-related hospital admissions each year. There was an increase in the number of violence-related hospital admissions during this time period. During the first 13 years (1994 to 2006), on average, there were 1,299 violence-related hospital admissions each year. During the latter 14 years (2007 to 2020), on average, there were 1,392 violence-related hospital admissions each year. This is a 7% increase between the averages for the two time periods.

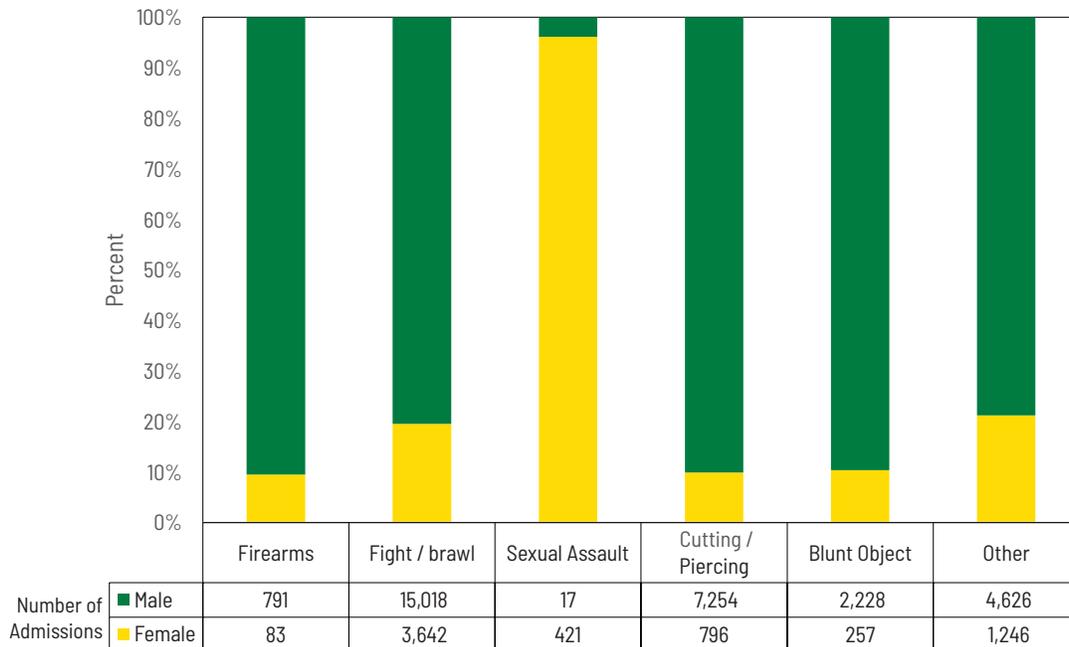
**Violence-related Injury Hospital Admission Rates, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, the violence-related injury hospital admission rate experienced a statistically-significant decrease of 1.6% each year. Even though the number of violence-related hospital admissions increased, the age-standardized rate decreased. This is due to an increase in the Alberta population.

## VIOLENCE-RELATED HOSPITAL ADMISSIONS

### Percent of Violence-related Injury Hospital Admissions by Mechanism and Sex, Alberta, 1994 - 2020



Over the 27-year period from 1994 to 2020, there were 36,379 violence-related hospital admissions in Alberta. Males accounted for 82% (n=29,934) of violence-related hospital admissions; females accounted for the remaining 18% (n=6,445) of violence-related hospital admissions.

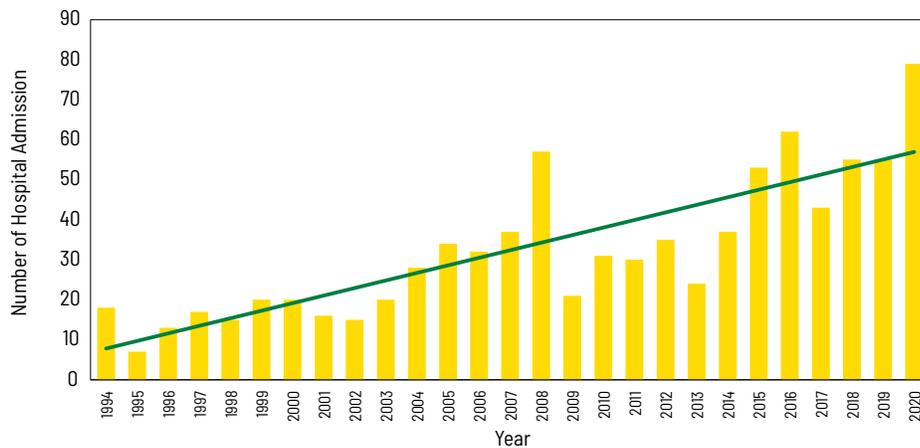
Of the violence-related deaths:

- 91% of the firearms-related hospital admissions were males (n=791); 9% were females (n=83)
- 80% of the fight / brawl-related admissions were males (n=15,008); 20% were females (n=3,642)
- 96% of the sexual assault-related hospital admissions were females (n=421); 4% were males (n=17)
- 90% of the cutting / piercing (stabbing)-related hospital admissions were males (n=7,254); 10% were females (n=796)
- 90% of the blunt object-related hospital admissions were males (n=2,228); 10% were females (n=257)
- 79% of other violence-related hospital admissions were males (n=4,626); 21% were females (n=1,246)

It should be noted that prior to April 1, 2002, *assault by blunt object* would have been included in *other assaults*.

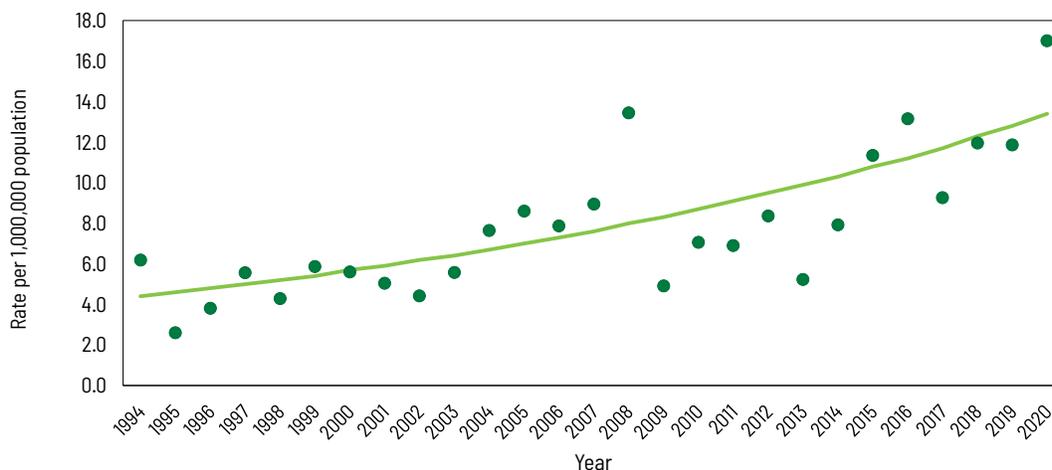
## FIREARMS-RELATED HOSPITAL ADMISSIONS

**Number of Firearms-related Injury Hospital Admissions, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, there were 874 firearms-related injury hospital admissions. This equates to 32 firearms-related injury hospital admissions each year. There was an increase in the number of firearms-related injury hospital admissions during this time period. During the first 13 years (1994 to 2006), on average, there were 20 firearms-related injury hospital admissions each year. During the latter 14 years (2007 to 2020), on average, there were 44 firearms-related injury hospital admissions each year. This is a 120% increase between the averages for the two time periods.

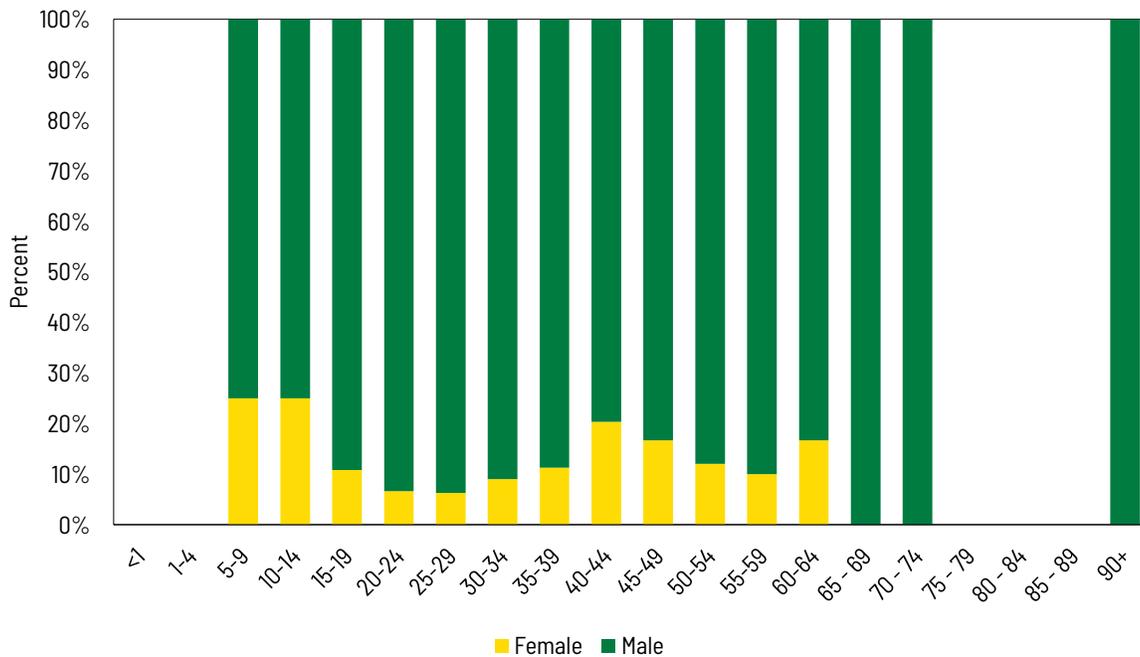
**Firearms-related Injury Hospital Admission Rates, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, the firearms-related injury hospital admission rate experienced a statistically-significant increase of 4.4% each year.

## FIREARMS-RELATED HOSPITAL ADMISSIONS

**Percent of Firearms-related Injury Hospital Admissions Deaths by Age Group and Sex, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, there were 874 firearms-related injury hospital admissions in Alberta. The majority of the admissions (91%) were males (n=791). This equates to 29 firearms-related injury hospital admissions each year.

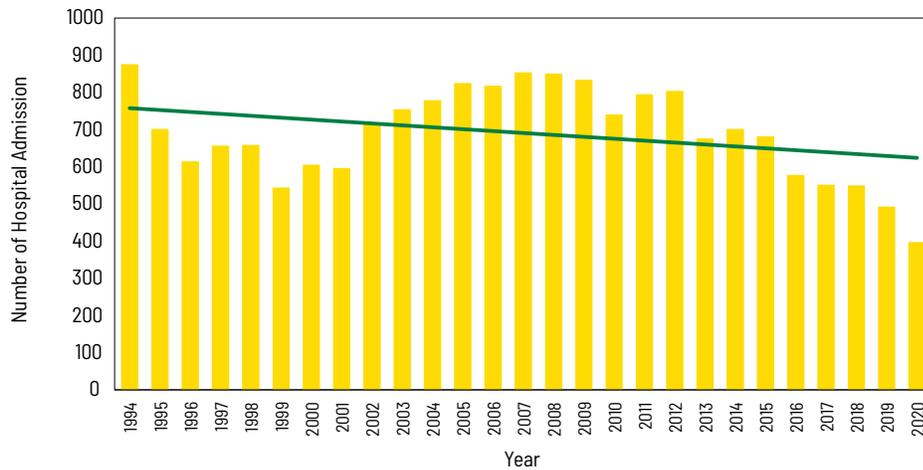
The remaining 9% of firearms-related injury hospital admissions were females (n=83). This equates to 3 firearms-related injury hospital admissions each year.

