

Steady rise in children's firearm injuries over past 5 years

Current prevention strategies failing to stem tide of violence; redoubling of efforts needed

The rate of children's firearm injuries has risen steadily over the past 5 years, and particularly after the stay at home order took effect during the pandemic, reveals an audit of these injuries in the Chicago metropolitan area, published in the open access journal ***Trauma Surgery & Acute Care Open***.

More than a fifth of all these injuries were fatal, prompting the researchers to set out a call to action amid the failure of current prevention strategies to stem the tide of needless violence.

They base their findings on a review of 548 firearm injuries among children up to the age of 15 at 5 urban level 1 trauma centres between January 2016 and December 2020, plus 67 firearm injury deaths from medical examiner data—615 incidents, in all.

The reported circumstances surrounding the injury were categorised as: intentional interpersonal (deliberately targeted by another person); intentional self-inflicted (suicidal intention); negligent discharge, self-inflicted (unintentional firing through unsafe handling/storage); negligent discharge interpersonal (unintentional firing by another child or adult); bystander (caught in crossfire); and unknown.

City-wide curfews were mandated to try and curb the spread of COVID-19. And injury timing was categorised as occurring on a school or non-school day and further broken down into school hours (08:00–15:00), after school hours (15:00 to curfew), and, on non-school days, 06:00 hours to curfew, and after curfew.

The stay at home order across the state of Illinois came into force on 21 March 21 2020—the date used to compare injury rates before and afterwards.

In all, 64 children died of their injuries at the 5 trauma centres between 2016 and 2020—a death rate of nearly 12%. But the addition of the medical examiner deaths brought the total to 131 out of 615 encounters, increasing the death rate to just over 21% or around 1 in 5.

Analysis of the data showed that the average age of firearm injury was 14, with a sharp annual rise in the numbers of those injured or killed over the age of 12. Most of the injured were male (80%) and more than three quarters (77%) were Black.

It was impossible to classify the circumstances of the firearm injury in 22% of cases. But of those that were identifiable, intentional interpersonal injuries comprised 41% of all injuries; bystander injuries represented 26.5%.

Negligent discharges made up just under 8% of injuries: 4% of these were caused by another child, just over 2% self-inflicted, and less than 1% caused by an adult, with 0.5% by an unknown shooter.

Less than 3% of injuries were intentionally self-inflicted, with 13 of the 16 incidences found only in the medical examiner data, all but one of which was fatal. One child died after a shooting involving the police.

The average age for intentional interpersonal injuries was 14 compared with 12 for negligent discharges.

More than a third (37%; 228) of the injuries occurred on school days—5.5% during school hours and 20% after school. A similar proportion were on non-school days before curfew, and 34% occurred after legal curfew. Of the after curfew shootings, 67% (145) occurred on non-school days.

The average age of death was 15, but the youngest reported suicide was 11 years old. Death rates changed significantly according to circumstance.

The number of firearm injuries rose in the summer after the implementation of the Stay at Home Order, and a linear increase was seen in suicide attempts. Intentional interpersonal/bystander violence and negligent discharges also rose sharply in 2020.

A seasonal increase was observed in June, July, and August during the school holidays and also after curfew during the summer months.

The researchers acknowledge various limitations to their findings, including reliance on self-reported situations surrounding the firearm injury and inconsistently recorded information by trauma centres. Nor were they able to account for repeat shootings: local hospital data suggest that 45% of those who are shot will be shot again within 5 years.

But they suggest: “The data presented paint an epidemiologic picture that prior prevention efforts have not been able to keep up with the increased injury burden faced by our community’s youth during the pandemic.

“[They] show that new prevention strategies must be undertaken to combat higher rates of interpersonal violence.”

They set out a 4-point action plan that includes the expansion of mental health services, tackling structural racism in healthcare, legislative change, and funding to strengthen data collection on firearm injuries.

“Children are suffering firearm-related injuries at an increasing rate. We have lost ground during the pandemic. Community violence and negligent discharges increased in 2020,” they conclude.

“We need to double-down on multifaceted prevention initiatives beginning in the pre-teenage years and include safe handling/storage, suicide mitigation, and interpersonal de-escalation training.”