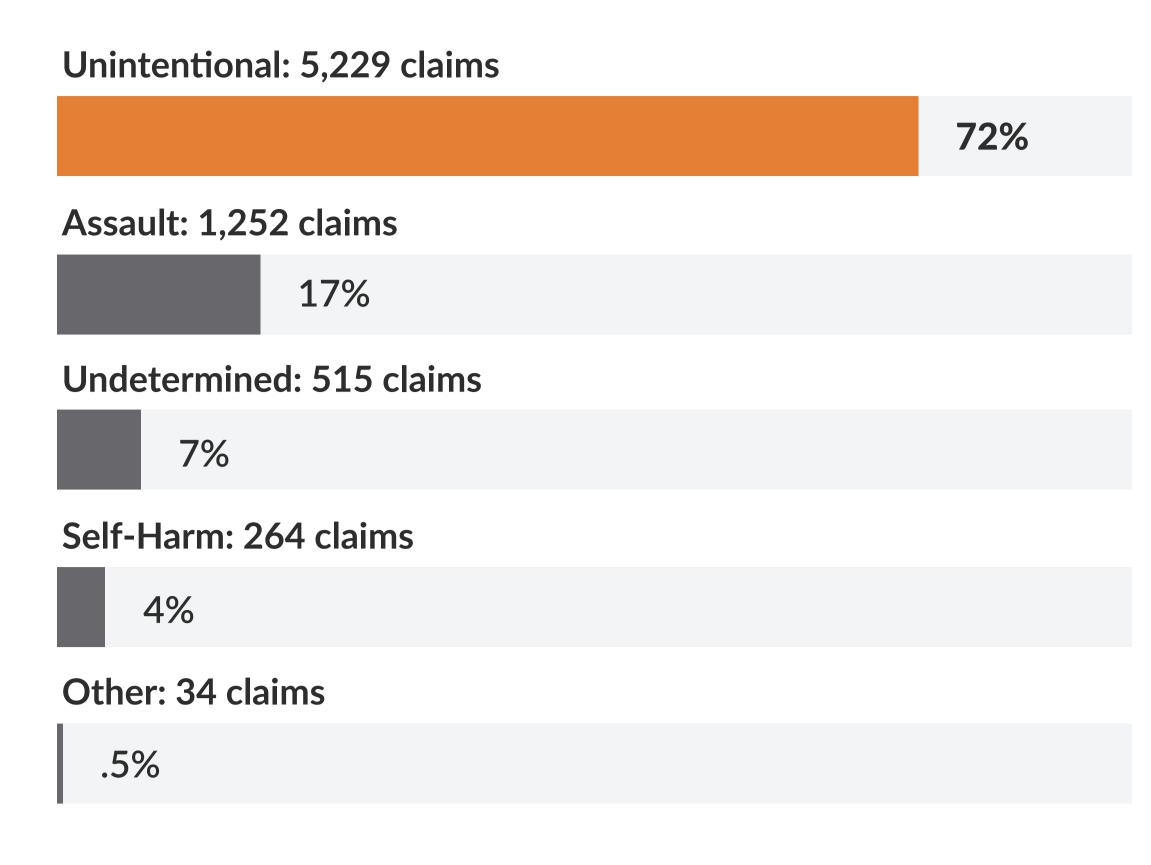
Firearm Injury Analysis

2016-2022 COLORADO ALL PAYER CLAIMS DATABASE Commercial Medicaid Medicare Fee-For-Service Medicare Advantage

A recent analysis of Colorado Department of Public Health and Environment data showed that in 2021, firearm related violence in Colorado reached a 40-year high. Additionally, the American Public Health Association and the Centers for Disease Control classify firearm injury and death as a significant public health issue. Center for Improving Value in Health Care (CIVHC) investigates deeper in this analysis, using 2016-2021 claims from the CO APCD to provide a snapshot of volume, rates, health care costs, geographic variation, and trends in firearm injuries across the state.

Note: Volume data includes all claims that could have been associated with a single firearm injury event. Rates are calculated as total volume of claims per 100,000 unique people in the CO APCD.

Firearm Injury Type Breakdown 2022 All Payers



Total Volume 7,000+

claims for firearm injuries in 2022, representing the highest total claim volume in the last seven years.



in health care payments made for firearm injuries across all payers in 2022.

