AAP SOEM Listserv Survey Proposal:

Firearm Safety: A Survey on Practice Patterns, Knowledge and Opinions of Pediatric Emergency Medicine Providers

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Background:

Gun violence is an epidemic in the United States. Although rates have declined in the past 20 years, firearm injuries continue to be one of the top three leading causes of death in American youth. Up to 65% of firearm deaths are in those younger than 19 years (1), and 30% of unintentional firearm deaths are in youths less than 19 years old (2). Access to firearms remains an important focus for primary injury prevention efforts in children. Thirty three to 65 percent of unintentional firearm deaths occur in homes (2, 3). One prior retrospective study showed that 75% of guns used in unintentional injuries and suicides of children and adolescents were stored in the homes of the victim, a relative or friend (4). Another study found that half of young children killed unintentionally by firearm were reportedly “playing” or “fooling around” with a gun (5). Another study found that guns used in youth suicide or unintentional injury were less likely to be stored unloaded, locked, separate from ammunition or with locked ammunition (6). It is estimated that nearly 1.7 million children <18 years old live in a home with an unlocked and loaded firearm (7). Properly securing firearms remains one effective strategy to reduce injuries in children.

Part of the role of the child healthcare provider involves injury prevention screening and counseling. However, in recent years, many states have tried to regulate physicians’ rights to discuss firearms and firearm safety with patients. In 2011, Florida passed the “physician gag law, which prohibits such discussions. Since that time, 12 other states have introduced similar legislation, none of which passed. Multiple groups, including the Florida chapter of the American Academy of Pediatrics (AAP), sued to stop the enforcement in Florida, but this was appealed and the law upheld in 2014. (8) Since then, multiple medical associations, including the AAP, as well as the American Bar Association, have voiced their support for stronger gun control laws and the elimination of physician gag laws. (9, 10) The AAP issued a recent policy statement in 2012 on firearm injuries in children, expanding and reaffirming prior statements from 1992 and 2000. Among their recommendations was to urge child healthcare professionals to counsel parents and patients on the dangers of firearms and to educate on safe storage of guns in the home (11, 12, 13).
Conventionally, the ED has been involved in treating injuries that have already occurred, but many centers are researching the use of the ED for screening and education on injury prevention (14). Emergency departments are the primary contact with the healthcare system for many patients and families. Additionally, many pediatric emergency medicine (PEM) providers practice in an urban, academic setting, seeing patients at high risk for contact with firearms. Most firearm injuries in children and adolescents occur in urban areas (15), making these prime areas to focus prevention efforts.

To our knowledge, no study to date has looked at the knowledge, opinions, and practice patterns of pediatric emergency medicine providers in regard to firearm safety counseling and assessment in the emergency department. Given the political climate and charged nature of this topic, it is of particular interest especially in relation to other injury prevention topics in the pediatric ED.

Objectives:

To describe the current practices and knowledge of healthcare providers caring for children in the emergency setting in regard to: 1) their familiarity with state physician gag laws limiting physician discussions on firearm safety, 2) opinions and practice patterns surrounding injury prevention and screening for firearm safety in the emergency department, and 3) possible barriers to these practices. The study also aims to look at children’s healthcare providers’ perceptions of the threat of pediatric firearm dangers, benefit of prevention measures, and self-efficacy in providing injury prevention counseling.

Methods:

We propose to conduct a prospective cross-sectional survey of pediatric emergency providers through the American Academy of Pediatrics (AAP) Section on Emergency Medicine (SOEM) Pediatric Emergency Medicine Collaborative Research Committee (PEM CRC) list-serve.

Our target population will be PEM physicians, and our sampling frame will be the members of AAP SOEM. The survey will utilize deliberate, purposive sampling from PEM providers who are members of the SOEM list-serve.

Survey items were generated through literature review as well as focus group sessions with PEM providers, survey experts, and potential respondents. We identified domains of interest, and a modified Delphi approach was used to rank relevance of questions and perform item reduction. Initial chosen domains were demographics, clinical practice and knowledge surrounding: injury prevention, laws and statutes and firearm safety. These were reduced to the top 30 questions that were felt best to address the research questions and minimize redundancy.
Questions were pre-tested to evaluate appropriateness, and pilot tested to assess ease of use and identify any redundant or poorly worded questions. The pilot group was carefully chosen to include both pediatric, PEM, and adult emergency medicine trained physicians that practice at varied institutions, including a free standing children’s hospital, urgent care, and adult hospitals. The panel conducted clinical sensibility testing to assess face validity as well as content and construct validity. Iterative changes were made to the survey questions and they were revised and reduced accordingly.

The survey questions include multiple choice, Likert-type questions, and rankings. Variables of interest for the analysis include level of training, current position, hospital type, location and setting, state and region of the country (US and Canada), gender, self-identified political affiliation, age, providers opinions and practices on counseling patients on firearm safety, practices regarding other injury prevention topics, barriers to discussions on firearm safety in the emergency department, knowledge of physician gag laws in their state, and personal ownership of firearms.

Descriptive statistics will be used to characterize the cohort. Group responses based on demographic determinants will be compared with the chi-squared test for categorical outcomes, and Wilcoxon rank sum test for ordinal outcomes. Logistic regression analysis after dichotomization of the relevant endpoints will then be performed to identify predictors of our primary endpoints, obtain odds ratios and adjust for potential confounders. Based on pilot data, we hypothesize that approximately 20% of physicians seeing children in the emergency department screen for firearm safety. To obtain a confidence level of 95%, accepting an error margin of 5% and with the population of 1277 providers on the SOEM list-serve, we calculated a recommended sample size of 205 respondents.

**Potential Impact:**

This study may serve as a foundation leading to further studies regarding PEM physician education and PEM injury prevention efforts regarding firearm safety. It may also help to identify potential barriers to such screening and discussions in the pediatric ED. Furthermore, this will add to our knowledge base about firearm safety counseling among physicians and hopefully strengthen future advocacy in this area. The results of this study will be submitted for publication in a peer reviewed journal.
References:


