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Position paper

Preventing Firearm Violence in Youth Through Evidence-Informed Strategies

The Society for Adolescent Health and Medicine



ABSTRACT

Firearm injuries are the leading cause of death for adolescents and young adults (AYA) aged 12–24 years in the U.S. The Society for Adolescent Health and Medicine (SAHM) believes that a comprehensive approach addressing firearm access for AYA can decrease the morbidity and mortality that AYA experience due to firearms. SAHM's position paper builds on the 2005 position statement, the scientific literature, and expert opinion. SAHM believes that the safest home for AYA is one without firearms. If firearms are present, they must be stored unloaded, locked up, with ammunition locked and stored separately. SAHM supports legislative efforts at the local, state, and national levels that focus on sensible laws proven to decrease 1: mortality from firearms; 2: the availability of illegal firearms; and 3: the availability of firearms to individuals who should not possess firearms, such as children and those with suicidal ideation. Clinicians across disciplines working with AYA can affect change by screening AYA and their parents for the presence of firearms in their home and environment; administering safe storage counseling to all, including those without firearms in their homes; and facilitating distribution of safe storage devices—lock boxes or cable locks, including when possible through the clinic setting. Clinicians should pay particular attention to higher risk situations, such as youth with suicidal ideation, to convey the risk that firearms pose. Finally, as part of a comprehensive approach that values scientific evidence, SAHM supports the expansion of research on firearms and youth safety through federal agencies and encourages firearm risk reduction education for all health care providers.

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Positions

Firearm injuries are the leading cause of death for adolescents and young adults (AYA) aged 12–24 years in the U.S. SAHM's goal is to create the safest possible environments for all AYA through a comprehensive approach to decrease AYA morbidity and mortality due to firearms. To promote safety, SAHM endorses the following positions:

1. AYA living in homes without firearms have the lowest risk for morbidity and mortality due to firearm violence. If firearms are kept in the home, they must be stored so that adolescents do not have access.
2. Firearm safety and access should be addressed during *routine clinical care* in the following ways:
 - a. Screen AYA and their parents for firearm access in the home.
 - b. Screen AYA for their own firearm carriage and access.
 - c. Counsel AYA and their parents on firearm injury prevention and safe storage practices.
 - d. Distribute safe storage devices via the health care setting.
3. Firearm access should be evaluated in higher risk situations, including when AYA present with violent behavior, suicidal ideation/homicidal ideation (SI/HI), or depression.
4. Health care providers (HCPs) should assess AYA affected by firearm violence for symptoms of trauma and connect youth to trauma-focused mental health care when indicated.
5. Community-level strategies should be used to increase school and community safety, decrease the disproportionate burden of firearm injury on marginalized communities, and decrease the frequency and impact of mass shootings.
6. All HCPs should participate in firearm injury risk reduction education.
7. Research focused on the prevention of firearm injury and mortality should be expanded.
8. Policies should be implemented at the federal and state levels to end the stream of illegal guns.
9. Firearm safety legislation should be enacted with the goal of decreasing AYA morbidity and mortality.

Statement of the Problem

In 2017, 7,939 U.S. AYA aged 12–24 years died from firearm injuries, including 4,486 homicides, 3,128 suicides, and 125 unintentional deaths, the highest firearm mortality rate since the early 1990s [1]. Firearms now outpace motor vehicles as the leading mechanism of death for adolescents aged 12–24 years—a rate of 14.3/100,000 compared with 12.6/100,000 for motor vehicles [1]. Firearms are involved in 87% of homicides and 44% of suicides, accounting for \$16.9 billion in health care costs in 2017 [1]. An additional 40,073 AYA suffered nonfatal firearm injuries. In 2017, 4.8% of U.S. high school students reported carrying a gun (not for hunting/sport) in the last year [2], and 4% of adolescents aged 12–18 years reported having access to loaded handguns without adult permission [3].

Males and youth of color bear a disproportionate burden of firearm homicides. Homicide remains the leading cause of death for black adolescent males. During 2013–2017, non-Hispanic blacks aged 12–24 years had a firearm homicide rate of 55.2 per 100,000—five times the rate of Hispanic males and 10 times the rate of non-Hispanic whites [1]. In contrast, white males have the highest rate of firearm suicide completion: 10.6 per 100,000—74% higher than black males and 10 times higher than white females [1]. Implementing strategies to reduce these disparities and firearm deaths are imperative.

