
Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

### Disparity in Access to Inpatient Rehabilitation by Insurance Type Among Traumatic Brain and Spinal Cord Injury Patients and Cost Implications

*Jonathan S Theros, Medical Student, Katelyn B Zumpf, MSc, Karl Y Bilimoria, MD, FACS, Allen W Heinemann, PhD, Anne M Stey, MD, MSc*
Northwestern University - Feinberg School of Medicine, Chicago, IL

**INTRODUCTION:** Post-acute care after spinal cord injury (SCI) or traumatic brain injury (TBI) influences neurological function regained. This study sought to quantify access to inpatient rehabilitation by insurance type and estimate the cost implication if all had access to inpatient rehabilitation.

**METHODS:** We conducted an observational cohort study utilizing 2015-2017 California Office of Statewide Health and Planning Data of injured adults with SCI and/or TBI. The primary predictor was insurance type. The primary outcome was discharge destination [inpatient rehabilitation (IRFs) vs. skilled nursing (SNFs) vs. long-term care facilities (LTAC)] modeled using multiple variable multinomial mixed-effects regression controlling for age, diagnosis, injury severity score, and Elixhauser comorbidity index. Cost simulation predicted the total cost difference if all patients had been discharged to IRF.

**RESULTS:** 102,708 encounters following injury with acute SCI or TBI were identified of which 8,722 acute and post-acute encounters were linked; 744(8.5%) went to SNFs of which 86.2% were publicly insured. 435(5.0%) had SCI, 7,134(81.8%) had TBI and 1,153(13.2%) had both. Publicly insured patients were 2.07([95% CI,1.91-2.24]) times more likely than privately insured to go to SNFs vs IRFs. Self-pay patients were 1.51([95%CI,1.14-2.0]) times more likely to go to SNF than IRF. Median cost was greater for IRFs $129,000(72,500-217,000) vs. SNFs $53,100(27,900-154,000). Cost simulation showed a total adjusted cost of $641M more if all patients were discharged to IRFs instead of SNFs.

**CONCLUSION:** Publicly insured SCI and TBI patients are less likely to be discharged to IRFs resulting in short-term cost-savings of $641M. Long-term cost implications are unclear.

### Effects of the COVID-19 Pandemic on Trauma Activations and Admissions at an Urban Trauma Center

*Aaron Spesard, MD, Elango Edhayan, MBBS, FACS, Robert A Foster, MD*
Ascension St. John Hospital, Detroit, MI

**INTRODUCTION:** The unprecedented impact of the COVID-19 pandemic resulted in strain on healthcare providers and resources. This study is intended to evaluate the effect of the pandemic on the trauma department of an urban trauma center.

**METHODS:** A retrospective analysis of the trauma registry at an urban trauma center was performed over four time periods. Period 1 is the 2.5 month period from March 17, 2020 to May 31, 2020 corresponding to the stay-at-home order. The 2.5 months from June 01, 2020 to Aug 17, 2020 were Period 3. Periods 2 and 4 correlate with the same periods in 2019. Trauma activations, admissions, injury severity and patterns were compared.

**RESULTS:** Period 1 had 487 admissions with 68 activations. Period 2 had 571 admissions with 68 activations. Period 3 had 567 admissions with 93 activations. Period 4 had 648 admissions with 82 activations. Overall, 2020 had 1054 trauma admissions compared to 1219 in 2019. When comparing Period 1 to Period 2, a significant decrease in trauma admission rate was noted with 80% in Period 1 and 87% in Period 2. Period 3 had a decrease in injuries from falls (34% vs 40%), and an increase in gunshot wounds (14% vs 9%) when compared to Period 4.

**CONCLUSION:** Decreased trauma admissions during the COVID-19 stay-at-home order were significant while trauma activations were unchanged. With this decrease in trauma admissions, trauma personnel and resources could be reallocated to departments with increased demands such as intensive care settings or emergency departments.

### Epidemiological Trends in Work-Related Ocular Injuries: An Analysis of the National Trauma Data Bank

*Aditya Uppuluri, MD, Marco A Zarbin, MD, PhD, FACS, Neelakshi Bhagat, MD, MPH, FACS*
Rutgers New Jersey Medical School, Newark, NJ

**INTRODUCTION:** The objective is to utilize the National Trauma Data Bank (NTDB) to investigate trends in work-related ocular injuries occurring in adults (19-64 years of age).

**METHODS:** This study utilized the 2007-2014 NTDB, the largest trauma registry in the US. The NTDB contains information on trauma-related hospital admissions or deaths that present to participating trauma centers. Etiologies and diagnoses were determined using ICD-9 codes. Statistical analysis was performed using IBM SPSS 23.

**RESULTS:** Of the 234,983 cases of work-related trauma in the NDTB, 11,097 (4.7%) involved ocular trauma. Men comprised 93.7% (10,401) of cases. The mean age was 40.7 years. Whites comprised 66.6% of cases; 20.9% of patients were Hispanic. The plurality (47.7%) of injuries occurred in an industrial facility. Orbital floor fractures (38.6%), contusions to the eye (24.3%), and open wounds to the adnexa (22.4%) were the most commonly observed injuries. Open globe injuries accounted for 18.1% of cases. The most prevalent etiologies were accidental falls (29.4%), motor vehicle accidents (16.5%), and accidentally being hit in the eye (12.5%). The mean length of hospital stay was 6.6 days. ICU admission and ventilator use were required for 36.7% and 17.7% of patients, respectively. The in-hospital mortality was 2.8% (313 cases).

**CONCLUSION:** The majority of cases of work-related ocular trauma registered in the 2007-2014 NTDB occurred in men