## ABSTRACT SESSIONS

### SESSION 4

**Cross-cutting Injury Prevention**  
Facilitator: Sarah Stoddard, PhD

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ABSTRACTS

SESSION 4
Cross-Cutting Injury Prevention

Taylor Hautala, MPH1,2, Justin Heinze, PhD1,3, Jessica Roche, MPH1,2, Kathleen Howe, MPH1,3, Jenny Gurung4, Matt Myers, MPH1,2, Patrick Carter, MD1,2
1University of Michigan, Injury Prevention Center, 2University of Michigan, Department of Emergency Medicine, University of Michigan, 3Department of Health and Behavior and Health Education, 4University of Michigan, School of Public Health

Statement of Purpose: The University of Michigan Injury Prevention Center partnered with the Michigan Core SVIPP team to develop a technical package that stakeholders can use to analyze the use of shared risk and protective factor (SRPF) language in legislation introduced in their state.

Methods/Approach: The analysis team identified pertinent legislation related to the Core SVIPP injury topics (teen dating violence, abusive child head trauma, child car seat restraints) and used SRPF search terms to flag bills. Then, the team determined whether a flagged SRPF term was “correctly used,” meaning the flagged term was accurately representing the associated risk factor or protective factor. Results from this analysis and a detailed overview of our methods were compiled to create a technical package for those interested in recreating this process.

Results/Conclusions: The majority of bills analyzed contained SRPF language, with teen dating violence bills being significantly more likely to contain them compared to the other topic areas. Most of these bills operate at the individual level, while bills operating at the societal level were much less common. We cannot infer that SRPF language was predictive of bill passage, however, a substantial majority of bills that passed did contain SRPF language. These results were compiled along with instructions and resources needed to recreate this analysis (i.e., list of search terms, a tracking tool template, instructions on running code, information on inclusion/exclusion criteria, and more). This technical package will assist stakeholders in creating a SRPF analysis of their own, ultimately contributing to a better understanding of how SRPF language can impact legislation.

Innovation & Significance to the Field: This technical package includes everything an organization needs to conduct a SRPF analysis of their own. It is believed to be the first of its kind, with the aim that it can lead to more impactful injury prevention legislation in the future.

2. Increasing Parent Use and Engagement with the Checkpoints Teen Driving Website
Brian Carpenter1, Beth Costello, MBA1, Jessica Roche, MPH1
1Injury Prevention Center, University of Michigan

Statement of Purpose: Through redesigning and promoting Checkpoints, the U-M Injury Prevention Center aimed to increase usage and engagement with the website, an evidence-based resource for parents of newly independent teen drivers.

Methods/Approach: Checkpoints is a web-based intervention designed to teach parents to help their newly independent teen driver drive safely, through education on the risks of teen driving and an interactive tool for establishing a parent-teen driving agreement. The U-M IPC redesigned and relaunched (in 2019 and again in 2021) youngdriverparenting.org, originally created in 2011. The site was redesigned to update and improve the imagery, simplify the user experience, and replace the original and outdated educational videos with animated versions.

Results/Conclusions: New Checkpoints users increased 880% (538 to 5,311), and page views increased 1,278% (to 15,130). Users engaged more with the site, spending an average of 2 minutes (an increase of 30%). 138 new agreements were formed in 2019-2021, an increase of 1150% from the prior 2 years.

Innovation & Significance to the Field: According to the CDC, teen drivers aged 16–19 are nearly three times as likely as drivers aged 20 or older to be in a fatal crash. Whereas there is a growing emphasis on reducing driving distraction and improve teen driving safety through education and “scare” tactics, parents normally end any involvement in their teen’s driving progression following the end of formal driver’s education. Checkpoints helps parents monitor their teen’s progression through the teen’s riskiest time when they become a newly independent driver. Checkpoints recommends a gradual progression to more riskier driving conditions as teens gain experience, and helps parents schedule regular checkpoints for tracking progress with their teen. Through improvements to website usability and planned translation of the website into Spanish, our aim is to increase parent access to this free resource.
3. Helmet Use Behavior among Motorized Two-Wheeler Riders in Mumbai – A 5-Year Observational Study
Nishit Patel, MD MPH¹, Karthik Kalaga², Perumal Vedagiri³, Shivam Gupta PhD, MPH, MBBS¹, Abdulgafoor Bachani PhD, MHS¹
¹International Injury Research Unit, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, ²Center for Leadership Education, Johns Hopkins Whiting School of Engineering, Baltimore, MD, ³Department of Civil Engineering, Transportation Systems Engineering, Indian Institute of Technology Bombay, Mumbai, India

