



16th Annual Brain Injury Conference

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Abstract Title: Falling out of place: an equity-focused characterization of mTBI/concussion healthcare

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ABSTRACT:

Abstract Theme: Mild TBI / Concussion

Topic(s) of Interest: Basic Research, Other - Characterization of Care

Purpose of Project: Though classified as 'mild' traumatic brain injuries (mTBI), concussions can have serious consequences. Unlike workplace or motor vehicle injuries, fall-related concussion care is often publicly or self-funded, severely limiting access to services. This research identifies inequities related to concussion care and outlines implications for subgroups that may be disproportionately impacted.

Methods, Procedure, Results/Outcome, Conclusion: Methods: Individuals diagnosed with mTBI/concussion between 2016 to 2022 were identified using administrative databases (e.g., Discharge Abstract Database, National Ambulatory Care Reporting System, Ontario Health Insurance Plan, National Rehabilitation Reporting System). In addition to incidence rates of concussion, resultant healthcare utilization such as emergency department (ED) visits and outpatient visits related to mental health care were calculated in the short term (0-2 years post-injury). These metrics were stratified by key factors known to influence health outcomes, including but not limited to age, sex, income, rurality, region, presence of pre-existing mental health and/or cognitive comorbidities, and mechanism of injury.

Results: Approximately 30% of the 1,075,791 identified cases were caused by a fall, while sport-related injuries and motor vehicle collisions comprised just 5% and 3% of all concussions, respectively. The incidence rate was 1.5-times higher among those with mental health comorbidities (1407 vs 961 concussion cases per 100,000) and 3-times higher among those with cognitive comorbidities (2244 vs 787 concussions cases per 100,000), compared to the overall rate. ED visits were more frequent for 65–79-year-olds (101 visits per 100 patient years (PY))) people over 80 (139.8 visits per 100 PY) compared to the provincial rate (79.3 visits per 100 PY). Those in rural/Northern areas, in the lowest income quintile, with pre-existing cognitive comorbidities, and who sustained fall-related injuries had considerably higher ED utilization than average. Overall, people with concussion had a higher usage rate for mental health-related care (95.8 visits per 100 PY) than emergency care (79.3 visits per 100 PY). Care for mental health-related issues was especially high among females, people in the lowest income quintile, people with road-related injuries, and those living in the Toronto region, as these groups had one or more visits per patient per year, on average.

Conclusion: Older adults and people with mental health or cognitive comorbidities are at greater risk of sustaining concussions and becoming high healthcare users. However, given that most concussions are caused by falls, insurance-covered care is often unlikely. Notably, there is an ongoing need for mental health-related care among people with concussion. Fall prevention efforts and mental health services should be targeted toward these subgroups to improve outcomes.