



Gun Violence and Advocacy Journal Scan Articles

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Why are these articles relevant? A literature review indicates that firearm injuries are the second most common injury resulting in death in our pediatric trauma centers. Firearm-related injury and death are distinctly more common in America. Most likely, we have all seen some aspect of the often devastating impact of these gun-related injuries. A singular approach to successfully reduce gun related injuries has not been supported by the literature. In February 2019, a position statement by The American Pediatric Surgical Association (APSA) was published on firearm injuries in our pediatric populations. This position statement supports a multimodal approach toward reducing gun related injuries similar to the one taken to reduce motor-vehicle related injuries. APSA acknowledges that physicians, as a group, have the most credibility with the approach to firearms as an issue of health rather than an issue of law, politics, or personal freedom. The systematic and dramatic reduction in motor vehicle-related injuries and death in both the adult and pediatric populations should serve as a model for success.

ARTICLE: J.K. Petty, M.C.W. Henry, M.L. Nance, et al., **Firearm injuries and children: Position statement of the American Pediatric Surgical Association**, Journal of Pediatric Surgery, <https://doi.org/10.1016/j.jpedsurg.2019.03.001>

TYPE OF ARTICLE: Position Statement

Level of Evidence: Type V, Expert Opinion

DISCUSSION: The American Pediatric Surgical Association (APSA) is committed to comprehensive pediatric trauma readiness, including firearm injury prevention. APSA supports a public health approach to firearm injury, and it supports availability of quality mental health services. APSA endorses policies for universal background checks, restrictions on assault weapons and high capacity magazines, strong child access protection laws, and a minimum purchase age of 21 years. APSA endorses firearm injury prevention as part of comprehensive pediatric trauma care. APSA opposes efforts to keep physicians from counseling children and families about firearms. APSA promotes research to address this problem, including increased federal research support and research into the second victim phenomenon. APSA supports school safety and readiness, including bleeding control training

CONCLUSION: A meaningful reduction in the burden of firearms injury and death in children will not happen with a single quick action. A steady, enduring commitment is needed similar to

the multi-modality approach to reducing motor vehicle related injuries and deaths. APSA believes that inaction is irrational and indefensible. With more than 300,000,000 guns in circulation in the United States, we as an Association and we as a nation need to develop ways to live safely in a world with guns. We cannot know for certain if the positions. APSA supports research, education and treatment for the second victim phenomenon and the stress reactions faced by survivors and health care teams in the face of these incidents.

PTS SUMMARY: Because of the regularity, complexity and geographic variability of the firearm injury problem, it is best addressed as a public health issue. A public health approach views firearm injury in a disease framework with an epidemiology, pathophysiology, treatment, and prevention. The U.S. has been successful in reducing motor vehicle deaths through a multidimensional approach— prevention, design, policy, behavior, trauma care. APSA believes that a similar public health approach can succeed to save children from death and injury from firearms. APSA is committed to building partnerships to accomplish this.

ARTICLE: B.M. Tracy, R.N. Smith, K. Miller, et al., **Community distress predicts youth gun violence**, Journal of Pediatric Surgery, <https://doi.org/10.1016/j.jpedsurg.2019.03.021>

BACKGROUND: The purpose of this study was for the institution to investigate their experience with pediatric firearm events. They sought to determine the relationship between a community's level of socioeconomic distress and the incidence of youth gun violence.

METHODS: They performed a retrospective review of children <18 years of age involved in firearm events. Using visual cluster analysis, they portrayed all firearm events and violent firearm events (assaults + homicides). Distressed community indices (DCIs) were obtained from an interface that uses US Census Bureau data. Incident rate ratios (IRRs) were calculated for firearm circumstances (i.e. assault, homicide, suicide) using a Distressed Community Index. Significant IRRs were analyzed to discern which Distressed Community Index metrics contributed most to gun violence.

RESULTS: There were 114 children involved in firearm events; 66 were county residents. The DCI of injury location significantly predicted total firearm events (IRR 1.02, 95% CI 1.01–1.03), assaults (IRR 1.02, 95% CI 1.01–1.05), and violent firearm events (IRR 1.03, 95% CI 1.01–1.05). The proportion of adults without a high school diploma, poverty rate, median income ratio, and housing vacancy rate were highly predictive of gun violence (VIP N1).

CONCLUSION: Community distress significantly predicts pediatric firearm violence. Local interventions should target neighborhoods with high levels of distress to prevent further youth gun violence.

PTS SUMMARY: The authors hypothesized that youth gun violence accounts for a significant portion of the overall pediatric firearm-related traumas in our county and that individual

distressed communities harbor greater rates of pediatric gun injuries. Their research confirms that youth firearm injuries most often affect adolescent, black males and occurs in their Southern communities that are most economically distressed. They suggest that local outreach efforts and violence intervention programs be better tailored to address the socioeconomic factors predisposing its youth to gun violence.

ARTICLE: Lilly Bayouth a, Katryne Lukens-Bull b, Lori Gurien c, Joseph J Tepas III d, Marie Crandall; **Twenty years of pediatric gunshot wounds in our community: Have we made a difference?** Journal of Pediatric Surgery 54 (2019)160–164

BACKGROUND: Pediatric gunshot wounds (GSWs) carry significant incidence, mortality, and cost. They evaluated 20 years of GSW demographics at this level I trauma center and constructed a risk map triangulating area of high incidence with risk factors.

