Traumatic Brain Injury Data Dictionary

National Data and Statistical Center

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WELCOME

The Traumatic Brain Injury Model System Centers Program

The Traumatic Brain Injury Model System (TBIMS) Centers program, begun in 1987, currently consists of 16 centers across the US that are competitively funded for 5 years by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR). The TBIMS Centers are situated in centers of excellence for clinical care and innovative research focused on improving the lives of people with TBI, their families, and close others. The primary focus is on moderate to severe TBI, as patients are recruited from inpatient rehabilitation to participate in research; however, many TBIMS investigators are also interested in mild TBI, or concussion.

The National Database (NDB), managed by the TBIMS National Data and Statistical Center, is at the core of the TBIMS Centers program. More than 20,000 individuals are currently enrolled in the NDB. Each TBIMS center collects and enters into the NDB an identical data set on each individual, which captures:

- Emergency and acute care information such as CT scan findings and depth/ duration of loss or alteration of consciousness;
- Status and progress during inpatient rehabilitation;
- Pre-injury social and demographic data;
- Findings from a battery of measures assessing functional, social, emotional, cognitive, and medical outcomes at 1, 2, 5, 10, 15 years after the TBI and every five years thereafter. The TBIMS is unique in the scope of its longitudinal data on the outcomes of persons with complex mild/ moderate/ severe TBI.

Recent research (Corrigan et al. 2012; Cuthbert et al. 2012) has confirmed that the TBIMS NDB is representative of persons receiving inpatient rehabilitation for TBI in the US.

In addition to the enrollment and data capture for the NDB, NIDILRR funding supports the following types of TBI research within TBIMS Centers:

- Data mining studies, which examine relationships among existing data elements in the NDB;
- Local research projects, which are site-specific studies proposed for each 5-year grant cycle;
- Module research projects, which are time-limited, multi-center studies designed to capitalize on the TBIMS infrastructure to address focused research questions that cannot feasibly be answered by a single center. In each 5-year cycle, centers propose and participate in moduler studies of interest to them. Module projects have produced new knowledge on (e.g.) the natural history and typology of headache after TBI, the prevalence and outcomes of treatments for deep venous thrombosis, and the feasibility and utility of assessing cognitive function via telephone.

The TBIMS centers work in collaboration with the separately-funded Model Systems Knowledge Translation Centerhttps://msktc.org to provide scientific results and information for dissemination to stakeholders, including persons with TBI and their families, researchers, clinicians, and policymakers.

Participating Centers

Currently, there are 16 TBIMS Centers and 4 TBIMS Longitudinal Follow-Up Centers,* sponsored by the NIDILRR.

- Georgia Model Brain Injury Systems, Atlanta GA
- Indiana University/Rehabilitation Hospital of Indiana, Indianapolis IN
- Mayo Clinic Traumatic Brain Injury Model System Center, Rochester MN
- Moss Traumatic Brain Injury Model System, Philadelphia PA
- New York Traumatic Brain Injury Model System, New York NY
- North Texas Traumatic Brain Injury Model System, Dallas TX
- Northern New Jersey Traumatic Brain Injury System, East Hanover NJ
- Rusk Rehabilitation TBI Model System, New York NY
- Southeastern Michigan Traumatic Brain Injury System, Detroit MI
- Spaulding-Harvard Traumatic Brain Injury System, Charlestown MA
- The Ohio Regional TBI Model System, Columbus OH
- The Rocky Mountain Regional Brain Injury System, Englewood CO
- TIRR Memorial Hermann/Baylor College of Medicine/UT Health Collaborative, Houston TX

- University of Alabama at Birmingham Traumatic Brain Injury Care System, Birmingham AL
- University of Washington Traumatic Brain Injury Model System, Seattle WA
- Virginia Traumatic Brain Injury Model System, Richmond VA
- * Carolinas Traumatic Brain Injury Rehabilitation and Research System, Charlotte NC
- * JFK Johnson Rehabilitation Institute Traumatic Brain Injury Model System, Edison NJ
- * Northern California TBI Model System, San Jose CA
- * University of Pittsburgh Medical Center Traumatic Brain Injury Model System, Pittsburgh PA

Components of the Traumatic Brain Injury Model System Centers

As stated in the current Traumatic Brain Injury Model System (TBIMS) Centers Program priority, TBIMS centers must provide "a multidisciplinary system of rehabilitation care specifically designed to meet the needs of individuals with TBI. The system must encompass a continuum of care, including emergency medical services, acute care services, acute medical rehabilitation services, and post-acute services."

There has historically been substantial variability in the components of care within the TBIMS centers and the manner in which these various components interact. The number of acute care hospitals in any one current TBIMS center varies from 1–12, with trauma center designations of Level 1–Level 4. Although not a stated requirement, all current TBIMS Centers include at least one Level 1 trauma center. Relationships with these hospitals range from formal (written affiliation agreements with trauma departments, emergency departments, or hospital administration) to verbal agreements. Faculty from the acute care facilities may or may not be coinvestigators within the TBIMS Centers program. In some cases, acute care facilities require their own IRB review and approval and in other cases they do not.

Access to medical records from the referring/acute care hospital also varies. In some cases, staff visit the referring hospital and view records onsite to abstract data. Other hospitals send the medical record in paper or digital form, when a signed release of information request is received.

The TBIMS Centers Program priority requires that a minimum of 35 persons be enrolled annually in the TBIMS National Database by each TBIMS Center. Multiple acute care/referring hospitals may be included in systems of care to increase the annual enrollment of that system, or to increase the representativeness of the sample.

In most cases, participants are transferred directly from referring acute care hospitals to inpatient brain injury rehabilitation facilities (IRFs). Some Centers have incorporated long-term acute care hospitals (LTACHs) into their system of care. Among these Centers, the role of the LTACH is variable. In some Centers, the LTACH serves as the primary and sole rehabilitation

setting. In all cases, patients remain within the system of care through discharge from the rehabilitation facility. While all Centers must provide multidisciplinary brain injury rehabilitation services, the number of therapy hours provided per day may vary by setting. All TBIMS Centers are required to follow established protocols for the collection of enrollment and follow-up data on all participants.

Table 1: Components of a TBI Model System of Care

Components of a TBI Model System of Care	Components Less Frequently Included
At least one Level 1 trauma center	Level 2 trauma centers
At least one inpatient rehabilitation hospital	Day treatment community integration program
Individual outpatient therapies	Alcohol and substance abuse outpatient therapy
Physician follow-up clinic	Vocational rehabilitation
Neuropsychology follow-up clinic	Skilled nursing facility
	LTACH
	Assistive technology
	Spasticity/dystonia management clinic
	Clubhouse programs

Citation

Title: Traumatic Brain Injury Model Systems National Database. **Author**: Traumatic Brain Injury Model Systems Program **Distributor**: Traumatic Brain Injury Model Systems National Data and Statistical Center **Persistent identifier**: DOI 10.17605/OSF.IO/A4XZB **Date**: 2019 **Url**: http://www.tbindsc.org **Version**: https://osf.io/a4xzb

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1 ANXIETY

1.1 GAD

1.1.1 Definition

The Generalized Anxiety Disorder 2-item (GAD-2) is a brief initial screening tool for generalized anxiety disorder.

The Generalized Anxiety Disorder Scale is a 7-item scale validated as a screener for anxiety disorder.

a. Feeling nervous, anxious or on edge

b. Not being able to stop or control worrying

c. Worrying too much about different things

d. Trouble relaxing

e. Being so restless that it is hard to sit still

f. Becoming easily annoyed or irritable

g. Feeling afraid as if something awful might happen

h. If you indicated any problems in the previous questions, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people

1.1.2 Form

[ ] Form 1
[X] Form 2

1.1.3 Source

Interview, Mail-Out (participant only)

1.1.4 Details

Interviewers should read the following introduction prior to administering the GAD: *"Over the LAST 2 WEEKS, how often have you been bothered by the following problems?"*

If either of the first 2 questions are coded either '1 - Several Days', '2 - More Than Half Of The Days', or '3 - Nearly Every Day', then proceed to ask the remaining GAD items.

If both of the first 2 questions are coded '0 - Not at all', code remaining GAD items as '81 - Not Applicable' and skip to next section of interview.

The GAD should not be administered to a significant other, or any other proxy. If the individual is unable to provide data, use code '82. Not Applicable: No data from person with TBI'.

Every effort should be made to obtain the GAD assessment, however, if any items can not be assessed, use code '99. Unknown'. Do not leave blanks.

1.1.5 Links

GAD-7 Spanish Translation

1.1.6 Characteristics

Participant responses to these variables may be affected by the COVID-19 pandemic starting in March of 2020.

On 4/1/2022, the GAD-2 Screener was implemented.

1.1.7 Variables

Form Type	Variable	ID	Question	History
Form 2	GADAfraidF	690	g. Feeling afraid as if something awful might happen:	2010-04-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	GADAnnoyF	690	f. Becoming easily annoyed or irritable:	2010-04-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	GADCntrlWryF	690	b. Not being able to stop or control worrying:	2010-04-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	GADDifficultF	689	h. How difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	2010-04-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	GADNervousF	690	a. Feeling nervous, anxious or on edge:	2010-04-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	GADRelaxF	690	d. Trouble relaxing:	2010-04-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	GADRestlessF	690	e. Being so restless that it is hard to sit still:	2010-04-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	GADWorryF	690	c. Worrying too much about different things:	2010-04-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added

1.1.8 Codes and Values

ID	Code	Description
689	0	Not Difficult at All
689	1	Somewhat Difficult
689	2	Very Difficult
689	3	Extremely Difficult
689	66	Variable Did Not Exist
689	81	Not Applicable: No problems

ID	Code	Description
689	82	Not Applicable: No data from person with TBI
689	99	Unknown
690	0	Not at All
690	1	Several Days
690	2	More Than Half of the Days
690	3	Nearly Every Day
690	66	Variable Did Not Exist
690	81	Not Applicable
690	82	Not Applicable: No data from person with TBI
690	99	Unknown

1.1.9 History

Date	Description
2021-01-15	Added CHARACTERISTICS : ”Participant responses to these variables may be affected by the onset of the COVID-19 pandemic in March of 2020. ”
2022-04-01	Added Code : ”8-Not Applicable” to items c. - g.
2022-04-01	Added CHARACTERISTICS : ”On 4/1/2022, the GAD-2 Screener was implemented.”

1.2 GAD - CALCULATED

1.2.1 Variables

Form Type	Variable	ID	Question	History
Form 2	GAD7TOTF	688	Generalized Anxiety Disorder Total Score	2010-04-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added

1.2.2 Codes and Values

ID	Code	Description
688	666	Variable Did Not Exist
688	888	Not Applicable: No data from person with TBI
688	999	Unknown

1.2.3 History

No history found for the Domain.

2 ASSOCIATED INJURIES

2.0.1 Definition

These variables document selected injuries occurring at the same time as the brain injury.

2.0.2 Characteristics

The following variables were collected from 1/01/1990 - 1/01/2002. No data is available for these variables.

- **AIAMP (Amputation)** Definition = A major amputation secondary to trauma occurring at the same time as the brain injury or surgical amputation during the acute hospital period as a result of the initial injury.

- **AIPERI (Peripheral Nerve Injury)** Definition = Injury to a nerve outside the spinal canal occurring at the same time as the brain injury. Peripheral cranial nerve (Cranial Nerve VII) and brachial plexus injuries are not reported here but are reported in AICRAN (Cranial Nerve Injury) and AIBRACH (Brachial Plexus Injury) respectively. Indicate any peripheral nerve injury in upper extremities and lower extremities. Examples of peripheral nerves are as follows: Radial (upper); Femoral (lower); Median (upper); Obturator (lower); Ulnar (upper); Sciatic (lower); Musculocutaneous (upper); Common peroneal (lower); Axillary (upper); Tibial (lower); Suprascapular (upper); Lumbosacral (lower)

- **AIBRACH (Brachial Plexus Injury)** Definition = Injury to the brachial plexus occurring at the same time as the brain injury. Includes nerve root avulsion or more distal injuries to the brachial plexus injury.

- **AIHEM (Intracranial Hemorrhage)** Definition = Hemorrhage of the brain recognized at any time from time of injury, detected by imaging or surgical findings. Item a. Subdural Item b. Epidural Item c. Subarachnoid Item d. Intraparenchymal Item e. Other than above (e.g punctate or petechial)

2.1 SCI

2.1.1 Definition

Any injury to neural elements within the spinal canal.

2.1.2 Form

[X] Form 1
[ ] Form 2

2.1.3 Source

Abstraction (acute record)

2.1.4 Details

Includes complete and incomplete injuries.

Includes conus medullaris and cauda equina syndromes, but does not include brachial or lumbar plexus injuries occurring outside the spinal canal.

Only spinal cord injuries occurring at the same time as the brain injury should be reported.

2.1.5 Reference

ASIA

2.1.6 Variables

Form Type	Variable	ID	Question	History
Form 1	SCI	552	Spinal cord injury:	1989-10-01 - Variable Added

2.1.7 Codes and Values

ID	Code	Description
552	0	No
552	1	Yes
552	99	Unknown

2.1.8 History

Date	Description
2004-04-01	Added ”ASIA” to REFERENCE box.

3 CARE (CONTINUITY ASSESSMENT RECORD AND EVALUATION)

3.0.1 Definition

The Continuity Assessment Record and Evaluation (CARE) Item Set was developed as part of the larger Post-Acute Care Payment Reform Demonstration (PAC-PRD), authorized by the Deficit Reduction Act of 2005. It was developed as a standardized set of items for measuring medical, functional, cognitive, and social support factors in the acute hospital, long-term care hospital (LTCH), inpatient rehabilitation facility (IRF), skilled nursing facility (SNF), and home health agency (HHA) settings to provide a way to compare the health status of Medicare beneficiaries across provider types.

Section GG Functional Abilities and Goals (Self-Care and Mobility Activities) includes admission and discharge self-care and mobility performance data elements. Qualified clinicians code each data element, which are activities, using a 6-level rating scale to reflect the patient's/resident's functional abilities based on the type and amount of assistance provided by a helper. If the patient/resident did not perform the activity and a helper did not perform the activity for the patient/resident during the assessment period, one of four "activity not attempted codes" is used.

3.0.1.0.1 The 6-Point Scale and Activity Not Attempted Codes

Coding:
Safety and Quality of Performance - If helper assistance is required because patient's/resident's performance is unsafe or of poor quality, score according to amount of assistance provided.
Activities may be completed with or without assistive devices.
01 - Dependent - Helper does ALL of the effort. Patient/resident does none of the effort to complete the activity.
Or, the assistance of 2 or more helpers is required for the patient/resident to complete the activity.
02 - Substantial/maximal assistance - Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort.
03 - Partial/moderate assistance - Helper does LESS THAN HALF the effort. Helper lifts, holds or supports trunk or limbs, but provides less than half the effort.

