

## Supplementary Data

SUPPLEMENTARY TABLE S1. PCS SYMPTOMS IN THE EHR WERE CAPTURED BY ICD-9 AND ICD-10 BILLING CODES, AND BY KEYWORD SEARCHES OF CLINICAL NOTES AND PROBLEM LISTS

<i>Post-concussion symptom</i>	<i>ICD-9 Codes</i>	<i>ICD-10 Codes</i>	<i>Keywords</i>
Anxiety	799.21, 300	R45.0, F41.1, F41.9, F41.0, F40.9	Anxious, anxiety, nervous, panic
Apathy	799.25	R45.3	Apathy
Depression	311	F32.9	Depressed, depression
Concentration difficulties	799.5	R41.84	
Dizziness	780.4	R42	Dizzy, dizziness, lightheaded, light-headed
Emotional lability	799.24	R45.86	Emotional
Fatigue	780.7	R53.1, R53.8	Tired, fatigue
Headache	339.2, 784.0	G44.3, R51	Headache
Irritable	799.22	R45.4	Irritable, anger, angry
Impulsive	799.23	R45.87	Impulsive, impulsiveness, impulsivity
Memory difficulties	780.93	R41.2, R41.3	Memory, remember, amnesia
Sleep difficulties	780.50, 780.52, 780.54, 780.55, 780.59	F51.8, G47.00, G47.10, G47.8, G47.9	Sleep, insomnia
Other	799.29 (Other signs and symptoms involving emotional state), 308.9 (Acute stress reaction, unspecified), 907.0 (Late effect of intracranial injury without skull or facial fracture), 905.0 (Late effect of intracranial injury with skull or facial fracture)	R45.89 (Other symptoms and signs involving emotional state), F43.0 (Acute stress reaction), R45.7 (State of emotional shock and stress, unspecified)	

Codes included all sub-classifications.

PCS, post-concussion syndrome; EHR, electronic health records; ICD, International Classification of Diseases.