Supplemental Table 3. Multivariable Ordinal Logistic Regression Model for Predictors of Likelihood of More Rehospitalizations (0, 1, 2+) at 1, 2, 5, and 10 years post-TBI

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Rehospitalization 1-year post-injury (n=1113) |  | Rehospitalization 2 years post-injury (n=907) |  | Rehospitalization 5 years post-injury (n=874) |  | Rehospitalization 10-year post-injury (n=708) |  |
| Variables | OR (95% CI) | p | OR (95% CI) | p | OR (95% CI) | p | OR (95% CI) | p |
| **Measured at baseline** |
| Sex Male (ref) Female | Ref1.23 (0.87, 1.73) | Ref0.235 | Ref0.95 (0.64, 1.41) | Ref0.784 | Ref0.75 (0.50, 1.11) | Ref0.152 | Ref1.23 (0.78, 1.94) | Ref0.384 |
| Race White (ref) Non-white | Ref0.77 (0.54, 1.08) | Ref0.127 | Ref0.65 (0.42, 0.99) | Ref0.047\* | Ref1.24 (0.83, 1.87) | Ref0.293 | Ref1.01 (0.63, 1.63) | Ref0.958 |
| Education Less than HS (ref) HS+ | Ref1.08 (0.71, 1.66) | Ref0.713 | Ref0.96 (0.58, 1.59) | Ref0.870 | Ref1.54 (0.92, 2.58) | Ref0.103 | Ref0.88 (0.52, 1.49) | Ref0.637 |
| Rehab payor source Government insurance (ref) Other | Ref1.04 (0.75, 1.45) | Ref0.815 | Ref0.56 (0.39, 0.85) | Ref0.006\* | Ref0.85 (0.58, 1.25) | Ref0.397 | Ref0.83 (0.52, 1.32) | Ref0.426 |
| Length of stay during rehabilitation | 1.00 (1.00, 1.01) | 0.219 | 1.00 (0.99, 1.01) | 0.913 | 1.00 (0.99, 1.01) | 0.849 | 1.00 (0.99, 1.01) | 0.880 |
| FIM Motor at Rehabilitation discharge | 0.98 (0.97, 0.99) | <0.001\* | 0.99 (0.97, 1.00) | 0.034\* | 0.98 (0.97, 1.00)  | 0.006\* | 0.99 (0.98, 1.00) | 0.182 |
| FIM Cognitive at Rehabilitation Discharge | 1.03 (1.01, 1.06) | 0.020\* | 1.02 (0.99, 1.05) | 0.278 | 1.03 (1.00, 1.06) | 0.100 | 0.99 (0.96, 1.03) | 0.764 |
| Cranial surgery status No cranial surgery (ref) Craniotomy and/or Craniectomy  | Ref2.28 (1.65, 3.16) | Ref<0.001\* | Ref0.91 (0.60, 1.38) | Ref0.654 | Ref0.93 (0.61, 1.41) | Ref0.725 | Ref0.92 (0.57, 1.48) | Ref0.728 |
| Pre-index history of TBI(yes vs. no) | 0.96 (0.67, 1.38) | 0.815 | 0.51 (0.33, 0.80) | 0.003\* | 1.22 (0.83, 1.78) | 0.307 | 0.76 (0.47, 1.21) | 0.242 |
| **Measured at prior TBIMS follow-up interview** |
| Problem substance use(yes vs. no) | -- | -- | 0.62 (0.37, 1.05) | 0.075 | 0.78 (0.49, 1.25)  | 0.300 | 1.12 (0.67, 1.86) | 0.667 |
| Post-index rehospitalization(yes vs. no) | -- | -- | 3.32 (2.28, 4.83) | <0.001\* | 2.51 (1.69, 3.74) | <0.001\* | 3.10 (2.00, 4.80) | <0.001\* |
| PART summary | -- | -- | 0.89 (0.64, 1.24) | 0.481 | 1.03 (0.75, 1.42) | 0.853 | 0.89 (0.62, 1.28) | 0.46525 |
| Driving independence(yes vs. no) | -- | -- | 0.90 (0.57, 1.44) | 0.671 | 0.85 (0.55, 1.31) | 0.459 | 1.37 (0.83, 2.25) | 0.213 |
| **Measured at the same follow-up interview as rehospitalization variable** |
| Age 16-29 (ref) 30-49  50-64 65+ | Ref0.92 (0.60, 1.40)0.92 (0.58, 1.46)1.04 (0.63, 1.71) | Ref0.6950.7280.894 | Ref1.99 (1.15, 3.45)1.83 (1.01, 3.30)1.64 (0.86, 3.13) | Ref0.014\*0.046\*0.136 | Ref0.69 (0.40, 1.18) 1.39 (0.80, 2.42)1.59 (0.88, 2.88) | Ref0.1790.2410.124 | Ref2.21 (0.91, 5.38)2.38 (0.92, 6.14)3.55 (1.33, 9.50) | Ref0.0800.0720.012\* |
| Seizures in the past year (yes vs. no) | 5.24 (3.60, 7.64) | <0.001\* | 3.18 (1.95, 5.20) | <0.001\* | 3.88 (2.35, 6.38) | <0.001\* | 3.80 (2.15, 6.72) | <0.001\* |
| Total number of medical comorbidities(2+ vs. 1 or 0) | 2.84 (2.00, 4.03) | <0.001\* | 1.66 (1.09, 2.53) | 0.019\* | 1.72 (1.14, 2.60) | 0.009\* | 2.24 (1.40, 3.58) | <0.001\* |
| Total number of mental health comorbidities§ (1+ vs. 0) | 1.20 (0.88, 1.63) | 0.263 | 1.64 (1.12, 2.41) | 0.011\* | 1.65 (1.13, 2.42) | 0.010\* | 1.14 (0.73, 1.78) | 0.567 |
| **Model C-statistic:** | 0.753 |  | 0.776 |  | 0.740 |  | 0.756 |  |

 \* indicates statistical significance at p<0.05