There were no firearms-related injury hospital admissions for children less than 4 years of age, nor those 75 to 89 years of age.

For firearms-related injury hospital admissions of those 70 to 74 years of age, and those aged 90 and older, there were fewer than 5 hospital admissions in each age group.

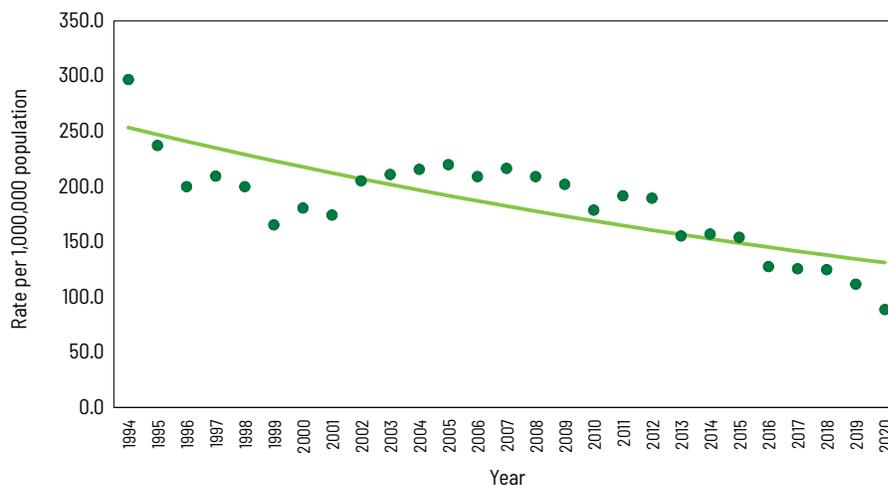
## FIGHT / BRAWL HOSPITAL ADMISSIONS

**Number of Fight / brawl-related Injury Hospital Admissions, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, there were 18,660 fight / brawl-related injury hospital admissions. This equates to 691 fight / brawl-related injury hospital admissions each year. There was a decrease in the number of fight / brawl-related injury hospital admissions during this time period. During the first 13 years (1994 to 2006), on average, there were 703 fight / brawl-related injury hospital admissions each year. During the latter 14 years (2007 to 2020), on average, there were 679 fight / brawl-related injury hospital admissions each year. This is a 3% decrease between the averages for the two time periods.

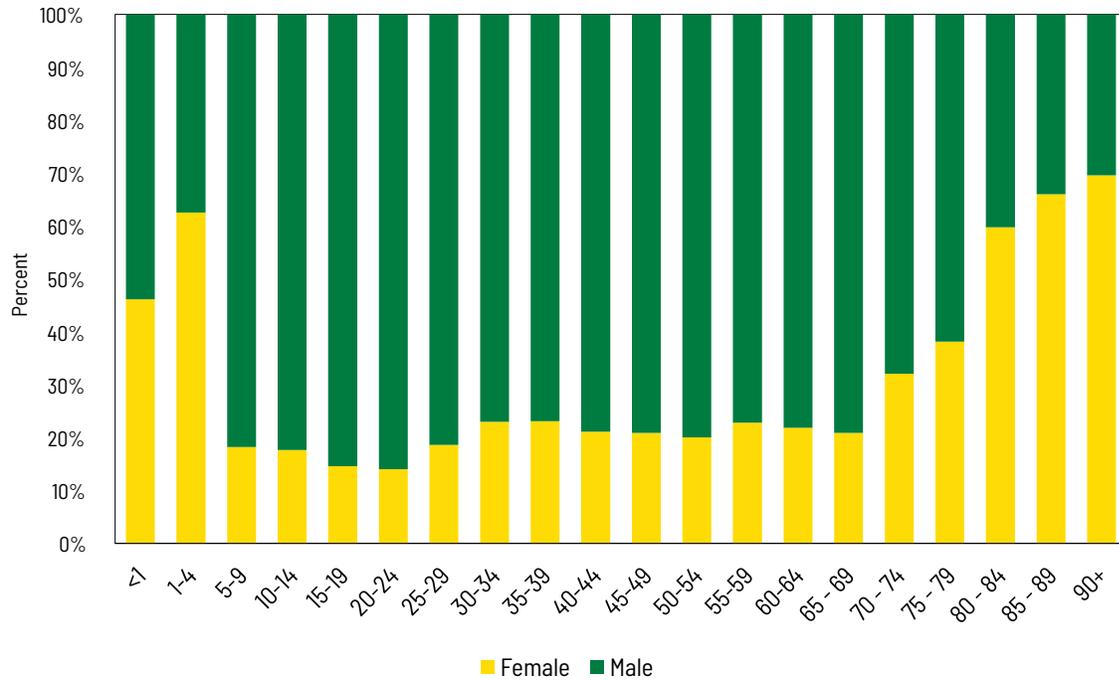
**Fight / brawl-related Injury Hospital Admission Rates, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, the fight / brawl-related injury hospital admission rate experienced a statistically-significant decrease of 2.5% each year.

## FIGHT / BRAWL HOSPITAL ADMISSIONS

**Percent of Fight / brawl-related Injury Hospital Admissions by Age Group and Sex, Alberta, 1994 - 2020**

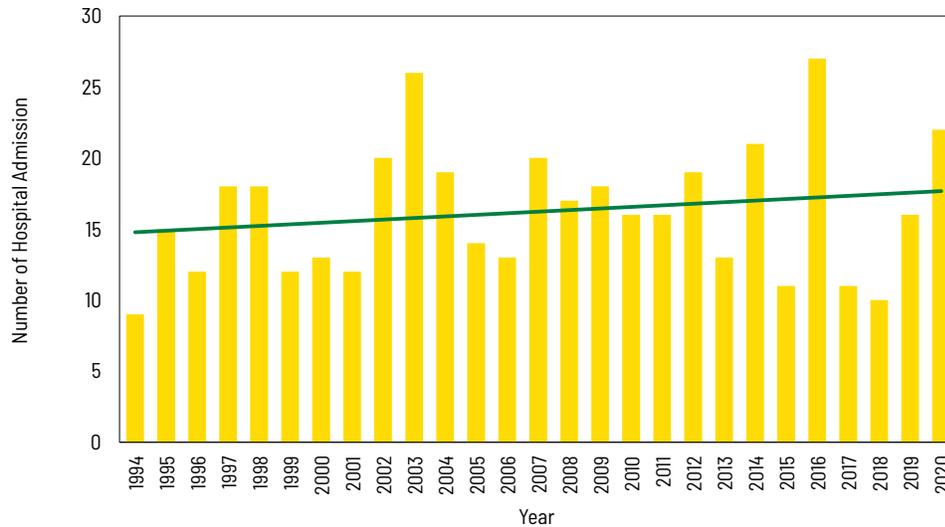


Over the 27-year period from 1994 to 2020, there were 18,660 fight / brawl-related injury hospital admissions in Alberta. The majority of the admissions (80%) were males (n=15,018). This equates to 556 fight / brawl-related injury hospital admissions each year.

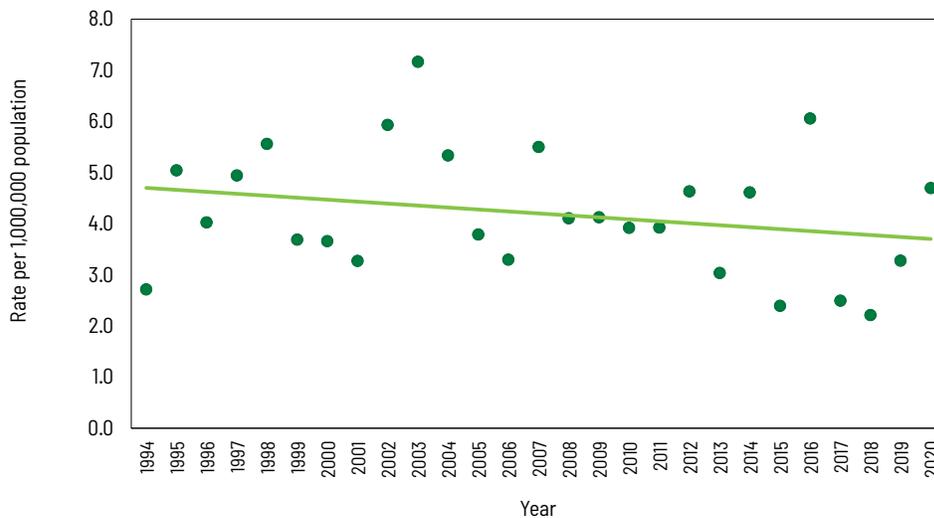
The remaining 20% of fight / brawl-related injury hospital admissions were females (n=3,642). This equates to 135 fight / brawl-related injury hospital admissions each year.

## SEXUAL ASSAULT HOSPITAL ADMISSIONS

**Percent of Violence-related Injury Deaths by Mechanism and Sex, Alberta, 1994 - 2020**



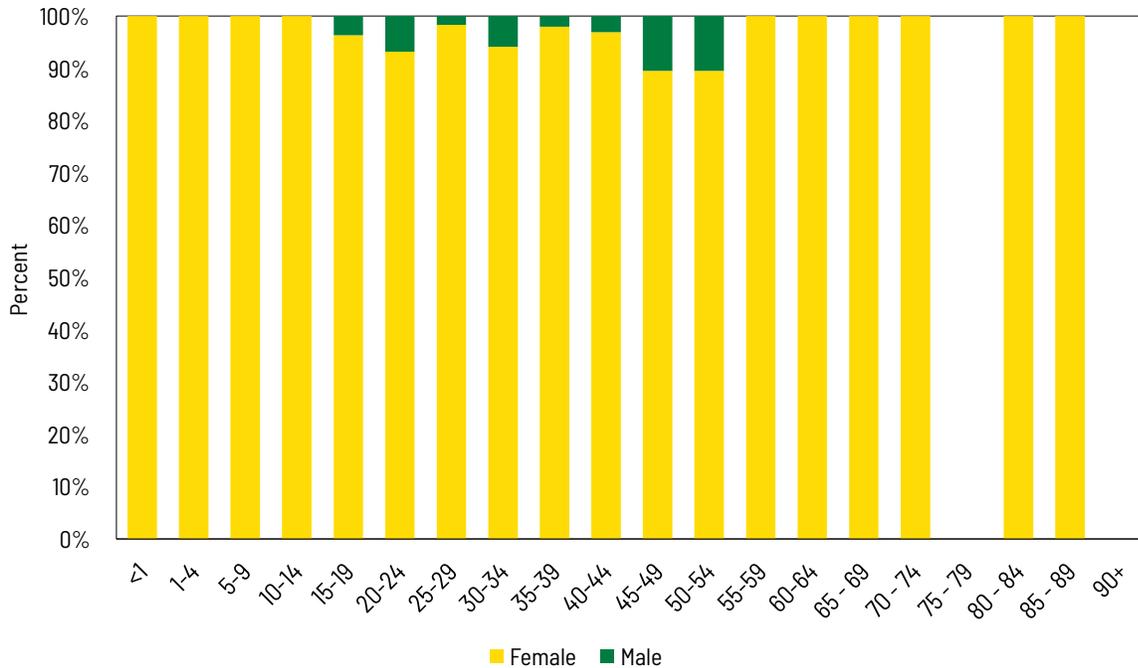
Over the 27-year period from 1994 to 2020, there were 438 sexual assault-related injury hospital admissions. There was an increase in the number of sexual assault-related injury hospital admissions during this time period. During the first 13 years (1994 to 2006), on average, there were 15 sexual assault-related injury hospital admissions each year. During the latter 14 years (2007 to 2020), on average, there were 17 sexual assault-related injury hospital admissions each year. This is a 13% increase between the averages for the two time periods.