Overall Percent claim rate increase

Injury Type Code Category and Description

Unintentional: Accidental handgun discharge and malfunction **Assault:** Assault by rifle, shotgun and larger firearm discharge **Undetermined:** Undetermined cause of firearm discharge **Self-Harm:** Intentional self-harm by rifle, shotgun and larger firearm discharge **Other:** Legal intervention firearm discharge

2016-2022 All Payers Unintentional Firearm Injuries Are the Most Common Type

Percent Firearm Injuries by Age 2016-2022 All Payers

Adults Account for Majority of Firearm Injuries

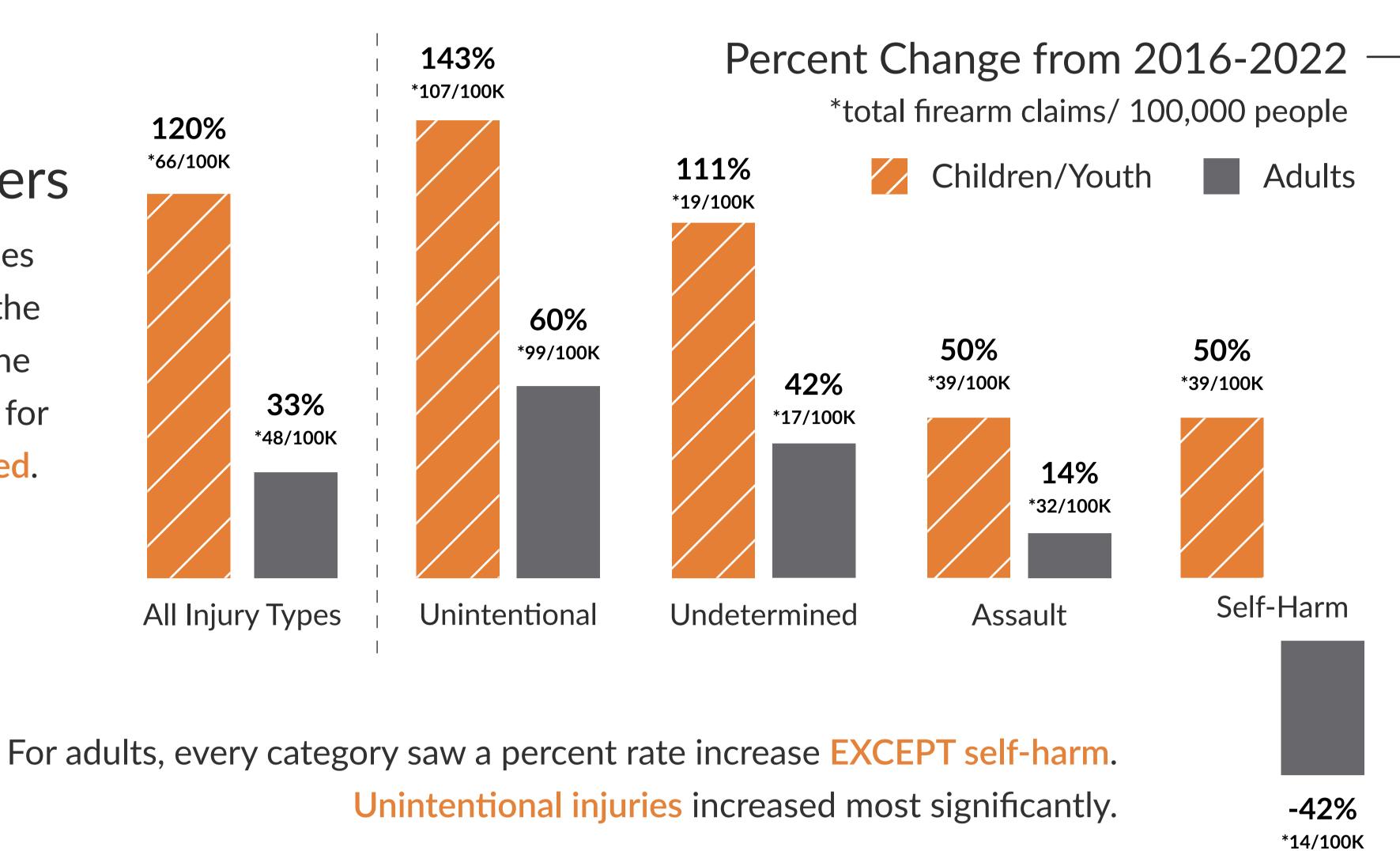
88%

of all firearm injuries were among those over 18

Adult Children/Youth

Injury Type by Age 2016-2022 All Payers

From 2016-2022 firearm injuries increased in every injury type the most for children and youth. The largest percent increases were for unintentional and undetermined.

