Community and youth violence

147 THE PROMISES AND CHALLENGES OF PLACE-BASED SOLUTIONS TO VIOLENCE PREVENTION

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Statement of Purpose Place-based interventions affect social and physical environmental conditions in neighborhoods and are policy-relevant opportunities for violence prevention that can also promote population health equity. This presentation discusses study design challenges and novel data integration methods relevant to such interventions.

Methods/Approach We examine the impact of vacant land and abandoned building remediation on crime and violence, including family violence, through observational and quasi-experimental research and discuss methodology for an ongoing cluster randomized trial aimed at reducing blighted properties in a southern U.S. city known for elevated rates of violence and neighborhood inequities.

Results Strong spatial correlations between the rate of vacant land and both violent crime and domestic violence call rates, as well as in the rates of child abuse and neglect, were evident. Cluster analysis of data on potential vacant land and abandoned houses was used to detect and select approximately 200 geographic clusters with a high density of vacant properties. Clusters were block randomized into five intervention arms based on the two cluster types, those with only vacant land and those with both vacant land and abandoned homes. Challenges were found in terms of assignment of properties within a reasonable timeline that satisfied research goals and municipal realities. Data integration software is a promising tool for examination and monitoring of trends in vacant land and resultant health and social outcomes.

Conclusion Testing the efficacy of such straightforward, inexpensive, and scalable methods is challenging but can be addressed through innovative methods and adaptive trial designs.

Significance and Contributions to Injury and Violence Prevention Science This presentation will discuss development of and preliminary results from a neighborhood-level cluster randomized trial that advances the science of violence prevention, as well as potential measurement tools to understand place-based disparities that can also be used to monitor progress toward neighborhood equity.

Opioids: epidemiology and interventions

148 EXPANSION OF THE MICHIGAN SYSTEM FOR OPIOID OVERDOSE SURVEILLANCE (SOS) TO INFORM DATA-DRIVEN COMMUNITY RESPONSES

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Statement of Purpose Opioid overdose represents an urgent public health problem in the United States, with Michigan

ranking among the states hardest hit by the dramatic escalation over the past 15 years. A key barrier to addressing this problem is the lack of timely surveillance data, with data in many jurisdictions lagging by up to 18 months. In response to this need, the University of Michigan Injury Prevention Center partnered with the Michigan High Intensity Drug Trafficking Areas (HIDTA) to develop a near real-time opioid overdose surveillance system.

Methods/Approach The System for Opioid Overdose Surveillance (SOS) collects and automatically cleans data daily from emergency medicine services (EMS) encounters where naloxone was administered, and from Medical Examiner (ME) records where overdoses are suspected (confirmation via toxicology reports are obtained 4 to 12 weeks later). Current coverage is 100% of the state through EMS, and MEs in counties totaling 75% of the state population. County-level summaries generated by SOS are viewable on a public web site. Authorized public health and public safety stakeholders have access to a dashboard that allows customizable demographic and spatio-temporal data summaries in near real-time. This dashboard was designed in part through an iterative process with stakeholders in two Michigan counties.

Results Qualitative work completed with community stakeholders in two Michigan counties suggests SOS can be used to improve planning, implementation, and responses to opioid overdoses.

Conclusions Timely opioid overdose surveillance in Michigan can have broad implications for both public health and public safety, allowing for focused interventions and resource allocation in communities with the highest rates of opioid overdose.

Significance and Contributions to Injury and Violence Prevention Science SOS's multidisciplinary model can be replicated across the nation to inform data-driven opioid overdose prevention and response efforts with the ultimate goal of reducing overdose injuries and fatalities.

Domestic and sexual violence

150 BURDEN OF MALE-PERPETRATED SEXUAL VIOLENCE AMONG BISEXUAL WOMEN IN THE UNITED STATES, 2011–2017

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Statement of Purpose Using a large, nationally-representative sample, we examine the burden, as well as lifetime prevalence and associated sexual healthcare utilization, of sexual violence (SV) experienced by bisexual women.

Methods/Approach We used data from female respondents aged 18–44 (N=14,309) in the 2011–2017 National Survey of Family Growth. Using sexual orientation components (identity, attraction, and lifetime sexual behavior) as separate main predictors, multivariable logistic regressions (adjusted for age, race, education, and poverty) compared male-perpetrated SV experience (forced vaginal, oral, or anal sex) and healthcare utilization among bisexual versus non-bisexual women.