Over the 27-year period from 1994 to 2020, the sexual assault-related injury hospital admission rate experienced a decrease of 0.9% each year. Even though the number of sexual assault-related injury hospital admission increased, the age-standardized rate decreased. This is due to an increase in the Alberta population.

## SEXUAL ASSAULT HOSPITAL ADMISSIONS

**Percent of Sexual Assault-related Injury Hospital Admissions by Age Group and Sex, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, there were 438 sexual assault-related injury hospital admissions in Alberta. The majority of the admissions (96%) were females (n=421). This equates to 16 sexual assault-related injury hospital admissions each year.

Sexual-assault was the only mechanism of violence-related injury hospital admissions in which the percent of admissions were higher for females than males.

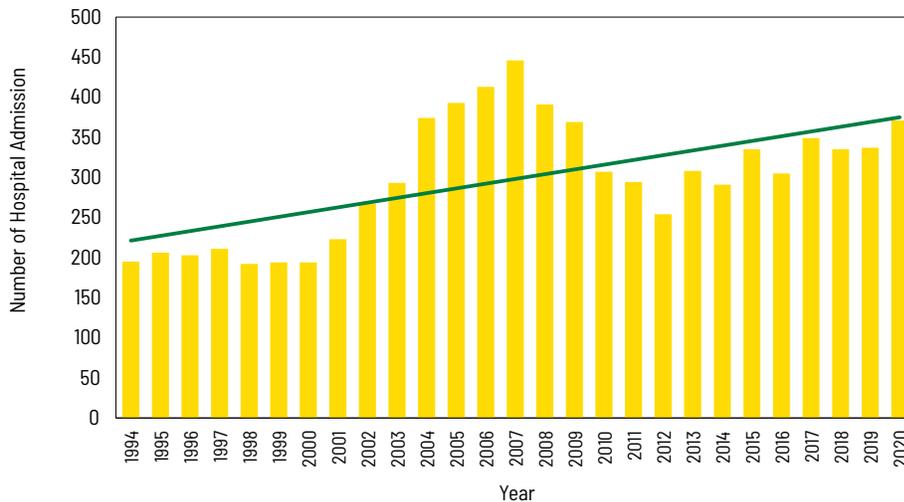
The remaining 4% of sexual assault-related injury hospital admissions were males (n=17). This equates to less than 1 sexual assault-related injury hospital admissions each year.

There were no sexual assault-related injury hospital admissions for those 75 to 79 and 90+ years of age.

For those less than 1 year of age, those aged 65 to 69 years, and those aged 85 to 89 years, there were fewer than 5 hospital admissions in each age group.

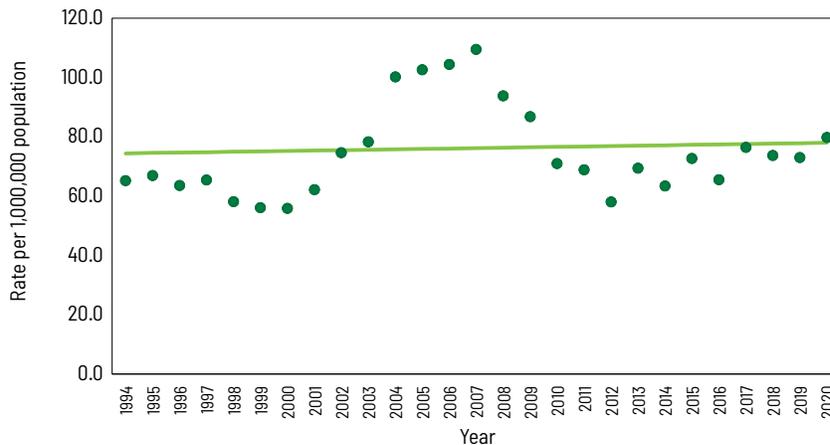
## CUTTING / PIERCING (STABBING) HOSPITAL ADMISSIONS

**Number of Cutting / Piercing (stabbing)-related Injury Hospital Admissions, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, there were 8,050 cutting / piercing (stabbing)-related injury hospital admissions. This equates to an average of 298 cutting / piercing (stabbing)-related admissions each year. There was an increase in the number of cutting / piercing (stabbing)-related hospital admissions during this time period. During the first 13 years (1994 to 2006), on average, there were 258 cutting / piercing (stabbing)-related hospital admissions each year. During the latter 14 years (2007 to 2020), on average, there were 335 cutting / piercing (stabbing)-related hospital admissions each year. This is a 12% increase between the averages for the two time periods.

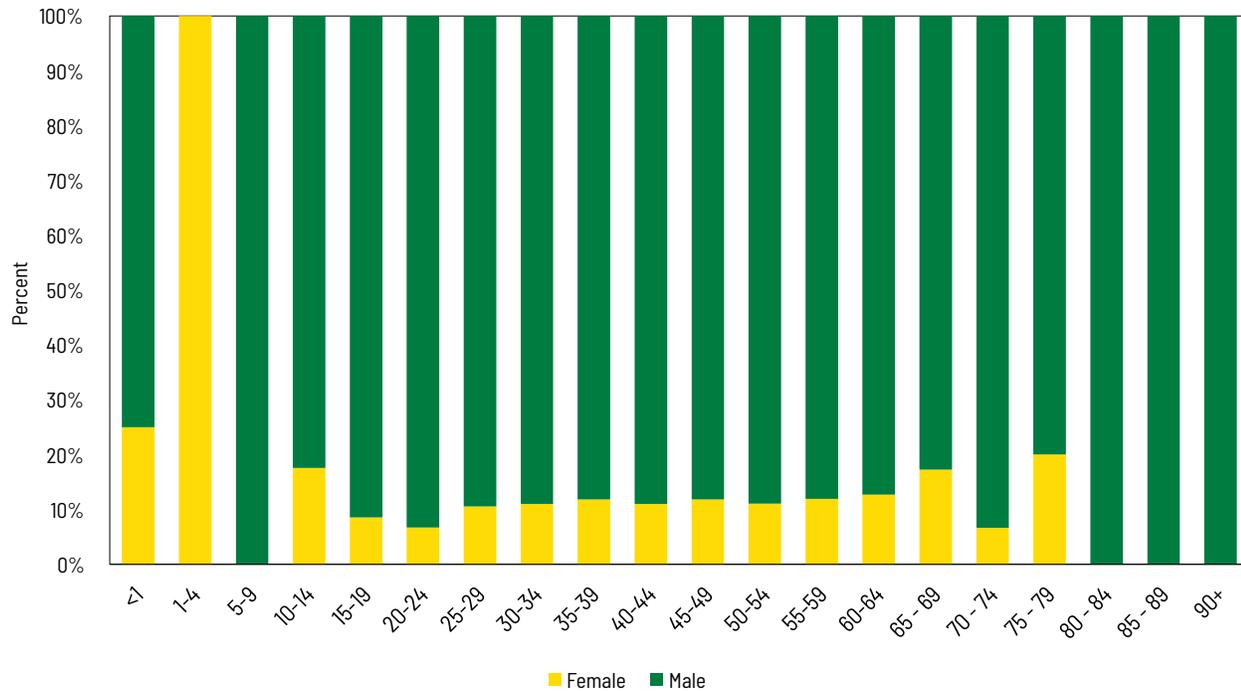
**Cutting / Piercing (stabbing)-related Injury Hospital Admission Rates, Alberta, 1994 - 2020**



Over the 27-year period from 1994 to 2020, the cutting / piercing (stabbing)-related injury hospital admission rate experienced an increase of 0.2% each year. The increase in the trend line for the number of cutting / piercing (stabbing)-related hospital admissions is greater than the trend line for the age-standardized rate due to an increase in the Alberta population.

## CUTTING / PIERCING (STABBING) HOSPITAL ADMISSIONS

**Percent of Cutting / Piercing (stabbing)-related Injury Hospital Admissions by Age Group and Sex, Alberta, 1994 - 2020**



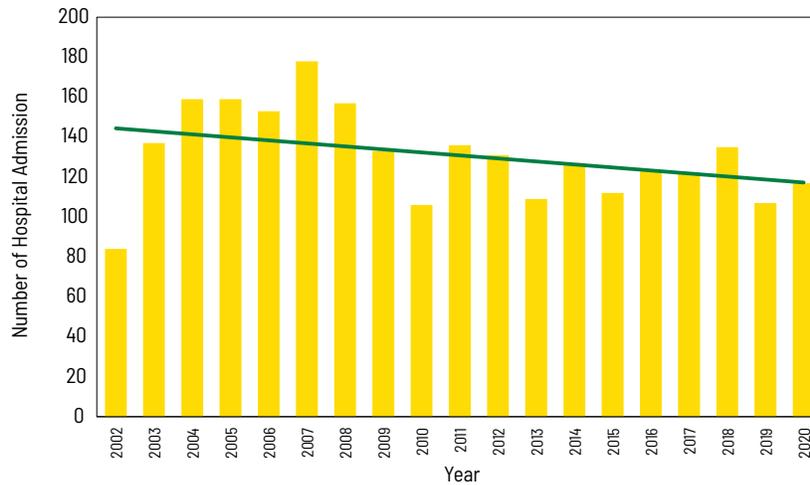
Over the 27-year period from 1994 to 2020, there were 8,050 cutting / piercing (stabbing)-related hospital admissions in Alberta. The majority of the admissions (90%) were males (n=7,254). This equates to 269 cutting / piercing (stabbing)-related hospital admissions each year.

The remaining 10% of the cutting / piercing (stabbing)-related hospital admissions were females (n=796). This equates to 29 cutting / piercing (stabbing)-related hospital admissions each year.

For those less than 10 year of age, and those 80 years of age and older, there were fewer than 5 hospital admissions in each age group.

