GUN FREE

SCHOOL ZONE

VIOLATORS WILL FACE SEVERE
FEDERAL STATE AND LOCAL
CRIMINAL PENALTIES
The increasing incidents of school shootings in recent years have resulted in America’s students, teachers, and staff feeling vulnerable. The most effective approach to creating safe and supportive school environments requires a comprehensive, coordinated effort including school-wide, district-wide, and community-wide strategies. School nurses, healthcare partners embedded in school communities, can guide these efforts. This article reviews data on school located gun violence through a public health lens, as well as outlines a framework for levels of prevention, including downstream, midstream, and upstream strategies. Finally, the article includes evidence-based examples, models, and tools for each level of prevention.

**Keywords:** gun violence; school shootings; student deaths; firearm safety; school nurses; social determinants and social needs; downstream; midstream; upstream approaches

Have you grown weary of reading and watching the trauma induced by firearms in our schools and communities? It is shocking to learn that 99.8% of Americans know someone who has been impacted by gun violence (Kalesan et al., 2016). The authors are not immune from this epidemic, each having family members directly impacted by firearm deaths. A grandfather, who at age 14, accidentally killed his 7-year-old brother when he tripped while running with the family’s gun. A father who lost both parents and a grandmother to an assailant with a semi-automatic rifle, while he, the 12-year-old son, hid in a closet. The granddaughter of the once 12-year-old victim, hiding in her classroom closet as a mass murder unfolded on the Marjory Stoneman Douglas campus. These episodes evoke terror, anger, feelings of blame, and long-lasting trauma that is passed down through generations (Ryder & White, 2022).

As school nurses and family member of survivors and victims of mass shootings, our gun violence prevention advocacy focuses on children’s safety. We are committed to treating gun violence through a public health lens and call on our school nurse colleagues to join in this effort to secure a public health solution to the epidemic of gun violence in our communities.

**Gun Violence Prevention Through a Public Health Lens**

Student deaths from gun violence have created a literal and metaphoric void in schools across the country that will impact students and staff for decades to come. America’s students, teachers, and staff feel vulnerable, as the incidents of school shootings have risen in recent years (Cox et al., 2023). All students and staff need a safe and supportive school environment to succeed. The most effective approach to creating safe and supportive school environments requires a comprehensive, coordinated effort including school-wide, district-wide, and community-wide strategies. School nurses are healthcare partners embedded in school communities who can guide those efforts.

School nurses are change agents trained in first responder emergency response should gun violence impact the physical and mental health of their schools. School nurses are ideally positioned to work alongside others committed to public health solutions for the epidemic of gun violence by distinguishing the risk factors and identifying actionable interventions guided by research and innovation.
Data Tell Stories Too

Firearms are now the leading cause of death in children and teens, ages 1 to 19, surpassing motor vehicle accidents for the first time in 2020 (Centers for Disease Control and Prevention [CDC]; CDC Wonder, 2023; Goldstick et al., 2022). Firearms, including accidental deaths, suicides, and homicides, killed 4,357 children (ages 1–19 years old) in the United States in 2020, or approximately 5.6 per 100,000 children (McGough et al., 2022). For the population at large, “the likelihood of knowing a gun violence victim within any given personal network over a lifetime for non-Hispanic white, black, Hispanic and other race Americans were 97.1%, 99.9%, 99.5% and 88.9% respectively” (Kalesan et al., 2016). Figure 1 demonstrates differences in rates of firearm deaths by locale.

If the current pace continues, school shootings are on track to reach the unthinkable number of 400 for this calendar year, compared with 303 for 2022 (K-12 School Shooting Database [K12SSDB], n.d.). The K12SSDB tracks all gun violence that happens on school grounds. There is no central registry outside of this privately run database for school shootings and definitions for mass shootings vary because there is no agreed upon language. David Riedman, curator of the K12SSDB, defines what constitutes a school shooting as “. . . a widely inclusive, open-source research project that documents when a gun is fired, brandished (pointed at a person with intent), or bullet hits school property, regardless of the number of victims, time, day, or reason” (K12SSDB, n.d., para. 1).

