

CLINICAL PRACTICE GUIDELINE
FOR THE REHABILITATION OF ADULTS
WITH MODERATE TO SEVERE TBI

TBI INPATIENT REHABILITATION
LENGTH OF STAY (LOS) REFERENCE TABLE

ONTARIO DATA

		2013-2014		2014-2015		2015-2016	
Resource Intensity	RPG	N	Average LOS	N	Average LOS	N	Average LOS
Least	1230, 1240, 1250	459	32.4	455	30.3	483	29.6
Moderate	1220	113	46.8	166	41.7	171	40.3
Most	1200, 1210	147	61.8	203	57.3	212	58.3

	RG	N Total	Average LOS	N total	Average LOS	N total	Average LOS
Total	12	719	40.7	824	39.2	866	38.8

Source: National Rehabilitation Reporting System (NRS), Canadian Institute for Health Information (CIHI), 2015-2016

Legend:

RG: Rehabilitation Group (RG) is a grouping methodology used to assign adults clients admitted in rehabilitation according to the main reason for receiving inpatient rehabilitation services. RG 12 corresponds to the Traumatic Brain Injury group.

RPG: Rehabilitation Patient Group (RPG) is a grouping methodology used to categorize data submitted to the CIHI NRS database. Based on a client’s RG classification, and using the client’s admission age and admission motor and cognitive FIM status scores, TBI patients are assigned to one of five (5) TBI RPGs (1200, 1210, 1220, 1230, 1240 and 1250). Details on the methodology used to classify patients in specific TBI RPG are provided below.

N: Number of adults admitted in a rehabilitation facility in Ontario with, as primary reason for receiving services, a diagnosis of traumatic brain injury (TBI – RG 12). There are 17 rehabilitation facilities providing inpatient services to adults having sustained a TBI in the province of Ontario.

Average LOS: The average length of stay (LOS) represents the average number of days people remain admitted in a TBI inpatient rehabilitation facilities per RPG group or for the entire RG 12 group.

Ontario RPG grouping methodology

The RPG grouping methodology uses Rehabilitation Client Groups to reflect the health condition that best describes the primary reason for admission to inpatient rehabilitation.

As can be seen in Figure 1, FIM® scores are used to group patients into one of the RPGs associated with Traumatic Brain Injury (1200, 1210, 1220, 1230, 1240 and 1250). These categories were developed by looking at the outcome variable (length of stay) for a large group of Ontario patients and working backwards to describe the subdivisions of data that were seen. Ultimately, the Ministry of Health and Long Term Care's (MOHLTC) ended up describing these subdivisions using a combination of Rehabilitation Client Group (RCG), motor function score (FIM® instrument), cognitive function score (FIM® instrument), and age (and sometimes only a subset of these). It decided against using other variables, like comorbidities, service interruptions, etc., but noted a desire to re-visit that decision in the future.

The Function Scores referenced in Figure 1 are based on data collected using the FIM® instrument. The 18-item FIM® instrument is the property of Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc. See Figure 2 for more detail on the composition of the FIM® instrument.

The RPG Admission Motor Function Score is calculated by adding the score from 12 data elements (collected at admission). (As per the RPG methodology, Motor Function Score does not include the Tub Transfer Score in the calculation.)

The Admission Motor Function Score is the simple sum of the values of these elements:

41. Eating
42. Grooming
43. Bathing
44. Dressing—Upper Body
45. Dressing—Lower Body
46. Toileting
47. Bladder Management
48. Bowel Management
49. Transfer: Bed, Chair, Wheelchair
50. Transfer: Toilet
52. Locomotion: Walk/Wheelchair
53. Locomotion: Stairs

Each data element should have a score of 1 to 7. The Admission Motor Function Score range is 12 to 84.

The RPG Admission Cognitive Function Score is calculated by adding the score from five data elements (collected at admission).

The Admission Cognitive Function Score is the simple sum of the values of these elements:

54. Comprehension
55. Expression
56. Social Interaction
57. Problem-Solving
58. Memory

Each data element should have a score of 1 to 7. The Admission Cognitive Function Score range is 5 to 35.