## BLUNT TRAUMA HOSPITAL ADMISSIONS

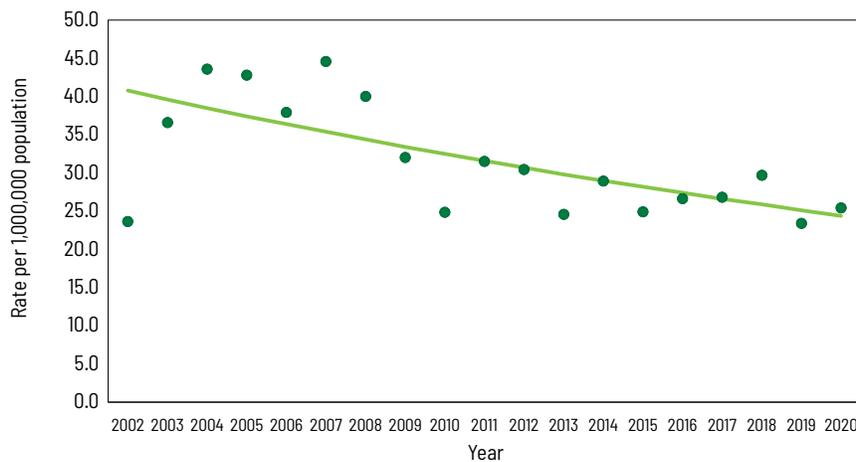
**Number of Blunt Object-related Injury Hospital Admissions, Alberta, 2002 - 2020**



Due to a change in coding, blunt trauma-related hospital admissions will be reported from 2002 to 2020.

Over the 19-year period from 2002 to 2020, there were 2,485 blunt object injury-related hospital admissions. This equates to an average of 131 blunt object injury-related admissions during this time period. There was a decrease in the number of blunt object injury-related hospital admissions during this time period. During the first 10 years (2002 to 2011), on average, there were 140 blunt object injury-related hospital admissions each year. During the latter 9 years (2012 to 2020), on average, there were 120 blunt object injury-related hospital admissions each year. This is a 14% decrease between the averages for the two time periods.

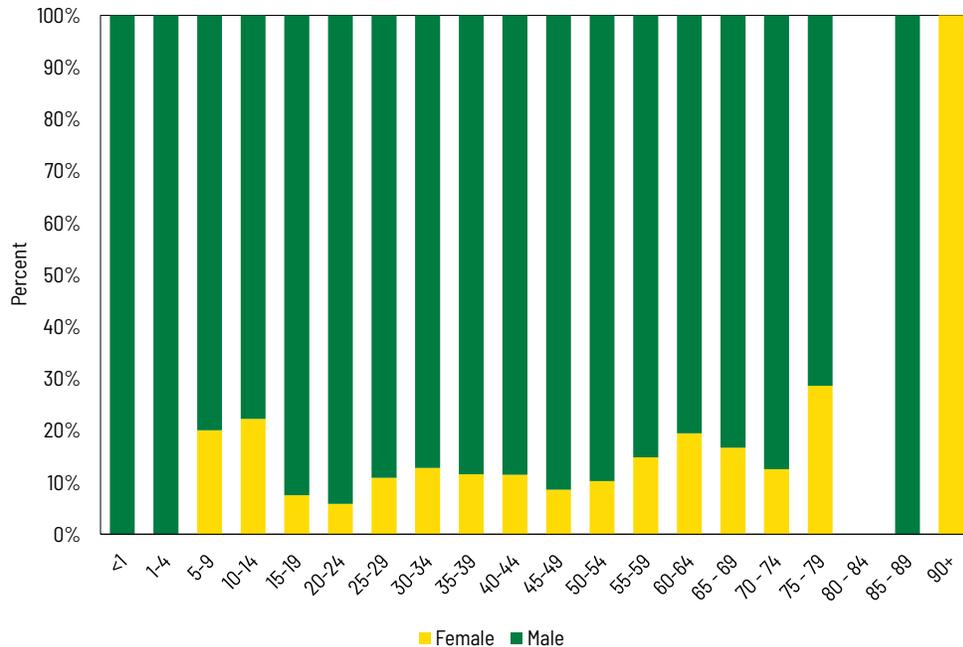
**Blunt Object-related Injury Hospital Admission Rates, Alberta, 2002 - 2020**



Over the 19-year period from 2002 to 2020, the blunt object injury-related injury hospital admission rate experienced a statistically-significant decrease of 2.8% each year.

## BLUNT TRAUMA HOSPITAL ADMISSIONS

**Percent of Blunt Object-related Injury Hospital Admissions by Age Group and Sex, Alberta, 2002 - 2020**



Over the 19-year period from 2002 to 2020, there were 2,485 blunt object injury-related hospital admissions in Alberta. The majority of the admissions (90%) were males (n=2,228). This equates of 83 blunt object injury-related hospital admissions each year.

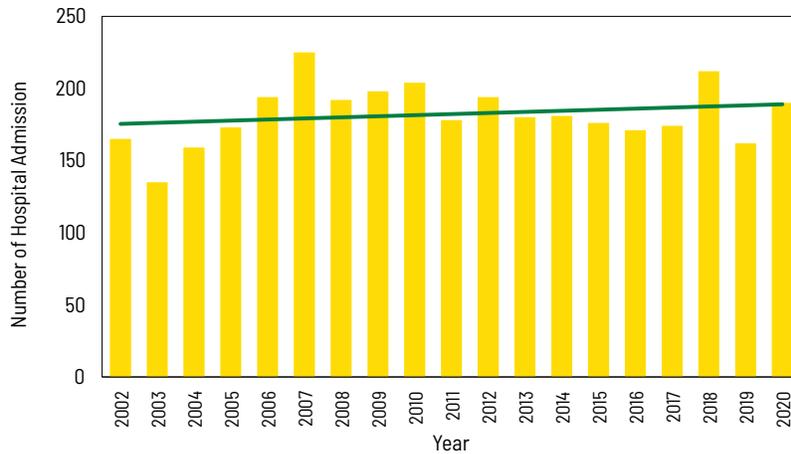
The remaining 10% of blunt object injury-related hospital admissions were females (n=257). This equates to 10 blunt object injury-related hospital admissions each year.

There were no blunt object injury-related hospital admissions for those 80 to 84 years of age.

For those less than 10 years of age, and those 80 years of age and older, there were fewer than 5 hospital admissions in each age group.

## OTHER VIOLENCE-RELATED HOSPITAL ADMISSIONS

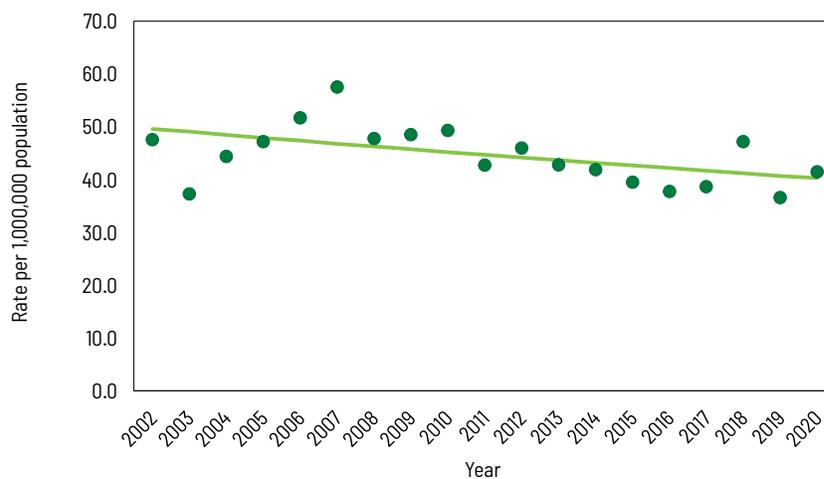
**Number of Other Violence-related Injury Hospital Admissions, Alberta, 2002 - 2020**



Due to a change in coding, other violence-related hospital admissions will be reported from 2002 to 2020.

Over the 19-year period from 2002 to 2020, there were 3,463 other violence-related hospital admissions. This equates to an average of 182 other violence-related admissions each year. During the first 10 years (2002 to 2011), on average, there were 182 other violence-related hospital admissions. During the latter 9 years (2012 to 2020), there were 182 other violence-related hospital admissions. There was no change in the average rates between the two time periods.

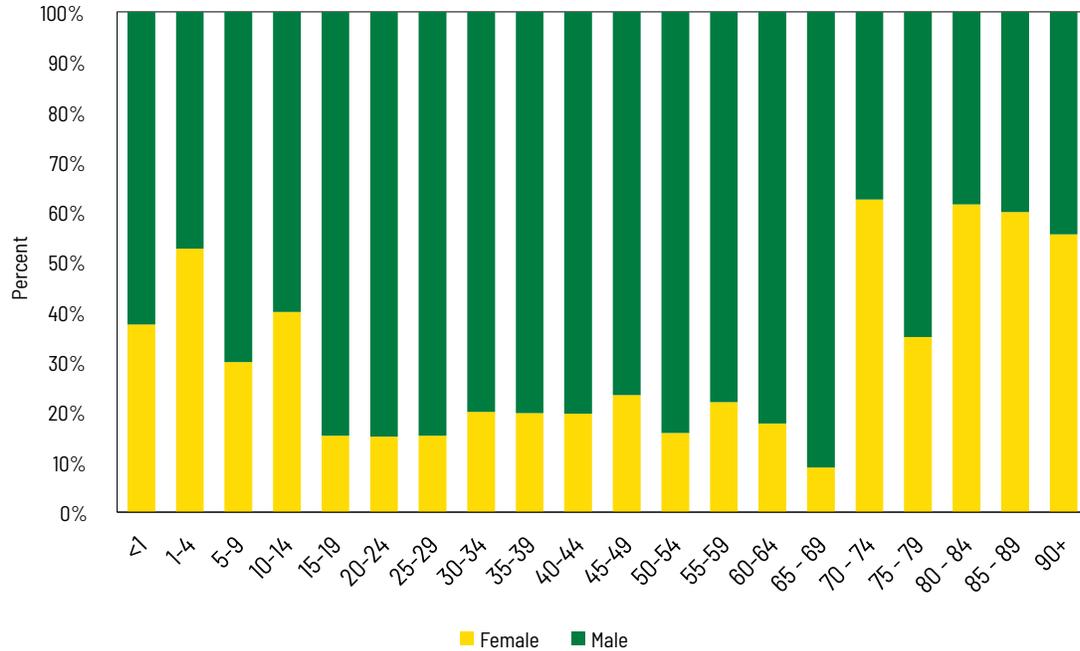
**Other Violence-related Injury Hospital Admission Rates, Alberta, 2002 - 2020**



Over the 19-year period from 2002 to 2020, the other violence-related injury hospital admission rate experienced a statistically-significant decrease of 1.2% each year. Even though the number of other violence-related hospital admissions increased, the age-standardized rate decreased. This is due to an increase in the Alberta population.