These numbers continue to escalate along with the overall trend in U.S. firearm deaths. The statistics can be overwhelming when attempting to solve this American public health crisis. School nurses are on the frontlines, closest to the impact of school violence, and therefore, closest to the solutions of how to keep our students safe. Beyond killed and injured youth, hundreds of thousands of students are impacted when gun violence happens at school, at home, or in the community. Washington Post journalist John Woodrow-Cox and his team (11 April 2023) have kept an ongoing tally of the number of students who experience gun violence at school, now a staggering 349,000. Box 1 provides data related to the intersection of gun violence and children/youth.

Students who are in school when a shooting occurs are more susceptible to chronic absenteeism and more likely to repeat a grade; juniors and seniors at the time of the shooting are less likely to graduate and enroll in a 4-year college; and 9th to 11th graders exposed to a school shooting are projected to have lower lifetime earnings (Cabral et al., 2022). Levine and McKnight (2020) conclude “the social costs of school shootings persist long after the shooting itself, affecting outcomes for exposed students through young adulthood and possibly beyond.”

In response to these tragic events, educational security spending on access control, screening systems such as metal detectors and gun image detection, security software, bulletproof in-classroom shelters, emergency alarms, and more exceeded $3.1 billion in 2021 and is projected to grow 8% annually (Hunter, 2019; Morabito, 2022). Historically, appropriations for these school-hardening products fluctuate, increasing when a school shooting occurs and waning as time passes since the last school shooting. Despite these large expenditures, there are limited data to support the efficacy of these prevention strategies.

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**Figure 1. Firearm Deaths Among 0- to 17-Year-Olds, by Intent and Location**

Source: Jetelina (2023, April 6, para. 5). Reprinted with permission.
A single data point does not tell the full story of the impact of exposure to school shootings on our children and youth. One of the biggest barriers to gun violence prevention has been a lack of funding for research. In 1997, Congress adopted the Dickey Amendment, a provision in a CDC funding bill that “barred the agency from doing anything that would advocate or promote gun control” (Stark & Shah, 2017). Government research into the causes and possible prevention of gun deaths ceased for the next 24 years (Rostron, 2018). The CDC did restore the funding stream after the Dickey Amendment was finally lifted in 2019, but not to the level required to address the public health crisis of gun violence in our country (Weir, 2021).

### A Framework for Levels of Intervention

The Framework for 21st Century School Nursing Practice (Framework, National Association of School Nurses [NASN], 2016) details the many interconnected roles and functions of school nurses and provides for multitiered interventions that address the needs of individual students, entire student populations, and the larger school community. Through the use of a case study, we will demonstrate how school nurses can utilize the Framework to move from downstream to midstream to upstream interventions (See Figure 2). As we demonstrate the use of the Framework, look for related interventions in italics.

School nurse interventions can be categorized into three unique categories—downstream, midstream, and upstream (deBeaumont Foundation and Trust for America’s Health, 2019). Working downstream, the school nurse provides care as prescribed by community providers or designed by the school nurse within their scope of practice. Midstream interventions address the client’s social needs via screening for social influences on health and referral for assistance to meet those needs. Upstream interventions work to improve community environments/milieus via legislation and policies that advance health for all residents.

### Downstream Interventions

Isabella is frequently seen in the school health room for a variety of health complaints. She has previously confided to School Nurse Henry (SN Henry) that she recently witnessed the shooting death of her brother as he drove the family car. Isabella was in the passenger
SN Henry confirmed the story with Isabella’s mother and offered three potential community mental health supports. Today, when Isabella arrives in the health room she is agitated and unable to clearly communicate her reason for coming to the health room. SN Henry knows that children and youth exposed to gun violence within their communities may experience post-traumatic stress disorders (PTSD). He calls Isabella’s mother again and learns that the family lacks transportation needed to access the resources. Mom reports that Isabella has experienced poor sleep, nightmares, distress when recalling the day of the shooting, anger, and a constant state of alert, all of which SN Henry recognizes as classic signs of PTSD (CDC, 2023).