Widespread firearm access plays a critical role in AYA morbidity and mortality; the majority of firearms involved in suicides and unintentional injury involving AYA come from teens' homes. A 2015 national survey showed that 34% of households with children have at least one firearm [4], with only 30% storing them locked and unloaded. Importantly, this survey revealed a doubling in the percent of youth aged <18 years who have immediate access to a loaded, unlocked gun—7% compared with 3% in 2002 [4]. Forty percent of youth living in a home with a firearm report they have easy access to that firearm [5]. When firearms are present, there is an increased risk of dying by suicide and homicide [6,7].

There are 1.013 billion firearms in circulation worldwide, with civilians possessing 85% of these. Compared with other countries worldwide, the U.S. has a disproportionate burden of firearm possession. The death rate because of firearm homicides was 25.2 times higher in the U.S. compared with the total aggregated firearm homicide death rate in 22 high-income non-U.S. countries, and among adolescents aged 15–24 years, the gun homicide death rate was 49 times higher [8]. Places with similar or higher mortality rates, such as Columbia and Central America, face more challenging issues of local war and drug criminality than observed in the U.S. Lessons can be learned from countries such as Australia, where comprehensive legislative approaches have lowered firearm mortality rates [9].

Mass shootings and school shootings, while comprising a small proportion of firearm-related deaths in the U.S., heighten the national dialog around firearm violence. Mass shootings, defined as more than three individuals injured or killed during a single event [10], accounted for 1,494 deaths for all ages from 2014 to 2017 (1% of total firearm mortality), including 211 youth aged <19 years. School shootings, any episode in which a firearm is discharged in a school setting, occur at a rate of 60 per year: 109 youth aged <19 years died in school shootings from 2013 to 2018, accounting for 0.5% of firearm mortality for youth aged <19 years [11].

Methods

Positions are based on review of the literature, using search terms “Firearms,” “Guns,” “Morbidity,” “Mortality,” “Prevention,” “Intervention,” “Primary Care”, and “Screening,” reviewing publications from recognized national experts in the field of firearm prevention, and finally expert opinion and consensus among authors.

Positions and Recommendations

Firearm morbidity and mortality impacting AYA are at the highest rate in more than 25 years. Consequently, SAHM takes the following positions toward a comprehensive approach to improving the health and well-being of AYA:

Position 1: AYA living in homes without firearms have the lowest risk for morbidity and mortality due to firearm violence. If firearms are kept in the home, they must be stored so that adolescents do not have access

SAHM recognizes that the safest homes are those without firearms present. There is a direct correlation between the percent of gun-owning families and the rate of firearm suicides [6,9] and homicides [12]. A hypothetical intervention model focused on firearm owners with children demonstrated that by increasing the safe storage of firearms by 50%, there would be a subsequent 32% reduction in youth firearm mortality from suicide and unintentional causes [13]. SAHM recommends the following safe storage practices (based on expert opinion) for parents or AYA who choose to have guns in the home:

- Store all guns locked in a lock box, gun cabinet, or with cable locks.
- Store all guns unloaded.
- Store ammunition separately from the gun and locked.

Position 2: Firearm safety and access should be addressed during routine clinical care

SAHM [14] and the American Academy of Pediatrics [15] recommend that clinicians address gun access and safety. Despite this, studies suggest only 10%–30% of pediatricians screen for firearm access [16], with only 54% of pediatricians confident in addressing safe gun storage [17]. Importantly, parents are receptive to discussing firearm safety in the office setting [16]. SAHM urges HCPs to address firearm access in the following ways:

- Screen AYA and their parents for firearm access.* AYA and parents should be screened for firearm access in their homes during routine visits using an electronic or paper questionnaire as part of their screening for other risk behaviors. Evidence demonstrates that screening prompts HCPs to discuss firearm access and storage [18].
- Screen AYA for their own firearm ownership and carriage.* AYA should be screened for their own firearm ownership and carriage: 7% of male youth report carriage [2], increasing the risk for assault injury. If identified, HCPs should engage AYA in a firearm safety discussion. In the past 5 years, youth aged 18–24 years have acquired 726,000 new guns, underscoring the need for HCPs to screen and deliver safe storage messages [19].

