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Race and Ethnicity is Associated with Pediatric Unintentional Injuries Requiring Hospitalization

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Race and Ethnicity is Associated with Pediatric Unintentional Injuries Requiring Hospitalization

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Resident/Ph.D/post graduate ($>$ 1 month of dedicated research time)

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IRB Number: IRB determined study to be “Not Human Research”

Describe role of Submitting/Presenting Trainee in this project (limit 150 words):

The submitting trainee was involved in all aspects of the project including idea conception, method design, analysis and interpretation of results, as well as abstract writing, editing and figure design.

Background, Objectives/Goal, Methods/Design, Results, Conclusions limited to 500 words

Background: Unintentional injuries are the most common cause of death among children 1-19 years of age, and Black children have a higher mortality rate from these injuries across all age groups. Describing hospitalizations for children with unintentional injuries will more completely identify racial and ethnic disparities among specific serious injury mechanisms for use in future policy and prevention efforts.

Objectives/Goal: To describe the incidence of unintentional injuries resulting in hospitalization for children by mechanism, age, and race and ethnicity.

Methods/Design: This retrospective cross-sectional study used the 2016 Kids' Inpatient Database and 2010 US Census data. Unintentional injury hospitalizations for children 1-19 years of age were identified using the Center for Disease Control's ICD-10 cause-of-death coding scheme, which were then stratified by race and ethnicity: non-Hispanic Black, non-Hispanic White, Hispanic, and all other races. Infants $<$ 1 year of age were excluded due to the predominance of alternate methods of unintentional injuries in this age group. Hospitalization rates were calculated per 100,000 children with 95% confidence intervals (CI). Relative risk ratios (RR) compared injury hospitalizations by race and ethnicity, with White children as the referent.

Results: Of the 116,067 hospitalizations for pediatric unintentional injuries in 2016, the most common mechanisms of injuries for all racial/ethnic groups were falls (39.1/100,000 [95% CI:

38.7, 39.5]) and motor vehicle crashes involving drivers and passengers (27.3/100,000 [95% CI: 26.9, 27.6]). Injury mechanisms with the largest Black-White RRs were unintentional firearm injuries (9.78 [95% CI: 9.44, 10.13]) and pedestrians hit by a motor vehicle (2.52 [95% CI: 2.50, 2.55], $p < 0.001$ in both cases, Figure 1). When these injury rates are stratified by age groups, similar trends in RR exist that are disproportionately higher for Black children compared to White children, especially for injuries caused by firearms, drowning, burns and pedestrians hit by motor vehicles (Figure 2).

Conclusions: Unintentional injuries resulting in hospitalizations from firearms and pedestrians hit by a motor vehicle are disproportionately higher for Black children compared to White children, even when stratified by age groups. Our results suggest that policy and preventative interventions should target specific injury mechanisms and populations at disproportionate risk for these serious injuries requiring hospitalizations.