Statement of Purpose: Motorcyclists are the predominant road users in India and contribute to 37% of the total road traffic fatalities yearly. Use of helmets in India is alarmingly low despite the national helmet law. Mumbai has the largest density of 1,175 bikes per kilometer and 2,500,000 bikes contributing to 60% of all vehicle traffic in the city. In this first large observational study, we present the helmet use behavior among motorcyclists at various representative locations in Mumbai.

Methods/Approach: Eight rounds of observational data were collected bi-annually between July-2015 – May-2019 at ten randomly selected locations. Nine locations were arterial roads (residential, commercial and mix-use areas) and one highway located in an industrial area. Each site was observed for 90-minute time intervals at 5 different times of the day (mornings, afternoons, and evenings, on two weekdays and one weekend day). Multivariate logistic regression analyses were conducted to determine the odds of factors influencing helmet use. Results/Conclusions: A total of 324,724 motorcycle riders were observed. Overall helmet use increased from 49% in round 1(2015) to 66% in round 8(2019), while correct helmet use (defined as wearing a strapped helmet) remained low, increasing from 24% to 35% in the same period. Helmet use among passengers across all rounds was dismally low at 1%. Adjusted odds for not wearing a helmet were significantly high for industrial and commercial areas, passengers, >2 riders per bike, no presence of law enforcement (camera or police) and weekends. Therefore, this study highlights the low prevalence of correct helmet use among all riders and the dismal use of helmets among passengers. Innovation & Significance to the Field: multi-round observational studies enhance a robust assessment of different individual and environmental factors that influence helmet use and allow evidence-based policy revisions and enforcement activities for improving correct helmet use among all riders.

4. Rural-Urban Differences in Behavioral Outcomes among Adults with Lifetime History of Traumatic Brain Injury
Robyn Feiss, PhD¹, John D. Corrigan, PhD², Kele Ding, PhD, MD³, Cynthia L. Beaulieu, PhD², Jennifer Bogner, PhD², Jingzhen (Ginger) Yang, PhD, MPH¹,⁴
¹Center for Injury Research and Policy, The Abigail Wexner Research Institute at Nationwide Children’s Hospital, ²Division of Rehabilitation Psychology, Department of Physical Medicine and Rehabilitation, The Ohio State University College of Medicine, ³Department of Health Sciences, Kent State University, ⁴Department of Pediatrics, The Ohio State University College of Medicine

Statement of Purpose: This study examined the influence of location of living (rural vs. urban) on the relationship between lifetime history of TBI with LOC and unhealthy alcohol use or mental health problems. Methods/Approach: Measures of lifetime history of TBI with LOC, location of living, unhealthy alcohol use (binge drinking and heavy drinking in past 30 days), and mental health (depression diagnosis, number of poor mental health days in past 30 days) and demographics were sourced from the 2016, 2017, 2018, and 2019 Ohio Behavioral Risk Factors Surveillance System. We conducted multivariable logistic regressions to determine odds ratios for each outcome between individuals living in rural vs. urban areas and individuals with vs. without lifetime history of TBI with LOC. Results/Conclusions: A total of 16,941 survey responses were included. Of these, 22.9% were living in rural areas and 16.9% had experienced a TBI with LOC. No interaction between location of living and lifetime history of TBI with LOC was observed for any outcomes, indicating rurality did not modify these relationships. Rural respondents were less likely to report binge or heavy drinking than urban respondents, but rurality was not associated with mental health outcomes. Lifetime history of TBI with LOC was associated with increased risk of unhealthy alcohol use and mental health problems. Our findings support the need for TBI screenings as part of mental health intake evaluations and behavioral health screenings. Though rurality did not influence mental health outcomes, rural areas may have limited access to quality mental health care. Therefore, future research should address access to mental health services following TBI among rural residents. Innovation & Significance to the Field: To our knowledge, this is the first study to address rurality as a possible modifying factor of relationships between TBI and behavioral health outcomes.
5. Exploring Links Between Concussion Prevalence, Negative Mental Health, and Suicidality in College Students
Jasmine Morigney, MS1, Michaela Murphy, BSSW1, Amber Talaski, MPH1, Justin Heinze, PhD1,2
1Healthy Minds Network, 2University of Michigan, School of Public Health