04 - Supervision or touching assistance - Helper provides verbal cues and/or touching/steadying and/or contact guard assistance as patient/resident completes activity. Assistance may be provided throughout the activity or intermittently.
05 - Setup or clean-up assistance - Helper sets up or cleans up; patient/resident completes activity. Helper assists only prior to or following the activity.
06 - Independent – Patient/resident safely completes the activity by him/herself with no assistance from a helper.

If activity was not attempted, code reason:
77 - Patient/resident refused
81 - Not applicable - Not attempted and the patient/resident did not perform this activity prior to the current illness, exacerbation, or injury.
82 - Not attempted due to environmental limitations (e.g., lack of equipment, weather constraints)
83 - Not attempted due to medical condition or safety concerns
84 - Did Not Meet Criteria for Administration (To be used if participant leaves AMA, returns to ICU and does not return to rehab, or is only on rehab unit for 24 hours or less).
99 - Unknown No information, form not completed

3.0.2 Form

[X] Form 1
[ ] Form 2

3.0.3 Source

Abstracted from CARE tool data submitted to ERehab, UDS or CMS

3.0.4 Details

Each core item for functional mobility is scored on a six-level rating scale measuring the need for assistance- dependent, substantial assistance, partial assistance, supervision or touching assistance, set-up or cleanup assistance, or independent.

Code “84 - Did not meet criteria for administration” to be used if participant leaves AMA, returns to ICU and does not return to rehab, or is only on rehab 24 hours.

3.0.5 Links

Final IRF-PAI Version 3.0 - Effective October 1 2019 (FY2020) (PDF)
IRF-PAI Manual Chapter 2 - Section GG v3.0-508C

3.0.6 Characteristics

CARE Tool was added on 10/01/2019.

3.1 MOBILITY

3.1.1 Variables

Form Type	Variable	ID	Question	History
Form 1	MOB12StepsA	3988	O. 12 steps: The ability to go up and down 12 steps with or without a rail.	2019-10-01 - Variable Added
Form 1	MOB12StepsD	3988	O. 12 steps: The ability to go up and down 12 steps with or without a rail.	2019-10-01 - Variable Added
Form 1	MOB1StepCurbA	3988	M. 1 step (curb): The ability to step over a curb or up and down one step.	2019-10-01 - Variable Added
Form 1	MOB1StepCurbD	3988	M. 1 step (curb): The ability to step over a curb or up and down one step.	2019-10-01 - Variable Added
Form 1	MOB4StepsA	3988	N. 4 steps: The ability to go up and down four steps with or without a rail.	2019-10-01 - Variable Added
Form 1	MOB4StepsD	3988	N. 4 steps: The ability to go up and down four steps with or without a rail.	2019-10-01 - Variable Added
Form 1	MOBCarTranA	3988	G. Car transfer: The ability to transfer in and out of a car or van on the passenger side. Does not include the ability to open/close door or fasten seat belt.	2019-10-01 - Variable Added
Form 1	MOBCarTranD	3988	G. Car transfer: The ability to transfer in and out of a car or van on the passenger side. Does not include the ability to open/close door or fasten seat belt.	2019-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	MOBChairTranA	3988	E. Chair/bed-to-chair transfer: The ability to safely transfer to and from a bed to a chair (or wheelchair).	2019-10-01 - Variable Added
Form 1	MOBChairTranD	3988	E. Chair/bed-to-chair transfer: The ability to safely transfer to and from a bed to a chair (or wheelchair).	2019-10-01 - Variable Added
Form 1	MOBLyingA	3988	C. Lying to sitting on side of bed: The ability to safely move from lying on the back to sitting on the side of the bed with feet flat on the floor, and with no back support.	2019-10-01 - Variable Added
Form 1	MOBLyingD	3988	C. Lying to sitting on side of bed: The ability to safely move from lying on the back to sitting on the side of the bed with feet flat on the floor, and with no back support.	2019-10-01 - Variable Added
Form 1	MOBPickUpA	3988	P. Picking up object: The ability to bend/stoop from a standing position to pick up a small object, such as a spoon, from the floor.	2019-10-01 - Variable Added
Form 1	MOBPickUpD	3988	P. Picking up object: The ability to bend/stoop from a standing position to pick up a small object, such as a spoon, from the floor.	2019-10-01 - Variable Added
Form 1	MOBRollA	3988	A. Roll left and right: The ability to roll from lying on back to left and right side, and return to lying on back.	2019-10-01 - Variable Added
Form 1	MOBRollD	3988	A. Roll left and right: The ability to roll from lying on back to left and right side, and return to lying on back.	2019-10-01 - Variable Added
Form 1	MOBScooterType1	3990	SS1. Indicate the type of wheelchair/scooter used.	2019-10-01 - Variable Added
Form 1	MOBScooterType2	3990	SS3. Indicate the type of wheelchair/scooter used.	2019-10-01 - Variable Added
Form 1	MOBSitA	3988	B. Sit to lying: The ability to move from sitting on side of bed to lying flat on the bed.	2019-10-01 - Variable Added
Form 1	MOBSitD	3988	B. Sit to lying: The ability to move from sitting on side of bed to lying flat on the bed.	2019-10-01 - Variable Added
Form 1	MOBSitStandA	3988	D. Sit to stand: The ability to safely come to a standing position from sitting in a chair or on the side of the bed.	2019-10-01 - Variable Added
Form 1	MOBSitStandD	3988	D. Sit to stand: The ability to safely come to a standing position from sitting in a chair or on the side of the bed.	2019-10-01 - Variable Added
Form 1	MOBToilettranA	3988	F. Toilet transfer: The ability to safely get on and off a toilet or commode.	2019-10-01 - Variable Added
Form 1	MOBToilettranD	3988	F. Toilet transfer: The ability to safely get on and off a toilet or commode.	2019-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	MOBWCScooterA	3999	Q1. Does the patient use a wheelchair/scooter?	2019-10-01 - Variable Added
Form 1	MOBWCScooterD	3999	Q3. Does the patient use a wheelchair/scooter?	2019-10-01 - Variable Added
Form 1	MOBWCtypeA	3990	RR1. Indicate the type of wheelchair/scooter used.	2019-10-01 - Variable Added
Form 1	MOBWCtypeD	3990	RR3. Indicate the type of wheelchair/scooter used.	2019-10-01 - Variable Added
Form 1	MOBWalk10ftA	3988	I. Walk 10 feet: Once standing, the ability to walk at least 10 feet in a room, corridor or similar space.	2019-10-01 - Variable Added
Form 1	MOBWalk10ftD	3988	I. Walk 10 feet: Once standing, the ability to walk at least 10 feet in a room, corridor or similar space.	2019-10-01 - Variable Added
Form 1	MOBWalk150ftA	3988	K. Walk 150 feet: Once standing, the ability to walk at least 150 feet in a corridor or similar space.	2019-10-01 - Variable Added
Form 1	MOBWalk150ftD	3988	K. Walk 150 feet: Once standing, the ability to walk at least 150 feet in a corridor or similar space.	2019-10-01 - Variable Added
Form 1	MOBWalkUneven10A	3988	L. Walking 10 feet on uneven surfaces: The ability to walk 10 feet on uneven or sloping surfaces, such as grass or gravel.	2019-10-01 - Variable Added
Form 1	MOBWalkUneven10D	3988	L. Walking 10 feet on uneven surfaces: The ability to walk 10 feet on uneven or sloping surfaces, such as grass or gravel.	2019-10-01 - Variable Added
Form 1	MOBWalkturnA	3988	J. Walk 50 feet with two turns: Once standing, the ability to walk at least 50 feet and make two turns.	2019-10-01 - Variable Added
Form 1	MOBWalkturnD	3988	J. Walk 50 feet with two turns: Once standing, the ability to walk at least 50 feet and make two turns.	2019-10-01 - Variable Added
Form 1	MOBWheel150ftA	3988	S. Wheel 150 feet: Once seated in wheelchair/scooter, the ability to wheel at least 150 feet in a corridor or similar space.	2019-10-01 - Variable Added
Form 1	MOBWheel150ftD	3988	S. Wheel 150 feet: Once seated in wheelchair/scooter, the ability to wheel at least 150 feet in a corridor or similar space.	2019-10-01 - Variable Added
Form 1	MOBWheel50ftA	3988	R. Wheel 50 feet with two turns: Once seated in wheelchair/scooter, the ability to wheel at least 50 feet and make two turns.	2019-10-01 - Variable Added
Form 1	MOBWheel50ftD	3988	R. Wheel 50 feet with two turns: Once seated in wheelchair/scooter, the ability to wheel at least 50 feet and make two turns.	2019-10-01 - Variable Added

3.1.2 Codes and Values

ID	Code	Description
3988	1	Dependent (Helper does ALL of the effort. Patient does none of the effort to complete the activity. Or, the assistance of 2 or more helpers is required for the patient to complete the activity)
3988	2	Substantial/maximal assistance (Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort)
3988	3	Partial/moderate assistance (Helper does LESS THAN HALF the effort. Helper lifts, holds or supports trunk or limbs, but provides less than half the effort)
3988	4	Supervision or touching assistance (Helper provides VERBAL CUES or TOUCHING/STEADYING assistance as patient completes activity. Assistance may be provided throughout the activity or intermittently)
3988	5	Setup or clean-up assistance (Helper SETS UP or CLEANS UP; patient completes activity. Helper assists only prior to or following the activity)
3988	6	Independent (Patient completes the activity by him/herself with no assistance from a helper)
3988	66	Variable did not exist
3988	77	Patient refused
3988	81	Not applicable (Not attempted and the patient did not perform this activity prior to the current illness, exacerbation, or injury)
3988	82	Not attempted due to environmental limitations (e.g. Lack of equipment, weather constraints)
3988	83	Not attempted due to medical condition or safety concerns
3988	84	Did not meet criteria for administration (To be used if participant leaves AMA, returns to ICU and does not return to rehab, or is only on rehab 24 hours)
3988	99	Unknown (No information, form not completed)
3990	1	Manual
3990	2	Motorized
3990	88	N/A
3999	0	No
3999	1	Yes

ID	Code	Description
3999	66	Variable did not exist

3.1.3 History

No history found for the Domain.

3.2 SELF CARE

3.2.1 Variables

Form Type	Variable	ID	Question	History
Form 1	SCEatA	3988	A. Eating: The ability to use suitable utensils to bring food to the mouth and swallow food once the meal is presented on a table/tray. Includes modified food consistency	2019-10-01 - Variable Added
Form 1	SCEatD	3988	A. Eating: The ability to use suitable utensils to bring food to the mouth and swallow food once the meal is presented on a table/tray. Includes modified food consistency	2019-10-01 - Variable Added
Form 1	SCFootwearA	3988	H. Putting on/taking off footwear: The ability to put on and take off socks and shoes or other footwear that is appropriate for safe mobility.	2019-10-01 - Variable Added
Form 1	SCFootwearD	3988	H. Putting on/taking off footwear: The ability to put on and take off socks and shoes or other footwear that is appropriate for safe mobility.	2019-10-01 - Variable Added
Form 1	SCLBDressA	3988	G. Lower body dressing: The ability to dress and undress below the waist, including fasteners; does not include footwear.	2019-10-01 - Variable Added
Form 1	SCLBDressD	3988	G. Lower body dressing: The ability to dress and undress below the waist, including fasteners; does not include footwear.	2019-10-01 - Variable Added
Form 1	SCOralHygA	3988	B. Oral hygiene: The ability to use suitable items to clean teeth. [Dentures (if applicable): The ability to remove and replace dentures from and to the mouth, and manage equipment for soaking and rinsing them.]	2019-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	SCOralHygD	3988	B. Oral hygiene: The ability to use suitable items to clean teeth. [Dentures (if applicable): The ability to remove and replace dentures from and to the mouth, and manage equipment for soaking and rinsing them.]	2019-10-01 - Variable Added
Form 1	SCShowerA	3988	E. Shower/bathe self: The ability to bathe self in shower or tub, including washing, rinsing, and drying self. Does not include transferring in/out of tub/shower.	2019-10-01 - Variable Added
Form 1	SCShowerD	3988	E. Shower/bathe self: The ability to bathe self in shower or tub, including washing, rinsing, and drying self. Does not include transferring in/out of tub/shower.	2019-10-01 - Variable Added
Form 1	SCToiletA	3988	C. Toileting hygiene: The ability to maintain perineal hygiene, adjust clothes before and after using the toilet, commode, bedpan or urinal. If managing an ostomy, include wiping the opening but not managing equipment.	2019-10-01 - Variable Added
Form 1	SCToiletD	3988	C. Toileting hygiene: The ability to maintain perineal hygiene, adjust clothes before and after using the toilet, commode, bedpan or urinal. If managing an ostomy, include wiping the opening but not managing equipment.	2019-10-01 - Variable Added
Form 1	SCUBDressA	3988	F. Upper body dressing: The ability to put on and remove shirt or pajama top; includes buttoning, if applicable.	2019-10-01 - Variable Added
Form 1	SCUBDressD	3988	F. Upper body dressing: The ability to put on and remove shirt or pajama top; includes buttoning, if applicable.	2019-10-01 - Variable Added

3.2.2 Codes and Values

ID	Code	Description
3988	1	Dependent (Helper does ALL of the effort. Patient does none of the effort to complete the activity. Or, the assistance of 2 or more helpers is required for the patient to complete the activity)
3988	2	Substantial/maximal assistance (Helper does MORE THAN HALF the effort. Helper lifts or holds trunk or limbs and provides more than half the effort)
3988	3	Partial/moderate assistance (Helper does LESS THAN HALF the effort. Helper lifts, holds or supports trunk or limbs, but provides less than half the effort)

ID	Code	Description
3988	4	Supervision or touching assistance (Helper provides VERBAL CUES or TOUCHING/STEADYING assistance as patient completes activity. Assistance may be provided throughout the activity or intermittently)
3988	5	Setup or clean-up assistance (Helper SETS UP or CLEANS UP; patient completes activity. Helper assists only prior to or following the activity)
3988	6	Independent (Patient completes the activity by him/herself with no assistance from a helper)
3988	66	Variable did not exist
3988	77	Patient refused
3988	81	Not applicable (Not attempted and the patient did not perform this activity prior to the current illness, exacerbation, or injury)
3988	82	Not attempted due to environmental limitations (e.g. Lack of equipment, weather constraints)
3988	83	Not attempted due to medical condition or safety concerns
3988	84	Did not meet criteria for administration (To be used if participant leaves AMA, returns to ICU and does not return to rehab, or is only on rehab 24 hours)
3988	99	Unknown (No information, form not completed)

3.2.3 History

No history found for the Domain.

4 COLLECTION METHODS

4.0.1 Definition

The variables in which interview/questionnaire data were collected from the person with brain injury and/or proxy as well as salient metrics such as completion status and length of the interview.

4.0.2 Form

[X] Form 1
[X] Form 2

4.0.3 Source

Data collector determines the methods used to collect the Pre-Injury History and Follow-Up data.