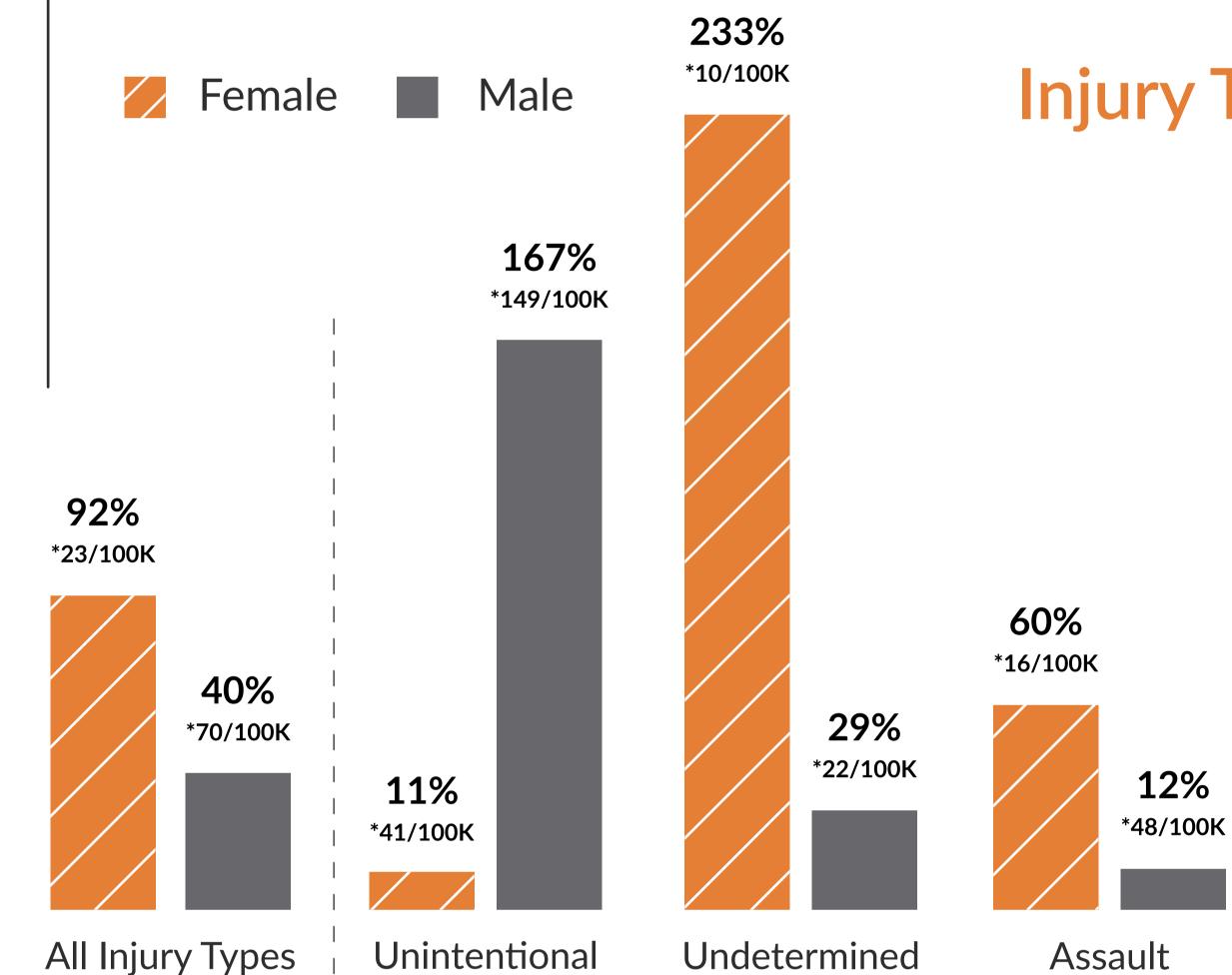


Overall, by Sex

In 2022, compared to women, the rate of firearm injuries for men were:

- **3X** more in total
- Almost **4X** more for unintentional injuries
- **3X** more for assault injuries
- 2.5X more self-harm injuries

2016-2022 All Payers Overall, the rate of firearm injuries is higher among men.



Injury Type by Sex | 2016-2022 All Payers

Percent Change from 2016-2022 *total firearm claims/ 100,000 people

> From 2016 to 2022 firearm injuries increased in nearly every injury category for both females and males.

> The largest percent increases among females were for undetermined intent injuries and assault injuries.