Statement of Purpose: This presentation describes the prevalence of concussions (diagnosed and undiagnosed), among college students and examines possible links between concussion and gender/race, and concussion and negative health outcomes, and suicidality. Methods/Approach: Data was derived from the 2019-2020 iteration of the Healthy Minds Study. Between group differences in reports of diagnosed and undiagnosed concussion were evaluated by race (White and students of color) and gender (men and women). Correlations were explored between reported concussion and reported depression/anxiety (past two weeks), or suicidal ideation (past year). Results/Conclusions: Contrary to hypotheses, there were no significant differences in reports of diagnosed concussion based on race (Mw = 1.31 vs Msc = 1.19, p = .09), as well as undiagnosed concussion (Mw = 1.23 vs Msc = 1.17, p = .32). There were no significant differences in reports of diagnosed concussion (Mm = 1.22 vs Mw = 1.27, p = .32, p = .54), or undiagnosed concussion (Mm = 1.28 vs Mw = 1.18, p = .23) based on gender. Moreover, reporting diagnosed or undiagnosed concussion did not have a significant relationship with reports of depression (r = .06, .10; p = .36, .13), anxiety (r = .05, .05; p = .46, .43), or suicidal ideation (r = -.03, .00; p = .63, .99), respectively. These findings suggest that concussion injury is consistent among race and gender-related groups among college students. Innovation & Significance to the Field: Inconsistent with previous work, in those who do report concussion, there does not appear to be a connection to negative mental health outcomes in the indicated timeframe. These findings suggest the traditional disparities outlined in research regarding access to medical care are not present in instances of concussion (non-)diagnosis in the current data. Future research will seek to explore ongoing trends in this population and also the potential role of telehealth in narrowing disparities present between racial and gender groups.

6. Examining Barriers and Facilitators to Peer-Support of Low-Income Individuals in Substance Use Recovery During the COVID-19 Pandemic
Vishaka Kalra1, Julia Felton, PhD2, Leah Maschino, MPH3, Kristen Senters Young, MA, ICAADC4, Sarah Stoddard, PhD, RN, CNP, FSAHM, FAAN5
1Health Education and Health Behavior, School of Public Health, University of Michigan, 2Center for Health Policy & Health Services Research, Henry Ford Health System, 3Michigan State University, 4Flint, Saginaw and Port Huron Odyssey Houses, 5School of Nursing, University of Michigan

Statement of Purpose: Peer Recovery Coaches (PRCs) are certified professionals with lived experience of substance use (SU) and recovery and who facilitate linking individuals with problematic SU to care. PRCs provide mentorship and support for individuals engaged in SU treatment services. The COVID-19 pandemic challenged the ability for PRCs to offer direct, one-on-one support and interact with clients, specifically among low-income individuals who may have limited access to resources to engage in remote care. Our aim was to understand the impact the COVID-19 pandemic had on PRCs and their clients in a low-resource community, and to identify barriers and facilitators to supporting individuals' recovery and delivering PRC services during this time. Methods/Approach: Participants were currently practicing, certified PRCs (n = 6 [4 female]; 50% white) who work in agencies serving individuals engaged in SU treatment services in the low-resource community of Flint, MI. Participants were recruited using purposive sampling and snowball approaches and completed semi-structured phone interviews. A thematic analysis approach was used to identify and analyze patterns within data. Results/Conclusions: PRCs identified social isolation, lack of instrumental resources, and financial concerns, as significant risk factors for relapse among individuals in recovery during the pandemic. PRCs reported that maintaining a connection to the recovery community, specifically by engaging in peer-delivered telehealth services and virtual support groups (such as AA), increased individuals retention in care. PRCs also identified specific barriers to accessing remote recovery services among low-income individuals, including lack of technology and privacy concerns. PRCs noted that they struggled within their own work to maintain appropriate boundaries with clients and provide care to hard-to-reach individuals. Innovation & Significance to the Field: Findings highlight specific concerns regarding engaging low-income individuals in SU treatment during the COVID-19 crisis, including a need to increase technological resources and access to remote peer-delivery of services.