4.0.4 Details

4.0.4.0.1 Form 1 - Pre-Injury History

- If more than one method was used to collect data, code the method that the most information was collected from.
- If data was collected from more than one person, code the person that the most information was collected from

4.0.4.0.2 Form 2 - Follow-up Interview

- Code the Primary method and Source as the method/source that the most information was collected from.

Every effort should be made to collect data from the participant or an appropriately informed significant other. Data from other sources (indicated by code “4”) should be entered only if:

1. it has not been possible to obtain that information from the person or significant other during the follow-up window,

2. those data were originally collected during the follow-up window, and

3. the data meet TBIMS standards for data collection procedures and data quality standards.

Interviewers should use their best judgment in determining whether a significant other has enough current knowledge of the participant to accurately answer follow-up questions.

Interview Length should be based solely on the time spent with the participant on the phone. Begin timing as soon as the participant answers the phone. End timing when last question has been answered.

If interview is completed over multiple calls, add times for each call together.

Code ‘NA: Funding Not available’ is not shown on data collection form because it is a special purpose code and should not be used in normal data collection/submission.

NOTE: Court ordered rehab is considered a form of incarceration for the purposes of the TBIMS. Do not perform follow-up interview and code as incarcerated.

4.0.5 Characteristics

Cases completed prior to 1/15/2017 with both archived variables ‘Method of Data Collection - Person with TBI’ and ‘Method of Data Collection - Family Member/Significant Other’ completed by either codes 1 - In Person Interview; 2 - Telephone Interview; 3 - Questionnaire Mailing; or 4 - Data Obtained From Secondary Source; will be re-coded as data collected from person with TBI as ‘Primary Method of Data Collection’ and data collected from family/SO as ’Secondary Method of Data Collection.

If data was collected only from either the person with TBI or Family Member/Significant Other prior to 1/15/2017, this was re-coded as ‘Primary Method of Data Collection’.

On 7/1/2024, codes “20 - Other”, and “10 - Medical Records” were added to Primary and Secondary Source. Prior to this date, “Other” was coded as “10” and may have included data obtained through medical records review.

4.0.6 Variables

Form Type	Variable	ID	Question	History
Form 1	DataFrom	431	Who answered these questions?	2017-01-15 - Variable Added
Form 1	DataMethod	432	Data collection method:	2017-01-15 - Variable Added
Form 2	CollectionFormatF	608	Format used for data collection:	2017-01-15 - Variable Added
Form 2	CollectionLanguageF	609	Language interview was conducted in:	2017-01-15 - Variable Added
Form 2	CollectionMethodPrimaryF	610	Primary method of data collection:	2017-01-15 - Variable Added
Form 2	CollectionMethodSecondaryF	611	Secondary method of data collection:	2017-01-15 - Variable Added
Form 2	CollectionSourcePrimaryF	612	Primary source of data collection:	2017-01-15 - Variable Added
Form 2	CollectionSourceSecondaryF	613	Secondary source of data collection:	2017-01-15 - Variable Added
Form 2	CollectiontranslationserviceF	614	If Spanish or other language, was a translation service used:	2017-01-15 - Variable Added
Form 2	IntStatus	718	Interview status:	1989-10-01 - Variable Added
Form 2	LengthInterviewF	720	How long did this interview take:	2017-01-15 - Variable Added
Form 2	LostDeathSrchF	4030	Death Search:	2017-01-15 - Variable Added
Form 2	LostDirAsstF	4030	Directory Assistance:	2017-01-15 - Variable ADDED
Form 2	LostHospRecF	4030	Hospital Records:	2017-01-15 - Variable ADDED
Form 2	LostHospStaffF	4030	Hospital Staff:	2017-01-15 - Variable ADDED
Form 2	LostInmateSrchF	4030	Inmate Search:	2017-01-15 - Variable ADDED
Form 2	LostIntSitesF	4030	Internet Sites:	2017-01-15 - Variable ADDED 2017-01-15 - Variable ADDED
Form 2	LostLocSrvF	4030	Location Serivces:	2017-01-15 - Variable ADDED
Form 2	LostNoteF		Note:	2017-01-15 - Variable ADDED
Form 2	LostPhoneF	4030	Phone Contact:	2017-01-15 - Variable ADDED
Form 2	LostPostalF	4030	Postal:	2017-01-15 - Variable ADDED
Form 2	LostReasonF	724	If lost, why?	2017-01-15 - Variable Added
Form 2	ReasonNoDataInd	750	Reason person with TBI not providing data:	2017-01-15 - Variable Added

4.0.7 Codes and Values

ID	Code	Description
431	0	Participant
431	1	Spouse
431	2	Parent(s)
431	3	Sibling
431	4	Adult Child
431	5	Boyfriend, girlfriend, fiance
431	7	Other relative
431	8	Friend
431	9	Professional Caregiver
431	88	NA
431	99	Unknown
432	1	Interview
432	2	Questionnaire
432	3	Spanish Questionnaire
432	4	Professional Translator: Spanish
432	5	Professional Translator: Other language
432	6	Other translator: Spanish
432	7	Other translator: Other language
432	10	Other
432	888	NA
432	999	Unknown
608	1	Online Interview
608	2	Paper Interview
609	1	English
609	2	Spanish
609	3	Other

ID	Code	Description
610	1	In Person Interview
610	2	Telephone Interview
610	3	Questionnaire Mailing
610	4	Data Obtained from Second Source
610	81	NA: Funding Not available
610	82	Not Applicable
610	99	Unknown
611	1	In Person Interview
611	2	Telephone Interview
611	3	Questionnaire Mailing
611	4	Data Obtained from Second Source
611	81	NA: Funding Not available
611	82	NA: No Secondary Method of Data Collection
611	99	Unknown
612	0	Participant
612	1	Spouse
612	2	Parent(s)
612	3	Sibling
612	4	Adult Child
612	5	Boyfriend, girlfriend, fiancé
612	7	Other relative
612	8	Friend
612	9	Professional Caregiver
612	10	Medical Record
612	20	Other
612	888	NA
612	999	Unknown

ID	Code	Description
613	0	Participant
613	1	Spouse
613	2	Parent(s)
613	3	Sibling
613	4	Adult Child
613	5	Boyfriend, girlfriend, fiancé
613	7	Other relative
613	8	Friend
613	9	Professional Caregiver
613	10	Medical Record
613	20	Other
613	888	NA: No Secondary Data Source
613	999	Unknown
614	0	No
614	1	Yes
614	88	NA - Interview conducted in English
718	1	Followed
718	2	Lost
718	3	Refused
718	4	Incarcerated
718	5	Withdrew
718	6	Expired
718	7	No Funding
718	87	Future FollowUpPeriod
720	8881	NA- Data Collected Online
720	8882	NA- Data Collected by Mail-Out
720	9999	Unknown

ID	Code	Description
724	1	No Known Valid Contact Information
724	2	Valid Contact Information, No Response To Contact (Passive Refusal)
724	3	Valid Contact Information, Participant Not Physically or Cognitively Available, No Valid SO
724	4	Language Barrier
724	5	Out of Country
724	81	Not Applicable
724	82	Not Applicable, Expired
724	83	Not Applicable (Funding Not Available)
724	88	Not Applicable (Data Was Provided)
724	99	Unknown
750	3	Physically Or Cognitively Unable
750	4	Not Available
750	5	Stated Refusal
750	6	No Response To Contact
750	8	Language Barrier
750	9	Expired
750	81	Not Applicable (Funding Not Available)
750	82	Not Applicable (Data Was Provided)
750	99	Unknown
4030	0	No
4030	1	Yes

4.0.8 History

Date	Description
2006-02-13	Added NOTE : regarding the use of code ’4 - Data Obtained from Secondary Source’.
2012-06-07	Added CODE: ’7’ No Funding.

Date	Description
2017-01-15	Added VARIABLE: LostReason
2017-01-15	Added VARIABLES: CollectionFormat, CollectionLanguage, CollectionMethodPrimary, CollectionMethodSecondary, CollectionSourcePrimary, CollectionSourceSecondary, CollectionTranslationService, LengthInterview.
2022-07-01	Added NOTES : Interview Length should be based solely on the time spent with the participant on the phone. Begin timing as soon as the participant answers the phone. End timing when last question has been answered. If interview is completed over multiple calls, add times for each call together.
2024-07-01	Added Characteristics: On 7/1/2024, codes ”20 - Other”, and “10 - Medical Records” were added to Primary and Secondary Source. Prior to this date, “Other” was coded as “10” and may have included data obtained through medical records review.

5 CRANIAL COMPLICATIONS

c(“ “,” “)

5.1 ICP - INTRACRANIAL HYPERTENSION

5.1.1 Definition

Intracranial pressure that is equal to or greater than 20 millimeters of mercury

5.1.2 Form

[X] Form 1
[ ] Form 2

5.1.3 Source

Abstraction (acute record)

5.1.4 Details

Patient must have an ICP monitor in order to code this variable other than ‘88. Not Monitored’ or ‘99. Unknown.’

If intracranial pressure is measured in cmH2O, use the following conversion formula: *1 mmHg = 13.6 cmH2O*

ICP monitors are sometimes referred to by brand name in medical records. Examples of different brands of ICP monitors include Ventric, and Codman.

A **single spike** of 20mm/Hg or greater during a surgical procedure should not be counted as a ‘Yes’ for this variable.

Values labeled CPP (cerebral perfusion pressure) are sometimes listed under ICP monitoring and should **NOT** be used. CPP monitoring is also measured in mmHg, and should not be confused with the recorded ICP values.

5.1.5 Variables

Form Type	Variable	ID	Question	History
Form 1	CC_Hypertension	417	Intracranial hypertension:	1989-10-01 - Variable Added

5.1.6 Codes and Values

ID	Code	Description
417	1	Monitored, no ICP >=20 mm/HG
417	2	ICP Fluctuations Are Evident Where Peaks Of >=20 mm/Hg Occur Within One 24 Hour Span
417	3	ICP Fluctuations Are Evident Where Peaks Of >=20mm/Hg Occur Over More Than A 24 Hour Span
417	4	ICP Evident Where ICP >=20mm/Hg Is Sustained For Greater Than A 24 Hour Period
417	88	Not Monitored
417	99	Unknown

5.1.7 History

Date	Description
1994-02-01	Changed CODE : code 2 means less than or equal to 24 hours duration.
1999-07-01	Changed CODE : to clarify coding of fluctuating ICP.
1999-07-01	Added NOTE : regarding conversion from cmH2O to mmHg.
2010-07-01	Added NOTE : regarding brands of ICP monitors that may be referred to in medical records.
2014-10-01	Added NOTE : A single spike of 20mm/Hg or greater during a surgical procedure should not be counted as a 'Yes' for this variable.

Date	Description
2016-04-01	Changed CODE : revised Codes 2,3 and 4 to better clarify when fluctuations occur and when peaks happen
2017-10-17	Added NOTE : values labeled CPP (cerebral perfusion pressure) are sometimes listed under ICP monitoring and should NOT be used. CPP monitoring is also measured in mmHg, and should not be confused with the recorded ICP values.

5.2 SEIZURES

5.3 SEIZURES FOLLOW-UP

5.3.1 Definition

Self-Reported Seizures

- How many seizures have you had in the past year? (Since your discharge)

5.3.2 Form

[ ] Form 1
[X] Form 2

5.3.3 Source

Interview, Mail-Out (participant or proxy)

5.3.4 Details

Include only seizures since discharge from rehabilitation.

5.3.5 Variables

Form Type	Variable	ID	Question	History
Form 2	PastYearSeizF	730	How many seizures have you had in the past year (or since your discharge)?	2017-10-01 - Variable Added

5.3.6 Codes and Values

ID	Code	Description
730	1	up to three seizures
730	2	4-12 seizures
730	3	at least one seizure monthly
730	4	at least one seizure weekly
730	5	at least one seizure daily
730	66	Variable did not exist
730	88	Not applicable: No seizures
730	99	Unknown

5.3.7 History

Date	Description
2017-10-01	Variable added to database

5.4 SEIZURES POST INJURY

5.4.1 Definition

Seizures present post-injury, and if so, when they occurred. May include seizures at more than one time point.

5.4.2 Form

[X] Form 1
[ ] Form 2

5.4.3 Source

Abstraction (acute and rehabilitation record)

5.4.4 Details

To be collected from the acute and rehabilitation record.

Data sources include EMS, ED, Progress, DC notes, and EEG reports.

If seizure occurs exactly 24 hours post injury, code “Seizures between 24 hours and 7 days after injury” as “Yes”.

If individual had premorbid seizures and drug treatment but no seizures during this hospitalization, code as “absent”.

Seizure can be witnessed by anyone, but must be suspected as a seizure by medical staff notation in the medical chart as seizure, likely/probable seizure, seizure like activity or EEG report.

Key Search Words - epilepsy, seizure, seizure disorder, post-ictal activity, status epilepticus, epileptiform discharges/properties, repetitive rhythmic jerking

5.4.5 Variables

Form Type	Variable	ID	Question	History
Form 1	HospSeiz	512	Evidence of seizure post-injury:	2017-10-01 - Variable Added 2018-07-01 - Changed VARIABLE : from ’Seizu Hospitalization; to ;Seizure Post Injury’ 2019-01-15 - Changed VARIABLE : back to ’Sei Hospitalization; from ’Seizure Post Injury’
Form 1	Seiz24	553	Seizures during first 24 hours after injury:	2017-10-01 - Variable Added
Form 1	Seiz24to7	553	Seizures between 24 hours and 7 days after injury:	2017-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	Seiz7Plus	553	Seizure more than 7 days after injury:	2017-10-01 - Variable Added

5.4.6 Codes and Values

ID	Code	Description
512	0	No
512	1	Yes
512	66	Variable Did Not Exist
512	99	Unknown
553	0	No
553	1	Yes
553	66	Variable Did Not Exist
553	88	Not Applicable
553	99	Unknown

5.4.7 History

Date	Description
2017-10-01	Variable added to database
2018-07-01	Changed variable from 'Seizure During Hospitalization' to 'Seizure Post-Injury'
2019-01-15	Changed variable back to 'Seizure During Hospitalization' from 'Seizure Post-Injury'

5.5 SEIZURES PRE INJURY

5.5.1 Definition

Seizures present prior to injury

5.5.2 Form

[X] Form 1
[ ] Form 2

5.5.3 Source

Pre-Injury History (participant or proxy)

5.5.4 Variables

Form Type	Variable	ID	Question	History
Form 1	PriorSeiz	535	Prior to this injury, has a physician ever told you that you have a seizure disorder?	2017-10-01 - Variable Added

5.5.5 Codes and Values

ID	Code	Description
535	0	No
535	1	Yes
535	66	Variable Did Not Exist
535	77	Refused
535	99	Unknown

5.5.6 History

No history found for the Domain.

6 CRANIAL SURGERY

6.1 CRANIOTOMY

6.1.1 Definition

Craniotomy and/or craniectomy performed (separate procedures).
- Craniotomy means “cranium opened, something removed, cranium closed.”
- Craniectomy means “cranium opened and left open.”

