occurrence to hospital arrival, impact the accident fatality rates.

Aim/Purpose To assess the relationship between fatal road accidents per county and accident response time.

Methods/Approach Data were pooled across eight years (2010 - 2017) from the Fatality Analysis Reporting System dataset. A total of 3,193 counties and county-equivalents were included in the study. The outcome variable was the fatality rate per county, defined as the yearly fatal counts per yearly county population. The predictor variables were the average duration of accident-to-notification, accident-to-EMS, accident-to-hospital, notification-to-EMS, notification-to-hospital, and EMS-to-hospital arrival times. The covariates were rurality, county-level racial, gender, age, unemployment, gross domestic product, and hospital utilization proportions. Measures of association were determined with Mann-Whitney U and Kruskal-Wallis tests. A negative binomial time series regression model was used to estimate the relative risks with significance set at a 95% confidence interval.

Results The median fatality rate per county was 6.90 per 100,000. There was a statistically significant difference in the median accident response times across the eight years ($p < 0.05$). The average accident response times were significantly higher in rural counties compared to non-rural counties. In the unadjusted model, fatality rate increases by 1.9% (RR: 1.019; 95% CI: 1.016–1.022) and 3.0% (RR: 1.03; 95% CI: 1.028 – 1.032) for every minute increase in accident-to-notification and notification-to-EMS arrival times, respectively. In the adjusted model, a minute increase in accident-to-EMS and notification-to-EMS arrival times increases the fatal risk by 1.6% (RR: 1.016; 95%CI: 1.014–1.017) and 2.9% (RR: 1.027–1.031) respectively.

Conclusion Response time varies widely between rural and non-rural counties. Accident response events from accident occurrence to EMS arrival impact the greatest on fatality rate.

Significance/Contribution There is a need for more rapid response, especially in rural counties.

Poster Presentations

13 THE EPIDEMIOLOGY OF POLICE-REPORTED PEDESTRIAN INJURIES TREATED IN NORTH CAROLINA EMERGENCY DEPARTMENTS: A FOCUS ON HEALTH DISPARITIES AND SERIOUS INJURIES

¹Katherine Harmon, ²Katherine Petcolas, ³Amy Ising, ³Anne Walleranna. ¹University of North Carolina Highway Safety Research Center; ²North Carolina Department of Health and Human Services; ³Carolina Center of Health Informatics, Department of Emergency Medicine, University of North Carolina at Chapel Hill

10.1136/injuryprev-2020-savir.97

Statement of Purpose Older adults, people of color, and residents of lower-income communities are disproportionately represented in pedestrian fatalities. Fatalities, however, represent a small proportion of all pedestrian traffic-related injuries. We linked crash, emergency department (ED) visit, and American Community Survey (ACS) data to examine the socio-demographic and crash characteristics of pedestrian injuries and their association with serious injuries in North Carolina (NC).

Methods/Approach We linked information for pedestrians from 2017 NC police-reported crashes to population-based ED visit and ACS data using hierarchical deterministic linkage methods.

We used descriptive epidemiologic methods to calculate injury incidence rates and to examine the relationships among patient, socio-demographic, and crash characteristics and serious injuries, defined using an adapted definition of 'serious injury' developed by the National Transportation Safety Board.

Results We linked 45% percent of police-reported pedestrian injuries to NC ED visit data (N=1,398). The 2017 rate of police-reported pedestrian injuries treated in NC EDs was 13.6 visits per 100,000 person-years. Rates per 100,000 person-years (in parentheses) were highest among adults 20–29 years of age (19.2), higher among men (15.5) than women (10.6), and higher among blacks (22.7) than whites (8.2). Patient and socio-demographic characteristics associated with serious injuries included age, sex, race/Hispanic ethnicity, expected source of payment, and county poverty level. Crash characteristics associated with serious injuries included posted speed limit, ambient light, number of lanes, and striking vehicle type.

Conclusion Pedestrian injuries are not distributed evenly across the NC population. Communities of color and counties with high levels of poverty are disproportionately impacted. Key crash characteristics are associated with rates of serious injury.

Significance/Contribution to Injury and Violence Prevention Science Policies, interventions, and other countermeasures designed to prevent pedestrian injuries should recognize and address social disparities and promote health equity.

17 IMPACT OF SOCIOECONOMIC STATUS/RACE ON PREVENTABLE FALLS INJURIES IN PEDIATRIC PATIENTS

Aashka Shah. Tufts Medical Center

10.1136/injuryprev-2020-savir.98

Statement of Purpose Falls are the leading cause of ER visits for nonfatal injuries, with approximately 40% of injuries sustained in toddlers. The aim of this study is to better understand the impact socioeconomic status and race/ethnicity have on preventable falls in children so as to better target injury prevention program initiatives.

Methods/Approach Interviews were conducted using a modified fall-related safety questionnaire to parents of children under the age of 3 (n=40) on the medical/surgical in-patient floor of a Level 1 Trauma Center.

Results Overall, 50% of children sustained a fall-related injury (most commonly falling from a bed or walking), with 65% of those children on Medicaid. In addition, 38% of parents (47% Hispanic and 20% Black) reported leaving their child alone on a bed without a railing. Nearly 33% of parents (46% of which have a high school diploma or less) reported not using safety guards on all windows. Parents reported not using stair gates 48% of the time, with 55% of those parents having completed less than a Bachelor's Degree. Also, 67% of parents (all on Medicaid) reported their child wore a helmet 'sometimes' or 'never' while riding a bicycle. Even though 79% of parents 'strongly agreed' to having the knowledge to protect their child from being injured by a fall, 63% of parents reported 'sometimes' or 'rarely' watching their child when on playground equipment.