## OTHER VIOLENCE-RELATED HOSPITAL ADMISSIONS

**Percent of Other Violence-related Injury Hospital Admissions by Age Group and Sex, Alberta, 2002 - 2020**

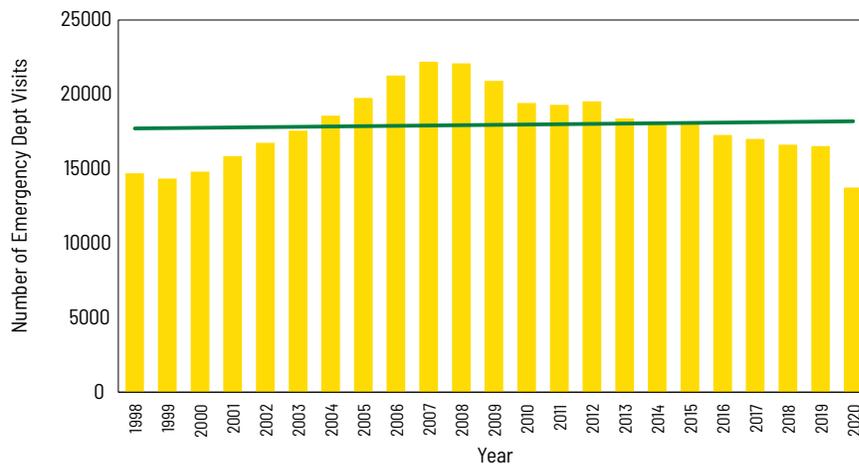


Over the 19-year period from 2002 to 2020, there were 3,463 other violence injury-related hospital admissions in Alberta. The majority of the admissions (81%) were males (n=2,803). This equates to 104 other violence injury-related hospital admissions each year.

The remaining 19% of other violence injury-related hospital admissions were females (n=660). This equates to 24 other violence injury-related hospital admissions each year.

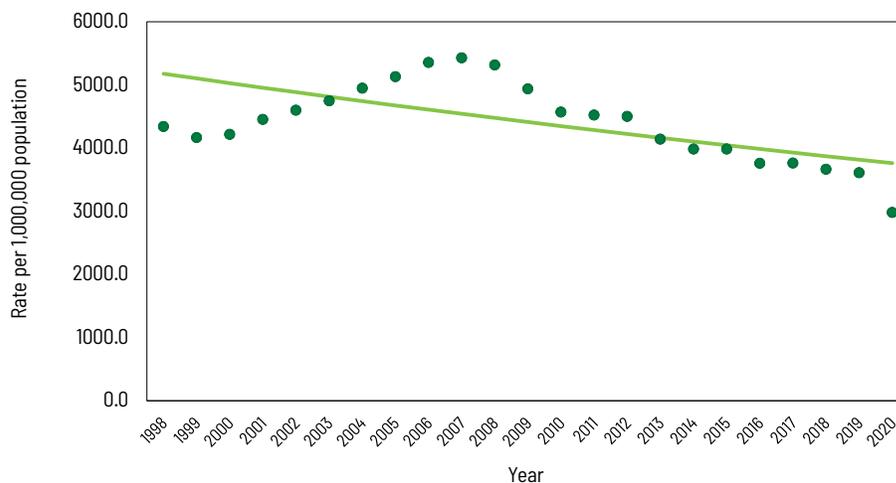
## VIOLENCE-RELATED INJURY EMERGENCY DEPARTMENT VISITS

### Number of Violence-related Injury Emergency Department Visits, Alberta, 1998 - 2020



Over the 23-year period from 1998 to 2020, there were 413,025 violence-related emergency department visits. This equates to 17,958 violence-related emergency department visits each year. During the first 12 years (1998 to 2009), on average, there were 18,242 violence-related emergency department visits each year. During the latter 11 years (2010 to 2020), on average, there were 17,647 violence-related emergency department visits each year. This is a 3% decrease between the averages for the two time periods.

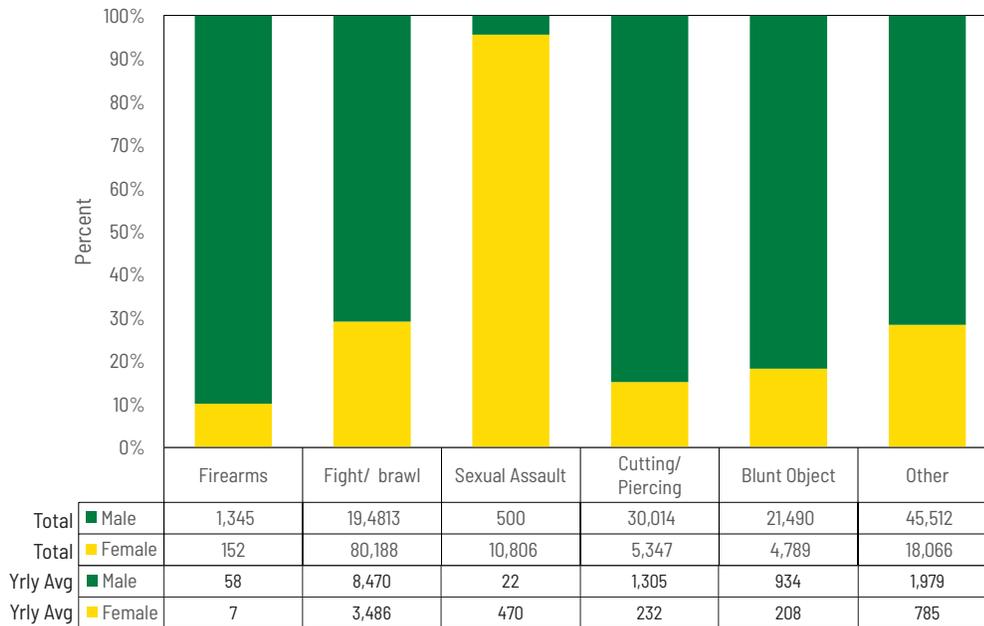
### Violence-related Injury Emergency Department Visit Rates, Alberta, 1998 - 2020



Over the 23-year period from 1998 to 2020, the violence-related injury emergency department visit rate experienced a statistically-significant decrease of 1.4% each year. The number of violence-related emergency department visits decreased, along with the age-standardized rate. This is due to an increase in the Alberta population.

## VIOLENCE-RELATED INJURY EMERGENCY DEPARTMENT VISITS

### Percent of Violence-related Injury Emergency Department Visits by Mechanism and Sex, Alberta, 1998 - 2020



Over the 23-year period from 1998 to 2020, there were 413,025 violence-related emergency department visits in Alberta. Males accounted for 71% (n=293,674) of violence-related emergency department visits. This equates to 12,768 violence-related emergency department visits of males each year; 35 visits each day.

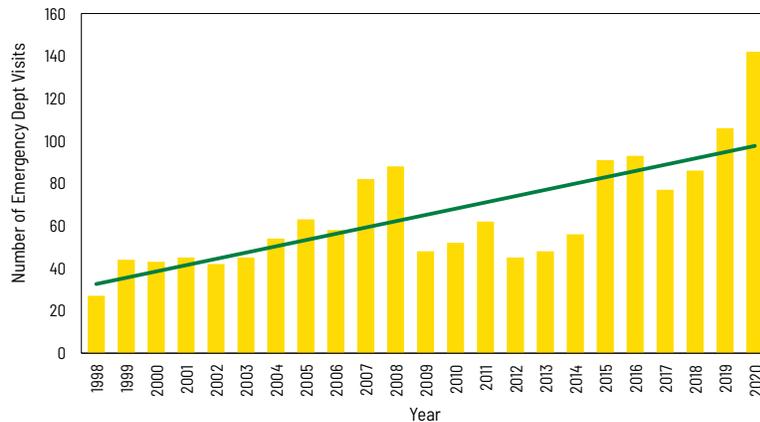
The remaining 29% were females (n=119,348). This equates to 5,189 violence-related visits each year, or 14 violence-related emergency department visits each day.

Of the violence-related emergency department visits:

- 90% of the firearms-related visits were males (n=1,345). This equates to 58 visits each year. Ten percent were females (n=152). This equates to 7 visits each year.
- 71% of the fight / brawl-related visits were males (n=194,813). This equates of 8,470 fight / brawl emergency department visits each year; 23 fight / brawl-related visits each day. Twenty-nine percent were females (n=80,188). This equates to 3,486 fight / brawl visits each year; 10 fight / brawl-related visits each day.
- 96% of the sexual assault-related visits were females (n=10,806). This equates to 470 sexual assaults visits each year. Four percent of the sexual assault-related visits were males (n=500). This equates to 22 visit each year.
- 85% of the cutting / piercing (stabbing)-related visits were males (n=30,014). This equates to 1,305 visits each year; 4 each day. Fifteen percent of the cutting / piercing (stabbing)-related visits were females (n=5,347). This equates to 232 visit each year.
- 72% of the blunt object-related visits were males (n=45,512). This equates to 1,979 visits each year; 5 visits each day. Twenty-eight percent of the blunt object-related visits were females (n=18,066). This equates to 785 visits each year; 2 visits each day.
- 82% of other violence-related visits were males (n=21,490). This equates to 934 other violence-related visits each year; 3 each day. Eighteen percent of the other violence-related visits were females (n=4,789). This equates to 208 violence-related visits each year.

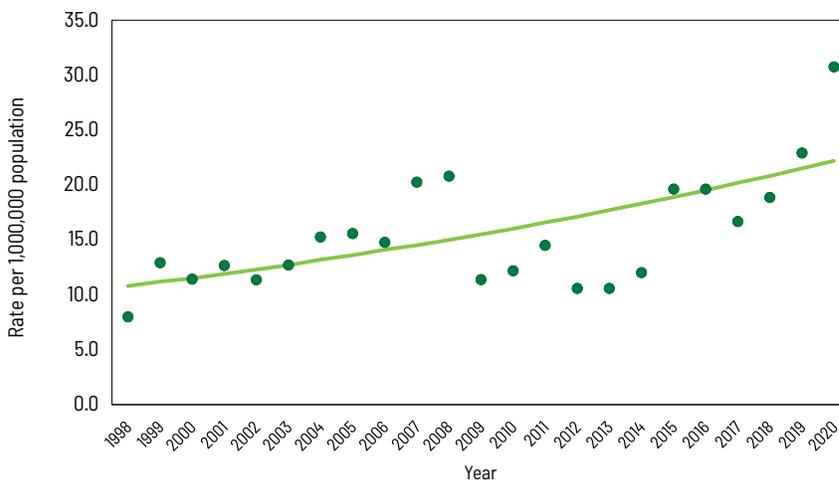
## FIREARM-RELATED EMERGENCY DEPARTMENT VISITS

### Number of Firearms-related Injury Emergency Department Visits, Alberta, 1998 - 2020



Over the 23-year period from 1998 to 2020, there were 1,497 firearms-related emergency department visits. This equates to 165 firearms-related emergency department visits each year. During the first 12 years (1998 to 2009), on average, there were 53 firearms-related emergency department visits each year. During the latter 11 years (2010 to 2020), on average, there were 78 firearms-related emergency department visits each year. This is a 40% increase between the averages for the two time periods.