6.1.2 Form

[X] Form 1
[ ] Form 2

6.1.3 Source

Abstraction (acute record)

6.1.4 Details

Craniectomy is coded yes when bone flap is removed and not replaced during initial surgery.

The guidelines below should be followed when considering burr holes:

When a burr hole is drilled, the patient is left with a 1 cm diameter hole. Removing a small disc of bone is not equivalent to removing the cranium or any part of the cranium. A burr hole to put in an ICP monitor is neither a craniotomy nor craniectomy, simply placement of a monitor.

Situations where a chronic subdural is drained or washed out through a burr hole should be counted as a craniotomy. It is the removal of the chronic subdural that is the key part, because the goal is to remove something (the liquefied old blood).

An EVD (External Ventricular Drain) should not be counted as a craniotomy.

6.1.5 Variables

Form Type	Variable	ID	Question	History
Form 1	Craniotomy	421	Craniotomy/Craniectomy:	2003-01-01 - Variable Added

6.1.6 Codes and Values

ID	Code	Description
421	1	Neither Craniotomy Nor Craniectomy
421	2	Craniotomy
421	3	Craniectomy
421	4	Both: Separate Procedures
421	66	Variable Did Not Exist
421	99	Unknown

6.1.7 History

Date	Description
2004-04-01	Added DEFINITION : that burrhole washout is coded as craniotomy.
2007-01-01	Added NOTE : that when bone flap is removed and not replaced during initial surgery code Craniectomy as yes
2011-04-01	Added DEFINITION : craniotomy means ”cranium opened, something removed, cranium closed.” Craniectomy means ”cranium opened and left open.”
2015-01-01	Added NOTE : to not count an EVD (External Ventricular Drain) as a craniotomy.

7 DEATH

7.1 DEATH - CALCULATED

7.1.1 Definition

The year portion of the date of death. E.g., “2005” if the date of death is 2/14/2005.

7.1.2 Variables

Form Type	Variable	ID	Question	History
Form 1	DEATHYEAR		Year of death	
Form 2	DAYStoDEATHF	3650	Days from Birth to Death	2013-04-24 - Variable Added

7.1.3 Codes and Values

ID	Code	Description
3650	999999	Unknown

7.1.4 History

No history found for the Domain.

7.2 DEATH CAUSE

7.2.1 Definition

Causes of Death - ICD CODES TO BE ASSIGNED BY NDSC STAFF ONLY

The first coded cause of death on the death certificate is the primary cause. Thereafter the secondary cause and/or external cause of death are coded if applicable. For more information, see: External Links

‘88888 - Not Applicable’ is used when person is alive or no other internal cause of death indicated, or death due to external causes .

7.2.2 Form

[X] Form 1
[X] Form 2

7.2.3 Source

Death Certificate - **TO BE CODED BY NDSC STAFF ONLY**

7.2.4 Details

Every attempt should be made by TBIMS center to obtain the death certificate. The death certificate is used by the NDSC (National Data and Statistical Center) as the primary source to code cause of death. If the death certificate cannot be obtained (e.g., the state health department of residence does not have a certificate on file for that person), the next best source should be used (e.g., listing of cause of death in hospital record where person died, family member report, etc.)

Submit Form I data to the NDSC on patients which expire any time after inpatient rehabilitation has begun and prior to definitive discharge from inpatient rehabilitation; even if the patient was transferred back to acute care from rehabilitation prior to expiring.

If expired, only the variables indicated on page 3 of SOP 105b (Guidelines for Collection of Follow-up Data) are to be completed.

If follow-up was started but not completed prior to the participant expiring, enter the partial data that was collected on the participant and then record the individual as expired for the next follow-up period.

If the causes of death are already coded on the death certificate, these codes are NOT to be used because they may not be accurate.

NDSC USE ONLY:
ICD Diagnosis Codes: For a list of ICD codes, see External Links - Online ICD Coding Manual

External cause of Injury ICD Codes: For an abbreviated list of Cause of Injury ICD codes, see External Links - ICD-9-CM E-Code Categories, ICD-10-CM List of External Cause of Morbidity Codes. See also, External Links - List of E-Codes.

Refer to SOP 206: 'Procedure for Obtaining and Coding Cause of Death in the TBIMS National Database Guidelines for Coding Primary Cause of Death'.

7.2.5 Links

Guidelines for Coding Primary Cause of Death
ICD-9-CM E-Code Categories
ICD-10-CM List of External Cause of Morbidity Codes
Online ICD-9 Coding Manual
Procedures for Obtaining And Coding Cause of Death

7.2.6 Reference

UAB

ICD-9-CM 2001: International Classification of Diseases 9th Revision Clinical Modification, AMA Press. Volume 1, 2000, 251-279. ISBN: 1579471501.

7.2.7 Characteristics

ICD-9 code "079.82 - SARS-associated coronavirus" is assigned if primary cause of death on death certificate is listed as COVID-19.

ICD-9 code "480.3 - Pneumonia due to SARS-associated coronavirus" is assigned if COVID associated pneumonia is listed as a secondary cause or other "contributing condition" to cause of death.

7.2.8 Variables

Form Type	Variable	ID	Question	History
Form 1	DeathCause1	438	Primary cause of death ICD diagnosis code:	1989-10-01 - Variable Added
Form 1	DeathCause2	438	Secondary cause of death ICD diagnosis code:	1989-10-01 - Variable Added
Form 1	DeathECode	438	External cause of death ICD code:	1989-10-01 - Variable Added
Form 2	DeathCause1F	618	Cause of death ICD diagnosis code: primary:	1989-10-01 - Variable Added
Form 2	DeathCause2F	618	Cause of death ICD diagnosis code: secondary:	1989-10-01 - Variable Added
Form 2	DeathECodeF	618	External cause of death ICD code:	1989-10-01 - Variable Added

7.2.9 Codes and Values

ID	Code	Description
438	44444	Person Expired But Cause Unknown
438	88888	Not Applicable (Person alive or no other internal cause of death indicated, or death due to external causes)
438	99999	Unknown if Person Expired
618	44444	Expired: Cause unknown
618	88888	Not Applicable: Person alive or death not due to external causes
618	99999	Unknown if person Expired

7.2.10 History

Date	Description
1994-02-01	Added NOTE : clarifying the submission of patients which expire during inpatient rehabilitation.
1995-01-01	Changed CODE : description for 999.99 and 999.9 were updated.
1995-01-01	Added CODE : ”777.77” and ”777.7”
2002-04-01	Added NOTE : about instructions for E-codes.
2004-04-01	Added LINK : comprehensive list of E-Codes.

Date	Description
2004-07-01	Changed CODE : corrected the labels for 888.88 (ICD-9) and 888.8 (E-code). For 888.88, ”NA-Person alive, or no other cause of death indicated” has been changed to ”NA-Person alive, or no other internal cause of death indicated, or death due to external causes”. For 888.8, ”NA-Person alive, or no other cause of death indicated” has been changed to ”NA-Person alive, or death not due to external causes”.
2004-07-01	Changed CODE : added ”777.7(7)=Person expired but cause of death unknown”. Corrected the labels for 888.88 (ICD-9) and 888.8 (E-code). For 888.88, ”NA-Person alive, or no other cause of death indicated” has been changed to ”NA-Person alive, or no other internal cause of death indicated, or death due to external causes”. For 888.8, ”NA-Person alive, or no other cause of death indicated” has been changed to ”NA-Person alive, or death not due to external causes”.
2006-01-01	Added NOTE : to not use codes on death certificate.
2006-04-01	Changed NOTE : added ”ICD-9 codes that are preceded by ”E” or ”V” are entered into DeathECode, never into DeathCause1 or 2”.
2006-04-01	Changed CODE : ”NA” code for E-codes from 888.8 to 88888.
2006-04-01	Changed CODE : ”Expired cause unk” code for E-code from 777.7 to 77777.
2006-04-01	Changed CODE : ”Unk if expired” code for E-code from 999.9 to 99999.
2008-10-01	Changed CODE : primary and secondary cause of death; Cause Unknown = 77777, Not Applicable = 88888, Unknown = 99999.
2009-04-01	Changed NOTES : emphasis placed upon obtaining death certificates.
2009-10-01	Added NOTE : If expired, complete only the variables listed on p3 of SOP 105b.
2010-10-01	Added LINK: Online ICD-9 Coding Manual.
2011-04-01	Added NOTE : Upon analysis if a person has an E-Code, it will be treated as the primary cause of death. Updated EXTERNAL LINK : Guidelines for Coding Primary Cause of Death (Removed verbiage under item F stating that if an E-Code is present, it should be listed first).
2018-01-15	Changed NOTE : from ”If follow-up was started but not completed prior to the participant expiring, complete the Form II appropriately for an expired participant.” to ”If follow-up was started but not completed prior to the participant expiring, enter the partial data that was collected on the participant and then record the individual as expired for the next follow-up period.”
2021-04-01	ICD-9 code ”079.82 - SARS-associated coronavirus” is assigned if primary cause of death on death certificate is listed as COVID-19. Added CCHARACTERISTICS : ICD-9 code ”480.3 - Pneumonia due to SARS-associated coronavirus” is assigned if COVID associated pneumonia is listed as a secondary cause or other ”contributing condition” to cause of death.

7.3 DEATH CERTIFICATE

7.3.1 Definition

Deathcertstat - Status of collection of death certificates
Deathstate - State in which the death occurred
DeathcertstatF - Status of collection of death certificates
DeathstateF - State in which the death occurred

7.3.2 Variables

Form Type	Variable	ID	Question	History
Form 1	Deathcertstat	9867	Status of collection of death certificate	2025-07-01 - Variable ADDED
Form 1	Deathstate	19563	State in which the death occurred	2025-07-01 - Variable ADDED
Form 2	DeathcertstatF	19561	Status of collection of death certificate	2025-07-01 - Variable ADDED
Form 2	DeathstateF	774	State in which the death occurred	2025-07-01 - Variable ADDED

7.3.3 Codes and Values

ID	Code	Description
774	AK	Alaska
774	AL	Alabama
774	AR	Arkansas
774	AZ	Arizona
774	CA	California
774	CO	Colorado
774	CT	Connecticut
774	DC	District of Columbia
774	DE	Delaware
774	FL	Florida

ID	Code	Description
774	GA	Georgia
774	HI	Hawaii
774	IA	Iowa
774	ID	Idaho
774	IL	Illinois
774	IN	Indiana
774	KS	Kansas
774	KY	Kentucky
774	LA	Louisiana
774	MA	Massachusetts
774	MD	Maryland
774	ME	Maine
774	MI	Michigan
774	MN	Minnesota
774	MO	Missouri
774	MS	Mississippi
774	MT	Montana
774	NC	North Carolina
774	ND	North Dakota
774	NE	Nebraska
774	NH	New Hampshire
774	NJ	New Jersey
774	NM	New Mexico
774	NV	Nevada
774	NY	New York
774	OH	Ohio
774	OK	Oklahoma

ID	Code	Description
774	OR	Oregon
774	PA	Pennsylvania
774	RI	Rhode Island
774	SC	South Carolina
774	SD	South Dakota
774	TN	Tennessee
774	TX	Texas
774	UT	Utah
774	VA	Virginia
774	VT	Vermont
774	WA	Washington
774	WI	Wisconsin
774	WV	West Virginia
774	WY	Wyoming
774	666	Variable Did Not Exist
774	888	Not Applicable
774	999	Unknown
9867	1	Received
9867	2	Pending
9867	3	Unable to obtain
9867	66	Variable Did Not Exist
9867	88	Not Applicable
19561	1	Received
19561	2	Pending
19561	3	Unable to Obtain
19561	66	Variable Did Not Exist
19561	88	Not Applicable

ID	Code	Description
19563	AK	Alaska
19563	AL	Alabama
19563	AR	Arkansas
19563	AZ	Arizona
19563	CA	California
19563	CO	Colorado
19563	CT	Connecticut
19563	DC	District of Columbia
19563	DE	Delaware
19563	FL	Florida
19563	GA	Georgia
19563	HI	Hawaii
19563	IA	Iowa
19563	ID	Idaho
19563	IL	Illinois
19563	IN	Indiana
19563	KS	Kansas
19563	KY	Kentucky
19563	LA	Louisiana
19563	MA	Massachusetts
19563	MD	Maryland
19563	ME	Maine
19563	MI	Michigan
19563	MN	Minnesota
19563	MO	Missouri
19563	MS	Mississippi
19563	MT	Montana

ID	Code	Description
19563	NC	North Carolina
19563	ND	North Dakota
19563	NE	Nebraska
19563	NH	New Hampshire
19563	NJ	New Jersey
19563	NM	New Mexico
19563	NV	Nevada
19563	NY	New York
19563	OH	Ohio
19563	OK	Oklahoma
19563	OR	Oregon
19563	PA	Pennsylvania
19563	RI	Rhode Island
19563	SC	South Carolina
19563	SD	South Dakota
19563	TN	Tennessee
19563	TX	Texas
19563	UT	Utah
19563	VA	Virginia
19563	VT	Vermont
19563	WA	Washington
19563	WI	Wisconsin
19563	WV	West Virginia
19563	WY	Wyoming
19563	666	Variable Did Not Exist
19563	888	Not Applicable
19563	999	Unknown

7.3.4 History

No history found for the Domain.

7.4 DEATH DATE

7.4.1 Definition

Date of Death collected by abstraction or found on death certificate

7.4.2 Form

[X] Form 1
[X] Form 2

7.4.3 Source

Form 1 - Abstraction (acute or rehab record)
Form 2 - Death Certificate, Proxy, Obituary, Medical Record

7.4.4 Details

Date of Death may be obtained from family if a death certificate is not available.

7.4.5 Variables

Form Type	Variable	ID	Question	History
Form 1	Death	437	Date of death:	1989-10-01 - Variable Added
Form 2	DeathF	619	Date of death:	1989-10-01 - Variable Added

7.4.6 Codes and Values

ID	Code	Description
437	08/08/8888	Not Applicable
437	09/09/9999	Unknown
619	04/04/4444	Expired: Date unknown
619	08/08/8888	Not Applicable: Person Alive
619	09/09/9999	Unknown

7.4.7 History

Date	Description
1995-01-01	Added CODE : date of death code 07/07/7777 = person expired but unknown date.

8 DEMOGRAPHICS

8.1 ADDRESS

8.1.1 Definition

PURPOSE: To allow an estimate of the extent and type of health care services available in the participant's vicinity to evaluate how community impacts outcomes.

Geographic identifiers of address and years at address, including the following variables:

1. Authorization received for collection of street address
2. Street address 1
3. City
4. State

The National Data and Statistical Center will obtain Geo-ID codes on a quarterly basis utilizing addresses provided.

Zip Code of location where person with brain injury is living: - at the time just prior to index TBI (ZipInj) - at discharge from Rehabilitation (ZipDis) - at time of follow-up evaluation (ZipF)

Calculated variable converting various intervals to a standardized format is available.