- c. *Counsel AYA and parents on firearm injury prevention and safe storage practices.* SAHM recommends universal counseling on safe firearm storage practices during routine well visits, regardless of whether firearms are present in the home. Counseling parents on safe storage practices leads to an increase in reported safe storage [16]. SAHM recommends counseling AYA and their parents, together if possible, and outreach to parents who are not present during the visit. Recommendations also include counseling AYA gun owners on safe storage practices. Furthermore, HCPs should counsel parents to address firearm access outside of the home by inquiring about firearms in other homes frequented by youth.
- d. *Distribute safe storage devices via the health care setting.* SAHM encourages HCPs to identify ways to gain access to free safe storage devices, whenever possible. One study suggests distributing safe storage devices through office settings improves rates of safe storage [18]. Whenever feasible, it may be possible for HCPs to collaborate with injury prevention coalitions to gain access to such devices. SAHM encourages HCPs to learn about local resources that provide safe storage devices and share this information with families.

Position 3: Firearm access should be evaluated in higher risk situations, including when AYA present with violent behavior, SI/HI, or depression

Identification of higher risk situations is essential for the targeted delivery of safe storage messaging. HCPs should identify AYA who demonstrate higher risk by screening for SI/HI, major depressive disorder, violent behavior, substance use, firearm carrying, and neighborhood vulnerability during routine or behavioral health visits. If identified and deemed acute (SI/HI), counseling should focus on the removal of all firearms from home, at least temporarily. If unable to have firearms stored offsite (i.e., storage facility, police stations, or relatives), then safe home storage would be the next best approach. Studies suggest that in the presence of SI, parents are more likely to store their firearms safely when counseling is provided [20].

Assault-injured AYA are at increased risk for future firearm injury [21] and should be screened for firearm access, mental health concerns, and substance use. HCPs should work with higher risk AYA to develop a plan to increase safety and decrease future firearm injury. Interventions can include motivational interviewing to address retaliation and gun access and hospital-initiated community-based programs [22], including wrap-around case management for high-risk youth.

Position 4: HCPs should assess youth affected by firearm violence for symptoms of trauma and connect youth to trauma-focused mental health care when indicated

Youth who experience a firearm event as victims, witnesses, or vicariously, including community violence and police shootings, are often traumatized [23]. HCPs should create a trauma-informed environment with staff who understand the impact of trauma on AYA well-being. Screening and referral to trauma-focused mental health services are imperative to promote healing after firearm violence and to mitigate the disproportionate impact of firearm violence experienced by youth in marginalized communities [23].

Position 5: Community-level strategies should be used to increase school and community safety, decrease the disproportionate burden of firearm injury on marginalized communities, and decrease the frequency and impact of mass shootings

To address school shootings, expert opinion suggests following *The Safe Schools Initiative* recommended jointly by the U.S. Secret Service and the Department of Education [24]. Recommendations include:

- Interventions aimed at developing a positive, respectful environment, social-emotional competence for students, and the prevention of problem behavior.
- Development of “Threat Assessment Teams” to identify, evaluate, and refer for intervention those who show signs of risk.
- Development of security procedures to prevent school shootings and minimize mortality if they do occur.

Safe Communities Safe Schools [25] developed a guide for implementing this approach. Universal evidence-based school violence prevention programs focused on antibullying and positive youth development can improve school safety [25]. In addition, anonymous reporting systems are shown to decrease high-risk situations such as Colorado-based Safe2Tell. During the 2017–2018 academic year in Colorado, 692 planned/suspected school attacks and 359 guns were reported and investigated [26].

There is a lack of evidence demonstrating school and community-wide strategies that decrease gun violence specifically. However, multiple programs have shown robust effects at decreasing general youth violence [27]. Universal prevention strategies, such as Life Skills, delivered in middle schools and targeted interventions, such as Multisystemic Therapy, an intensive family-focused counseling program, decrease the perpetration of youth violence [27]. Community-level programs, such as Crime Prevention Through Environmental Design, that change the physical environment of a neighborhood by greening abandoned lots, as an example, also decrease violence perpetration [27]. Finally, comprehensive programs, such as Cure Violence, decrease the rate of homicide in a community [28].

