characteristics and environmental features of mass-shooting locations in US cities.

Methods Using Gun Violence Archive data, we identified all mass-shootings in the 10 US cities with the highest homicide rates from 2014–2017 (n=214). We geocoded the event locations and used American Community Survey estimates to describe the sociodemographic characteristics of mass-shooting block groups with 6 indicators of structural disadvantage. We compared mass-shooting block group sociodemographic characteristics with each city's characteristics overall using Students t-tests. We assessed the environmental features of mass-shooting locations using Google Street View to code 60 elements of the visible environment.

Results Compared to overall city demographics, mass-shooting block groups had significantly higher rates of poverty (28.0% vs. 35.1%; $p=0.004$), unemployment (8.2% vs. 10.1%; $p=0.005$), Black residents (47.5% vs. 70.0%; $p=0.012$) and renter occupied units (53.0% vs. 57.9%; $p=0.027$), while percentage of college attendees/graduates (55.8% vs. 30.2%; $p<0.0001$), and median household income (\$37,302 vs. \$31,313; $p=0.009$) were significantly lower in mass-shooting block groups. Sixty-four percent of mass-shootings occurred in residential locations, and most locations demonstrated indicators of physical disorder. Average building conditions were graded as moderate; 37.4% of locations had buildings with broken/boarded windows and 78.3% had moderate to extreme littering. 94.3% and 93.1% of locations had no parks or playgrounds respectively.

Conclusions Mass-shootings in urban environments tend to occur in residential locations with significant structural disadvantage. The built environment of mass-shooting locations is characterized by blighted buildings and limited green spaces.

Contributions to Injury and Violence Prevention Science Discourse about mass shootings often excludes urban spaces. Structural disadvantage and modifiable environmental features are key targets for mass-shooting prevention in US cities.

163 ASSOCIATED RISKS FOR FALLS AMONG ADULTS AGES 65 AND OLDER: INSIGHTS FROM THE NATIONAL HEALTH INTERVIEW SURVEY, 2015–2017

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10.1136/injuryprev-2020-savir.124

Statement of Purpose This analysis uses data from the National Health Interview Survey (NHIS), a national in-person survey of non-institutionalized adults, to examine risk factors among adults aged 65 and older who reported a fall.

Methods/Approach Data from the NHIS was used to identify older adults who experienced a fall-related injury in the 90 days prior to survey participation. Analysis was conducted using data from all older adults who reported a fall and on the subset of adults who had a fall that required emergency department (ED) treatment or hospitalization. The study used aggregate data from 2015–2017. Established methodologies to account for the complex sampling and survey design were employed to generate national estimates. Bivariate (X2 tests) and multivariate (logistic regression) analyses were conducted to examine differences by demographic characteristics and comorbid medical conditions.

Results During the 3-year period, there were 939 older adult survey participants who reported a fall in the past 90 days (national estimate = 1,020,779). Of these, 534 were hospitalized or treated at an emergency department (ED) (national estimate = 589,251). Falls were significantly associated ($p<0.05$) with increasing age, being female, being white-non-Hispanic, and being widowed. After controlling for demographic factors, comorbid conditions that limited daily activities/functioning and were significantly associated with falls included: depression/anxiety, dementia, cancer, arthritis, diabetes, lung problems (asthma and other breathing conditions), and being obese. Similar findings were observed for severe falls that required hospitalization or ED treatment.

Conclusions The NHIS provides insight into the risk of falls among older adult populations. Disparities exist across demographic groups, and key co-morbidities may affect fall risk among older adults.

Significance/Contributions Studies examining falls among older adult populations are often limited to examining health outcomes or disease burden. This analysis adds contextual information on possible risk factors for falls using nationally representative survey data.

164 FUN RIDE OR RISKY TRANSPORT: GOLF CART-RELATED INJURIES TREATED IN U.S. EMERGENCY DEPARTMENTS FROM 2007 THROUGH 2017

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10.1136/injuryprev-2020-savir.125

Purpose Golf cart-related injuries are a source of morbidity for people of all ages, especially children, and their use has increased in recent years. However, design modifications or legislation to reduce the overall burden of these injuries have been nonexistent. This study sought to characterize the epidemiology of golf cart-related injuries treated in United States (U.S.) hospital emergency departments (EDs).

Methods/Approach We performed a retrospective analysis by using the National Electronic Injury Surveillance System data for patients of all ages treated in EDs (2007–2017) for a golf cart-related injury. Bivariate comparisons were conducted by using design-adjusted chi-square tests, and the strength of association was assessed by relative risks (RR) with corresponding 95% confidence intervals (CIs). Injury rates over time were analyzed by using linear regression. We generated national estimates from 3567 cases.

Results From 2007–2017, an estimated 156 040 (95% CI=102 402–209 679) patients were treated in U.S. EDs for golf cart-related injuries. The average rate of traumatic brain injuries (TBIs) in children (1.62 per 100 000 children) was more than three times that of TBIs in adults (0.52 per 100 000 adults; rate ratio=3.12; 95% CI=3.05–3.20) 1.46 times that of TBIs in seniors (1.11 per 100 000 seniors; 95% CI=1.42–1.51). The injury rate in seniors increased significantly by 67.6% from 4.81 per 100 000 seniors in 2007 to 8.06 per 100 000 seniors in 2017 (slope=0.096; $p=0.041$).