8.1.2 Form

[X] Form 1
[X] Form 2

8.1.3 Source

Form 1 ZipInj - Pre-Injury History (participant or proxy) **Form 1 ZipDis** - Abstraction (rehab record) **Form 2 ZipF** - Interview, Mail-out (participant or proxy) **Form 2 AddressConsentF**, **CityF**, **StateF**, and **Street1F** - Interview, Mail-out (participant or proxy)

8.1.4 Details

AddressConsentF - Participants should be given the option of opting out of this component of data collection

- Leave address fields blank if not applicable or unknown.

If participant is living in a boat, RV or other living situation where they “take their home with them”, record the address they use as their permanent address.

If participant is living in a boat, RV or other living situation where they “take their home with them” and travel frequently (vs. boat being ‘permanently’ docked, or RV being stationary) then skip the GEO-ID question and code zip code as ‘88888- Not Applicable’, as this item is used to look at services available in participant’s area.

ZipDis- Record zip code of first place the person goes after discharge, regardless of how long he/she resided there.

If the person has no residence, record the zip code of the area in which he/she is most likely to be (for example, the homeless shelter they use).

8.1.5 Variables

Form Type	Variable	ID	Question	History
Form 1	ZipDis	568	Zip code after rehab discharge:	2001-01-01 - Variable Added
Form 1	ZipInj	569	What was the zip code at the place where you were living before the injury?	2001-01-01 - Variable Added
Form 2	AddressConsentF	570	Authorization received for collection of street address:	2010-04-01 - Variable Added
Form 2	CityF		City:	2010-04-01 - Variable Added
Form 2	StateF	774	State:	2010-04-01 - Variable Added
Form 2	Street1F		Street address:	2010-04-01 - Variable Added
Form 2	ZipF	794	What is your zip code:	2001-01-01 - Variable Added

8.1.6 Codes and Values

ID	Code	Description
568	66666	Variable Did Not Exist (Cases admitted to System before 1/1/01)
568	88888	Not Applicable: Expired in Rehab; Outside US
568	99999	Unknown
569	66666	Variable Did Not Exist (Cases admitted to System before 1/1/01)
569	88888	Not Applicable: Expired in Rehab; Outside US
569	99999	Unknown
570	0	No
570	1	Yes
570	66	Variable Did Not Exist
774	AK	Alaska
774	AL	Alabama
774	AR	Arkansas
774	AZ	Arizona
774	CA	California
774	CO	Colorado
774	CT	Connecticut
774	DC	District of Columbia
774	DE	Delaware
774	FL	Florida
774	GA	Georgia
774	HI	Hawaii
774	IA	Iowa
774	ID	Idaho
774	IL	Illinois
774	IN	Indiana
774	KS	Kansas
774	KY	Kentucky

ID	Code	Description
774	LA	Louisiana
774	MA	Massachusetts
774	MD	Maryland
774	ME	Maine
774	MI	Michigan
774	MN	Minnesota
774	MO	Missouri
774	MS	Mississippi
774	MT	Montana
774	NC	North Carolina
774	ND	North Dakota
774	NE	Nebraska
774	NH	New Hampshire
774	NJ	New Jersey
774	NM	New Mexico
774	NV	Nevada
774	NY	New York
774	OH	Ohio
774	OK	Oklahoma
774	OR	Oregon
774	PA	Pennsylvania
774	RI	Rhode Island
774	SC	South Carolina
774	SD	South Dakota
774	TN	Tennessee
774	TX	Texas
774	UT	Utah

ID	Code	Description
774	VA	Virginia
774	VT	Vermont
774	WA	Washington
774	WI	Wisconsin
774	WV	West Virginia
774	WY	Wyoming
774	666	Variable Did Not Exist
774	888	Not Applicable
774	999	Unknown
794	66666	Variable Did Not Exist (Follow-up evaluation before 7/1/01)
794	88888	Not Applicable: Person lives outside of the US
794	99999	Unknown

8.1.7 History

Date	Description
2001-01-01	Zip Code added as part of Residence.
2001-07-01	Zip Code becomes a separate variable.
2001-08-20	Added NOTE : purpose added.
2001-08-20	Added NOTE : about estimating zip code if homeless.
2001-08-20	Added NOTE : about first place resides after discharge.
2002-01-01	Added CODE to Form 2 : ”0=Variable did not exist”.
2002-07-01	Changed CODE : Missing data codes are now 5 characters rather than 1
2002-07-01	Changed CODE : Added patient lived outside US to code “Not Applicable”.
2011-01-25	Added NOTE : how to code zip if participant is homeless at follow-up.
2011-11-08	Added NOTE : to not include time spent in prison towards length of time at address.

Date	Description
2012-01-12	Added NOTE : as a general rule, if a person is living in a sub-acute facility or nursing home and then returns to home, if a person is there for less than 6 months, then use their home address. If more than 6 months, use the program/facility address. Added NOTE: If participant is living in a boat, RV or other living situation where they ”take their home with them”, record the address they use as their permanent address.
2022-07-01	If participant is living in a boat, RV or other living situation where they ”take their home with them” and travel frequently (vs. boat being ‘permanently’ docked, or RV being stationary) then skip the GEO-ID question and code zip code as ’88888- Not Applicable’, as this item is used to look at services available in participant’s area.

8.2 BIRTHDATE

8.2.1 Definition

Date of birth of the patient. Only patients 16 years old or older at the time of injury are to be entered into the database.

8.2.2 Form

[X] Form 1
[ ] Form 2

8.2.3 Source

Pre-Injury History (participant or proxy)

8.2.4 Details

If exact date of birth is unknown, then estimate. If month is known but day cannot be estimated, enter the mid-point of the month.

8.2.5 Variables

Form Type	Variable	ID	Question	History
Form 1	Birth	408	What is your date of birth?	1989-10-01 - Variable Added

8.2.6 Codes and Values

ID	Code	Description
408	09/09/9999	Unknown

8.2.7 History

Date	Description
1999-04-02	Changed CODES : revised unknown codes to be compatible with new software.
2003-04-01	Removed CODE : ”08/08/8888=N/A”
2006-01-01	Added NOTE : to estimate day of birth, if unknown.

8.3 CULTURAL

8.3.1 Definition

Primary Language spoken in the participant’s home
To code this variable, participants will be asked;
“Before the injury, what was the primary language spoken in your home?” (Form 1)
“What is the primary language spoken in your home?” (Form 2)

Languages other than English or Spanish will be recorded in a secondary text field.

Country of birth; To code this variable, participants will be asked “What is your country of birth?” Countries other than the United States will be recorded in a secondary text field.

Years in US; The number of years that a participant has lived in the United States (if they were not born in the US). To code this variable, participants who report a country of birth other than the United States will be asked “How many years have you been in the United States?”

8.3.2 Form

[X] Form 1
[X] Form 2

8.3.3 Source

Form I - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-Out (participant or proxy)

8.3.4 Details

For participants enrolled prior to addition of this variable, ask the question at the time of the next Form 2 follow-up.

8.3.4.0.1 Primary Language

If 2 or more languages are spoken in the home, try to get the participant to choose which language they consider to be the primary language.

8.3.4.0.2 Country of Birth

Country of Birth for participants enrolled prior to addition of this variable; ask the question at the time of the next Form 2 follow-up.

If born in Puerto Rico count as born in the US.

8.3.4.0.3 Years in US

This question should only be asked of participants whose country of birth is other than the United States. Therefore, it should be asked after the question on country of birth.

Begin by asking the number of years participants have been in the United States. If less than 1 year, then ask number of months. Code 6 months or greater as 1 year. Code less than 6 months as 0 years.

If participants have lived in the United States intermittently, with periods separated by time spent in another country, record the total number of years spent in the United States. Example - Participant has spent 3-4 months of every year in the US for the last 30 years. To determine the total number of years spent in the US, multiply the 30 years by 3.5 months (mid-point of a

"3 - 4" month range). That gives us a total of 105 months in the US. Divide that by 12 months for a total of 8.75 years, and then round up for a total of 9 years spent in the US.

8.3.5 Characteristics

Recommendations for using data collected at Form 2 include two options:

1. Only use a given response at the time it was collected when analyzing data from that year. This would limit sample size but would be the most accurate use of the variable reflecting the participant's self-report of length of time in the U.S. at that moment.

2. Use the variable to derive a value representing a common time point across all individuals who immigrated to the U.S. Any calculated variables derived from this would have to be understood as an estimate and reported as such in publications. For example:

    a. Estimated Age of Entry Into the U.S.
        i. Subtracting current age at the time of the response from the reported length of time in the U.S. would be an estimate of age of entry into the U.S. with the understanding that this represents an upper estimate.
        ii. True age of entry may be younger for individuals who have lived for one or more years outside of the U.S. after their initial immigration.

    b. Estimated Years in the U.S. at the Time of Injury.
        i. For those who were asked this question at a follow-up time point, subtracting the years since injury at the time this was asked from the response provided would estimate time in the U.S. at the time of injury.
        ii. This can result in a negative number as in this example:

Someone from abroad visiting U.S. relatives has a TBI. After rehabilitation, they return to their home country. They then immigrate to live in the U.S. for 3 years. At their year 5 follow-up, they state they have been living in the U.S. for 3 years. Subtracting 5 from this value results in -2 years in the U.S. at the time of injury.

In this case, the value can be counted as 0 years in the U.S. at the time of injury.

8.3.6 Variables

Form Type	Variable	ID	Question	History
Form 1	CountryBirthF	420	What is your country of birth?	2012-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	CountryBirthOthF		Country of birth (if not born in the US):	2012-10-01 - Variable Added
Form 1	LngSpkHmF	519	What is the primary language spoken in your home?	2012-10-01 - Variable Added
Form 1	LngSpkHmOthF		Language spoken (if not English or Spanish):	2012-10-01 - Variable Added
Form 1	YearsinUSF	566	How many years have you been in the United States (if not born in the US)?	2012-10-01 - Variable Added
Form 1	YearsinUSFUPF	567	Followup period when years spent in the US was asked:	2012-10-01 - Variable Added
Form 2	CountryBirthF	616	What is your country of birth?	2012-10-01 - Variable Added
Form 2	CountryBirthOthF		Country of birth (if not born in the US):	2012-10-01 - Variable Added
Form 2	LngSpkHmF	723	What is the primary language spoken in your home?	2012-10-01 - Variable Added
Form 2	LngSpkHmOthF		Language spoken (if not English or Spanish):	2012-10-01 - Variable Added
Form 2	YearsInUSF	792	How many years have you been in the United States?	2012-10-01 - Variable Added
Form 2	YearsinUSFUPF	7842	Followup period when years spent in the US was asked:	2012-10-01 - Variable Added

8.3.7 Codes and Values

ID	Code	Description
420	1	United States
420	2	Other Than United States
420	77	Refused
420	99	Unknown
519	1	English
519	2	Spanish
519	3	Other Language
519	77	Refused
519	99	Unknown
566	777	Refused
566	888	Not Applicable: Born in US

ID	Code	Description
566	999	Unknown
567	888	Not Applicable: Born in US
567	999	Unknown
616	1	United States
616	2	Other Than the United States
616	77	Refused
616	99	Unknown
723	1	English
723	2	Spanish
723	3	Other Language
723	77	Refused
723	99	Unknown
792	777	Refused
792	888	Not Applicable: Born in US
792	999	Unknown
7842	888	Not Applicable: Born in US
7842	999	Unknown

8.3.8 History

Date	Description
2012-10-01	Added to Database
2013-10-09	Added NOTE : If participants have lived in the United States intermittently, how to calculate.
2016-01-01	Added NOTE : if born in Puerto Rico count as born in the US.
2021-10-26	Added CHARACTERISTICS : ”Recommendations for using data collected at Form 2 include 2 options: ...”

8.4 DEMOGRAPHICS - CALCULATED

8.4.1 Definition

Age at Injury

BMI (Body Mass Index at Injury) (kg/m2) is calculated from height in inches and weight in pounds as [weight/(height)^2]*703

BMI Category classifies BMI into categories between severely underweight to very severely obese, using the BMI calculated from height and weight

RuralF (Urbanicity) - Urbanization based on zip code of address.

8.4.2 Variables

Form Type	Variable	ID	Question	History
Form 1	AGE	392	Age at Injury	1989-10-01 - Variable Added
Form 1	AGENoPHI	393	Age Calculated for NonPHI	2009-10-01 - Variable Added
Form 1	BMI	3348	BMI at Injury	2012-10-01 - Variable Added
Form 1	BMICat	409	BMI Category	2012-10-01 - Variable Added
Form 1	RURALadm	4153	Urbanization based on zip code of address at admission.	
Form 1	RURALdc	4153	Urbanization based on zip code of address at discharge.	
Form 2	BMICatF	600	BMI Category	2012-10-01 - Variable Added
Form 2	BMIF	3597	BMI at Followup	2012-10-01 - Variable Added
Form 2	RuralF	765	Urbanicity	2012-10-01 - Variable Added

8.4.3 Codes and Values

ID	Code	Description
392	9999	Unknown
393	777	89 Years Old or Older
393	999	Unknown

ID	Code	Description
409	1	Very severely underweight
409	2	Severely underweight
409	3	Underweight
409	4	Normal
409	5	Overweight
409	6	Obese Class I
409	7	Obese Class II
409	8	Obese Class III
600	1	Very severely underweight
600	2	Severely underweight
600	3	Underweight
600	4	Normal
600	5	Overweight
600	6	Obese Class I
600	7	Obese Class II
600	8	Obese Class III
600	99	Unknown
765	1	Rural
765	2	Urban
765	3	Suburban
4153	1	Rural
4153	2	Urban
4153	3	Suburban

8.4.4 History

No history found for the Domain.

8.5 GEOGRAPHIC IDENTIFIERS (GEO-ID) - CALCULATED

8.5.1 Definition

PURPOSE: To allow an estimate of the extent and type of health care services available in the participant's vicinity to evaluate how community impacts outcomes.

The geographic identifier (geo-id) variables listed below are retrieved quarterly from the U.S. Census website. They are aligned with a TBIMS participant's address, which is collected at Form 2. An individual subject may have multiple addresses (collected at different follow-up time points) and therefore multiple sets of geo-id variables. At each quarterly submission, new geo-id variables are added to correspond to newly-collected addresses. If a participant did not consent to have their address collected, they will not have any geo-id data associated with them. All of the following variables are of String type.

- **CensusTract** – This is a unique, 11-digit code that identifies a census tract within a certain state/county. Census tract numbers are not unique across states and counties. This 11-digit code has been concatenated with a 2-digit state code (StateCode) and a 3-digit county code (CountyCode) to form a unique, 11-digit census tract code.

- **CensusBlock** – This is a non-unique, 4-digit census block code from the U.S. Census. Census block numbers are not unique across states and counties. This code must be concatenated with a 2-digit state code (StateCode) and a 3-digit county code (CountyCode) to form a unique, 9-digit census block code.

