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Ten-year outcomes following traumatic brain injury: A population-based cohort

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Abstract

Primary objective: To quantify the 10 year health service use (HSU) and mortality outcomes for people with a traumatic brain injury (TBI).

Research design: A population-based matched cohort study using linked administrative data from Manitoba, Canada (Manitoba Injury Outcome Study).

Methods and procedures: An inception cohort (1988–1991) of hospitalized cases with TBI aged 18–64 years (n= 1290) was identified and matched to a non-injured comparison group (n= 1290). Survival analysis, Negative binomial and Poisson regression were used to quantify associations between injury and HSU/mortality outcomes for 10 years following the TBI event.

Main outcome and results: The majority of deaths (47.2%) occurred in the first 60 days following injury. Excluding the first 60 days, the adjusted 10 year mortality remained elevated (mortality rate ratio = 1.48, 95% CI = 1.02–2.15). After adjusting for demographic characteristics and pre-existing health status, the TBI cohort had more post-injury hospitalizations (rate ratio (RR) = 1.54, 95% CI = 1.39–1.71), greater cumulative lengths of stay (RR = 5.14, 95% CI = 3.29–8.02) and a greater post-injury physician claims rate (RR = 1.44, 95% CI = 1.35–1.53) than the non-injured cohort.

Conclusions: People who sustain a TBI and survive the initial acute phase of care experience substantially increased long-term morbidity compared to the general population, regardless of the level of injury severity.

Epidemiology traumatic brain injury data linkage outcomes mortality morbidity health service utilization

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