

# Functional Status at Discharge is Higher Among Alcohol-positive Older Adults after TBI

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## INTRODUCTION

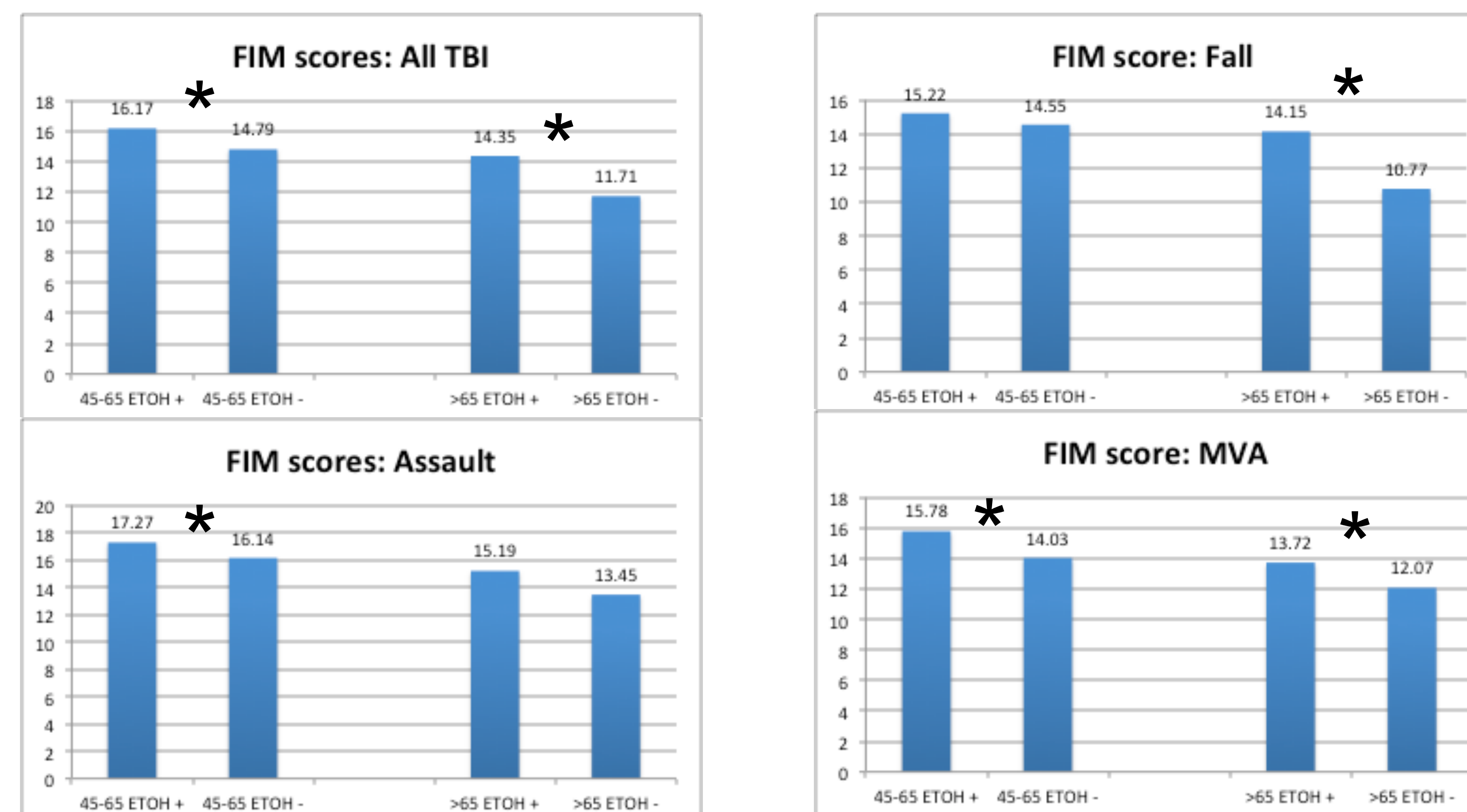
- Alcohol use is an important risk factor for TBI, (Corrigan, J.D., 1995)
- While rates of moderate to severe TBI generally are decreasing, rates among older adults are increasing in Pennsylvania (Ramanathan et al., 2012)
- However, there is little consensus surrounding the effects of alcohol intoxication at time of injury on TBI outcome
- Knowing this information would facilitate a more targeted prevention and treatment of TBI

## METHODOLOGY

- This study examined data among individuals 45 years and older from the Pennsylvania Trauma Outcome Study (PTOS), a database containing information about individuals with TBI who utilized emergency services at trauma institutions in Pennsylvania from 1992 to 2009
- Only patients who were administered a blood alcohol test at time of admission to the emergency department (ED), and who had a recorded mechanism of injury and age, and received an outcome assessment (FIM) score were included
- This sample included 5,715 patients with moderate to severe TBI (GCS score 3-12)

## RESULTS

	45-65 years old			>65 years old		
	Alcohol +	Alcohol -	% positive	Alcohol +	Alcohol -	% positive
<b>Overall (n)</b>	1860	2057	<b>47.49%</b>	312	1486	<b>17.35%</b>
<b>Male (n)</b>	1559	1416	<b>52.40%</b>	241	799	<b>23.17%</b>
<b>Female (n)</b>	301	641	<b>31.95%</b>	71	687	<b>9.37%</b>
<b>Assault (n)</b>	409	391	<b>51.13%</b>	32	131	<b>19.63%</b>
<b>Fall (n)</b>	456	391	<b>53.84%</b>	124	537	<b>18.76%</b>
<b>MVA (n)</b>	812	1049	<b>43.63%</b>	104	548	<b>15.95%</b>



## CONCLUSIONS

- Mean outcome (FIM) scores are consistently higher in alcohol-positive groups, but alcohol use accounts for only a small portion of the variance
- Rates of patients with alcohol-positive TBI differ by age and mechanism of injury among older adults

## Limitations and Future Directions

- This dataset did not include measures of premorbid functioning which may contribute to differences in outcome among patients who were alcohol-positive and negative at time of admission to the ED
- Alcohol likely contributes to several physiological processes at time of injury (e.g., immunomodulation; Goodman et al., 2013), with positive and negative impacts
- Future studies should consider the role of premorbid functioning and parse out the different effects alcohol may have on recovery following TBI

## REFERENCES

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- Ramanathan, D., McWilliams, N., Schatz, P., Hillary, F.G. (2012). Epidemiological shifts in elderly traumatic brain injury: 18-year trends in Pennsylvania. *J Neurotrauma.* 1;29(7):1371-8. doi: 10.1089/neu.2011.2197.