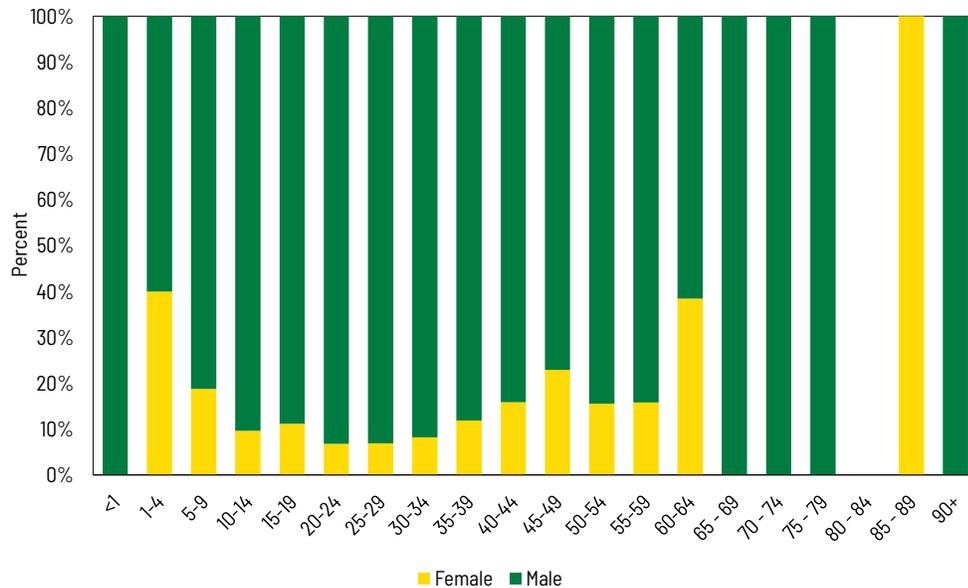
### Firearms-related Injury Emergency Department Visit Rates, Alberta, 1998 - 2020



Over the 23-year period from 1998 to 2020, the firearms-related injury emergency department visit rate experienced a statistically-significant increase of 3.3% each year.

## FIREARM-RELATED EMERGENCY DEPARTMENT VISITS

**Percent of Firearms-related Injury Emergency Department Visits by Age Group and Sex, Alberta, 1998 - 2020**



Over the 23-year period from 1998 to 2020, there were 1,497 firearms-related emergency department visits in Alberta. The majority of the visits (90%) were males (n=1,345). This equates to 55 firearms-related emergency department visits each year.

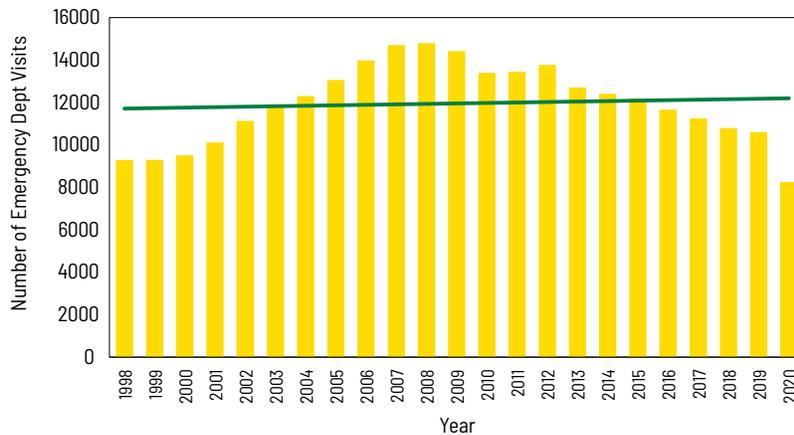
The remaining 10% were females (n=152). This equates to 6 firearms-related emergency department visits.

For those less than 1 year of age, and those 70 years of age and older, there were fewer than 5 emergency department visits in each age group.

There were zero firearms-related emergency department visits for those 80 to 84 years of age.

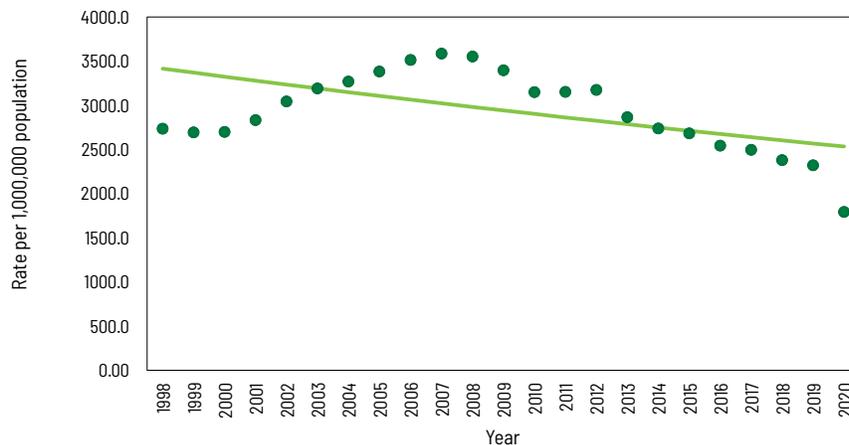
## FIGHT / BRAWL EMERGENCY DEPARTMENT VISITS

### Number of Fight / brawl-related Injury Emergency Department Visits, Alberta, 1998 - 2020



Over the 23-year period from 1998 to 2020, there were 275,004 fight / brawl-related injury emergency department visits. This equates to 11,957 fight / brawl-related injury emergency department visits each year; 33 visits each day. During the first 12 years (1998 to 2009), on average, there were 12,041 fight / brawl-related injury emergency department visits each year. During the latter 11 years (2010 to 2020), on average, there were 11,865 firearms-related emergency department visits each year. This is a 1% decrease between the averages for the two time periods.

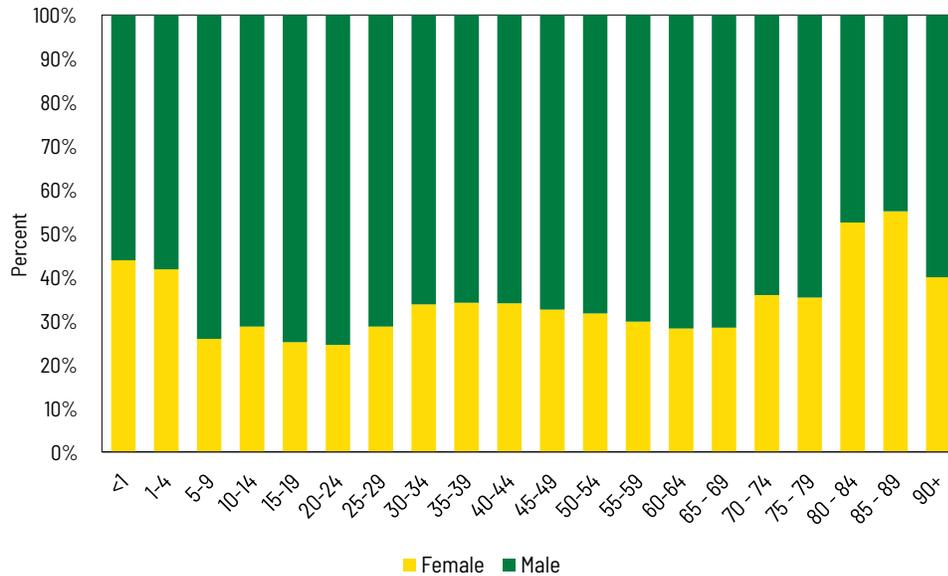
### Firearms-related Injury Emergency Department Visit Rates, Alberta, 1998 - 2020



Over the 23-year period from 1998 to 2020, the fight / brawl-related injury emergency department visit rate experienced a statistically-significant decrease of 1.43% each year. The number of fight / brawl-related emergency department visits remained relatively constant, while the rate decreased. This is due to an increase in the Alberta population.

## FIGHT / BRAWL EMERGENCY DEPARTMENT VISITS

**Percent of Fight / brawl-related Injury Emergency Department Visits by Age Group and Sex, Alberta, 1998 - 2020**

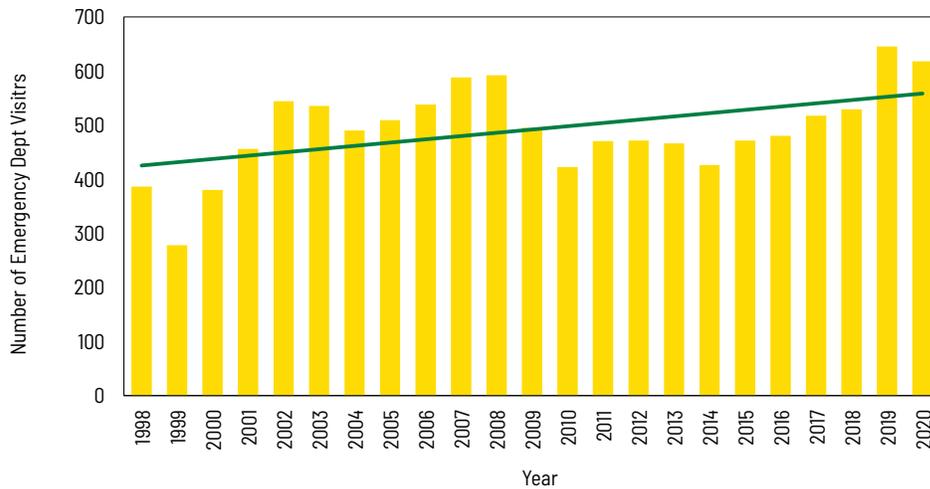


Over the 23-year period from 1998 to 2020, there were 275,004 fight / brawl-related injury emergency department visits in Alberta. The majority of the visits (71%) were males (n=194,813). This equates to 7,215 fight / brawl-related injury emergency department visits each year; 20 visits each day.

The remaining 29% of fight / brawl-related injury emergency department visits were females (n=80,188). This equates to 2,970 fight / brawl-related injury emergency department visits each year; 8 visits each day.

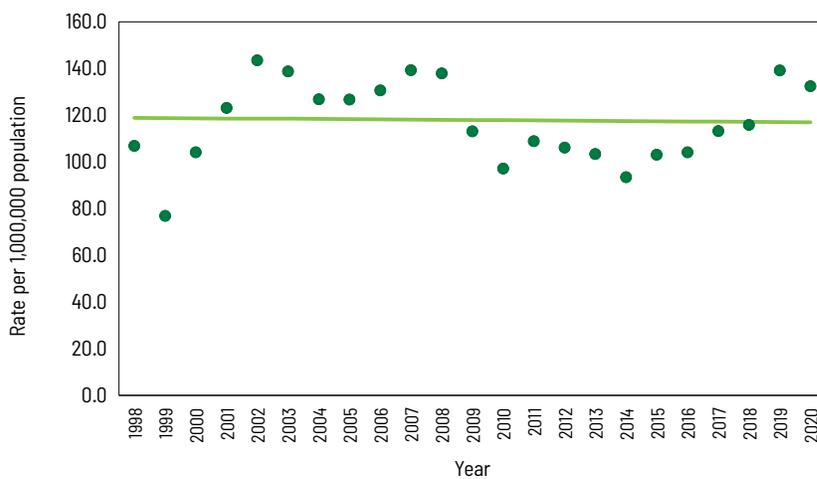
## SEXUAL ASSAULT EMERGENCY DEPARTMENT VISITS

### Number of Sexual Assault-related Injury Emergency Department Visits, Alberta, 1998 - 2020



Over the 23-year period from 1998 to 2020, there were 11,306 sexual assault-related injury emergency department visits. This equates to 492 sexual assault-related injury emergency department visits each year. During the first 12 years (1998 to 2009), on average, there were 483 sexual assault-related injury emergency department visits each year. During the latter 11 years (2010 to 2020), on average, there were 501 sexual assault-related emergency department visits each year. This is a 4% decrease between the averages for the two time periods.