Conclusions Golf cart use remains an important source of injury for people of all ages, especially children. As use continues to increase, it is unlikely that golf cart-related injuries

will decrease without substantial changes to product design, regulation, and/or legislation.

Significance and Contribution to the Field Understanding the patterns of golf cart-related injuries, especially to children and seniors, is critical as their use and injuries are increasing.

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MALADAPTIVE MECHANISMS FOR COPING WITH THE DIRECT COSTS OF INJURIES: FOREGOING MEDICAL CARE IN VIETNAM AND KENYA

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10.1136/injuryprev-2020-savir.126

Statement of Purpose Uninsured patients may attempt to cope with the costs of an injury through various financial and non-financial coping mechanisms. Certain coping mechanisms, such as reducing health care utilization, may minimize direct medical costs while increasing indirect costs.

Methods/Approach The Health, Economic and Long-term Social Impact of Injuries (HEALS) project was a hospital-based longitudinal study of patients conducted in four countries, including Vietnam and Kenya, in 2015–2016. Using baseline survey data, we compared differences in length of hospital stay by health insurance status using a multivariable linear regression, and conducted a multivariable logistic regression to evaluate the relationship between insurance and foregoing additional health care.

Results The sample included 1022 patients in Vietnam and 994 in Kenya. Of these, 56.2% and 68.8% lacked insurance and 21.5% and 3.7% left against medical advice in Vietnam and Kenya, respectively. In Vietnam, uninsured patients left 2.4 days earlier than those with insurance, controlling for injury severity and mechanism; patient demographics; pre-injury household poverty status and the patient's contribution to household income ($\beta = -2.441$, $p < 0.001$). Compared to insured patients, uninsured patients in Vietnam had 2.3 times the odds of leaving against medical advice, controlling for the same set of variables. ($OR = 2.327$, $p < 0.001$). In Kenya, those without insurance left on average 0.5 days earlier and had over 3 times the odds of leaving against medical advice, compared to insured patients, although neither estimate was statistically significant ($\beta = -0.592$, $p = 0.838$ and $OR = 3.190$, $p = 0.124$).

Conclusions Patients without health insurance may be foregoing health care in order to avoid additional direct health care costs, and in the process increasing indirect costs if leaving against medical advice prolongs a period of disability.

Significance and Contributions to Injury and Violence Prevention Science Improving the breadth of health insurance can protect against both direct and indirect costs of injuries.

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EXAMINING THE RELATIONSHIP BETWEEN APP USAGE AND INJURY PREVENTION BEHAVIOR CHANGE

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10.1136/injuryprev-2020-savir.127

Purpose Safety in Seconds (SIS) is a smartphone app that has demonstrated effectiveness at changing injury prevention behaviors. The aim of this analysis was to understand how parents engaged with each component of the app and determine if there was an association between app usage and behaviors.

Methods Parents of children aged 4–7 visiting the pediatric emergency room in the two participating sites (regardless of the reason for the visit) were recruited. Study participants downloaded the SIS app onto their smartphone and were randomized receive car seat or fire safety information. Both groups completed a 10-minute assessment about their safety knowledge and behaviors and received tailored feedback relevant to their study group. The app contained a portal with educational links and sent monthly push notification reminders for parents to interact with the app. Parents completed follow-up assessments at 3- months and 6-months.

Results Among the 602 parents completing all follow up points, 37% visited each page of the report, 19% emailed the report to themselves or someone else, and 33% visited the Parent Portal. Among 555 parents reporting at least one unsafe behavior at baseline, 130 (23.5%) changed their safety behaviors and reported no unsafe behaviors at the 6-month follow up. Those changing their behavior had more mean clicks (24 vs. 18; $p < 0.0001$), were more likely to have visited all pages of the report (48% vs. 32%; $p < 0.01$) and emailed the report (29% vs. 15%; $p < 0.001$) than those who did not change their behavior. In a multivariable logistic regression, those visiting all pages of the report ($OR 1.58$; 95% CI 1.00, 2.50) or emailing the report ($OR 1.77$; 95% CI 1.07, 2.94) were more likely to have changed their behavior at six months than those not.

Conclusion Smartphone applications hold potential for changing behaviors that are known to improve child passenger safety.

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EXAMINING THE ASSOCIATION BETWEEN REJECTION SENSITIVITY AND AGGRESSION IN MIDDLE SCHOOL STUDENTS

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10.1136/injuryprev-2020-savir.128

Statement of Purpose As violence remains a persistent problem in schools, it is crucial to better understand factors that predict aggressive behavior in youth. Previous research has shown that rejection can elicit aggressive behavior, particularly in individuals who report high levels of rejection sensitivity. Rejection sensitivity refers to the tendency to expect and over-react to rejection.

Methods/Approach The study sample includes 697 students recruited from middle schools in Miami, FL and Los Angeles, CA. Students completed two surveys on school climate during the 2018–2019 school year as part of a school safety program evaluation. We used linear regression to determine the correlates of aggressive behavior at Time 2. Covariates in the model included rejection sensitivity, age, gender, race, and victimization at Time 2, aggressive behavior at Time 1, location, and school.

Results Findings reveal that higher levels of rejection sensitivity were associated with more engagement in aggressive behavior ($\beta = 0.18$; 95% CI: 0.01, 0.35). We also found that Time 1 aggressive behavior ($\beta = 0.35$; 95% CI: 0.16, 0.53), age