linkage evaluation results, which demonstrate that our linkage was of high quality; (3) several unique features of the warehouse—including determination of race and ethnicity, geocoding of residential addresses, coding of injury severity, and identification of multiple events for an individual (e.g., crashes, hospitalizations); and (4) an ongoing effort to link the NJ-SHO to NJ Medicaid/Medicare data.

Significance of Contributions The resulting NJ-SHO warehouse is one of the most comprehensive and rich injury data warehouses to date. It is fully primed to support collaborative studies on a host of high-priority injury topics.

Domestic and sexual violence

157 VIOLENCE VICTIMIZATION AND NEGATIVE HEALTH CONDITIONS AMONG SEXUAL MINORITIES, U.S. ADULTS, 2010–2012

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Statement of Purpose The National Intimate Partner and Sexual Violence Survey (NISVS) showed that U.S. adult victims of violence were more likely to report negative health conditions. In addition, sexual minorities—who identify as gay, lesbian, or bisexual—were more likely to experience violence than their heterosexual peers. We examine whether sexual identity (SI) influenced the association between violence victimization and health conditions.

Methods NISVS is a cross-sectional telephone survey on health and violence victimization. The survey sample was designed to represent the non-institutionalized English- and Spanish-speaking U.S. adult population. Analyses were based on data (n=41,174) collected from 50 states and the District of Columbia from 2010 to 2012. Measurement of sexual identity was based on individuals' self-identification. Multivariable models, adjusted for age and educational attainment level, were evaluated to ascertain the effect of SI.

Results Sexual identity did not moderate the association between various forms of violence victimization and health conditions. However, sexual minorities had significantly higher victimization prevalence and odds of experiencing several health conditions. Sexual minority women had higher odds of reporting diagnosis of asthma and irritable bowel syndrome (IBS), experiencing frequent headaches, chronic pain, difficulty sleeping, activity limitations, and poor mental health, whereas sexual minority men were more likely to report diagnosis of IBS, experiencing frequent headaches, difficulty sleeping, and activity limitations, compared with heterosexual women and men, respectively.

Conclusions While SI did not influence the relationship between victimization and health, it was associated with several negative health conditions and victimization.

Significance and Contributions to Injury and Violence Prevention Science Using nationally representative data, this study reveals a disparate share of negative health conditions and victimization among U.S. sexual minorities. These findings can help further raise awareness of the injury burden, strengthen culturally sensitive violence prevention programs, and promote health equity across SI groups.

Epidemiology of TBI

158 PHYSICAL AND COGNITIVE ACTIVITY IN YOUTH POST-CONCUSSION: RELATIONSHIP BETWEEN OBJECTIVE AND SELF-REPORTED MEASURES

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Statement of Purpose Current clinical guidelines call for a brief period of rest post-concussion, followed by a gradual return to activities. However, studies to date have relied primarily on self-reported measures to identify levels of rest needed to promote concussion recovery. This study assessed the relationship between objectively measured and self-reported physical and cognitive activities (the inverse of rest) in concussed youth for a period of 7 days post-injury.

Methods Youth ages 11 to 17 were enrolled within 72 hours following a physician-diagnosed concussion. We monitored participants' physical and cognitive activities, including activity duration and intensity, for a 7-day period using an Actigraph (to measure physical activity) and a Narrative Clip (to measure cognitive activity). Participants also completed a daily survey that captured data on their physical and cognitive activities as well as their post-concussive symptoms from enrollment until symptom resolution.

Results A total of 83 concussed youth (Mean age=14.2 years $\pm$ 1.9 years) were included, with most being males (65.1%), white (72.3%), and injured in a sporting activity (84.3%). The average symptom score at injury was 39.5. Over half (54.2%) of youth experienced symptoms for >2 weeks. We found no significant correlations between objectively measured and self-reported level of physical activity (duration X intensity). There were only weak correlations between objectively measured and self-reported cognitive activities by level of activity (low: $r=0.16$, $p=0.0022$; medium: $r=0.16$, $p=0.0111$; high: $r=0.31$, <0.0001), although correlation coefficients were statistically significant.

Conclusions Our findings suggest that Actigraphy is a better tool for measuring physical activity post-concussion than self-reported measures. Additional research is needed to validate tools that measure physical and cognitive activity post-concussion.

Significance and Contributions This study furthers our knowledge of objective tools for monitoring physical and cognitive activity post-concussion. Findings of this study provide insight on how best to measure physical and cognitive activity post-concussion.

Motor vehicle injuries and policy

159 ELEMENTS OF STATE GRADUATED DRIVER LICENSING LAWS ACROSS 50 STATES: A POLICY CONTENT ANALYSIS

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Statement of Purpose All 50 US States enacted Graduated Driver Licensing (GDL) laws to protect and prevent teens from injuries and death while learning to drive. However,

GDL laws differ across states as there are no federally required provisions. This study describes the distribution of the content of state GDL laws in relation to five key law elements: (1) curfew restrictions, (2) passenger restrictions, (3) drug/alcohol use, (4) traffic violations, and (5) cell phone usage.