SAHM strongly discourages the arming of teachers to prevent or mitigate school shootings. Education, security, and health experts have rejected this strategy [29,30]. Furthermore, there is no evidence to support that armed teachers will decrease the frequency or magnitude of school shootings, and there are reasons to believe that risk may be increased [31].

Position 6: All HCPs should participate in firearm injury risk reduction education

HCPs should pursue education on the issues of firearm risks, safe storage, and how to counsel AYAs and families about safer firearm storage and removing firearms in high-risk situations. Education improves HCP self-confidence in counseling parents about gun access and improves parental gun storage practices [16]. Effective training methods for HCPs include interactive seminars, educational sessions, and online modules [16]. It is important to teach health care trainees how to address firearm risk in the clinical setting, in particular, the risks firearms pose to the health of children and AYA, the benefits of counseling, and how to provide firearm safety counseling. Educating medical trainees during their required adolescent medicine rotation provides the opportunity, for example, to teach screening and

motivational interviewing skills tailored to adolescents. This training should also be available as part of Continuing Medical Education.

Position 7: Research focused on prevention of firearm injury and mortality should be expanded

There remain many unanswered questions at the clinic, community, policy, and legislative levels to decrease firearm injury. Furthermore, there is limited empiric-based data to inform clinical and policy decisions regarding the most effective approaches to address firearm injury. As such, researchers need to expand the knowledge base, particularly as it relates to AYA. An agenda for childhood (including adolescents) firearm injury research has been proposed by a National Institutes of Health–funded consortium of experts in firearm research [32]. There is consensus among bipartisan policymakers and officials that current federally funded research limitations do not preclude federally supported public health research on reducing morbidity and mortality associated with firearms [33]. SAHM calls on Congress to appropriate funding for this purpose to support this critical work. SAHM also calls for researchers to include variables that capture firearm access and injury to their current studies.

Position 8: Policies should be implemented at the federal and state levels to decrease the stream of illegal guns

In the U.S., it is illegal for licensed dealers to sell a firearm to someone aged <18 years. However, younger adolescents do acquire and carry firearms [2]. Even AYA with criminal convictions are able to acquire firearms [34]. Studies of youth offenders show that approximately half of them purchase their firearm on “the street or black market,” and one-third acquire it from a friend or family member [34]. States vary widely in their regulation of licensed dealers and private firearms transactions. There is a strong association between the laxity of a state’s gun laws and the likelihood that firearms bought in that state will be recovered later by police as a crime gun [35,36].

SAHM recommends the following measures, which are associated with a reduction in the illegal diversion of firearms [35,36].

- a. Strict regulation and oversight of licensed dealers
- b. Strict regulation of private transfer of handguns
- c. Mandatory reporting of lost and stolen firearms

Position 9: Firearm safety legislation should be enacted with the goal of decreasing AYA morbidity and mortality

Expansion and enforcement of responsible legislation for firearm ownership is a fundamental approach to reducing firearm injuries. Stronger gun laws are associated with decreased rates of firearm homicide [37]. Legislation to strengthen background checks and laws that require a permit to purchase a firearm show the largest and most consistent effects [38]. Laws limiting access to firearms (e.g., safe storage laws) are associated with lower rates of pediatric unintentional firearm deaths [37]. The 1994–2004 assault weapons ban led to a decrease in mortality due to mass shootings [38]. Extreme Risk Protection Orders, which create a judicial review process

for temporarily restricting firearm access when family members identify a relative posing an immediate danger to themselves or others, have been shown to decrease firearm mortality [39]. SAHM supports the expansion of evidence-informed gun safety legislation to all states to include (1) universal background checks; (2) assault/semiautomatic weapons ban; (3) prohibition of high-capacity magazines; (4) Extreme Risk Protection Orders; and (5) child access prevention laws.

