

Motor vehicle injuries and policy

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DRIVER'S LICENSE SUSPENSION POLICIES: A TRANSPORTATION-RELATED SOURCE OF HEALTH INEQUITY

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Purpose Driver's license suspension policies have been an effective means of removing high-risk drivers from the road and credited with reducing motor vehicle crashes. However, states have used these policies since the 1990s to incentivize compliance with laws and regulations unrelated to traffic safety (e.g., drug offense, failure to pay fine). Recent media reports point to potentially negative health impacts of such policies—particularly on low-income drivers. However, there are few systematic studies on this issue. As a first step, we estimated state-level prevalence of non-driving-related (NDR) suspensions and examined variation by individual- and neighborhood-level characteristics.

Methods We utilized the New Jersey Safety and Health Outcomes (NJ-SHO) warehouse, which includes full driver's licensing history, geocoded residential addresses, census tract-level socioeconomic measures, and systems-level resources for NJ drivers licensed during 2018.

Results In 2018, 386,929 (5%) of all NJ drivers had an NDR license suspension—accounting for 90% of all suspensions. Drivers with NDR suspensions were younger than drivers without suspensions (mean: 39 vs 47 years) and more likely to be male. The prevalence of NDR suspensions was seven times greater in the lowest income (vs. highest income) neighborhoods, five times greater in neighborhoods with the highest percent of black and Hispanic residents, and twice as high in neighborhoods with the greatest walkability and access to public transportation.

Conclusion Drivers with NDR suspensions were more likely to live in lower SES areas. Future research is critically needed to determine whether these suspensions affect risk of negative health outcomes, as well as whether greater access to systems-level resources can mitigate this risk.

Significance of Contributions Although six states recently passed legislation banning NDR suspensions, others may be hesitant to do so given lack of available information on this population and effects of suspensions. Our study's findings directly inform this health equity issue.

State policy and violence prevention

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UNINTENDED CONSEQUENCES OF CARRYING FIREARMS IN VEHICLES ON FIREARM THEFTS: AN ANALYSIS OF TENNESSEE'S 2014 LEGAL CHANGE

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Statement of Purpose Stolen firearms are commonly used in firearm assaults. The media have reported a recent increase in firearm thefts from vehicles, but there is little empirical evidence to determine underlying causes. We determined the association between the implementation of a 2014 Tennessee law allowing any citizen not prohibited from owning a firearm to carry a firearm in their vehicle on the rate of firearm thefts from vehicles.

Methods/Approach We use monthly data from the FBI's National Incident-Based Reporting System (NIBRS) between 2009 and 2018 on firearm thefts from a vehicle for Tennessee and 13 control states without such a law. We use a quasi-experimental design with multiple-group interrupted time-series analysis to estimate the effect of the Tennessee law on firearm theft from a vehicle.

Results Comparison of thefts before and after the enactment of the 2014 Tennessee law show a significant increase in rates of firearm thefts from a vehicle: The average monthly rate was 1.99 per 100,000 before the implementation of the law and 3.26 per 100,000 after (Difference=1.27, $t=15.105$, $p<0.001$).

Conclusion While a law passed in Tennessee was intended to allow citizens to protect themselves against intruders in their vehicles, it was associated with a marked increase in firearm thefts from vehicles.

Significance and Contributions to Injury and Violence Prevention Science Allowing anyone to carry firearms in their vehicles can have serious unintended consequences due to the increased supply of unsecured firearms in vehicles. This has resulted in thousands of additional firearms flowing from firearm owners in Tennessee into illegal markets, which in turn can increase the supply of weapons for violent crimes. Additional policies, vehicle secure storage innovations, and behavioral interventions are urgently needed to stem this source of illegally obtained firearms.

Sports injury

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ASSESSMENT OF FACTORS ASSOCIATED WITH RECOVERY AFTER LOWER EXTREMITY INJURY IN COLLEGE BASKETBALL

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Statement of Purpose Time loss (TL) following sports-related injury is typically examined using a categorization of days lost. It has recently been shown that TL can be modeled as a count of days lost from participation to reflect the recovery process by accounting for latent injury severity. We examine factors associated with recovery following lower extremity (LE) injuries in collegiate basketball athletes.

Methods Athletic trainers participating in the National Collegiate Athletic Association Injury Surveillance Program reported LE injury data for 693,953 men's basketball and 619,748 women's basketball athlete-exposures during the 2009/10–2018/19 academic years. TL was calculated using the injury date and date of return to participation. Random effect

Poisson regression models were used to determine factors associated with recovery.