Relative Risk of Pediatric Unintentional Injuries Resulting in Hospitalization

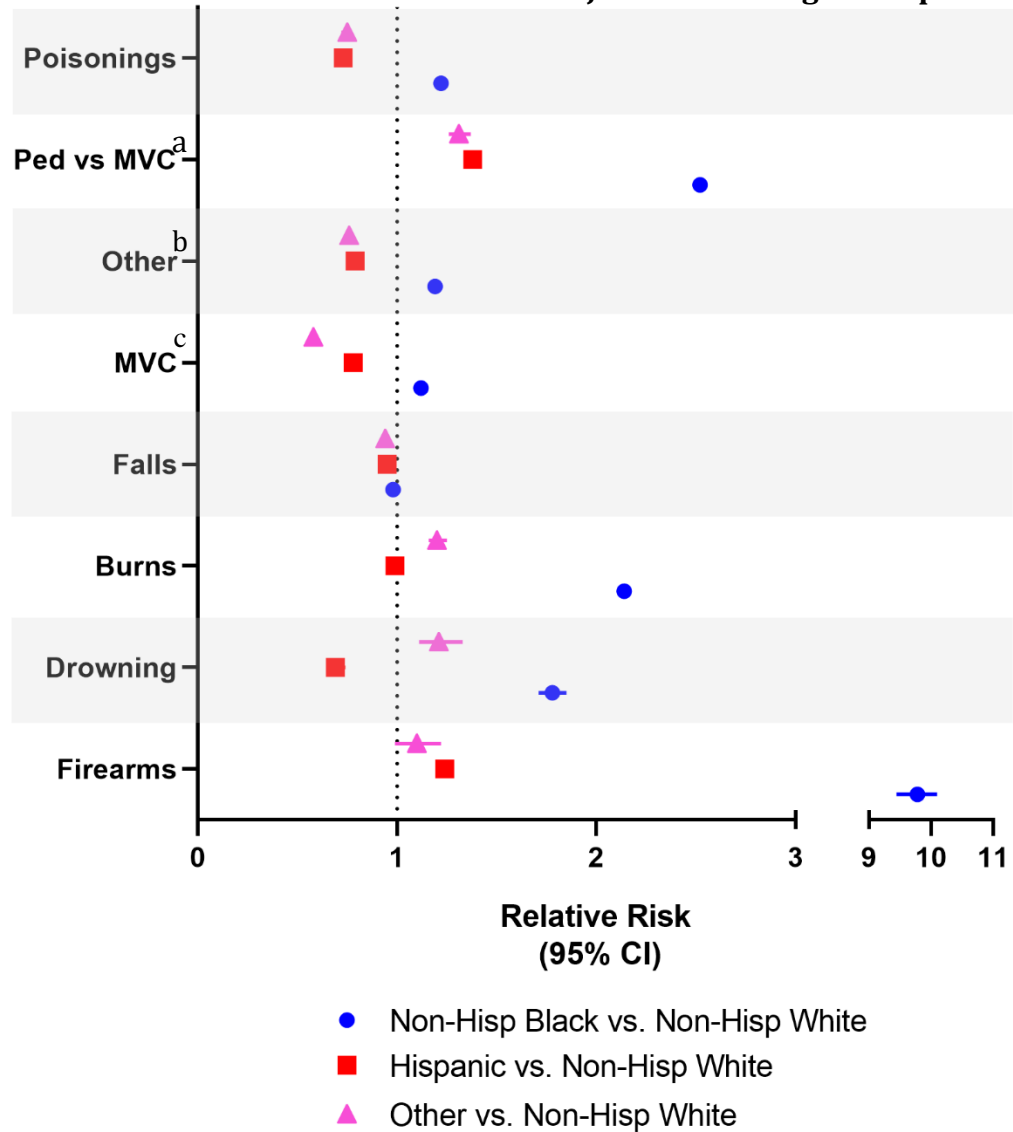


Figure 1. Relative risks of injuries requiring pediatric hospitalizations for specific injury mechanisms are shown by race/ethnicity.

^a Pedestrians injured by motor vehicles.

^b Includes injuries caused by other transportation methods.

^c Motor Vehicle Crash (MVC).

Relative Risk of Pediatric Unintentional Injuries Resulting in Hospitalization with Age Stratification

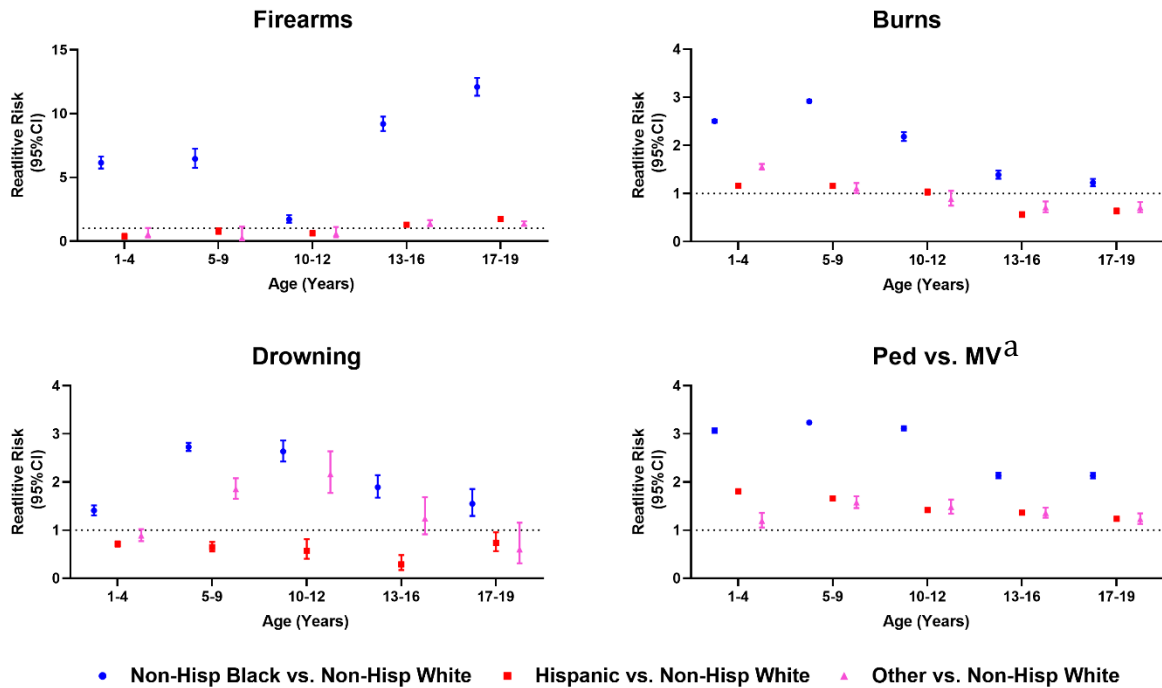


Figure 2. Relative risks of injuries requiring pediatric hospitalizations by age stratification for the four injury mechanisms with the highest variability.

^a Pedestrians injured by motor vehicles.