Statewide Incidence of Pediatric Firearm-Related Hospital Encounters by Childhood Opportunity Index Level in California

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Incidence of pediatric firearm injury increased as level of childhood opportunity decreased

Assaults were highest in very low Childhood Opportunity Index ZIP Codes, but self-inflicted injury and mortality highest in very high Childhood Opportunity Index ZIP Codes

Child-specific social determinants of health should inform pediatric firearm injury prevention programs

BACKGROUND
• Firearm injury are the leading cause of death in children and adolescents
• Neighborhood social determinants of health impact access to care and clinical outcomes

RESEARCH OBJECTIVES
To determine the relationship between Childhood Opportunity Index and pediatric firearm injury

METHODS
Data sources:
• California Office of Statewide Health Planning and Development Patient Discharge and Emergency Department data, 2015-2018
• ZIP Code Childhood Opportunity Index

Population:
• Children ages 0-17 who presented following firearm injury

Study variables:
• Primary predictor: Childhood Opportunity Index
• Primary outcome: incidence of pediatric firearm injury encounters (ZIP Code level)
• Secondary outcomes: intent, mortality, admission, disposition, length of stay (patient level)

Analyses:
• Hot spot analysis using Getis-Ord Gi* statistic
• Incidence rate ratios
• One-way analysis of variance and Kruskal-Wallis test
• Chi-squared and Fisher’s exact test

PATIENT-LEVEL OUTCOMES
• 2,578 pediatric firearm injury encounters
• Childhood opportunity index levels: 41% very low, 29% low, 17% moderate, 10% high, 3% very high

Table. Secondary patient level outcomes by Childhood Opportunity Index Level

LIMITATIONS
• Only includes children who presented to a hospital
• Lack of granularity beyond the ZIP Code level