



16th Annual Brain Injury Conference

February 9, 2024 | Marriott Downtown at CF Toronto Eaton Centre

Poster #: 11

Abstract Title: How Far are We from Achieving Ideal TBI Care? The Pathway to Evaluating Care Quality and Equity through Evidence-based Quality Indicators

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ABSTRACT:

Abstract Theme: Moderate - Severe Brain Injury

Topic(s) of Interest: Best Practices, Other - Care Quality Evaluation

Purpose of Project: Traumatic brain injuries (TBI) are chronic conditions requiring ongoing care and rehabilitation, yet the long-term supports needed by people with moderate-severe TBIs are often not in place in the community. This is complicated by variations in care quality depending on socio-economic and regional factors. Here, we use Quality Indicators to evaluate TBI care through a Care Pathway approach.

Methods, Procedure, Results/Outcome, Conclusion: **METHODS:** Residents admitted to acute care with a formal TBI diagnosis between 2016 to 2022 were identified using administrative databases (e.g., Discharge Abstract Database, National Ambulatory Care Reporting System, Ontario Health Insurance Plan, and National Rehabilitation Reporting System). From this cohort, data for 13 Quality Indicators were collected to reflect the stages of the TBI care pathway: pre-acute (n=2 indicators), acute (n=1), rehabilitation (n=3), community (n=7). 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: A total of 34,431 incident cases of TBI with hospital stay were identified. Over half of the people with TBI in this cohort were older adults (65+), and nearly 70% sustained their injury by falling. Older adults had a substantially higher incidence rate of moderate-severe TBI (39 per 100,000 for 65–79-year-olds and 173 per 100,000 for those aged 80+) than the overall rate (19 per 100,000). People with pre-existing cognitive comorbidities had an incidence rate six times higher than that for people without such comorbidities (161 per 100,000 vs 26 per 100,000). Admission to inpatient rehab was low across the province, with 22% of moderate-severe TBI patients admitted to any inpatient rehab and only 9% admitted to a specialized facility. For older adults, people with cognitive comorbidities, and people in Northern Ontario, specialized inpatient rehab admission was further limited. Of those who did not receive inpatient rehab, 55% were not followed-up by any medical professional in the community within 30 days of acute discharge. Within one year of acute discharge, just 10% were followed-up by a relevant specialist (e.g., physiatrist).

CONCLUSION: Care quality and equity gaps were identified in the rehabilitation and community stages of care. Admission to specialized inpatient rehabilitation was extremely limited, particularly in Northern regions, and for older adults and people with cognitive comorbidities, despite the latter groups being at higher risk of sustaining these injuries. Few people with TBI received timely primary care follow-up in the community. It is imperative to target quality improvement efforts toward these inequities and gaps to enhance TBI care quality, improve long-term outcomes, and optimize recovery.