Summary

Those who care for AYA have an obligation to mitigate the effects firearms have on the health and well-being of AYA. SAHM supports a comprehensive approach focused on clinical care, research, education, and legislation that can ultimately reduce AYA firearm morbidity and mortality.

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References

- [1] Centers for Disease Control and Prevention National Center for Injury Prevention and Control. Web-based injury statistics query and reporting system (WISQARS) [online]. 2018. Available at: www.cdc.gov/injury/wisqars. Accessed March 18, 2019.
- [2] Kann L, McManus T, Harris W, et al. Youth risk behavior surveillance – United States, 2017. *MMWR Surveill Summ* 2018;67:1–114.
- [3] Zhang A, Musu-Gillette L, Oudekerk BA. Indicators of school crime and safety: 2015 (NCES 2016-079/NCJ 249758). Washington, DC: National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice; 2016. Available at: <https://nces.ed.gov/pubs2016/2016079.pdf>. Accessed April 7, 2017.
- [4] Azrael D, Cohen J, Salhi C, Miller M. Firearm storage in gun-owning households with children: Results of a 2015 National Survey. *J Urban Health* 2018;95:295–304.
- [5] Simonetti JA, Mackelprang JL, Rowhani-Rahbar A, et al. Psychiatric comorbidity, suicidality, and in-home firearm access among a nationally representative sample of adolescents. *JAMA Psychiatry* 2015;72:152–9.
- [6] Miller M, Lippman SJ, Azrael D, Hemenway D. Household Firearm ownership and rates of suicide across the 50 United States. *J Trauma* 2007;62:1029–35.
- [7] Lee LK, Fleegler EW, Farrell C, et al. Firearm laws and firearm homicides: A systematic review. *JAMA Intern Med* 2017;177:106–19.
- [8] Grinshteyn E, Hemenway D. Violent death rates: The US compared with other high income OECD countries, 2010. *Am J Med* 2016 Mar;129:266–73.
- [9] Chapman S, Alpers P, Jones M. Association between gun law reforms and intentional firearm deaths in Australia, 1979–2013. *JAMA* 2016;316:291–9.
- [10] Gun Violence Archive. Standard reports – mass shootings-all years. Available at: www.gunviolencearchive.org. Accessed January 11, 2019.
- [11] Keeping our schools safe: A plan to stop mass shootings and end gun violence in schools. Everytown for Gun Safety; 2019. Available at: <https://everytownresearch.org/reports/keeping-schools-safe-plan-stop-mass-shootings-end-gun-violence-american-schools>. Accessed May 9, 2019.
- [12] Siegel M, Ross CS, King C 3rd. The relationship between gun ownership and firearm homicide rates in the United States, 1981–2010. *Am J Public Health* 2013;103:2098–105.
- [13] Monuteaux MC, Azrael D, Miller M. Association of increased safe household firearm storage with firearm suicide and unintentional death among US youths. *JAMA Pediatr* 2019;173:657–62.
- [14] Duke N, Resnick MD, Borowsky IW. Position paper: Adolescent firearm violence: Position paper of the Society for Adolescent Medicine. *J Adolesc Health* 2005;37:171–4.
- [15] Council on Injury, Violence and Poison Prevention Executive Committee: American Academy of Pediatrics. Firearm-related injuries affecting the pediatric population. *Pediatrics* 2013;130:e1416–23.
- [16] Roszko PJ, Ameli J, Carter PM, et al. Clinician attitudes, screening practices, and interventions to reduce firearm-related injury. *Epidemiol Rev* 2016;38:87–110.
- [17] Finch SA, Weiley V, Ip EH, Barkin SL. Impact of pediatricians' perceived self-efficacy and confidence on violence prevention counseling: A National Study. *Matern Child Health* 2008;12:75–82.
- [18] Barkin SL, Finch SA, Ip EH, et al. Is office-based counseling about media use, timeouts, and firearm storage effective? Results from a cluster-randomized, controlled trial. *Pediatrics* 2008;122:e15–25.
- [19] Wertz J, Asrael D, Miller M. Americans who become a new versus a former gun owner: Implications for youth suicide and unintentional firearm injury. *Am J Public Health* 2019;109:212–4.
