Researchers can build relationships with news agencies and lawmakers to translate the science and build trust. Additionally, targeting messaging to rural lawmakers and constituents is critical to build support for evidence-based laws.

Health disparities and violence

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SHARED RISK AND PROTECTIVE FACTORS FOR CRIME AND POOR HEALTH ON THE STREET

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10.1136/injuryprev-2020-savir.74

Statement of Purpose Geographic areas with high rates of crime and violence are often the same places that evidence concentrated, chronic diseases and high morbidity and mortality rates. Yet, little is known about whether and how strategies that target crime and violence can also enhance health outcomes. We aimed to identify the shared risk and protective factors for crime and ill health on the street.

Methods We used survey data from 3,738 respondents living on 449 street segments and physical observation data in Baltimore, Maryland. Mixed effects models were used to partition the variabilities of crime (i.e., general offending, violent offending, and violent victimization) and health outcomes (i.e., general perception of personal health, health limitations, and diagnoses of diseases) at the street versus community level and to identify the shared risk and protective factors on the street while controlling for sociodemographic characteristics.

Results Between 3.8% and 8.3% of the total variabilities of crime outcomes are at the community level, whereas between 11.4% and 12.0% of the total variabilities of health outcomes are at the community level. Results from regression analyses (i.e., mixed effects model for each of the aforementioned outcomes) indicated that collective efficacy and police legitimacy are two of the most important shared factors when mitigating the undesirable co-occurrence of crime and ill health on the street.

Conclusion The variabilities of crime and health outcomes are more at the street-segment than community level. Shared risk and protective factors exist for reducing the co-occurrence of crime and ill health on the street.

Contributions to Injury and Violence Prevention Science: As members of the criminal justice and public health disciplines often work collaboratively with marginalized populations, it is imperative to address the shared risk and protective factors for public safety and health.

Violence research and prevention in healthcare settings

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DO PARENTS AND KIDS AGREE WHEN REPORTING THE CHILD'S POTENTIALLY TRAUMATIC EVENTS AFTER A VIOLENT INJURY?

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10.1136/injuryprev-2020-savir.75

Statement of Purpose Ascertaining an accurate and cumulative history of exposure to potentially traumatic events (PTE) can be valuable in identifying violently-injured youth's recovery needs. It is unclear how youth and caregiver report of youth's PTEs relate to each other. We examined agreement between youth and caregiver self-report of 23 different PTEs following the youth's recent violent injury.

Methods As part of a larger survey, 48 youth ages 8–18 and their caregiver independently completed a self-administered Trauma History Questionnaire (THQ) within approximately 20 days following the youth's Emergency Department visit for a violent injury. We compare youth and caregiver reports of youth PTEs and identify PTEs with the greatest and least agreement.

Results Mean youth participant age was 13.8 ± 2.2 years; 42% were female, 96% reported nonpenetrating injuries. The average number of PTEs was 9 ± 4 by youth report and 8 ± 4 by caregiver report. For 13 of the PTEs there was >50% youth-parent discordance, wherein the youth reported the PTE and the caregiver did not. Youth and caregiver agreement exceeded 80% for three PTEs, the highest of which reported someone physically hurting or threatening the child.

Conclusion Although youth and parents are reporting a similar number of youth PTEs, there are a substantial number of PTEs for which youth report but parents do not and a small number of PTEs where they usually agree.

Significance and Contributions to Injury and Violence Prevention Science Violently injured youth and their parents often disagree about the youth's exposure to PTEs. This could reflect a youth's failure to disclose the PTEs to their parent, or a difference in their respective appraisals of what events are considered potentially traumatic. Further research will explore how these discrepancies may inform mental health treatment of violently injured youth in the peri-traumatic recovery period.

Health disparities and violence

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'THE TOLL THAT IT'S TAKEN:' PERSPECTIVES OF BLACK MEN RECOVERING FROM TRAUMATIC INJURY IN PHILADELPHIA

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10.1136/injuryprev-2020-savir.76

Statement of Purpose For the majority of individuals who will survive trauma, healing and restoration is often a long-term process shaped by everyday socio-ecological exposures. The purpose of this analysis was to describe how Black men in Philadelphia perceived the long-term sequelae of their injuries and the influence of environmental and structural factors on recovery.

Methods 26 individuals, 12–36 months after injury, were recruited from a concluded cohort study which followed over 600 seriously injured Black men from admission to a trauma center in Philadelphia to three months after hospitalization. This sub-sample was generally representative of larger cohort by age, mechanism of injury, insurance status, income, and education. Focus group and individual qualitative interviews

elicited perceptions of: long-term symptoms attributed to injury, influences on recovery, outstanding needs for support, and opportunities to extend current health and social resources. Interviews were audio-recorded, transcribed, organized in NVIVO, and analyzed using inductive-deductive thematic analysis.