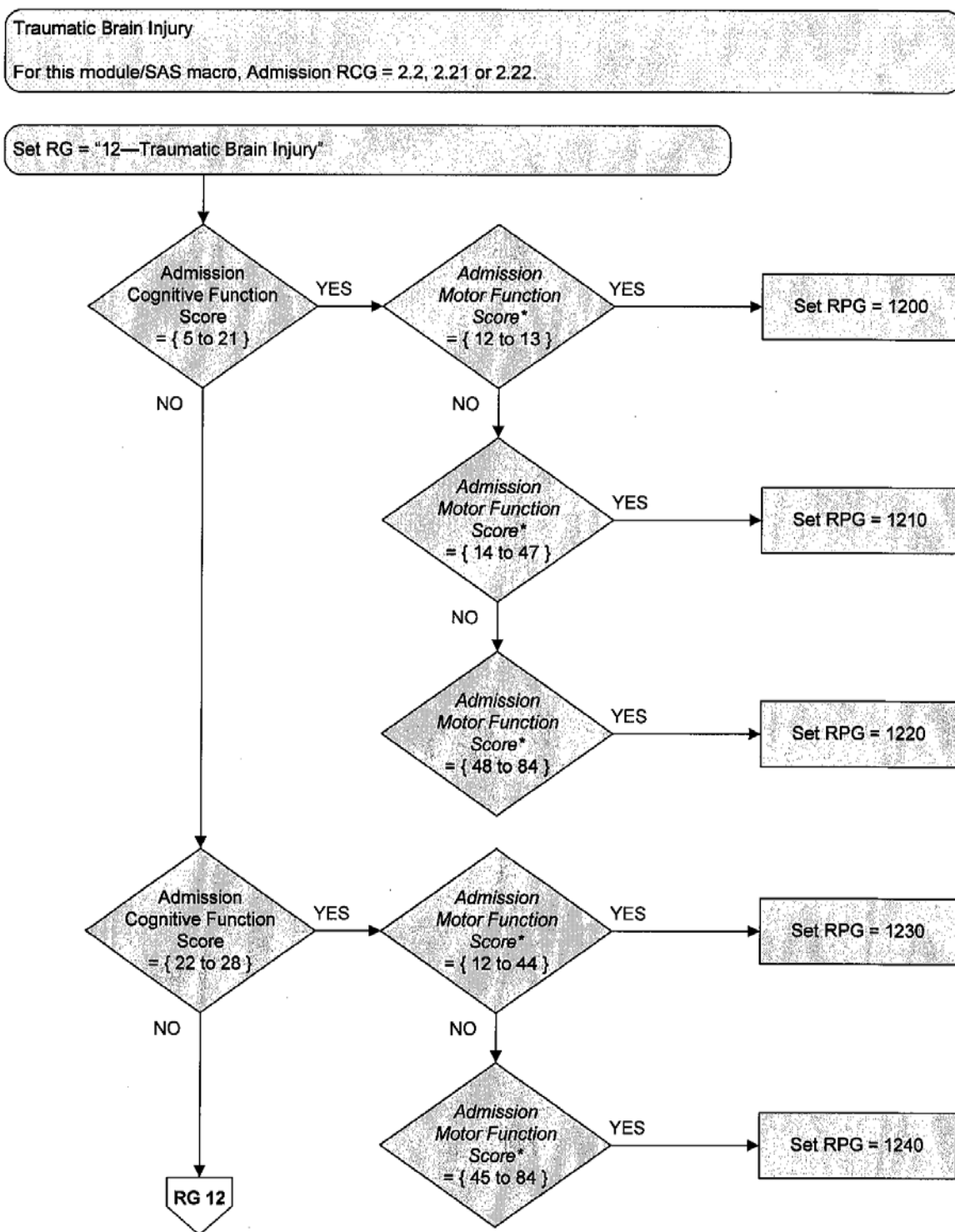
Note:

RPGs are adapted with permission from the UDSMR impairment codes - Copyright 1997 Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc., all rights reserved. For additional information about RPG grouping methodology and weights please visit CIHI's Case Mix webpage at: <https://www.cihi.ca/en/data-and-standards/standards/case-mix>.