- [20] Runyan CW, Becker A, Brandespiegel S, Novins D. Lethal means counseling for parents of youth seeking emergency care for suicidality. *West J Emerg Med* 2016;17:8–14.
- [21] Carter PM, Walton MA, Newton MF, et al. Firearm possession among adolescents presenting to an urban emergency department for assault. *Pediatrics* 2013;132:213–21.
- [22] Purtle J, Rich JA, Fein JA, et al. Hospital-based violence prevention: Progress and opportunities. *Ann Intern Med* 2015;163:715–7.
- [23] Westers MJ, Kistin CG, Bair-Meritt MH. Violence and mental health: Trauma informed practice and wellness approach to violence victimization. In: Miller E, Sigel E, eds. *AM STARS: Youth violence prevention and intervention in clinical and community based settings*, 27; 2016 (2).
- [24] Vossekul B, Fein RA, Reddy M, et al. The final report and findings of the safe school initiative: Implications for the prevention of school attacks in the United States. Washington, D.C.: U. S. Secret Service and U. S. Department of Education, U.S. Department of Education; 2004.
- [25] Kingston B, Mattson SA, Dymnicki A, et al. Building schools readiness to implement a comprehensive approach to school safety. *Clin Child Fam Psychol Rev* 2018;21:433–49.
- [26] Data 2 report 2017–2018. Safe 2 Tell Colorado. Available at: <https://safe2tell.org/sites/default/files/u18/Data2Report%20PDF%20SY%202017-2018.pdf>. Accessed May 9, 2019.
- [27] David-Ferdon C, Simon TR. Preventing youth violence: Opportunities for action. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2014.
- [28] Delgado SA, Alsabahi L, Wolff K, et al. The effects of cure violence in the South Bronx and East New York, Brooklyn. In: *Denormalizing violence: A series of reports from the John Jay College Evaluation of Cure Violence Programs in New York City*. New York, NY: Research and Evaluation Center, John Jay College of Criminal Justice, City University of New York; 2017.
- [29] U.S. Department of Education, U.S. Department of Health and Human Services, U.S. Department of Homeland Security, et al. Guide for developing high-quality school emergency operations plans. 2012. Available at: http://rems.ed.gov/docs/REMS_k-12_Guide_508.pdf. Accessed May 30, 2019.
- [30] National Association of School Resource Officers. Statement: NASRO opposes arming teachers. Available at: <https://nasro.org/news/press-releases/nasro-opposes-arming-teachers/>. Accessed March 8, 2019.
- [31] Rajan S, Branas CC. Arming schoolteachers: What do we know? Where do we go from here? *Am J Public Health* 2018;108:860–2.
- [32] Cunningham RM, Carter PM, Zimmerman MA, et al. Defining a research agenda for firearm injury prevention among children and adolescents: Consensus driven recommendations from the FACTS Consortium. *JAMA Peds* 2019;173:780–9.
- [33] Jaffe S. Gun violence research in the USA: The CDC's impasse. *Lancet* 2018;391:2487–8.
- [34] Vittes KA, Vernick JS, Webster DW. Legal status and source of offenders' firearms in states with the least stringent criteria for gun ownership. *Inj Prev* 2013;19:26–31.
- [35] Wintemute GJ, Braga AA, Kennedy DM. Private-party gun sales, regulation, and public safety. *N Engl J Med* 2010;363:508–11.
- [36] Trace the guns: The link between gun laws and interstate gun trafficking. A report from mayors against illegal guns. 2010. Available at: <http://tracetheguns.org/report.pdf>. Accessed January 11, 2019.
- [37] Santaella-Tenorio J, Cerda M, Villaveces A, Galea S. What do we know about the association between firearm legislation and firearm-related injuries. *Epidemiol Rev* 2016;38:140–57.
- [38] DiMaggio C, Avraham J, Berry C, et al. Changes in US mass shooting deaths associated with the 1994–2004 federal assault weapons ban: Analysis of open-source data. *J Trauma Acute Care Surg* 2019;86:11–9.
- [39] Bridges FS, Tatum KM, Kunselman JC. Domestic violence statutes and rates of intimate partner and family homicide. *Crim Justice Policy Rev* 2008;19:117–30.