



## Trends in School Shootings Over the Past 25 Years

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R. Thomas Day, MD, Pediatrics Resident, Boston Combined Residency Program

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**Editor's Note:** *Dr. Thomas Day (he/him) is a resident physician in pediatrics at the Boston Combined Residency Program at Boston Children's Hospital and Boston Medical Center. He conducts health services research with an emphasis on health equity, affordability, and access to care. He is interested in a career in pediatric cardiology. - Rachel Y. Moon, MD, Associate Editor, Digital Media, Pediatrics*

In April 1999, a hush fell over the nation as we learned about the tragic massacre of 10 students and one teacher at Columbine High School. At the time, it was the deadliest mass shooting at a school in the United States.

Since then, gun violence has only gotten worse. In 2017, firearm violence became the leading cause of death for children aged 1–19 years, [overtaking motor vehicle accidents](#). In 2021–2022, the rate of gunfire incidents on school grounds reached its all-time high of 328 shootings—93 of which resulted in fatalities.

To better understand these trends, Luke Rapa, PhD, and colleagues from the Clemson University College of Education conducted a retrospective analysis of all school shootings and mass shootings in the United States over the past 25 years. Their article, entitled “School Shootings in the United States: 1997-2022,” and the accompanying video abstract are being early released this week in *Pediatrics* ([10.1542/peds.2023-064311](#)) This 25-year period roughly follows the trajectory of school-based firearm violence from Columbine to today.

There is no central database of firearm violence in the US, so the authors combined complementary datasets from the [Center for Homeland Defense and Security](#) and [Mother Jones](#) that collate online news

reports to establish a more comprehensive perspective. The databases defined “school shooting” as any time a gun is brandished, fired, or a bullet strikes school property regardless of timing or injuries, while “mass shooting” is defined as >4 fatalities on school grounds in 1997–2013 and >3 fatalities in 2014–2022 (the change in the number of fatalities reflects the change in the definition of “mass shooting”).

The results are sobering:

- 1453 school shootings occurred from 1997 to 2022, with the number of shootings each year increasing to a maximum of 328 in the 2021–2022 school year.
- There were 11 total mass shootings during the study period, resulting in 122 children killed and 126 others injured.
- Though the rate of mass shootings has not increased over time, they have become deadlier—from 7.6 deaths per shooting in 1997–2012 to 14.0 deaths per shooting in 2013–2022.

Most strategies implemented by school administrators to combat gun violence have focused on “hardening the target” of the school itself (by increasing security, locking doors, etc.) to make it harder for potential shooters to enter the school grounds. School resource officers, “zero tolerance” firearm policies, and active shooter drills are increasingly common. Children are often exposed to traumatizing scenarios—including fake blood, gunshots loaded with blanks, and the pretense that these drills are real assaults—in the name of safety.

Unfortunately, these interventions have not worked. There were 135 more school shootings in the study’s final five years than the prior 20 years *combined*. In fact, these interventions may inadvertently be harming children by inducing trauma and unnecessarily entangling young students with law enforcement.

I urge everybody to read this article and to sit with its implications. Despite school shootings dominating the American psyche since the 1999 Columbine massacre, our schoolchildren are still being shot and killed at historic rates. Current interventions do not work. Our children need comprehensive, evidence-backed, and effective solutions to keep them safe. And they need them now. This is our lane.

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