- **StateCode** – This is a 2-digit state code from the U.S. Census.

- **CountyCode** – This is a 3-digit county code from the U.S. Census.

- **TractString** – This is a non-unique, 6-digit census tract code from the U.S. Census. Census tract numbers are not unique across states and counties. This code is concatenated with the 2-digit state code (StateCode) and the 3-digit county code (CountyCode) to form the CensusTract variable.

8.5.2 Variables

Form Type	Variable	ID	Question	History
Form 2	CensusBlock		Census Block	

Form Type	Variable	ID	Question	History
Form 2	CensusTract		The 11-digit census tract that is a concatenation of STATEA, COUNTYA, and TRACTA	
Form 2	CountyCode		County code from U.S. Census	
Form 2	StateCode		State Code from U.S. Census	
Form 2	TRACTA		This is a non-unique, 6-digit census tract code from the U.S. Census. Census tract numbers are not unique across states and counties. This code is concatenated with the 2-digit state code (StateCode) and the 3-digit county code (CountyCode) to form the CensusTract variable.	

8.5.3 Codes and Values

No codes found for the given group IDs.

8.5.4 History

No history found for the Domain.

8.6 HOUSEHOLD

8.6.1 Definition

Primary person with whom the person with TBI is living with at time of evaluation, according to the best source of information (person with brain injury unless unavailable or unreliable).

LivWhoInj - at time just prior to injury
LivWhoDis - at discharge from Rehabilitation
LivWhoF - Person Living with Currently: Primary

8.6.2 Form

[X] Form 1
[X] Form 2

8.6.3 Source

Form 1 LiveWhoInj - Pre-Injury History (participant or proxy)
Form 1 LivWhoDis - Abstraction (rehab record)
Form 2 LivWhoF - Interview, Mail-Out (participant or proxy)

8.6.4 Details

If living with more than one person, list the person most involved in the patient's life and care.

8.6.5 Characteristics

On 4/1/2022, the response categories were collapsed from the following coding choices;
1 - Alone; 2 - Spouse; 3 - Parent(s); 4 - Sibling(s); 5 - Child/Children Under 21 Years Of Age; 6 - Other Relative(s) Or Adult Child/Children 21 Years Of Age Or Older; 7 - Roommate(s) Or Friend(s); 8 - Significant Other; 9 - Other Patients; 10 - Other Residents (Group Living Situation); 11 - Personal Care Attendant; 77 - Other (Includes Correctional Facility Inmates); 99 - Unknown

…to the choices below;
1. Alone, 2. With spouse or significant other, 3. Other family, 4. Someone else, 99. Unknown (LivWhoDis has an additional code of 88-Not Applicable: Expired in Rehab.)

Existing cases were recoded as follows;
- Cases coded as '4 - Sibling(s)', '5 - Child/Children Under 21 Years Of Age', or '6 - Other Relative(s) Or Adult Child/Children 21 Years Of Age Or Older' were recoded to '3 - Other Family'.
- Cases coded as '7 - Roommate(s) Or Friend(s)', '9 - Other Patients', '10 - Other Residents (Group Living Situation)', '11 - Personal Care Attendant', '77 - Other (Includes Correctional Facility Inmates)', were recoded to '4. Someone else'.
- Cases coded as '8 - Significant Other' were recoded to '2 Spouse'.

8.6.6 Variables

Form Type	Variable	ID	Question	History
Form 1	LivWhoDis	7834	Primary person living with after rehab discharge:	1989-10-01 - Variable Added
Form 1	LivWhoInj	518	Before the injury, who was the primary person living with you?	1989-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	LivWhoF	7804	Who are you currently living with?	1989-10-01 - Variable Added

8.6.7 Codes and Values

ID	Code	Description
518	1	Alone
518	2	Spouse or Significant Other
518	3	Other Family
518	4	Someone Else
518	99	Unknown
7804	1	Alone
7804	2	Spouse or significant other
7804	3	Other family
7804	4	Someone else
7804	99	Unknown
7834	1	Alone
7834	2	With spouse or significant other
7834	3	Other family
7834	4	Someone else
7834	88	NA: Expired in Rehab
7834	99	Unknown

8.6.8 History

Date	Description
1994-02-01	Deleted NOTE : reference to Level I data collection.
1994-08-19	Deleted NOTE : regarding collecting data from subject and SO.

Date	Description
1994-08-19	Added CODE : ”88-Not Applicable: Expired in rehab”
1994-08-19	Added NOTE : about selecting the person to record, if subject is living with more than one person.
1994-09-13	Deleted NOTE : living with at time of acute discharge.
1995-07-01	Removed VARIABLE : 2nd and 3rd persons living with, revised code 88 to correspond.
1995-07-01	Removed CODE Form 2 : ”88-Not Applicable: Expired in rehab”
2004-07-01	Added NOTE : to obtain from the “Best Source of Information”.
2006-01-01	Added NOTE : If lives in a boarding house, use code ”10 - Other Residents”.
2008-04-01	Changed CODE : ”77 - Other (Includes correctional facility inmates)” to ”77 - Other”.
2022-04-01	Changed CODES : Code choices reduced to 1. Alone, 2. With spouse or significant other, 3. Other family, 4. Someone else, 99. Unknown. Form 1 LivWhoDis has and additional code - 88. NA Died in Rehab. (Form 1 LiveWhoInj and LiveWhoDis codes were updated on 7/1/2022).

8.7 MARITAL

8.7.1 Definition

Form 1 - Marital status at time just prior to injury.

Form 2 - Marital status at follow-up evaluation according to the best source of information (person with brain injury unless unavailable or unreliable).

1 - Single (Never Married) A person who has never married
2 - Married A person who is married, whether legally or by common law
3 - Divorced A person who is legally divorced
4 - Separated Includes both legal separation and living apart from a married partner

8.7.2 Form

[X] Form 1
[X] Form 2

8.7.3 Source

Form 1 Mar - Pre-Injury History (participant or proxy)
Form 2 MarF - Interview, Mail-Out (participant or proxy)

8.7.4 Details

If separated but living together for more than 7 years, code as “2. Married”.

8.7.5 Reference

UAB

8.7.6 Variables

Form Type	Variable	ID	Question	History
Form 1	Mar	525	What is your marital status?	1989-10-01 - Variable Added
Form 2	MarF	726	What is your current marital status?	1989-10-01 - Variable Added

8.7.7 Codes and Values

ID	Code	Description
525	1	Single (Never Married) (A person who has never married)
525	2	Married (A person who is married, whether legally or by common law)
525	3	Divorced (A person who is legally divorced)
525	4	Separated (Includes both legal separation and living apart from a married partner)
525	5	Widowed
525	7	Other
525	99	Unknown
726	1	Single (Never Married) (A person who has never married)

ID	Code	Description
726	2	Married (A person who is married, whether legally or by common law)
726	3	Divorced (A person who is legally divorced)
726	4	Separated (Includes both legal separation and living apart from a married partner)
726	5	Widowed
726	7	Other
726	99	Unknown

8.7.8 History

Date	Description
1994-08-19	Delete NOTE : regarding collecting data from subject and SO.
1994-08-19	Changed CODES Form 2 : corrected descriptions to be consistent with Form 1.
1994-09-13	Deleted CODE : ”6=cohabitation”.
2001-08-20	Added NOTE : obtain from the “Best Source of Information”.
2003-10-01	Added NOTE : that if married more than once, code relative to the most recent.
2007-04-01	Changed CODE : added ”A person who is married, whether legally or by common law” to description of Married
2011-04-01	Added CODE Form 2 (MarChange) : ”1 - Separation”

8.8 PHYSICAL MEASUREMENTS

8.8.1 Definition

Height
Form 1 - Height at baseline (in inches) as documented in either the acute hospital medical record or rehabilitation record.
Form 2 - “How tall are you without shoes?”

Weight
Form 1 - Weight (in pounds) at acute hospitalization as documented in the acute hospital

medical record.
Form 2 - “How much do you weigh without shoes?”

8.8.2 Form

[X] Form 1
[X] Form 2

8.8.3 Source

Form 1 Height - Abstraction (acute or rehab record) Form 2 HeightF - Interview, Mail-out (participant or proxy) Form 1 Weight - Abstraction (acute record) Form 2 WeightF - Interview, Mail-Out (participant or proxy)

8.8.4 Details

Height at baseline can be collected from either the acute hospital medical record or rehabilitation record.

Weight should reflect the first measurement taken during acute hospitalization using a scale or bed scale. If unable to determine if recorded weights were measured using a scale or bed scale, use the first recorded weight in the acute hospital medical record. EMS or paramedic reports should not be used to collect weight.

Round up if half inches or pounds are reported.

If the participant notes any arm or leg amputation(s) when asked about height and weight, code 888 - Not Applicable (Any Arm Or Leg Amputation). The Data Collector does NOT need to probe for amputations when asking the height and weight questions.

If there is a height discrepancy between Form 1 and any height reported during follow-up, height should be verified at the next follow-up, and the discrepancy should be corrected on the Form 1 or Form 2 (database and paper file).

8.8.5 Reference

CDC :BMI obesity rate by state; M #53, #54

CDC Survey: The State of Aging and Health in America report assesses the health status and health behaviors of U.S. adults aged 65 years and older and makes recommendations to improve the mental and physical health of all Americans in their later years. The report includes national- and state-based report cards that examine 15 key indicators of older adult health. Data is available for 2003-2004 and 2006-2007.

NHIS National Health Interview Survey (NHIS)

The National Health Interview Survey (NHIS) has monitored the health of the nation since 1957. NHIS data on a broad range of health topics are collected through personal household interviews. For over 50 years, the U.S. Census Bureau has been the data collection agent for the National Health Interview Survey. Survey results have been instrumental in providing data to track health status, health care access, and progress toward achieving national health objectives.

8.8.6 Variables

Form Type	Variable	ID	Question	History
Form 1	Height	510	Height in inches:	2012-10-01 - Variable Added
Form 1	Weight	7813	Weight in pounds:	2012-10-01 - Variable Added
Form 2	HeightF	704	How tall are you without shoes (in Inches)?	2012-10-01 - Variable Added
Form 2	WeightF	7814	How much do you weigh without shoes (in Pounds)?	2012-10-01 - Variable Added

8.8.7 Codes and Values

ID	Code	Description
510	666	Variable Did Not Exist
510	888	Not Applicable (Any Arm Or Leg Amputation)
510	999	Unknown
704	666	Variable Did Not Exist
704	888	Not Applicable (Any Arm Or Leg Amputation)

ID	Code	Description
704	999	Unknown
7813	6666	Variable Did Not Exist
7813	8888	Not Applicable (Any Arm Or Leg Amputation)
7813	9999	Unknown
7814	6666	Variable Did Not Exist
7814	8888	Not Applicable (Any Arm Or Leg Amputation)
7814	9999	Unknown

8.8.8 History

Date	Description
2013-01-01	Added NOTE: If patient self-report and medical record contradict each other, then use the medical record information for height.
2014-04-01	Added CODE : 777 - Not Applicable (Any Arm Or Leg Amputation) to both Height and Weight.
2014-10-01	Deleted NOTE : Weight at acute hospitalization should be the first recorded weight in the acute hospital medical record.
2014-10-01	Added NOTE : Weight should reflect the first measurement taken during acute hospitalization using a scale or bed scale. If unable to determine if recorded weights were measured using a scale or bed scale, use the first recorded weight in the acute hospital medical record. EMS or paramedic reports should not be used to collect weight.
2018-07-01	Added NOTE: If there is a height discrepancy between Form I and any height reported during follow-up, height should be verified at the next follow-up, and the discrepancy should be corrected on the Form I or Form II (database and paper file).

8.9 RACE

8.9.1 Definition

Ethnicity - Self-reported Ethnicity for two categories: “Hispanic, Latino, or Spanish”, and “Not Hispanic, Latino, or Spanish”. To code this variable, participants are asked “Are you of Hispanic, Latino, or Spanish origin?”

Race - Self-Reported racial identification for each of the following five categories: “White”, “Black, African American”, “Asian”, “American Indian or Alaskan Native”, and “Native Hawaiian or other Pacific Islander”. To code these variables, participants are asked “What racial group or groups do you most identify as?”. To account for mixed race, all race categories that a participant indicates should be coded.

Form 1 - Follow-up question is asked if more than one race or ethnicity is asked to capture primary race participant identies as - “If you selected more than one race or ethnicity, with which do you identify most strongly?”

8.9.2 Form

[X] Form 1
[X] Form 2

8.9.3 Source

Form I - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-Out (participant or proxy)

8.9.4 Details

Patient’s or significant other’s statement is preferred to hospital record information.

Record participant’s statement regarding his/her race, or record race of father.

In obtaining a statement from the participant regarding his/her race/ethnicity, ambiguity may be resolved by asking which race/ethnicity is more important in his/her daily life.

It is acceptable to collect RACE variables from an SO if individual cannot answer for themselves.

The RACE questions are to be asked only once, NOT at every follow-up.

8.9.5 Characteristics

Added CHARACTERISTICS: on 1/15/2023, “What is your race?” was removed from Form 1 data collection and replaced with race questions from Form 2 - “Are you of Hispanic, Latino, or Spanish origin?; and “What racial group or groups do you most identify as? (Select all that apply)”; Race as a single variable is mapped to RacePrimary to ensure consistency with prior data collection

New follow-up question - “If you identified with more than one race in the above questions, what is the race you identify with the most?” was added on 4/1/2023 - This was to insure a crosswalk with the Race variable that was asked prior to the Race Ethnicity split.