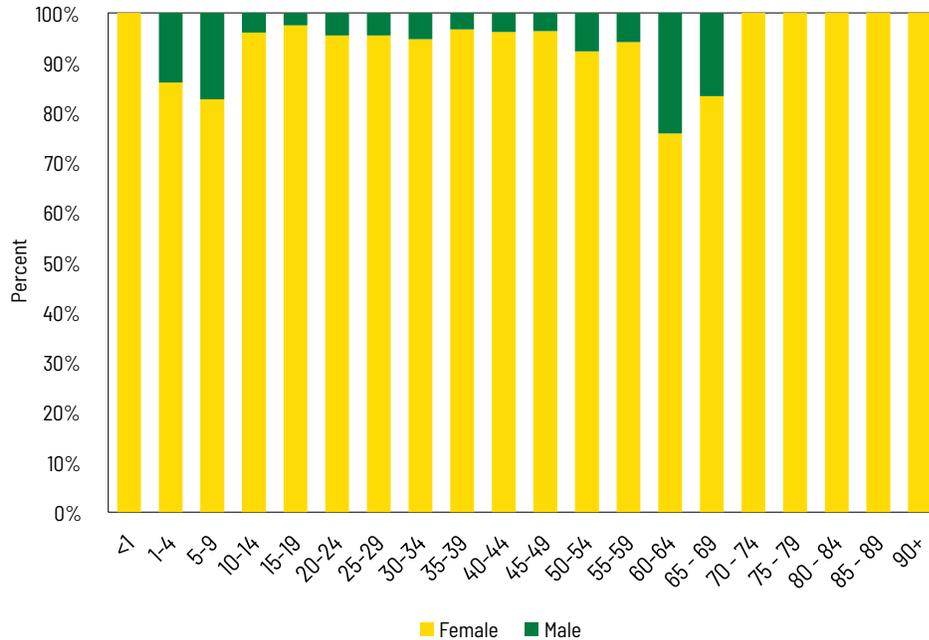
### Sexual Assault-related Injury Emergency Department Visit Rates, Alberta, 1998 - 2020



Over the 23-year period from 1998 to 2020, the sexual assault-related injury emergency department visit rate remained unchanged. The number of sexual assaults increased while the rate remained unchanged, due to an increase in the Alberta population.

## SEXUAL ASSAULT EMERGENCY DEPARTMENT VISITS

**Percent of Sexual Assault-related Injury Emergency Department Visits by Age Group and Sex, Alberta, 1998 - 2020**

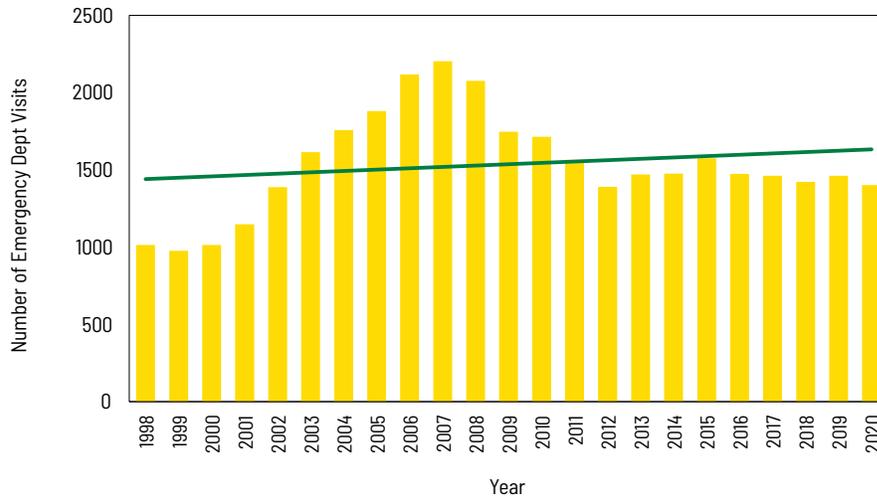


Over the 23-year period from 1998 to 2020, there were 11,306 sexual assault-related injury emergency department visits in Alberta. The majority of the visits (96%) were females (n=10,806). This equates to 400 sexual assault-related injury emergency department visits each year; more than 1 sexual assault-related visit each day.

The remaining 4% were males (n=500). This equates to 19 sexual assault-related injury emergency department visits each year.

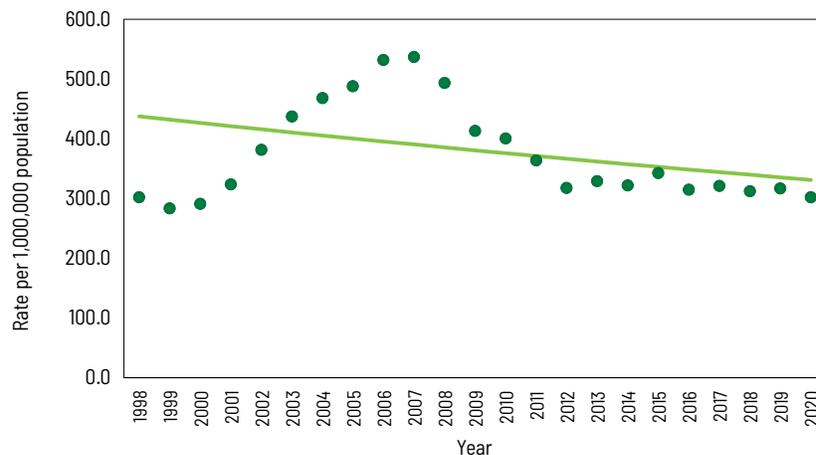
## CUTTING / PIERCING EMERGENCY DEPARTMENT VISITS

**Number of Cutting / Piercing (stabbing)-related Injury Emergency Department Visits, Alberta, 1998 - 2020**



Over the 23-year period from 1998 to 2020, there were 35,361 cutting / piercing (stabbing)-related injury emergency department visits. This equates to 1,537 cutting / piercing (stabbing)-related injury emergency department visits each year; 4 cutting / piercing (stabbing)-related visits each day. During the first 12 years (1998 to 2009), on average, there were 1,578 cutting / piercing (stabbing)-related injury emergency department visits each year. During the latter 11 years (2010 to 2020), on average, there were 1,493 cutting / piercing (stabbing)-related emergency department visits each year. This is a 5% decrease between the averages for the two time periods.

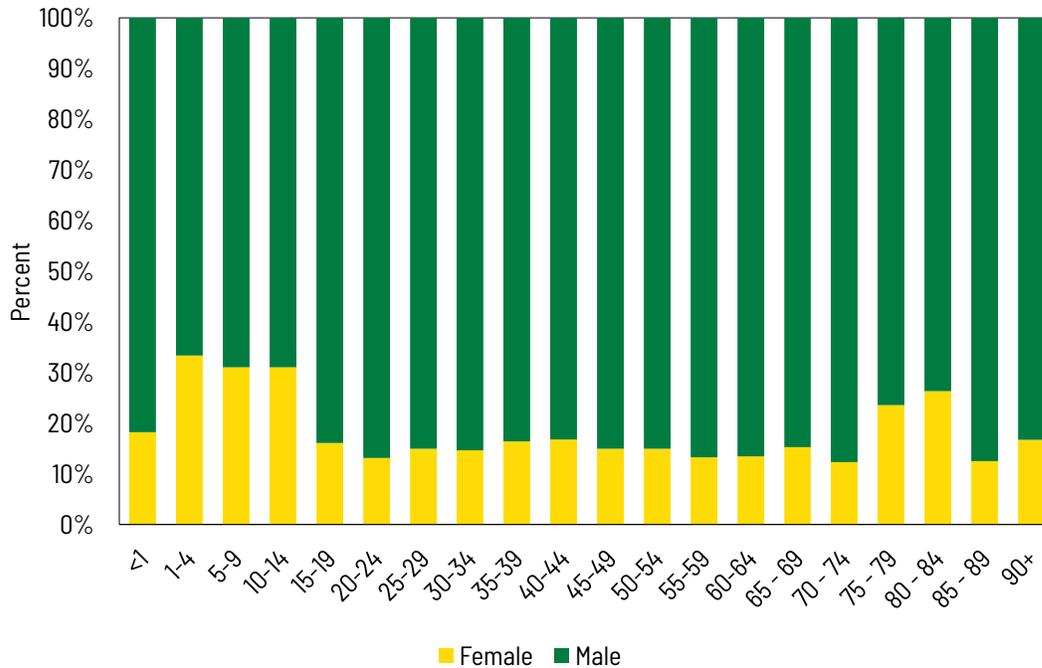
**Cutting / Piercing (stabbing)-related Injury Emergency Department Visit Rates, Alberta, 1998 - 2020**



Over the 23-year period from 1998 to 2020, the cutting / piercing (stabbing)-related injury emergency department visit rate experienced a 1.3% decrease each year. The number of cutting / piercing (stabbing)-related emergency department visits decreased along with the rate. This is due to an increase in the Alberta population.

## CUTTING / PIERCING EMERGENCY DEPARTMENT VISITS

**Percent of Cutting / Piercing (stabbing)-related Injury Emergency Department Visits by Age Group and Sex, Alberta, 1998 - 2020**

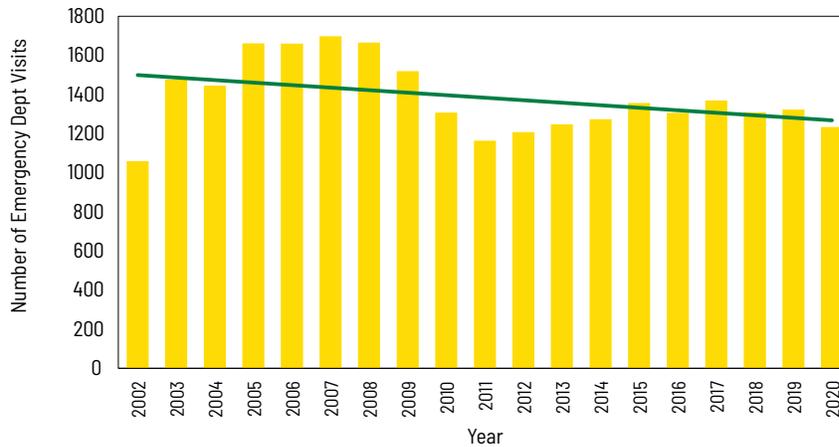


Over the 23-year period from 1998 to 2020, there were 35,361 cutting / piercing (stabbing)-related injury emergency department visits in Alberta. The majority of the visits (85%) were males (n=30,014). This equates to 1,112 cutting / piercing (stabbing)-related injury emergency department visits each year; 3 cutting / piercing (stabbing)-related visits each day.

The remaining 15% of the cutting / piercing (stabbing)-related injury emergency department visits were females (n=5,347). This equates to 198 cutting / piercing (stabbing)-related injury emergency department visits each year.