Results Overall, 5,887 LE injuries were reported. Expected TL after LE injury differed across gender ($p < 0.0001$), division ($p < 0.0001$), season ($p = 0.001$), and injury site ($p < 0.0001$), conditional on the random effect (i.e. latent severity). Expected TL after LE injury in women's basketball was 50% higher than men's basketball for injuries of similar severity. Expected TL in Division I athletes was 56% lower than Division III athletes. Expected TL for hip/groin, lower leg/Achilles, and thigh injuries was lower than ankle injuries; knee injuries had 95% higher TL than ankle injuries. No TL differential was observed between injuries of different mechanisms or surfaces.

Conclusions There were several factors that had an impact on the recovery process following LE injury. Female athletes had a longer recovery time on average compared to their male counterparts. Recovery was shorter for DI athletes compared to DIII. Knee injuries had the longest expected recovery time of LE injuries.

Significance and contributions to injury and violence prevention and science Modeling TL as a count of days lost is a novel and clinically meaningful method of examining injury recovery. This approach can lead to context-specific injury recovery and rehabilitation strategies to aid in safely returning athletes to participation.

Social determinants of health and injury

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ASSOCIATION OF INSURANCE STATUS WITH THE TREATMENT AND OUTCOMES OF ADULT PATIENTS WITH SEVERE TRAUMATIC BRAIN INJURY: A PROPENSITY MATCHED ANALYSIS

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Statement of Purpose To determine if there is a disparity in treatment and outcomes among adult patients with a severe traumatic brain injury (TBI) based on health insurance status.

Methods Adult patients (18+ years old) with a severe isolated TBI were identified in the National Trauma Data Bank (2007–2014). Isolated TBI was defined as a head Abbreviated Injury Scale (AIS) score of 3+, excluding patients with another regional AIS of 3+. Procedure codes were used to identify two classifications of treatment: cranial procedures (craniotomy or craniectomy) and monitoring (external ventricular draining or intracranial pressure monitoring). Patient outcomes were determined using discharge disposition. Patients were propensity score matched using demographics and condition on admission to determine treatment and outcome disparities between patients with private insurance and patients without insurance (self-pay).

Results There were 45,928 patients identified. Among those, 25.1% ($n = 11,556$) were self-pay. Patients without insurance had shorter hospital and ICU lengths of stay compared to patients with insurance. Among patients who survived their

injuries, patients with insurance were more likely to be discharged to a rehabilitation facility compared to those without insurance (40.7% vs 21.5%). After matching, patients lack of insurance was associated with 19% and 27% lower odds of receiving a cranial procedure and monitoring, respectively, compared to having private insurance ($p < 0.001$). Uninsured status was associated with a 51% higher odds of in-hospital mortality ($p < 0.001$).

Conclusions Uninsured patients with a significant TBI received fewer interventional procedures and were had greater odds of in-hospital mortality.

Significance and Contributions to Injury and Violence Prevention Science Even after creating a relatively homogeneous population by analyzing those with severe isolated brain injuries and using propensity score matching techniques, the disparity in treatment and outcomes persisted among those with and without insurance. These findings require a greater exploration regarding why these disparities exist and the potential role of health policy for ensuring equitable treatment.

School violence

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THE IMPACT OF ANTI-BULLYING POLICIES AT THE SCHOOL LEVEL: A MIXED-METHOD ANALYSIS OF IMPLEMENTATION PRACTICES

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Statement of Purpose All 50 states have adopted anti-bullying legislation in an effort to reduce bullying in schools. However, little research has been conducted to understand how schools implement their anti-bullying policies. This study illustrates how Maine schools implemented their district's anti-bullying policies and presents facilitators and challenges to implementing these policies.

Methods/Approach Semi-structured interviews and surveys were administered to twenty-two school personnel involved in the implementing anti-bullying policies (administrators, counselors, teachers, and support staff) across six schools in the state of Maine. Respondents were asked to recount how bullying allegations are reported, their experience investigating bullying allegations, how safety measures and responses plans are implemented, and discuss the content of the anti-bullying training provided.

Results Respondents identified many challenges to implementing the policy that included limited time and resources to investigate bullying allegations. Contextual challenges to reporting bullying allegations also emerged (e.g., fear of retaliation). One major challenge that emerged across all interviews was related to investigating cyberbullying allegations. Rural schools overall indicated it was easier to implement the anti-bullying policy when compared to urban schools.

Conclusions Interview findings have shown that implementation of anti-bullying policies is a complex process that involves substantial effort and time for schools to carry out Maine's required policy guidelines. School staff acknowledged