Results Lifetime prevalence of SV was higher, compared to non-bisexual women, among women who identified as

bisexual (prevalence ratio/PR=2.69), had same and opposite sex attraction (PR=2.56), or reported same and opposite sex sexual behavior (PR=2.89) (all $p<0.001$). Bisexual women experienced sexual initiation earlier than non-bisexual women (16.36 vs 17.66 years old, $p<0.001$) but were also more likely to experience SV earlier in adolescence (16.16. vs 17.29, $p<0.001$). Compared to non-bisexual women with a history of SV, bisexual women, on average, received more sexual health services (3.11 vs 2.83, $p=0.04$) and were more likely to have been treated for sexually-transmitted diseases (PR=1.49, $p=0.05$) in the 12 months prior to the survey.

Conclusion Across all sexual orientation components, prevalence of male-perpetrated SV is consistently higher among bisexual women compared to non-bisexual women. Bisexual women tend to experience SV earlier in adolescence and utilize more healthcare services for associated health outcomes. Ultimately, comprehensive interventions across the social ecology are needed to stop SV among this population.

Significance and Contributions to Injury and Violence Prevention Science Despite increasing acceptance of same-sex behavior, the same changes in attitude have not extended to bisexual individuals (Dodge *et al.*, 2016). SV appears to be common among bisexual women, and more attention and public health efforts are needed to address the role of gender norms and attitudes toward bisexuality in SV prevention.

Motor vehicle crashes: epidemiology and interventions

151 COMMUNITY-LEVEL VARIATION IN CHILD RESTRAINT SYSTEM USE AMONG CHILDREN INVOLVED IN MOTOR VEHICLE CRASHES

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Purpose Prior studies have found disparities in child restraint system (CRS) use by individual-level factors like race/ethnicity and income. However, it is unclear if CRS use varies at the community level, which can directly inform effective implementation of resources (e.g., check-points). We determined how rates of CRS use among crash-involved drivers were associated with community-level indicators of race/ethnicity and income.

Methods We utilized the New Jersey Safety and Health Outcomes warehouse—which includes individual-level statewide data on police-reported crashes—to identify all drivers involved in a crash in 2014 who were carrying child occupants < age 8 ($n=13,578$). We derived each driver's census tract from residential addresses and determined whether each child occupant was restrained using a CRS. We categorized NJ census tracts by quintile of median household income and proportion of residents who were non-Hispanic white.

Results The proportion of crash-involved drivers who had all child occupants in CRS's varied substantially by community-level indicators. 58.0% of crash-involved drivers residing in census tracts with the greatest proportion of minority residents had all children in CRS's compared with 79.1% of drivers residing in tracts with highest proportions of non-Hispanic

white residents ($p<0.001$). Similarly, CRS use was significantly lower among drivers residing in the lowest-income tracts compared with highest-income tracts (60.1% vs. 77.0%, respectively; $p<0.001$).

Conclusion There appears to be disparities in CRS use across communities, similar to other health behaviors. Future research should aim to better understand the relative contribution of and relationship between individual (e.g., income) and community level (e.g., social norms) influences on CRS use.

Significance of Contributions This project is the first to use statewide crash data to describe community-level CRS use. Results will be utilized to evaluate whether current community-based CRS resources are distributed in an equitable way that prioritizes highest-risk communities.

Health equity and unintentional injury

152 ALTER FOR HOME SAFETY IN BRIEF: AN ADAPTED INTERVENTION PROGRAM FOR A VULNERABLE POPULATION

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Purpose Unintentional injury is the leading cause of death in children 1–19 years of age, and research has identified that injury-related occurrences and mortality disproportionately impact vulnerable populations. Past research with middle-class families has demonstrated the effectiveness of a parent-directed program to increase home safety for children 1 – 5 years of age; behavioral measures showed increased supervision practices by parents, with effects persisting for at least one year post-intervention. The purpose of the current study was to determine whether an adapted version of the Supervising for Home Safety program (SHS) would serve as an appropriate intervention for vulnerable 'high risk' families (e.g., low income, single parent home, recent immigrant). Measures were completed by parents before (pre) and after (post) delivery of the program.

Methods A total of 40 participants completed the ALTER for Home Safety-Brief program as part of one of the Halton Public Health parenting programs. Participants typically had multiple risk factors including low SES, low level of education, mental health challenges, financial constraints, and recently immigrated, with many referred through the Children's Aid Society.

Materials The SHS-Brief program aims to increase parent's safety knowledge through discussion about parents' supervision practices and challenges they might face in supervising their children. The program uses video-messaging about common types of in-home injuries and introduces parents to the mnemonic ALTER (reduce risk of injury by changing: Activity, Location, Timing, or Environment and using Resources). Parents practice ALTER by completing activity sheets to generate solutions to child safety challenges they face at home.

Results Parents' overall level of supervision significantly increased from pre to post. They identified that the average number of minutes their children spent engaged in activities alone (e.g., playing in the bathtub) decreased from pre intervention ($M=6.73$ mins, $SD=4.85$) to post intervention