Code “6-Biracial or Multiracial” added to Primary Race Question on 10/1/2023

8.9.6 Reference

2000 Census, Department of Commerce: See - External Links

Office of Management and Budgets Federal Register
Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity

8.9.7 Variables

Form Type	Variable	ID	Question	History
Form 1	EthnicityF	674	Are you of Hispanic, Latino, or Spanish origin?	2012-10-01 - Variable Added
Form 1	RaceAsnF	742	Asian:	2012-10-01 - Variable Added
Form 1	RaceBlkF	742	Black, African American:	2012-10-01 - Variable Added
Form 1	RaceIndF	742	American Indian, or Alaskan Native:	2012-10-01 - Variable Added
Form 1	RacePIF	742	Native Hawaiian or other Pacific Islander:	2012-10-01 - Variable Added
Form 1	RacePrimary	541	If you selected more than one race or ethnicity, with which do you identify most strongly?	2023-04-01 - Variable ADDED 2023-10-01 - Code ADDED - ”6-Biracial or Multi
Form 1	RaceWhtF	742	White:	2012-10-01 - Variable Added
Form 2	EthnicityF	7843	Are you of Hispanic, Latino, or Spanish origin?	2012-10-01 - Variable Added
Form 2	RaceAsnF	7844	Asian:	
Form 2	RaceBlkF	7844	Black, African American:	

Form Type	Variable	ID	Question	History
Form 2	RaceIndF	7844	American Indian or Alaskan Native:	
Form 2	RacePIF	7844	Native Hawaiian or other Pacific Islander:	
Form 2	RaceWhtF	7844	White:	

8.9.8 Codes and Values

ID	Code	Description
541	1	White
541	2	Black
541	3	Asian/Pacific Islander
541	4	Native American
541	5	Hispanic Origin
541	6	Biracial or Multiracial
541	7	Other
541	88	Not Applicable
541	99	Unknown
674	0	No
674	1	Yes
674	66	Variable Did Not Exist
674	77	Refused
674	99	Unknown
742	0	No
742	1	Yes
742	66	Variable Did Not Exist
742	77	Refused
742	99	Unknown
7843	0	No

ID	Code	Description
7843	1	Yes
7843	66	Variable Did Not Exist
7843	77	Refused
7843	99	Unknown
7844	0	No
7844	1	Yes
7844	66	Variable Did Not Exist
7844	77	Refused
7844	99	Unknown

8.9.9 History

Date	Description
1994-09-13	Added CODE Form 1 : ”5 - Hispanic”
2001-08-20	Added NOTE : about determining race.
2003-10-01	Added NOTE : that person’s or SO’s information is preferred to hospital records.
2004-04-01	Added LINK : 2000 Census of Population and Housing
2013-01-01	Added NOTE : It is acceptable to collect RACE variables from an SO if individual cannot answer for themselves.
2013-10-01	Added NOTE Form 2 : The RACE questions are to be asked only once, NOT at every follow-up.
2013-10-01	Changed CODE Form 1 : removed ”Negro” from the description on ”Black” to match the US census wording.
2013-10-01	Changed VARIABLE : changed from ”identify with” to ”identify as”.
2023-01-15	Added CHARACTERISTICS: on 1/15/2023, “What is your race?” was removed from Form 1 data collection and replaced with race questions from Form 2 - “Are you of Hispanic, Latino, or Spanish origin?; and “What racial group or groups do you most identify as? (Select all that apply)”; New follow-up question - “If you identified with more than one race in the above questions, what is the race you identify with the most?” was added.

8.10 RESIDENCE

8.10.1 Definition

Where the person with brain injury is living:
ResInj - residence at the time just prior to injury
ResDis - residence at discharge from Rehabilitation
ResF - residence at the time of follow-up evaluation, according to the best source of information (person with brain injury unless unavailable or unreliable)

Residence Codes
1 - Private Residence Includes house, apartment, mobile home, foster home, condominium, dormitory (school, church, college), military barracks, boarding school, boarding home, rooming house, bunk-house, boys ranch, fraternity/sorority house, commune, migrant farmworkers camp
2 - Nursing Home/Subacute Care Includes medi-center, residential, institutions licensed as hospitals but providing essentially long-term, custodial, chronic disease care, etc.
3 - Adult Home Includes adult foster care, indep. living center, transitional living facility, assisted living, supported living, group home
4 - Correctional Institution Includes prison, jail, penitentiary, correctional center, labor camp, halfway house, etc.
5 - Hotel/Motel Includes YWCA, YMCA, guest ranch, inn
6 - Homeless Includes a shelter for the homeless
9 - Hospital: Other Includes mental hospital, inpatient drug treatment

8.10.2 Form

[X] Form 1
[X] Form 2

8.10.3 Source

Form 1 ResInj - Pre-Injury History (participant or proxy)
Form 1 ResDis - Abstraction (rehab record)
Form 2 ResF - Interview, Mail-Out (participant or proxy)

8.10.4 Details

If there is uncertainty regarding residence, treat it as a self-report variable. If residence is not clear, a reliable respondent (when possible, the person with TBI) should be asked, eg., “Where were you [the person with TBI] living (‘prior to injury’, or at ‘follow-up’)?”. If the response is ambiguous (as may happen, eg., if the person is transient) use probes in order to adequately understand the respondent’s belief regarding residence, then code that. Do not probe to obtain additional objective information about the living situation and then (the data collector) use that information in determining the correct code. When residence is at all ambiguous, treat it as a self-report variable.

Patients discharged to temporary living facilities while still enrolled in outpatient programs should be coded according to the level of supervision or assistance they receive. If the facility is for the use of patients and their families, code these transitional residences as “private residence” rather than an “adult home/transitional living facility”, as supervision or assistance in this setting would be provided by the family member or the attendant residing with the person, rather than by a staff overseeing a group of individuals which is more typical in an “adult home/transitional living facility.”

If participant is still in the hospital at follow-up, data collectors are encouraged to find out reason for hospitalization and if they will be discharged while still in the follow-up window. If participant is expected to still be hospitalized when the window closes, then code as ‘7-Hospital (Acute Care)’.

Code government or non-profit subsidized SRO (Single Resident Occupancy) housing as “3-Adult Home (Includes adult foster care, independent living center, transitional living facility, assisted living, supported living, group home)”. Even though some of these vary from a single private room within a larger building or a full apartment, the space that they occupy could be viewed as a transitional and supported living situation given that it is not a permanent housing solution and/or it is funded by government/subsidy.

Participants living in a boat, RV or other living situation where they “take their home with them” should be coded as “Private Residence”.

8.10.5 Links

List of Online Offender Database

8.10.6 Characteristics

Deleted the category “shelter” from code 01 and moved it to 06 as “shelter for the homeless” as of 10/1/2004 meaning that prior to this date, persons in that category are in 01 and after that date they are in 06.

8.10.7 Variables

Form Type	Variable	ID	Question	History
Form 1	ResDis	548	Residence after rehab discharge:	1989-10-01 - Variable Added
Form 1	ResInj	549	Before the injury, where were you living?	1989-10-01 - Variable Added
Form 2	ResF	764	Where do you live now?	1989-10-01 - Variable Added

8.10.8 Codes and Values

ID	Code	Description
548	1	Private Residence (Includes house, apartment, mobile home, foster home, condominium, dormitory (school, church, college), military barracks, boarding school, boarding home, rooming house, bunk-house, boys ranch, fraternity/sorority house, commune, migrant farmworkers camp)
548	2	Nursing Home/Subacute Care (Includes medi-center, residential, institutions licensed as hospitals but providing essentially long-term, custodial, chronic disease care, etc.)
548	3	Adult Home (Includes adult foster care, indep. living center, transitional living facility, assisted living, supported living, group home)
548	4	Correctional Institution (Includes prison, jail, penitentiary, correctional center, labor camp, halfway house, etc.)
548	5	Hotel/Motel (Includes YWCA, YMCA, guest ranch, inn)
548	6	Homeless (Includes a shelter for the homeless)
548	7	Hospital: Acute care
548	8	Hospital: Rehabilitation
548	9	Hospital: Other (Includes mental hospital, inpatient drug treatment)
548	10	Other
548	888	Not Applicable: Expired in rehab
548	999	Unknown

ID	Code	Description
549	1	Private Residence (Includes house, apartment, mobile home, foster home, condominium, dormitory (school, church, college), military barracks, boarding school, boarding home, rooming house, bunk-house, boys ranch, fraternity/sorority house, commune, migrant farmworkers camp)
549	2	Nursing Home/Subacute Care (Includes medi-center, residential, institutions licensed as hospitals but providing essentially long-term, custodial, chronic disease care, etc.)
549	3	Adult Home (Includes adult foster care, indep. living center, transitional living facility, assisted living, supported living, group home)
549	4	Correctional Institution (Includes prison, jail, penitentiary, correctional center, labor camp, halfway house, etc.)
549	5	Hotel/Motel (Includes YWCA, YMCA, guest ranch, inn)
549	6	Homeless (Includes a shelter for the homeless)
549	7	Hospital: Acute care
549	8	Hospital: Rehabilitation
549	9	Hospital: Other (Includes mental hospital, inpatient drug treatment)
549	10	Other
549	999	Unknown
764	1	Private Residence (Includes house, apartment, mobile home, foster home, condominium, dormitory (school, church, college), military barracks, boarding school, boarding home, rooming house, bunk-house, boys ranch, fraternity/sorority house, commune, migrant farmworkers camp)
764	2	Nursing Home/Subacute Care (Includes medi-center, residential, institutions licensed as hospitals but providing essentially long-term, custodial, chronic disease care, etc.)
764	3	Adult Home (Includes adult foster care, indep. living center, transitional living facility, assisted living, supported living, group home)
764	4	Correctional Institution (Includes prison, jail, penitentiary, correctional center, labor camp, halfway house, etc.)
764	5	Hotel/Motel (Includes YWCA, YMCA, guest ranch, inn)
764	6	Homeless (Includes a shelter for the homeless)
764	7	Hospital: Acute care
764	8	Hospital: Rehabilitation

ID	Code	Description
764	9	Hospital: Other (Includes mental hospital, inpatient drug treatment)
764	10	Other
764	999	Unknown

8.10.9 History

Date	Description
1994-08-19	Deleted NOTE : regarding collecting data from subject and SO.
1994-08-19	Deleted CODE Form 2 : ”Not Applicable: Expired in rehab”
1994-09-13	Added CODE : Added ”adult foster care” to code ”3 - Adult Home”.
1995-07-01	Changed CODE : removed ”skilled nursing facility” from code 2 - Nursing Home”.
1995-07-01	Changed CODE : Moved ”dormitory (school, church, college), military barracks, boarding school, boarding home, rooming house, bunk-house, boys ranch, fraternity/sorority house, commune, migrant farmworkers camp” from code ”3 - Adult Home” to ”1 - Private Residence”.
1995-07-01	Added CODE : ”10=subacute (includes subacte hospital bed, skilled nursing facility)”.
1996-04-01	Changed CODE : added ”halfway house” to description of code ”4 - Correctional Institution”.
2001-08-20	Changed CODE Form 2: added “inpatient drug treatment program” to “9 - Hospital-Other”.
2004-08-19	Added NOTE : temporary living facilities while still enrolled in outpatient programs should be coded according to the level of supervision or assistance they receive.
2004-10-01	Changed CODE Form 1: added “inpatient drug treatment program” to “9 - Hospital-Other”.
2004-10-01	Changed CODE : deleted ”shelter” as a category of ”1 -Private”.
2004-10-01	Changed CODE : added ”shelter for the homeless” to code ”6 - Homeless”.
2005-01-01	Added NOTE : how to determine residence if not clear.
2006-09-05	Changed CODE Form 2: added ”assisted living, supported living” to code ”3 - Adult Home”.
2013-12-08	Added NOTE : regarding SRO (Single Resident Occupancy) coding.
2016-01-01	Added NOTE: if participant is still in the hospital at follow-up and is expected to still be hospitalized when the window closes, then code as ’7-Hospital (Acute Care)’.
2018-10-01	Changed CODES : merged codes ”2 - Nursing Home” and ”10 - Subacute Care” to ”2 - Nursing Home/Subacuate Care”.

Date	Description
2022-07-01	Added NOTE : Participants living in a boat, RV or other living situation where they ”take their home with them” should be coded as ”Private Residence”.

8.11 SEX

8.11.1 Definition

Current sex of subject

8.11.2 Form

[X] Form 1
[ ] Form 2

8.11.3 Source

Abstraction (acute or rehab record)

8.11.4 Details

If transgender, record current sex.

8.11.5 Variables

Form Type	Variable	ID	Question	History
Form 1	SexF	554	Sex:	1989-10-01 - Variable Added
Form 2	SexF	4026	Sex	

8.11.6 Codes and Values

ID	Code	Description
554	1	Female
554	2	Male
554	99	Unknown
4026	1	Female
4026	2	Male
4026	99	Unknown

8.11.7 History

Date	Description
1994-09-13	Deleted CODE : ”7 - other”.
2001-08-20	Added NOTE : about transsexual.
2025-10-01	Changed ”transsexual ” to ”transgender” in Details.

8.12 SOCIOECONOMIC STATUS - CALCULATED

8.12.1 Definition

PURPOSE: To provide information on aspects of the socioeconomic status (SES) in the participant’s vicinity to evaluate how community impacts outcomes.

SES variables were downloaded from the IPUMS (originally, the “Integrated public Use Microdata Series”) website that houses data from the American Community Survey. The SES variables align with census tracts, not TBIMS participants. A TBIMS participant may have multiple census tracts associated with them, one for each follow-up interview where they consented to have their address collected. If a participant did not consent to have their address collected, they will not have any SES data associated with them. Additional variables that provide metadata (information about when the SES data was collected) are included as well. All of the following variables are of String type.

- **GeoYear** – The five-year aggregate American Community Survey dataset that indicates the year the SES variables were collected. For example, a value of 2015-2019 indicates that the SES variables were collected in 2019.

- **TBIMS_NSDI_2019** – This variable contains a value that indicates the neighborhood disadvantage of a census tract, called the TBI Model Systems Neighborhood Socioeconomic Disadvantage Index. The value can be negative or positive. Positive values indicate more disadvantage. The TBI Model Systems Neighborhood Socioeconomic Disadvantage Index was calculated in 2019 using the first dimension of a principal components analysis of eight census-tract SES indicators (Percent unemployed, Percent Single Parent Led Households, Percent no HS or GED, Percent Bachelor's Degree or Higher, Percent below the poverty line, Percent of households that were on food stamps/SNAP, Median Household Income, Median Family Income). The index did NOT use the race/ethnicity variables (PercentWhite, PercentBlack, PercentHispanic) in their construction. You can find the specifics of this variable's creation in Kumar RG, Delgado A, Corrigan JD, Eagye CB, Whiteneck GG, Juengst SB, Callender L, Bogner J, Pinto SM, Rabinowitz AR, Perrin PB, Venkatesan UM, Botticello AL, Lequerica AH, Taylor S, Zafonte RD, Dams-O'Connor K. (2024). The TBI Model Systems Neighborhood Socioeconomic Disadvantage Index (TBIMS-NSDI): Development and Comparison to Individual Socioeconomic Characteristics. J Head Trauma Rehabil. There will be a new TBIMS_NSDI variable every ten years, separate from this one, denoted by the 4-digit year at the end of the variable name.
- **GeoStatus** – This is an indicator variable with a value of Interim or Final. The most recent SES status variables come from the 2015-2019 date range in the American Community Survey (ACS), which is where the data is sourced. There is typically a two-year lag between when the ACS data is collected and when it is available to the public. Therefore, it is possible to have a TBIMS participant's follow-up date be more recent than the GeoYear. The GeoStatus variable shows whether the date of collection of the SES variables lags the follow-up interview date when a participant's address was collected (Interim), or whether the two dates match (Final).
- **PercentUnemployed** – The percentage of civilian unemployed (people 16 and over). The formula used to create PercentUnemployed is (# civilian unemployed / # in labor force).
- **PercentSingleHoH** – The percentage of single parent headed households with children <18. The formula used to create PercentUnemployed is ((# male household + # female household) / # in family households).
- **PercentNoHSorGED** – The percentage of people >=25 years old without a high school diploma or GED. The formula used to create PercentNoHSorGED is (No schooling completed + Nursery school + Kindergarten + 1st through 11th grade + 12th grade, no diploma)/Total in CensusTract.
- **PercentBSorUp** – The percentage of of people >=25 years old with a bachelors degree or higher. The formula used to create PercentBSorUp is (Bachelor's degree + Master's degree + Professional school degree + Doctorate degree) / Total in CensusTract.