-33% *18/100K

The largest percent increases among males were for unintentional and undetermined intent.

Rural vs. Urban 2016-2022 All Payers

self-harm decreased by 33%.

In general, rural counties have a higher rate of firearm injuries than urban counties.

For females, there was no change in the rate of injuries for

self-harm, as opposed to males whose rate of injury for

In 2022, compared to urban counties, rural counties had rates that were:

- **8X** higher for self-harm injuries
- **5X** higher for undetermined intent injuries
- 2X higher for assault injuries
- **2X** higher for unintentional injuries

Percent Change from 2016-2022 2016-2022 All Payers *total firearm claims/ 100,000 people 76% Rural Urban *95/100K 50% 50% *48/100K *15/100K 34% 26% *213/100K 19% *82/100K 5% *32/100K *140/100K Self-Harm All Injury Types Unintentional Undetermined Assault -7% *78/100K The cost to treat an injury, per event, is 25% higher in rural -35% communities than urban. In 2022, across all injury types, cost per *11/100K event in rural communities was \$1,480, while it was \$1,113 per event -60% *84/100K in Urban communities. Rural vs. Urban Trends | 2019-2022 All Payers *total firearm claims/ 100,000 people Self-Harm Assault Rural Rural Urban Urban

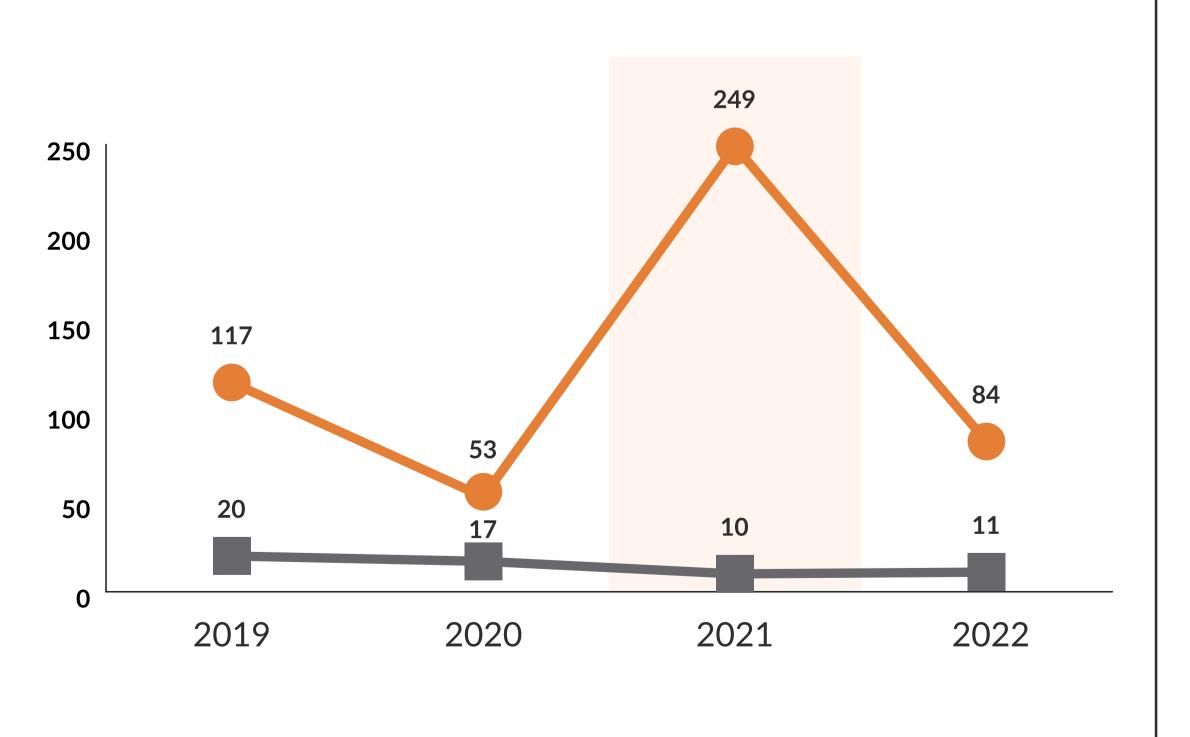
Injury Type by Geography

From 2016-2022, both urban and rural communities saw the biggest increases in the injury rates for unintentional and undetermined intent.

In 2020, rates for assault were almost 3 times higher in rural communities compared to urban communities.

