Firearm-related injuries continue to be a leading cause of death among youth. Despite significant national attention to shootings involving children, and resulting calls for gun reform, not enough has been done to address evidence gaps or promote policies that have been proven effective in helping to prevent child injury and death from firearms. During the COVID-19 pandemic, there has also been an unprecedented increase in firearm sales, adding to the urgency to understand how to keep children safe in a home where guns are present.

Federal funding for firearm research was severely restricted for more than 20 years, which means we lack data on which policies, programs, and approaches can best protect children and teens from the dangers of firearms. Much of the research that does exist has significant limitations: data may be focused only on adults, may include a small sample size or may not be generalizable to other settings. However, since 2019, Congress has specifically allocated funds to the Centers for Disease Control and Prevention and National Institutes of Health to study gun violence, opening up the opportunity to fill critical research gaps.

There is urgency for action on the issue of firearm-related injuries, and reducing the risk of unintentional firearm injury and death among children is an important starting point for intervention. To support discussions and interventions on firearm safety that take place in pediatric clinical settings, as well as others, we need to better understand which public policies and interventions work to protect youth against unintentional firearm injury and warrant immediate action, and more research on those for which the evidence is not yet clear.

This brief summarizes findings from a policy and research review, including 53 peer-reviewed studies of gun-related policies and interventions, in the hope that it will spur action at the state and federal levels to support evidence-based policy, and drive research and funding to fill the evidence gaps.

In 2019, there were at least 309 unintentional shootings by children age 17 and under, resulting in 120 deaths and 203 injuries.
FILLING IN GAPS IN FIREARM RESEARCH

Groups such as the Firearm Safety Among Children and Teens (FACTS) Consortium have developed key priority areas for pediatric gun safety. Based on this work and our own, we recommend the following priorities for research to examine how to address unintentional firearm injuries in children:

- **Identify components of firearm safety education that will improve safe firearm storage among gun owners.** Studies suggest that firearm counseling combined with providing a free gun storage device may result in lasting improvements in safe storage behaviors. However, data on how best to implement these interventions is very limited. More research is needed to develop and promote firearm safety education programs for gun owners that directly reduce child injury and death.

- **Explore gun safety technology and its effectiveness in reducing injury and death.** Evidence is extremely limited regarding the potential impact of gun design on unintentional child injury. Disincentives for firearm manufacturers to produce “smart” guns—which contain technology to prevent an unauthorized user from firing the weapon—have limited the availability of these products in the U.S. There is also no requirement for manufacturers to follow federal safety guidelines for firearms. More research is needed to evaluate the potential effectiveness of safety designs and how a lack of federal oversight has had an impact.

- **Redirect firearm safety education toward adults.** Firearm education for children is under-researched, but existing evidence suggests that this approach is less promising than others in protecting children from firearms. While there are some interventions that can increase a child’s knowledge about gun safety, none have demonstrated that children’s behaviors change in real-world scenarios with a gun present.

- **Further explore illicit possession laws, including how to avoid unintended consequences of youth involvement in the juvenile justice system.** There is no existing literature that examines how illicit possession laws—those that impose criminal penalties for illegally possessing or carrying a gun—affect adolescents’ future firearm-carrying behavior or risk of unintended firearm-related injury or death. More research is needed on illicit possession laws to determine best program and policy practices, and to evaluate how these laws have affected youth involvement in the juvenile justice system.

- **Examine whether mandatory reporting of lost or stolen firearms to law enforcement affects illegal acquisition by adolescents.** We know that youth can and do acquire firearms illegally through theft, but more research is needed to determine how mandatory reporting of lost or stolen firearms affects the rate of illegal gun acquisition by adolescents and resulting injury or death.

- **Determine effectiveness of various firearm violence prevention practices within schools.** There is insufficient evidence to determine if policies and practices to reduce gun violence in schools reduce the risk of firearm injury among students and staff. More research is needed to understand whether arming school personnel prevents death from firearms at school, and whether arming teachers poses a risk for harm to themselves or their students. It is also critical to examine the extent to which school penalties for carrying a weapon, like expulsion and suspension, have unintended consequences, and how some policies may disproportionately impact students of color.
There is a critical need for more research and funding to determine policies and strategies that are effective in preventing unintentional firearm-related child injury and death, and to identify those that are not effective or have adverse unintended consequences. By taking a public health approach to the issue of firearm safety for children, we should strive for a comprehensive research agenda that includes addressing the evidence gaps identified in this brief. Only with this necessary evidence base can we leverage the full potential of providers, policymakers, caregivers, and community organizations working in concert to make evidence-informed decisions that keep children safe in their homes, schools and communities.

REFERENCES


For a full list of references that contributed to the research takeaways in this resource, visit: bit.ly/Preventing-Unintentional-Firearm-Injury