SN Henry employs the Framework principle of Care Coordination via provision of direct nursing care, relaxation techniques, counseling, and referral to the school social worker for assistance with transportation and other needed resources. He also collaborates with the student, family, school counselor, teachers, and school administration to provide a multitiered support system (Center on Multi-Tiered Systems of Supports at the American Institutes for Research, n.d.) to help Isabella navigate her intense emotions. To ensure that he is deploying evidence-based interventions, SN Henry enrolls in the Counseling on Access to Lethal Means course (Zero Suicide, n.d.) to learn who needs lethal means counseling and how to deploy this strategy. See Box 2 for examples of downstream intervention resources.

### Midstream Interventions

SN Henry is curious about the rate of gun violence within his school community and contacts the local health department to request firearm-related injury and death surveillance data in the zip codes serviced by his campus. The health department reports that the rates of firearm injury and death in the zip codes served by SN Henry’s school are some of the highest in the city, driving him to action. In collaboration with the Director of Health Services and the School Administrator, SN Henry embraces systems-level leadership by developing a plan to educate the entire school community, including students, parents, staff, and community partners, about community gun violence data and its implications for the health of students, families, and the larger community. Together, they plan deployment of universal screening for firearm injury risk (Sathy et al., 2022), and education of community partners about the impacts of gun violence. SN Henry anticipates that families will want to know how the school will protect students from firearm violence and requests that school administration report on safety measures that have been put in place such as metal detectors, door and window locks, methods of anonymous reporting of suspected on-campus violence, and active shooter drills.

SN Henry lives in one of the 40 states requiring active shooter drills and suggests a trauma-informed approach (Figure 3) as these drills may result in mental health consequences including depression, anxiety, physical health problems, and fear of dying (Everytown for Gun Safety [ETGS], 2023; ElSherief et al., 2021; Huskey & Connell, 2021; Shockman, 2019; Substance Abuse and Mental Health Services Administration [SAMSHA], 2014). In addition, SN Henry advocates for the formation of and inclusion on a school-based “multidisciplinary threat assessment team, to identify, assess, and plan interventions for students displaying concerning behaviors” (Alathari et al., 2019, pp. 8–9). Box 3 provides midstream intervention resources.

### Upstream Interventions—A Harm Reduction Model

Upstream interventions serve to “improve the conditions within communities via legislation, policy, and regulation that support health for all people” (deBeaumont, 2019). Campbell and Anderko (2020) highlight that school nurse upstream interventions can focus on individual students as well as entire school populations to address social determinants of health or structures that cause poor long-term health outcomes.

SN Henry is taking action to address the issue of unsafe firearm storage in homes where students live, which can lead to unintentional shootings, suicides, and intentional shootings (Brady, n.d.-a). His approach is informed by evidence-based research, including the following:

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**Box 2. Downstream Intervention Resources**


Zero Suicide

- Counselling on Access to Lethal Means Training—Counselling on access to lethal means. https://zerosuicide.edc.org/resources/trainings-courses/CALM-course

Locking both firearms and ammunition separately can reduce the risk of self-inflicted firearm injuries by 78% and unintentional injuries by 85% (ETGS, 2021). Seventy-five percent of children and adolescents know where a gun is stored in their home (Children’s Hospital of Philadelphia, 2021). Almost 20% of adolescents report they can access a family owned firearm in less than 5 minutes (Salhi et al., 2021). Fifty-six percent of all suicides are by firearm (CDC, 2019) and 63% of all gun deaths are by suicide (Kochanek et al., 2016). Access to a gun increases the risk of death by suicide by 300% (Anglemeyer et al., 2014).

Improving safe storage of firearms in homes where students live could have an immediate impact on saving lives (Rowhani-Rahbar et al., 2016).

To address this issue, SN Henry has developed a multipronged approach that includes the following:

- Presenting his findings to the school safety committee and securing their buy-in.
- Advocating for the safety committee to recommend that the school board pass a resolution calling for mandatory safe storage education.
- Engaging students to advocate for passage of this resolution (Students Demand Action, 2021).
- Partnering with the local Moms Demand Action chapter to bring “BeSMART” education to the school community (BeSMART, 2022a).
- Distributing firearm safety locks obtained from the school district police department during the upcoming campus open house.