Results Four overarching themes emerged. The first, 'you used to run' includes subthemes signifying the persistence of psychological distress, chronic pain, increased substance use, changes in sleep, and social isolation 12–36 months after injury. The second, 'where it happened,' describes the impact of neighborhood recovery environments on traumatic stress, gun carrying, outdoor activity, and proximity to social networks. The third, 'in a hole,' refers to post-injury changes in workforce participation, financial stability, and barriers to healthcare access. The fourth, 'should be somebody's job to help' included perceived needs for services that address workforce re-entry, psychological stress, healthcare access and peer group interaction.

Conclusions The perceptions of Black men in Philadelphia on their long-term recovery illustrates individual, environmental, and structural factors that can be targeted for tertiary prevention.

Contributions to Injury and Violence Prevention Science Qualitative evaluation of the effects of trauma can be used to identify pathways through which to diminish outcome disparities and their origins in the socio-ecological context of recovery.

Epidemiology of TBI

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TRAJECTORY OF SALIVARY MIRNA GENE EXPRESSION IN CHILDREN WITH CONCUSSION

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10.1136/injuryprev-2020-savir.77

Purpose Up to one-third of children with concussion develop persistent post-concussion symptoms (PPCS), which can give rise to subsequent problems for years post-injury. This pilot study aimed to (1) monitor gene expression of a panel of salivary miRNAs over time post-concussion and (2) identify biomarkers that differentiate concussed children who develop PPCS from those who do not.

Methods Saliva samples were collected from concussed children ages 11–17 at ≤1 week, 2-weeks, and 4-weeks post-injury. Post-concussion symptoms were also monitored daily throughout enrollment. PPCS was defined as a symptom score of 5 or higher than pre-injury level beyond 28 days post-injury. Changes in salivary miRNA expression over time post-injury were analyzed using the NanoString nCounter® human v3 miRNA panel to compare children with and without PPCS.

Results Of the 23 children studied (64 saliva samples provided), the average age was 14.4 years, 52.2% were male, and 34.7% (n=8) experienced PPCS. Of the 798 different human miRNAs analyzed, 46 (5.8%) had gene expression levels above threshold in at least 75% of the saliva samples analyzed. Six miRNAs that were differentially expressed in the PPCS group were significantly under expressed within one week of injury

($p < 0.05$). Compared to children without PPCS, children with PPCS showed significant changes in 18 miRNA expression levels from within one week to 2-weeks post-injury (17 increased, $p < 0.05$; 1 decreased, $p < 0.01$). Significant changes were also observed in 21 miRNA expression levels from 2-weeks to 4-weeks post-injury (19 miRNAs decreased, $p < 0.05$; 2 miRNAs increased, $p < 0.05$).

Conclusion Additional studies are needed to verify our findings and to examine the biological regulatory or inflammatory mechanisms of the differently expressed miRNAs.

Significance The identification of clinically-relevant biomarker miRNAs could inform the development of individually-tailored treatment plans for children at risk for PPCS.

Violence research and prevention in healthcare settings

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SHIFTING DEMOGRAPHICS: 14-YEAR TRENDS IN VIOLENT INJURIES AT A LEVEL I TRAUMA CENTER

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10.1136/injuryprev-2020-savir.78

Statement of Purpose This study analyzes changes in sociodemographic and clinical characteristics of violently injured patients to guide injury prevention strategies.

Methods/Approach Trauma registry data from 2005 to 2018 was analyzed to identify trends among victims of community violence. This hospital is the only level I trauma center in a large, urban area, treating 99% of all violently injured patients in the city.

Results Since 2005, the median age of violently injured patients increased 9 years from 26 to 35. During this same timeframe, there was an 8.2% increase in violent injury among the White population, a 6.3% increase among the Latinx population, and a 4.9% decrease among the Black population. The rate of severe injury per 100,000 decreased from 118 to 86 in the White population and 325 to 212 in the Black population but increased from 267 to 305 in the Latinx population. There was an 18.5% decrease in penetrating injuries and 18.5% increase in blunt injuries. The mean length of hospital stay following violent injuries increased by 4.1 days.

Conclusions The age of violently injured patients is increasing, and the demographic makeup of violently injured patients is shifting to include a greater proportion of White and Latinx individuals. During the study period, the proportion of Black residents in the city decreased by 28%, but the observed decrease in violent injury in this population was much lower. Additionally, the percentage of Latinx residents in the city increased by 8% during this time, but violent injury increased disproportionately.

Significance and Contributions to Injury and Violence Prevention Science As older populations may have different risk factors, understanding these trends is essential to ensure violence prevention programs provide appropriate interventions and can adapt to effectively target the older population. Prolonged hospital stays may extend the opportunities for interventions to be offered.