116 110 120 99 100 78 80 60 39 34 32 40 22 20 0 2019 2021 2020 2022

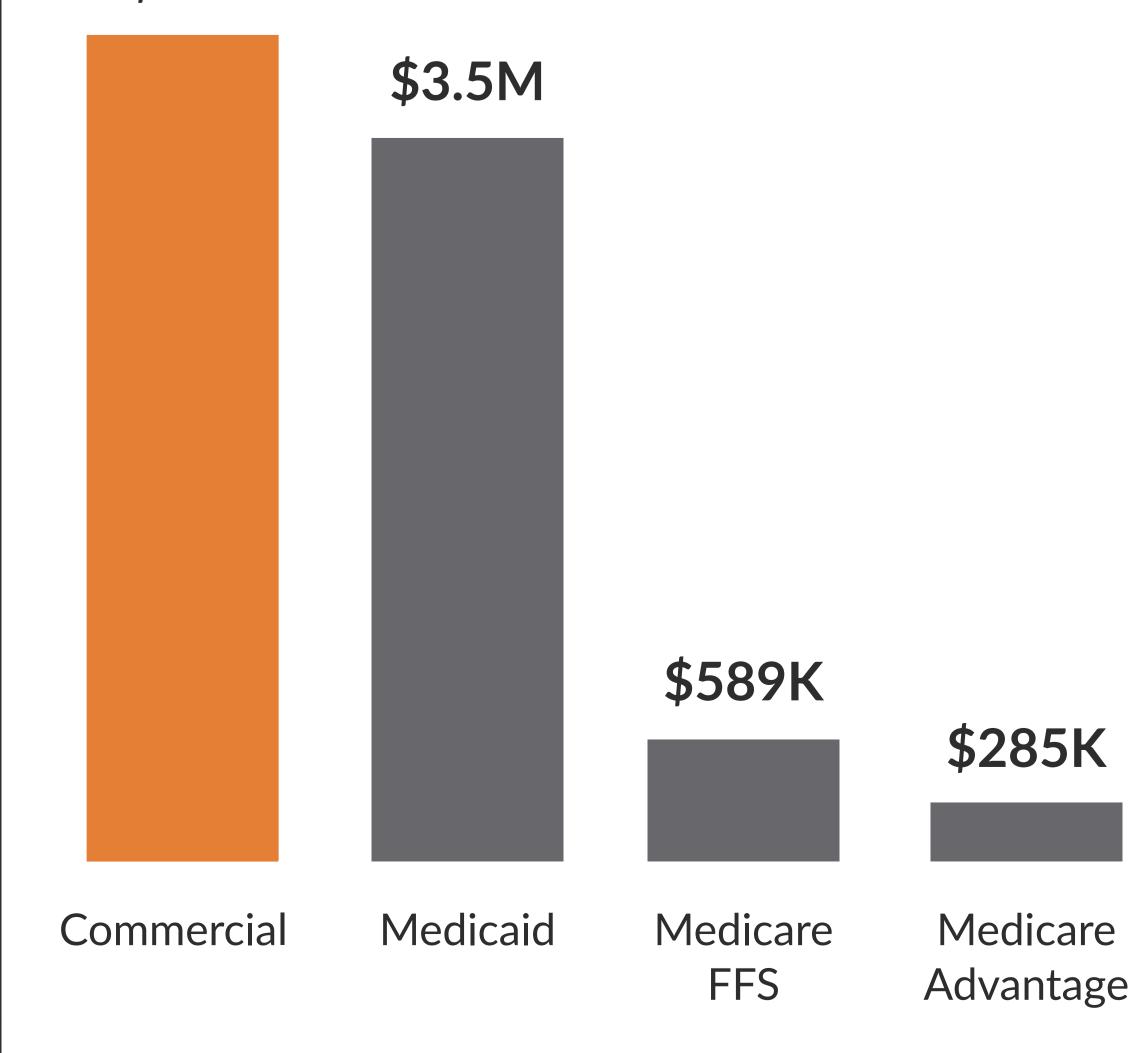
In 2021, rates for self-harm related firearm injuries were 25 times higher in rural communities compared to urban communities.



Payers | 2022

Health care payments (insurance payer and patient) for firearm injuries by payer type

\$4M



Medicaid firearm injury rates were significantly higher than other payers.

In 2022, Medicaid rates were:

- 12.5X higher than Commercial
- **3X** higher than Medicare Advantage
- **2X** higher than Medicare FFS

Please note that the CO APCD does not contain death record information. Data in this analysis reflects health care services to treat firearm injuries which may or may not have resulted in a death. To download the full firearm injury data set, please visit our website at civhc.org.