SN Henry’s initiative, “Lock It to Stop It,” combines safe storage information with provision of necessary safety equipment to families without asking probing questions, following a harm reduction model (Paediatric Child Health, 2008). To measure the effectiveness of his Quality Improvement project, SN Henry plans to collect and document data on the number of gun locks and educational materials handed out, how
many programs he led or facilitated, how many parents/staff/community members attended, the process for successful adoption of a school board resolution for safe firearm storage, and the number of students engaged in advocacy for passage of this resolution. Henry hopes to report his data at a professional conference and inspire other school nurses across the state to deploy similar interventions to protect their school community from firearm violence.

Box 4 provides upstream intervention resources that SN Henry identified for this project.

### Conclusion

School nurses meet the needs of students and families every day when school is in session. One hundred eighty plus days a year, almost 56 million students come to school and with them come health and safety concerns, including the impact of gun violence either at school or at home. School nurses can be at the frontlines of a preventive approach to gun violence in school and in the community by educating students, staff, and families about safe firearm storage. A public health approach to gun violence prevention is well within the scope of school nursing practice.

If we intend to mitigate this troubling public health epidemic, school communities must transform the culture and climate to one of a healing-centered environment. Children and youth thrive in an environment where they feel connectedness and belonging. The data and stories shared herein reveal an upward trend in the prevalence of gun violence both at school and in the community. The work before school nurses is to embrace a grass roots level of community engagement through policy, education, and programming that focuses on increased awareness of, access to, and adoption of safe firearm storage.

### Acknowledgment

We acknowledge school nurses across the country who serve as first responders for all school emergencies, including school shootings.

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**Box 4. Upstream Intervention Resources for the School Nurse**

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<td>o Get a Safety Kit - search your state and local community for access to free gun locks. <a href="https://projectchildsafe.org/safety/get-a-safety-kit/">https://projectchildsafe.org/safety/get-a-safety-kit/</a></td>
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<td>o Guns Storage for Your Lifestyle (handout) - <a href="https://projectchildsafe.org/wp-content/uploads/2020/05/PCS_SafeStorage_Infographic_Feb2019-scaled.jpg">https://projectchildsafe.org/wp-content/uploads/2020/05/PCS_SafeStorage_Infographic_Feb2019-scaled.jpg</a></td>
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<td><strong>Brady United</strong></td>
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<td><strong>Hospitals United, It Doesn’t Hurt To Ask Campaign</strong></td>
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<td><strong>Students Demand Action (SDA)</strong> How to Pass a Secure Storage Resolution at Your School - <a href="https://studentsdemandaction.org/report/how-to-pass-a-secure-storage-resolution-at-your-school/">https://studentsdemandaction.org/report/how-to-pass-a-secure-storage-resolution-at-your-school/</a></td>
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<tr>
<td><strong>Ten advocacy topics to explore - secure firearm storage law and culture, extreme risk laws, universal background checks, and more…</strong></td>
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Morabito, C. (2022). The school security industry is valued at $3.1 billion. Here’s why that may not be enough. *CNNB*. https://www.cnnb.com/2022/07/06/the-school-security-industry-was-valued-at-3point1-billion-in-2021.html


https://www.trauainformedcare.chcs.org/resource/samhsas-national-center-for-trauma-informed-care/


Laurie G. Combe, MN, RN, NCSN, FNASN Consultant—School Nursing and School Health

Houston, TX

Laurie, NASN Past President, worked as a school nurse for 25 years in the Klein Independent School District. She currently serves school nursing and school health as a consultant.

Robin Cogan, MED, RN, NCSN, FNASN, FAAN

School Nurse, Clinical Coordinator

Rutgers Camden Nursing

Camden City School District

Camden, NJ

Robin has been in a New Jersey school since 2001. She is the NASN Director for the New Jersey State School Nurses Association (NJSSNA) and blogs as The Relentless School Nurse.