## BLUNT TRAUMA EMERGENCY DEPARTMENT VISITS

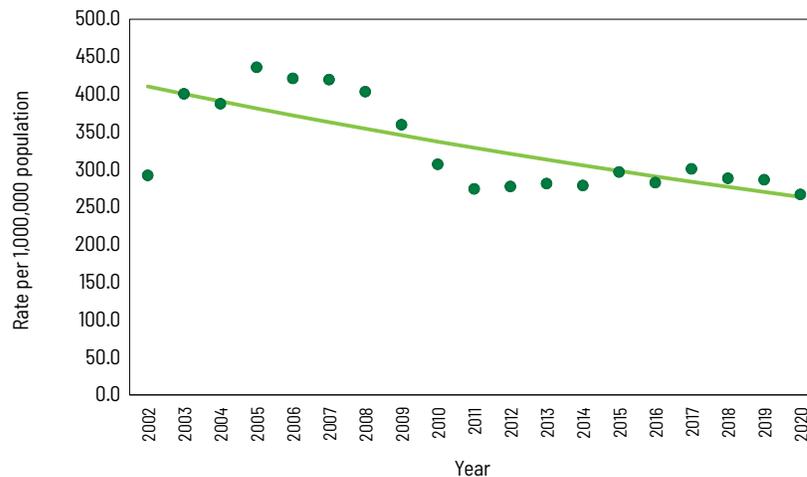
### Number of Blunt Object Injury-related Emergency Department Visits, Alberta, 2002 - 2020



Due to a change in coding, blunt object injury-related emergency department visits will be reported from 2002 to 2020.

Over the 19-year period from 2002 to 2020, there were 26,279 blunt object injury-related emergency department visits. This equates to 1,383 blunt object injury-related emergency department visits each year; 4 blunt object injury-related visits each day. During the first 10 years (2002 to 2011), on average, there were 1,465 blunt object injury-related emergency department visits each year. During the latter 9 years (2012 to 2020), on average, there were 1,292 blunt object injury-related emergency department visits each year. This is a 12% decrease between the averages for the two time periods.

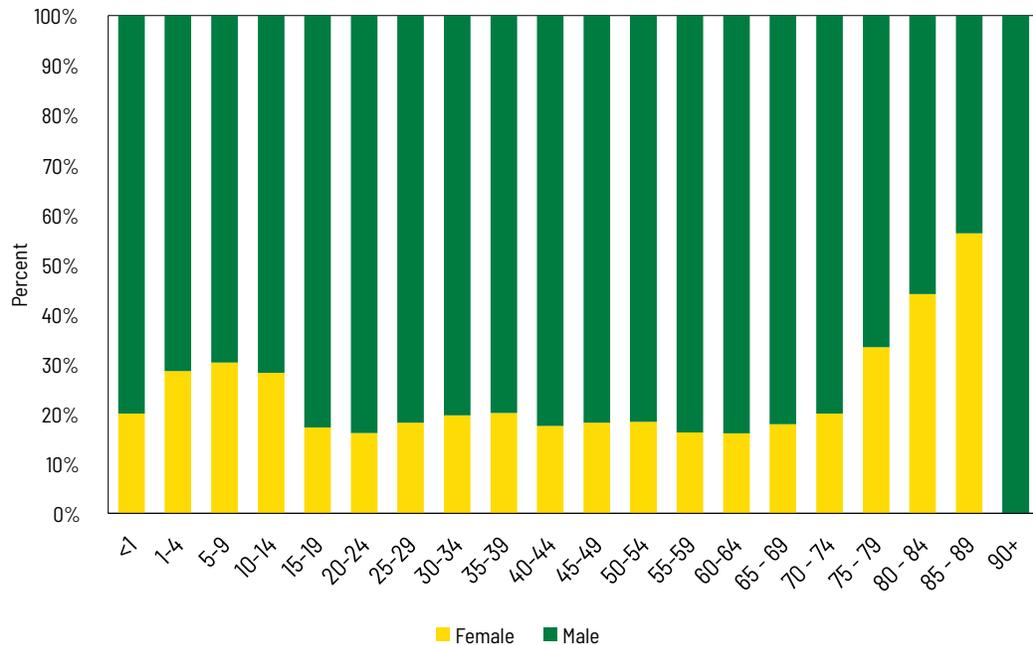
### Blunt Object Injury-Related Emergency Department Visit Rates, Alberta, 2002 - 2020



Over the 19-year period from 2002 to 2020, the blunt object injury-related emergency department visit rate experienced a statistically-significant decrease of 2.4% each year.

## BLUNT TRAUMA EMERGENCY DEPARTMENT VISITS

**Percent of Blunt Object Injury-related Emergency Department Visits by Age Group and Sex, Alberta, 2002 - 2020**

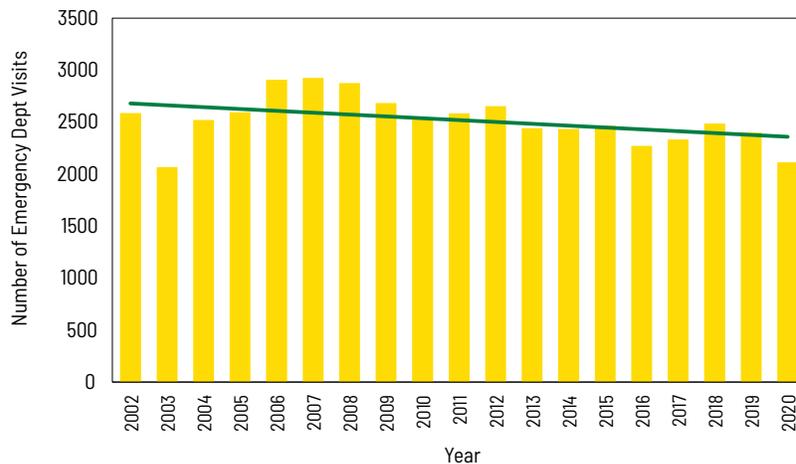


Over the 19-year period from 2002 to 2020, there were 26,279 blunt object injury-related emergency department visits in Alberta. The majority of the visits (82%) were males (n=21,490). This equates to 796 blunt object injury-related injury emergency department visits each year; 2 blunt object-injury related visits each day.

The remaining 18% of the blunt object injury-related emergency department visits were females (n=4,789). This equates to 177 blunt object injury-related injury emergency department visits.

## OTHER VIOLENCE EMERGENCY DEPARTMENT VISITS

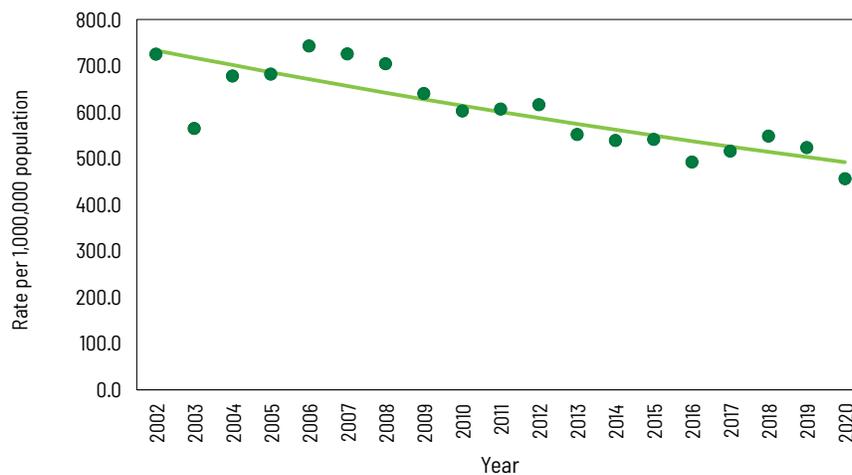
### Number of Other Violence Injury-related Emergency Department Visits, Alberta, 2002 - 2020



Due to a change in coding, other violence injury-related emergency department visits will be reported from 2002 to 2020.

Over the 19-year period from 2002 to 2020, there were 47,871 other violence injury-related emergency department visits. This equates to 1,775 other violence injury-related emergency department visits each year; 5 visits each day. During the first 10 years (2002 to 2011), on average, there were 2,628 other violence injury-related emergency department visits each year. During the latter 9 years (2012 to 2020), on average, there were 2,399 other violence injury-related emergency department visits each year. This is a 9% decrease between the averages for the two time periods.

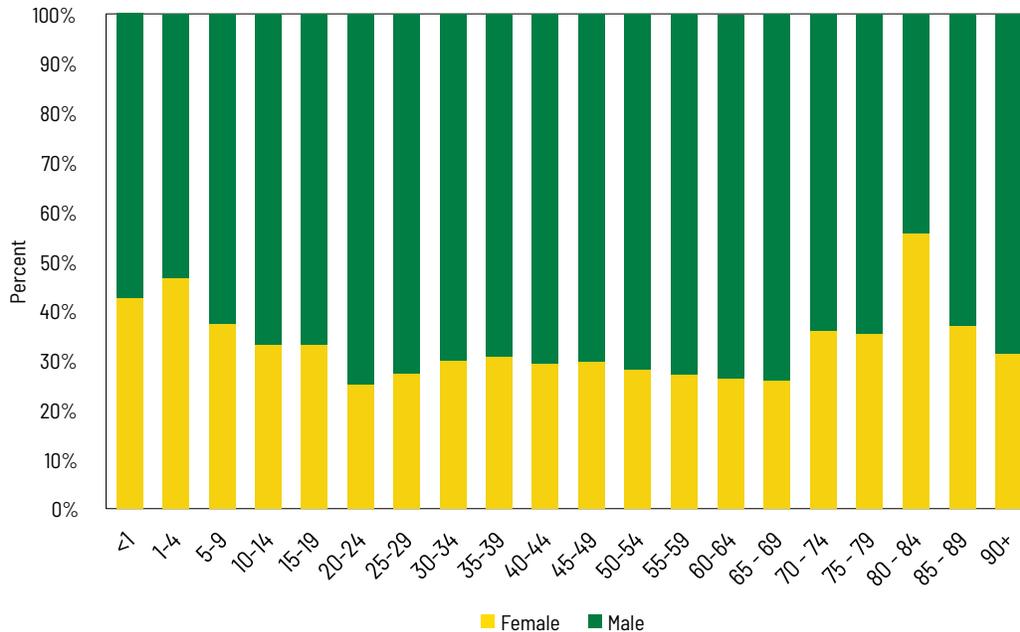
### Other Violence Injury-Related Emergency Department Visit Rates, Alberta, 2002 - 2020



Over the 19-year period from 2002 to 2020, the other violence injury-related emergency department visit rate experienced a statistically-significant decrease of 2.2% each year.

## OTHER VIOLENCE EMERGENCY DEPARTMENT VISITS

**Percent of Other Violence-related Emergency Department Visits by Age Group and Sex, Alberta, 2002 - 2020**



Over the 19-year period from 2002 to 2020, there were 47,871 other violence-related emergency department visits in Alberta. The majority of the visits (72%) were males (n=34,414). This equates to 1,275 other violence-related injury emergency department visits each year; 3 other violence-related visits each day.

The remaining 28% of other violence-related emergency department visits were females (n=13,457). This equates to 468 other violence-related injury emergency department visits.

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](mailto:ipc@ualberta.ca)



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