Conclusion Certain populations may be less likely to understand the importance of injury prevention. The relationship of socioeconomic status, race/ethnicity, parental safety measures, and preventable injuries should be further studied in order to

better focus injury prevention efforts and make the most impact on specific populations.

Significance This study adds to the field of injury prevention by providing a possible population to target injury prevention efforts and to ultimately, improve patient outcomes.

23 THE CHARACTERISTICS OF DRUG-IMPAIRED DRIVERS IN THE UNITED STATES

Toni Rudisill. *Virginia University*

10.1136/injuryprev-2020-savir.99

Statement of Purpose Driving under the influence of drugs (DUID) is a burgeoning public health concern in the United States. Most studies have focused on the presence of drugs and/or alcohol among fatally injured drivers. Because little is known about individuals who actively drive drug-impaired, the purpose of this study was characterize the demographics and behaviors of these individuals.

Methods/Approach Data from the 2015–2017 National Survey of Drug Use and Health were analyzed. The study population was limited to drivers ≥ 18 years of age. The outcome was those who self-reported DUID in the past 12 months. Demographic and behavioral characteristics of those who drove drug-impaired vs. not drug impaired were compared via frequencies, percentages, binary and multivariable logistic regression analyses, which accounted for the survey design.

Results Among eligible respondents ($N=118,741$), 4.7% reported DUID (unweighted). DUID was highest among 18–25 year olds (9%), unmarried individuals (8%), non-heterosexuals (10%), those whom abused or were drug dependent (40%), engaged in risky behaviors (15%), and ever received treatment for substance use (15%). Those who were dependent on or abused marijuana (32%), heroin (53%), or methamphetamine (52%) reported DUID most frequently. After adjustment for key demographic and behavioral variables, males [odds ratio, $OR=1.56$; 95% confidence interval (CI) 1.4, 1.7], those who abused or were dependent on drugs ($OR=4.3$; 95% CI 3.8, 4.8), exhibited the most risky behaviors ($OR=3.7$; 95% CI 3.0, 4.6), non-heterosexuals ($OR=1.3$; 95% CI 1.2, 1.5), and employed individuals ($OR=1.3$; 95% CI=1.2, 1.5) were more likely to engage in DUID.

Conclusions DUID was particularly common among some population sub-groups including young males, non-heterosexuals, employed individuals, and those who abused or were dependent on drugs. These groups may benefit from interventional measures.

Significance and Contribution to Injury and Prevention Science These findings may help direct future interventional efforts to mitigate DUID. Center.

24 METHODOLOGICAL REVIEW OF STUDIES THAT INVESTIGATED FACTORS ASSOCIATED WITH TRAUMA RECIDIVISM

Christopher St Vil. *University at Buffalo School of Social Work*

10.1136/injuryprev-2020-savir.100

Statement of Purpose Trauma recidivists are patients who present to an emergency room or trauma center on more than one occasion for different incidents of traumatic injury.

Although a major public health issue, there has not yet been a systemic review of the literature that synthesizes our understanding of correlates of trauma recidivism. The purpose of this presentation is to report on the findings of a systematic review of the trauma recidivism literature. This oral presentation focuses on the methodological findings and recommendations that resulted from the review.

Methods/Approach 13 data bases were searched from inception to 2017 for studies that explicitly compared hospital-based trauma recidivists to non-recidivists. The search was conducted using PRISMA guidelines for systematic reviews.

Results Screening resulted in the selection of 29 studies that met the inclusion criteria.

Conclusions The literature review generated findings that could inform the quality of research among victims of violent injury. Methodological considerations to consider include, a) identifying a common ‘recidivism window’ that allows detection of patients who are at risk for recidivism, b) disaggregate patients by epochs informed by the human development literature, and c) improving on mixed method methodologies.

Significance and Contributions to Injury and Violence Prevention Science Social science concepts and methodology coupled with medical/victim research can help provide a deeper understanding of the meanings and processes that shape both health research and the behaviors of patients that lead to subsequent re-injury. Insights from this research and the collaborations that stem from it can guide the design of health care delivery practices and interventions that acknowledge and adapt to social, cultural, and economic barriers; harness social mechanisms to increase their effectiveness; or even attempt to manipulate social and cultural determinants of health directly.

25 CORRELATES OF TRAUMA RECIDIVISM: RESULTS FROM A SYSTEMATIC LITERATURE REVIEW

Christopher St Vil. *University at Buffalo School of Social Work*

10.1136/injuryprev-2020-savir.101

Statement of Purpose Trauma recidivists are patients who present to an emergency room or trauma center on more than one occasion for different incidents of traumatic injury. The purpose of this presentation is to report on the findings of a systematic review of the trauma recidivism literature with the purpose of identifying correlates for future research aimed at preventing trauma recidivism. This presentation will discuss the factors traditionally explored in trauma recidivism research, which of those factors are deemed critical based on previous research and provide recommendations for future research with this vulnerable population.

Methods/Approach 13 data bases were searched from inception to 2017 for studies that explicitly compared hospital-based trauma recidivists to non-recidivists. The search was conducted using PRISMA guidelines for systematic reviews.

Results Screening resulted in the selection of 29 studies that met the inclusion criteria.

Conclusions The literature review identified variables across 6 categories that were included in trauma recidivism literature: 1) Demographic, 2) injury related variables, 3) health related variables, 4) substance use, 5) crime/weapons and 6) vehicular causes. Variables within each category are discussed followed by recommendations of variables to include in future research.