Methods A content analysis was conducted on all 50 US state GDL laws. State GDL laws were independently reviewed and analyzed by two coders. For each GDL law, the written language corresponding to each of the five key elements were coded based on the presence of the element in the state law: 1= present in state law or 0= absent in state law. Variation in the specific language used for the five key law elements across states were identified and described.

Results Most state GDL laws included specific language in relation to curfew restrictions (98%), passenger restrictions (94%), and traffic violations (86%). Fewer state laws included specific language on drug/alcohol violations (52%) and cell phone usage (76%). We found great variation in the language used in relation to the five key law elements across states, with curfew times and penalties for traffic violations varying widely across states.

Conclusion While all states have GDL laws, variations exist in the law elements included in state laws and the language used in these laws. Future research should examine how these variations in GDL laws may impact crash rates among young drivers.

Significance and Contributions This study furthers our knowledge of the content and language used in GDL laws across states as well variations in these laws from state to state.

Sports injury

161 COLLEGIATE COACHES' KNOWLEDGE OF AND ATTITUDES TOWARDS CONCUSSIONS

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Statement of Purpose The purpose of this study was to determine concussion knowledge and attitudes of NCAA coaches across Divisions I, II, & III.

Methods/Approach Colleges from all three divisions of the NCAA were randomly selected based on the proportions of divisions represented (31% DI, 27% DII, 41% DIII). Coach and assistant coach of contact/collision or limited contact sports emails from selected colleges were obtained and sent a link to a survey which contained a concussion knowledge checklist (CK) (high scores indicate more knowledge of correct symptom identification), the Concussion Attitude Index (CAI) which measures attitudes about concussion reporting and management, and demographic questions.

Results On average, coaches had CK scores of $M = 16.7$ ($sd = 5.3$, range 0–25) and CAI scores of $M = 168.5$ ($sd = 13.4$, range 121–190). There was a significant gender difference in CK, $F(1,212) = 10.7$, $p = 0.001$, $\eta^2 = 0.048$ with females indicating higher levels of knowledge ($M = 18.3$, $se = 0.58$) compared to males ($M = 15.9$, $se = 0.46$), but no gender difference in CAI. There were no significant differences in CAI or CK based on number of years collegiate coaching. Number of years collegiate coaching significantly predicted both CK F

(1,198) = 3.98, $p = 0.048$, $R^2 = 0.015$ and CAI, $F(1,182) = 8.85$, $p = 0.003$, $R^2 = 0.046$ with more years coaching positively correlated with CAI ($r(n=259) = 0.19$, $p = 0.01$) and negatively correlated with CK, $r(n=259) = -0.18$, $p = 0.01$.

Conclusion Coaches had relatively good knowledge of symptoms of concussion with some room for improvement. Female coaches had slightly higher knowledge scores. Years of coaching predicated attitudes and knowledge of symptoms, but contributed very little to the overall predictive model.

Significance and Contributions to Injury and Violence Prevention Science Understanding of coaches' knowledge and attitudes towards concussion provides awareness of what coaches know and how they approach concussion which can inform policies, training, and educational programs.

Sports injury

162 COLLEGIATE COACHES' BELIEFS ABOUT CONCUSSION SAFETY, CULTURE OF CONCUSSION ON CAMPUS, AND THEIR ROLE IN CONCUSSION MANAGEMENT

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Statement of Purpose The purpose of this study was to explore the beliefs of NCAA coaches across Divisions I, II, & III about their role in concussion management, perspectives about the culture of concussion on their campuses, and their thoughts on concussion safety.

Methods/Approach As part of a larger survey, open-ended questions were included to explore coaches' attitudes and perceptions of their role in concussion management, the culture of concussion on their team and campus, reporting behaviors of athletes, and overall thoughts on concussion. Colleges from all three divisions of the NCAA were randomly selected based on the proportions represented (31% DI, 27% DII, 41% DIII). Coach and assistant coach emails from selected colleges of contact/collision or limited contact sports were sent a link to the survey. Qualitative data was analyzed using a phenomenological, inductive approach.

Results Thematic analysis suggests that coaches believe their role was one of supporting the Athletic Trainers and healthcare professionals as well as coaching to instruct and enforce safety. They also indicated that concussion are serious although some indicated concussions are overly-hyped. Coaches indicated that reporting behavior is mixed with some suggesting that athletes report and others indicating that athletes do not report or underreport. Coaches provided reasons they thought athletes may under or over report as well. They also indicated that concussions are serious but better diagnostic assessments are needed and return to play protocols are too long.

Conclusion Overall, our findings suggest that coaches report cautious attitudes towards concussion, but there are areas for improvement.

Significance and Contributions to Injury and Violence Prevention Science Exploring the culture of concussion from the perspective of coaches contributes to the socio-ecological framework to more fully understand the larger context in which student-athletes are reporting concussions and provides an understanding of how to target future education.