METHODS: Children 0–18 years suffering a GSW between 1996 and 2016 were identified via their trauma registry. Hospital charges, demographic, socioeconomic, and institutional variables were retrospectively reviewed. Multi-variable logistic regression identified predictors of mortality. Geographic information system (GIS) mapping of incident location and residence identified areas of higher incidence.

RESULTS: The cohort (n=898) was 86.4% male. Mean age was 15.6±3.4years. Median Injury Severity Score(ISS) was 9 (1–75). Procedural and/or operative intervention occurred in 52.9%. Intent included assault (81.5%) and unintentional injury (12.8%). Hospital charges showed significant annual increase. Annual incidence varied without trend (p=0.89). Mapping revealed significant clustering of GSWs in known lower socioeconomic areas. Yearly and total GSWs were highest in one particular zip code. ISS was a significant predictor of mortality (n=18) (OR1.19,95%CI1.15–1.22,p b 0.001).

CONCLUSION: Impoverished neighborhoods have higher pediatric GSW incidence, unchanged over 20 years. Alternative community-based prevention efforts should involve neighborhood capacity building and economic strengthening.

PTS SUMMARY: Firearm violence carries significant morbidity and mortality as well as increasing financial burden for the pediatric population living in high crime impoverished urban areas. This study identified variables that may be significant predictors of gun violence in our local pediatric community: male gender, adolescent age and racial minority living in neighborhoods of significant socioeconomic disadvantage. This information can be utilized in both medical and political venues to create and institute novel GSW injury prevention practices targeting our pediatric population most susceptible to these identified risk factors. Prevention strategies should strive to correct the inequalities that have contributed to 20 years of structural violence that has predisposed our pediatric population to repeatedly fall victim to the gun violence epidemic. Current law enforcement programs and hospital based trauma prevention programs through patient and family education and counseling efforts are not sufficient. Policy change needs to be community based, look to protect resources that alleviate poverty, and limit our children's access to firearms.

TITLE: Emma C. Hamilton, MD, Charles C. Miller III, PhD, Charles S. Cox, Jr., MD, Kevin P. Lally, MD, and Mary T. Austin, MD, MPH;

Variability of child access prevention laws and pediatric firearm injuries; *J Trauma Acute Care Surg.* 2018;84: 613–619.

BACKGROUND: State-level child access prevention (CAP) laws impose criminal liability on adults who negligently allow children access to firearms. The CAP laws can be further divided into strong CAP laws which impose criminal liability for negligently stored firearms and weak CAP laws that prohibit adults from intentionally, knowingly, and/or recklessly providing firearms to a minor. We hypothesized that strong CAP laws would be associated with a greater reduction in pediatric firearm injuries than weak CAP laws.

METHODS: We constructed a cross-sectional national study using the Healthcare Cost and Utilization Project-Kids Inpatient Database from 2006 and 2009 using weighted counts of firearm-related admissions among children younger than 18 years. Poisson regression was used to estimate the association of CAP laws with pediatric firearm injuries.

RESULTS: After adjusting for race, sex, age, and socioeconomic income quartile, strong CAP laws were associated with a significant reduction in all (incidence rate ratio, 0.70; 95% confidence interval, 0.52–0.93), self-inflicted (incidence rate ratio, 0.46; 95% confidence interval, 0.26–0.79), and unintentional (incidence rate ratio, 0.56; 95% confidence interval, 0.43–0.74) pediatric firearm injuries. Weak CAP laws, which only impose liability for reckless endangerment, were associated with an increased risk of all pediatric firearm injuries.

CONCLUSION: The association of CAP laws on hospitalizations for pediatric firearm injuries differed greatly depending on whether a state had adopted a strong CAP law or a weak CAP law. Implementation of strong CAP laws by each state, which require safe storage of firearms, has the potential to significantly reduce pediatric firearm injuries.

PTS SUMMARY: The article cites that most children who die from an unintentional firearm death have either shot themselves or were shot by another child. The effect of strong CAP laws on reducing pediatric firearm injuries is likely the result of complex interaction of political, social, and environmental factors that encourage a culture of gun safety. However, implementation of strong CAP laws requiring safe storage of firearms by the 36 states that have either no CAP laws or weak CAP laws is one method that has the potential to significantly reduce pediatric firearm injuries, especially self-inflicted and unintentional injuries. In their research population, hospitalizations for unintentional injuries was most common (n = 955, 64%) in children younger than 14 years, whereas in adolescents 14–17 years of age, most hospitalizations were due to assault-related firearm injuries (n = 4318, 81%). The intent of strong CAP laws that require safe storage of firearms is to prevent access to firearms by children; these laws are primarily aimed at reducing gun accidents and firearm suicide. Strong CAP laws may also reduce other types of gun violence by preventing access to firearms by unauthorized users. In contrast, weak CAP laws do not require safe storage of firearms and only impose criminal liability when an adult consciously disregards the safety of a child by allowing them to have access to a gun.