



Pediatric Academic Societies Meeting

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Study Finds 16 U.S. Children Hospitalized for Firearms Injuries Each Day

Research being presented at the 2017 Pediatric Academic Societies Meeting shows majority of gun injuries in younger children unintentional, with most among 15- to 19-year-olds the result of assault.

SAN FRANCISCO, Calif. – New research being highlighted at the 2017 Pediatric Academic Societies Meeting in San Francisco reveals that firearms injuries caused more than 5,800 U.S. youth to be hospitalized in 2012, or roughly 16 children each day.

The study abstract, “Pediatric Hospitalizations due to Firearm Injuries in the U.S. in 2012,” will be presented on Sunday, May 8, at the Moscone West Convention Center. For the study, researchers examined the Agency for Healthcare Research and Quality Healthcare Cost and Utilization Project Kids’ Inpatient Database (KID), which tracks hospital inpatient stays for children.

Beyond providing grim statistics on the sheer number of children injured by guns, the study also showed demographic and socioeconomic patterns tied to the injuries:

- While the majority of injuries in children under age 15 were unintentional, most among 15- to 19-year-olds were the result of assault.
- Nearly 90 percent of the gunshot patients were male, and, disproportionately, over half of the patients admitted with firearm injuries were Black.
- More than half of the children hospitalized for gunshot injuries (53 percent) lived in a zip code that fell within the bottom 25 percent of median household income. Roughly the same amount had Medicaid.

- The average length of hospitalization was 6 days, costing an average of \$22,644 per stay. The total estimated national cost of the hospitalizations was \$130 million.

"Our findings add urgency to the need for preventive public health measures to reduce gun injuries in children," said lead author Alyssa H. Silver, MD, FAAP, attending physician and assistant professor of Pediatrics, Division of Pediatric Hospital Medicine, Children's Hospital at Montefiore/Albert Einstein College of Medicine. "The fact that 57% of firearm-related injuries in children under 15 years old were unintentional, for example, highlights the need for improved gun safety and storage practices."

Dr. Silver also called for increased research funding for additional studies on pediatric firearms injuries, alongside other major threats to children's health. During the 2016-17 fiscal year, she noted, just \$2.2 million in federal funding was provided through the National Institutes of Health for firearms related research, compared with \$444 million for research on the Zika virus and \$286 million for cystic fibrosis studies, for example.

Dr. Silver will present the abstract, "Pediatric Hospitalizations due to Firearm Injuries in the U.S. in 2012," from 4:15 p.m. to 7:30 p.m.

Reporters interested in an interview with Dr. Silver may contact Montefiore media relations officer Rachael McCallen at 347-545-7843 or rmccall@montefiore.org.

Please note: only the abstract is being presented at the meeting. In some cases, the researcher may have more data available to share with media, or may be preparing a longer article for submission to a journal. Contact the researcher for more information.

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The Pediatric Academic Societies (PAS) Meeting brings together thousands of individuals united by a common mission: to improve child health and wellbeing worldwide. This international gathering includes pediatric researchers, leaders in academic pediatrics, experts in child health, and practitioners. The PAS Meeting is produced through a partnership of four organizations leading the advancement of pediatric research and child advocacy: Academic Pediatric Association, American Academy of Pediatrics, American Pediatric Society, and Society for Pediatric Research. For more information, visit the PAS Meeting online at www.pas-meeting.org, follow us on Twitter @PASMmeeting and #pas17, or like us on Facebook.

ABSTRACT

TITLE: Pediatric Hospitalizations due to Firearm Injuries in the US in 2012

CURRENT CATEGORY: Hospital Medicine

KEYWORDS: firearm injuries, national, disparities.

Background: There is limited US data on firearm-related hospitalizations in pediatrics. The Agency for Healthcare Research and Quality Healthcare Cost and Utilization Project Kids' Inpatient Database (KID) is the only all-payer inpatient care database, including rural and non-

teaching hospitals, for children in the US.

Objective: The objective of this study was to describe pediatric firearm-related hospitalizations and determine relative risk of cause of injury by age using the 2012 KID dataset.

Design/Methods: In a retrospective cross-sectional study analyzing existing data in the KID, we included all patients <20 years old hospitalized with external cause of injury ICD-9-CM E codes for firearm-related injuries including unintentional, suicide attempts, assaults, or undetermined. We merged datasets to include cost to charge ratios. Analyses in STATA with survey sampling methods incorporated the discharge weighting variable. We used standard statistics incorporating survey design to describe patient characteristics, calculate totals and means. We calculated relative risk of injury cause by age (relative to 0-4 year olds).

Results: There were an estimated 5862 (95% CI: 5232-6492) pediatric firearm-related hospitalizations in 2012. Table 1 describes patient characteristics. 87.6% were males, 83.6% 15-19 years old, 53.7% Black. 53.0% had Medicaid, 52.7% lived in a zip code with a 1st quartile median household income. 60.2% of these injuries were coded as assault. Mean LOS was 6.0 days (95%CI: 5.7-6.4). Total estimated national cost of hospitalizations was \$130 million (95% CI: 111-149), mean cost of hospitalization was \$22,644 (95%CI:20,921-24367). Table 2 shows causes of hospitalizations by age. Figure 1 displays hospitalization rates by cause and age. Relative risk p values were significant (<0.05) only for 15-19 year olds overall, as well as for each category of cause of injury.

Conclusion(s): Pediatric firearm-related injuries in 2012 remained a substantial problem in the US, leading to over 5800 hospitalizations, averaging 16/day. This data confirms prior studies finding socioeconomic and racial/ethnic disparities in pediatric firearm-related hospitalizations, the majority being those with Medicaid, from the lowest median household incomes and being Black or Hispanic. The majority of firearm-injuries are reported as unintentional in children <15 years old, while for 15-19 year olds, the majority are reported as due to assault. Further public health measures are needed to address this preventable cause of pediatric injury.