

# Quick Review of Model System Research

### Mortality Secondary to Unintentional Poisoning after Inpatient Rehabilitation among Individuals with Moderate to Severe Traumatic Brain Injury

### What is the study about?

### This study compares the characteristics of individuals with TBI who die from unintentional poisoning to those of individuals with TBI who die from other causes to see what characteristics, if any, distinguish the two groups. In doing so, the study aims to better understand the risks and circumstances of unintentional poisoning deaths of individuals with TBI.

### What did the study find?

In the cases the study reviewed, it found that 3.5% of deaths of individuals with TBI were the result of unintentional poisoning, 76% were the result of other causes, and 20.5% were from unknown causes. Deaths that resulted from unintentional poisonings, involved drugs 90% of the time and involved alcohol 8% of the time. Unintentional poisoning deaths were more frequent in people with white/non-Hispanic race/ethnicity, who were living alone and not-institutionalized, had a history of pre- and post-injury illicit drug use, alcohol/drug problem use, alcohol use at last follow-up and history of arrest. Additionally, they had better Functional Independence MeasureTM (FIM) scores, moderate disability (vs. severe disability or good recovery) and required less supervision. They also reported greater anxiety. These characteristics distinguish individuals with TBI who had received inpatient rehabilitation and died from unintentional poisonings from those dying from other causes. Targets for prevention may include factors such as pre-injury substance use and functional independence.

### Who particpated in the study?

### Participants (n=15,835) were individuals with TBI who received inpatient rehabilitation and enrolled in the TBI Model Systems National Database between 1989 and 2017.

### How was the study conducted?

### Data were collected from medical records and questionnaires during the inpatient rehabilitation stay. Follow up telephone interviews were conducted 1,2, and 5 years post injury and every 5-year interval after. Deaths were identified during the telephone follow-ups.

### How can people use the results?

People with TBI, their care givers, family, and clinicians can use the results of the study to better understand the characteristics associated with unintentional poisoning for individuals with TBI. In particular, assessment of pre-injury substance use, post-injury alcohol use, level of anxiety may help identify those at risk. Understanding these characteristics may alert clinicians for the need to evaluate these characteristics and develop appropriate plans for surveillance and treatment.

### [Reference](file:///C%3A%5C%5CUsers%5C%5Cccai%5C%5CAppData%5C%5CLocal%5C%5CMicrosoft%5C%5CWindows%5C%5CTemporary%20Internet%20Files%5C%5CContent.Outlook%5C%5C4WHR71C4%5C%5CBogner_CER-1403-13476_DFRR_Professional%20and%20Public%20Abstract_SME%20Review_102918%20ccai.docx%22%20%5Cl%20%22Note%22%20%5Co%20%22Describe%20who%20could%20use%20the%20results%20and%20how.%20Could%20be%20patient%2C%20doctor%2C%20administration%2C%20centers.%20Should%20make%20sense%20given%20findings%20and%20study%20design.%20Do%20not%20overreach.)

### Hammond, F. M., Ketchum, J., Dams-Oconnor, K., Corrigan, J. D., Miller, C., Haarbauer-Krupa, J., . . . Harrison-Felix, C. (2020). Mortality Secondary to Unintentional Poisoning after Inpatient Rehabilitation among Individuals with Moderate to Severe Traumatic Brain Injury. Journal of Neurotrauma. doi:10.1089/neu.2020.7038

### Disclaimer

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