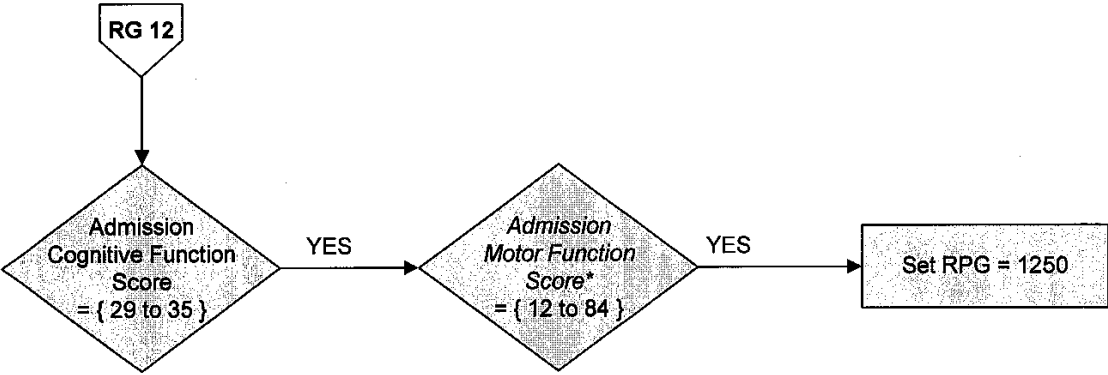
For additional information about the National Rehabilitation Reporting System's history, composition and major limitations, please consult the Data Quality Documentation available on the CIHI website at: <https://www.cihi.ca/en/types-of-care/hospital-care/rehabilitation/national-rehabilitation-reporting-system-nrs-metadata>.

Figure 1: Flowchart showing how the RPG is allocated

NRS RPG 2016–2017 Grouping Methodology
Module/SAS Macro: RG_12_TRAUMATIC_BRAIN_INJ (1 OF 2)



NRS RPG 2016–2017 Grouping Methodology
Module/SAS Macro: RG_12_TRAUMATIC_BRAIN_INJ (2 OF 2)



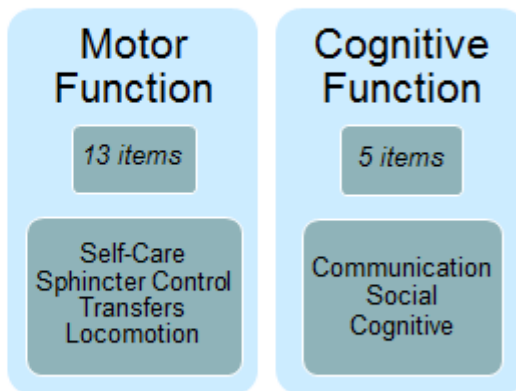
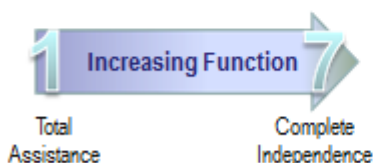
Source: Figure prepared by the Canadian Institute for Health Information.

Figure 2: Overview of the FIM® instrument

The FIM® Instrument



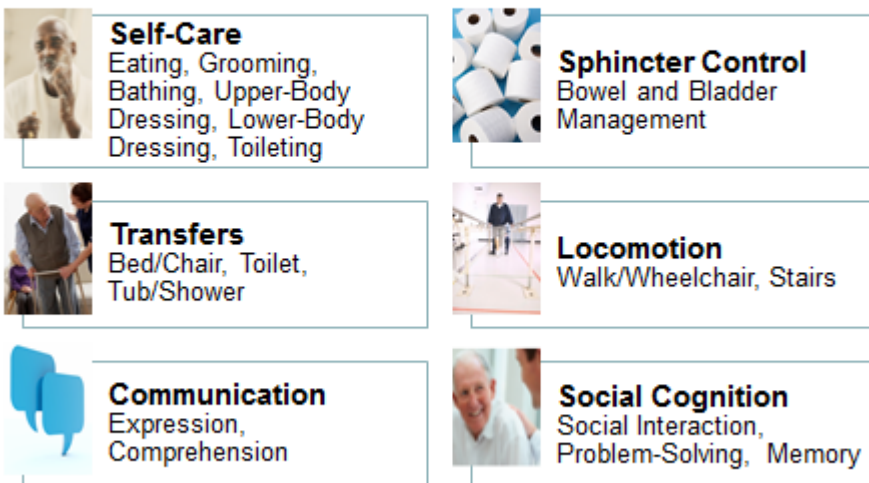
- > Proprietary outcome measure
- > Discipline-free
- > Measures burden of care associated with level of disability
- > 18 items scored on 7-point scale



The 18-item FIM instrument is the property of the Uniform Data System for Medical Rehabilitation, a division of US Foundation Activities, Inc.

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FIM® instrument Domains



10

Source: Figure prepared by the Canadian Institute for Health Information.