PLATFORM PRESENTATIONS

Violence and Firearm Injury Prevention

Friday, December 1, 2023, 1:15 PM to 2:30 PM

Session Description: Intentional injuries, including from firearms, are a leading cause of death and disability to children and youth in the U.S. In this session we will learn how a quality improvement approach can be applied to analyzing hospital-based injury prevention interventions. In addition, we will explore firearm storage practices among rural youth and the epidemiology of firearm suicide. The session will also include presentations about 2 different methods of lethal means counselling, including for firearms, implemented in the pediatric emergency department.

Learning Objectives:
1. Describe how to use a quality improvement approach to examine the effectiveness of patient enrollment for a hospital-based violence intervention program.
2. Examine the prevalence of and storage patterns for firearms among households of rural youth.
3. Appraise changes in youth firearm suicide epidemiology over time in the U.S.
4. Analyze the feasibility and acceptability of a novel lethal means counseling decision aid implemented in a pediatric emergency department
5. Discuss the effectiveness of different methods of lethal means counseling in pediatric emergency departments.

Moderators:

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Predictors of Repeat Pediatric Firearm Injury in St. Louis: A 10-year Retrospective Cohort Analysis

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Background: Firearm injury is the leading cause of death among youth in the United States. Individuals who experience one firearm injury are at an increased risk of subsequent injury by firearm. As many patients receive care from multiple hospitals and health systems in a geographic region, there is need to develop comprehensive liked data sets to assess constructs such as violence-related injury. The present study aims to identify demographic and clinical risk factors associated with repeat firearm injury within the pediatric population.

Methods: This study is a 10-year retrospective observational cohort analysis of all consecutive firearm injured children who presented to one of four St. Louis adult or pediatric level I traumas hospital for acute care. Data were collected on demographics from the St. Louis-Hospital Violence Intervention Program Data Repository (STL-HVIP-DR). This multi-hospital system repository contains encounter-level data on all patients who present for a violent injury (blunt assault, stabbing, firearm injury) from 2010 onward. A Kaplan-Meier survival analysis was performed to estimate the cumulative incidence of repeat firearm injury within the study population stratified by age group. A Cox proportional hazards regression model was performed to estimate the association between repeat firearm injury and demographic and clinical risk factors.

Results: Of the 1,340 patients treated for an initial firearm injury, 160 (12%) of patients experienced a repeat firearm injury during the study period. Among reinjured patients, 78% were Black, non-Hispanic males between the ages of 15 and 17. Youth were significantly less likely to be reinjured if they were treated at a children's hospital in both the 10-14, $X2(1, N=263) = 13.89$, ($p < 0.05$), and the 15-17 age groups, $X2 (1, N=898) = 5.84$, ($p < 0.05$). However, older Black adolescents were less likely to be treated at a children's hospital than white youth, $X2 (1, N=1,340) = 18.58$, ($p < 0.05$).

Conclusions: Among the distressingly large cohort of firearm injured youth receiving care at a partner level I trauma hospital in the St. Louis region, there were substantial race, gender and age disparities. Of note, Black teens were significantly less likely to be treated at a children's hospital, which may have implications for receipt of age-appropriate trauma informed care during and after hospitalization. Additional study is needed to examine factors perpetuating this inequitable care.