- **PercentBelowPoverty** – The percentage of households with incomes in the past 12 months below poverty level. The formula used to create PercentBelowPoverty is (Income in the past 12 months below poverty level / Total for income versus poverty level).
- **PercentSNAP** – The percentage of households that received Food Stamps/SNAP in the past 12 months. The formula used to create PercentSNAP is (Household received Food Stamps-SNAP in the past 12 months / Total for receipt of SNAP).
- **MedHHIncome** – Median household income in the past 12 months (in inflation-adjusted dollars).
- **MedFamIncome** – Median family income in the past 12 months (in inflation-adjusted dollars).
- **PercentWhite** – The percentage of White Alone in the CensusTract. The formula used to create PercentWhite is (White alone / Total for Race). This variable is not included in the SESIndex variable calculation.
- **PercentBlack** – The percentage of Black or African American Alone in the CensusTract. The formula used to create PercentBlack is (Black or African American alone / Total for Race). This variable is not included in the SESIndex variable calculation.
- **PercentHispanic**– The percentage of Hispanic or Latino in the CensusTract. The formula used to create PercentHispanic is (Hispanic or Latino / Total for Hispanic/Latino). This variable is not included in the SESIndex variable calculation.
- **STATEA** – State Code from U.S. Census
- **GeoState** – State name
- **COUNTYA** – County code from U.S. Census
- **GeoCounty** – County name

8.12.2 Variables

Form Type	Variable	ID	Question	History
Form 2	ACSYEARS		The five-year aggregate dataset imported from IPUMS.	
Form 2	GeoCounty		County name	
Form 2	GeoState		State name	

Form Type	Variable	ID	Question	History
Form 2	GeoStatus		This is an indicator variable with a value of Interim or Final. The most recent SES status variables come from the 2015-2019 date range in the American Community Survey (ACS), which is where the data is sourced. There is typically a two-year lag between when the ACS data is collected and when it is available to the public. Therefore, it is possible to have a TBIMS participant's follow-up date be more recent than the GeoYear. The GeoStatus variable shows whether the date of collection of the SES variables lags the follow-up interview date when a participant's address was collected (Interim), or whether the two dates match (Final).	
Form 2	GeoYear		Year Geo Data Collected	
Form 2	MedFamIncome		Median family income for the census tract in the past 12 months (in final ACS year inflation-adjusted dollars)	
Form 2	MedHHIncome		Median household income for the census tract in the past 12 months (in final ACS year inflation-adjusted dollars)	
Form 2	PercentBSorUp		The percentage of of people >=25 years old with a bachelors degree or higher. The formula used to create PercentBSorUp is (Bachelor's degree + Master's degree + Professional school degree + Doctorate degree) / Total in CensusTract.	
Form 2	PercentBelowPoverty		The percent of households in the census tract with incomes in the past 12 months below poverty level. The formula used to create PercentBelowPoverty is (Income in the past 12 months below poverty level / Total for income versus poverty level).	
Form 2	PercentBlack		The percentage of Black or African American Alone in the CensusTract. The formula used to create PercentBlack is (Black or African American alone / Total for Race). This variable is not included in the SESIndex variable calculation.	
Form 2	PercentHispanic		The percentage of Hispanic or Latino in the CensusTract. The formula used to create PercentHispanic is (Hispanic or Latino / Total for Hispanic/Latino). This variable is not included in the SESIndex variable calculation.	
Form 2	PercentNoHSorGED		The percentage of people >=25 years old without a high school diploma or GED. The formula used to create PercentNoHSorGED is (No schooling completed + Nursery school + Kindergarten + 1st through 11th grade + 12th grade, no diploma)/Total in CensusTract.	

Form Type	Variable	ID	Question	History
Form 2	PercentSNAP		The percent of households in the census tract who received food stamps/SNAP in the past 12 months	
Form 2	PercentSingleHoH		The percentage of single parent headed households with children <18. The formula used to create PercentUnemployed is ((# male household + # female household) / # in family households).	
Form 2	PercentUnemployed		The percentage of civilian unemployed (people 16 and over). The formula used to create PercentUnemployed is (# civilian unemployed / # in labor force).	
Form 2	PercentWhite		The percentage of White Alone in the CensusTract. The formula used to create PercentWhite is (White alone / Total for Race). This variable is not included in the SESIndex variable calculation.	
Form 2	TBIMS_NSDI_2019		indicates the neighborhood disadvantage of a census tract	2024-07-01 - Variable Name Changed: SESInde changed to TBIMS_NSDI_2019

8.12.3 Codes and Values

No codes found for the given group IDs.

8.12.4 History

No history found for the Domain.

9 DEPRESSION

Depression (also known as Major Depressive Disorder) is a common but serious mental health condition that profoundly affects a person's feelings, thoughts, and actions. It's more than just feeling "sad" or "blue" for a day or two.

9.0.1 What it Is

At its core, depression is characterized by a **persistent, deep feeling of sadness** and/or a significant **loss of interest or pleasure** in almost all daily activities (like hobbies, socializing, or work).

9.0.2 How it Affects a Person

For a person to be experiencing depression, these feelings must last for a minimum of **two weeks** and significantly interfere with their daily life. Other common signs and symptoms often experienced include:

- **Changes in energy and sleep:** Feeling extremely tired (**fatigue**) or having trouble sleeping (**insomnia**) or sleeping too much (**hypersomnia**).
- **Changes in appetite:** Significant weight loss or gain.
- **Difficulty concentrating:** Trouble making decisions, focusing, or remembering things.
- **Negative self-talk:** Feeling **worthless** or overly **guilty**.
- **Physical changes:** Feeling restless or slowed down to an extent noticeable by others.
- **Thoughts of death or suicide.**

9.1 PHQ

9.1.1 Definition

The Patient Health Questionnaire-2 (PHQ-2) is a brief initial screening tool for depression.

The Patient Health Questionnaire-9 (PHQ-9) contains is a 9-item, patient self-report depression assessment.

a. Little Interest or pleasure in doing things

b. Feeling down, depressed, or hopeless

c. Trouble falling or staying asleep, or sleeping too much

d. Feeling tired or having little energy

e. Poor appetite or overeating

f. Feeling bad about yourself – or that you are a failure or have let yourself or your family down

g. Trouble concentrating on things, such as reading the newspaper or watching television

h. Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual

i. Thoughts that you would be better off dead, or of hurting yourself in some way

j. If you indicated any problems in the previous questions, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people

9.1.2 Form

[ ] Form 1
[X] Form 2

9.1.3 Source

Interview, Mail-Out (participant only)

9.1.4 Details

Interviewers should read the following introduction prior to administering the PHQ: “Over the LAST 2 WEEKS, how often have you been bothered by the following problems?”

If either of the first 2 questions are coded either ‘1 - Several Days’, ‘2 - More Than Half Of The Days’, or ‘3 - Nearly Every Day’, then proceed to ask the remaining PHQ items.

If both of the first 2 questions are coded ‘0 - Not at all’, code remaining PHQ items as ‘81 - Not Applicable’ and skip to next section of interview.

The PHQ should not be administered to a significant other, or any other proxy. If the individual is unable to provide data, use code ‘82. Not Applicable: No data from person with TBI’.

Every effort should be made to obtain the PHQ assessments, however, if any items can not be assessed, use code ‘99. Unknown’. Do not leave blanks.

9.1.5 Links

PHQ-9 Manual
PHQ-9 Spanish Translation

9.1.6 Reference

PHQ9 Pfizer

9.1.7 Characteristics

Participant responses to these variables may be affected by the COVID-19 pandemic starting in March of 2020.

On 4/1/2022, the PHQ-2 Screener was implemented.

9.1.8 Variables

Form Type	Variable	ID	Question	History
Form 2	PHQBadF	733	f. Feeling bad about yourself or that you are a failure or have let yourself or your family down:	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	PHQConcentrateF	733	g. Trouble concentrating on things, such as reading the newspaper or watching television:	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	PHQDeadF	733	i. Thoughts that you would be better off dead or hurting yourself in some way:	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	PHQDifficultF	732	j. How difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	PHQDownF	733	b. Feeling down, depressed, or hopeless:	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	PHQEatF	733	e. Poor appetite or overeating:	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	PHQPleasureF	733	a. Little interest or pleasure in doing things:	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	PHQSleepF	733	c. Trouble falling or staying asleep, or sleeping too much:	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	PHQSlowF	733	h. Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual:	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added
Form 2	PHQTiredF	733	d. Feeling tired or having little energy:	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added

9.1.9 Codes and Values

ID	Code	Description
732	0	Not Difficult at All
732	1	Somewhat Difficult
732	2	Very Difficult
732	3	Extremely Difficult
732	66	Variable Did Not Exist
732	81	Not Applicable: No problems
732	82	Not Applicable: No data from person with TBI
732	99	Unknown
733	0	Not at All
733	1	Several Days
733	2	More Than Half of the Days
733	3	Nearly Every Day
733	66	Variable Did Not Exist
733	81	Not Applicable
733	82	Not Applicable: No data from person with TBI
733	99	Unknown

9.1.10 History

Date	Description
2021-01-15	Added CHARACTERISTICS : ”Participant responses to these variables may be affected by the onset of the COVID-19 pandemic in March of 2020. ”
2022-04-01	Added Code : ”8-Not Applicable” to items c. - i.
2022-04-01	On 4/1/2022, the PHQ-2 Screener was implemented.

9.2 PHQ - CALCULATED

9.2.1 Variables

Form Type	Variable	ID	Question	History
Form 2	PHQ9TOTF	731	Patient Health Questionnaire Total Score	2007-10-01 - Variable Added 2013-10-01 - Variable Removed 2017-10-01 - Variable Added

9.2.2 Codes and Values

ID	Code	Description
731	666	Variable Did Not Exist
731	888	Not Applicable: No data from person with TBI
731	999	Unknown

9.2.3 History

No history found for the Domain.

10 DRS (DISABILITY RATING SCALE)

10.0.1 Definition

DRSa refers to Disability Rating Scale at admission (collected at Form 1)

DRSd refers to Disability Rating Scale at discharge (collected at Form 1)

Disability Rating Scale ratings are to be completed within 3 calendar days for each assessment period. Indicate ratings for all items. Information about the DRS is available from COMBI. See External Links

The DRS at Form 2 (DRS PI) is a standardized questionnaire, and questions should be asked the same way every time with no words changed. If the participant is having trouble understanding the question, restate the question as phrased. If additional clarification is needed, then data collectors can rephrase the question or offer clarification.

10.0.2 Form

[X] Form 1
[X] Form 2

10.0.3 Source

Form 1 - To be completed by clinician or other individual who is trained and certified to code the DRS.
Form 2 - Interview (participant or proxy)

10.0.4 Details

10.0.4.0.1 Form 1

If DRS assessments cannot be completed within the 3 calendar day window, they should still reflect the patients' status within that time period. If this is not possible and the assessments are done out of the 3 calendar day window, code "Unknown".

Every effort should be made to obtain the DRS assessments, however, if any items can not be assessed, use code “Unknown”. Do not leave blanks.

If a patient has an intermittent acute care stay during inpatient rehabilitation, use the DRS scores from the first rehabilitation admission and the last definitive discharge. In addition, if a patient has an intermittent stay which is longer than 30 days, it is then considered a system discharge and the discharge date from rehabilitation is the system discharge date and the DRS scores should correspond to that date.

10.0.4.0.2 Form 2

The DRS for Form II is a standardized questionnaire, and questions should be asked the same way every time with no words changed.

If the answers to specific questions are obvious from answers given prior to the DRS questions, they may be confirmed and skipped.

If the participant is having trouble understanding the question, restate the question as phrased. If additional clarification is needed, then data collectors can rephrase the question or offer clarification.

If in doubt on how to code a response to a DRS item, give the participant the benefit of the doubt. For example, if a participant states that they can give you the correct date and time, but is uncomfortable saying yes because it sometimes takes them up to 30 seconds, give them the credit for being able to do this.

10.0.5 Links

Item Definitions (COMBI)
Properties (COMBI)
FAQ (COMBI)
DRS Training (COMBI)
DRS References (COMBI)
DRS Rating Form (COMBI)
DRS Introduction (COMBI)
PubMed:Rappaport M, et al (1987)

10.0.6 Reference

Rappaport M, Hall KM, Hopkins K, Belleza T, Cope N. (1982). Disability Rating Scale for severe head trauma patients: Coma to community. Arch Phys Med & Rehabil, 63:118-123. rev 8/87. For an abstract of this article, see External Links

Malec JF, Hammond FM, Giacino JT, Whyte J, Wright J. (2012) A Structured Interview to Improve the Reliability and Psychometric Integrity of the Disability Rating Scale. Arch Phys Med & Rehabil,Epub 2012 Sep;93(9):1603-8.

10.0.7 Characteristics

For follow-up, interviewers were originally rating the individual DRS items using the original DRS scoring form. The DRS structured interview was implemented on 10/01/2012.

The DRS-PI provides a structured interview for administration of the Disability Rating Scale (DRS) over the telephone. Except for cases with very severe limitations (eg, minimally conscious), the scoring algorithm for the DRS-PI results in a score that is comparable to the original DRS. However, there are differences between the original DRS and the DRS-PI for cases with very severe limitations. The Motor item of the DRS was not included in the DRS-PI because almost all cases interviewed in the development of the DRS-PI obtained a zero response on this item. In addition, the scoring of the Communication item was altered so that no score above 2 can be obtained. Scoring of the Communication item was altered in this way because very few scores above 2 were obtained in the development sample and collapsing all categories above 2 resulted in better fit of the Communication item with the Rasch model on which the DRS-PI was based. The Eye Opening item of the original DRS was not included in the DRS-PI interview and automatically scored as zero because eye opening should be present in all TBI cases who survive several months or more.

The Expanded DRS-PI adds additional items the DRS-PI and results in a score with a less skewed distribution than either the DRS-PI or the original DRS.

Original DRS. In order to obtain a score similar to the original DRS using the DRS-PI structured interview, an attempt can be made to administer the Motor item over the telephone. This item is only included in the Caregiver version since the Motor score will be zero if the person with TBI is able to respond to the interview questions. The Communication is the same as for the DRS-PI/ Expanded DRS-PI but is scored differently. Scoring algorithms for the DRS-PI, Expanded DRS-PI and Original DRS are at the end of this document.

The development of the DRS-PI and Expanded DRS-PI is described in: Malec JF, Hammond FM, Giacino JT, Whyte J, Wright J. A structured interview to improve the reliability and psychometric integrity of the Disability Rating Scale. Arch Phys Med Rehabil 2012;93:1603-8.

10.0.8 Training

Testing and certification of data collectors of this variable is required. It is available from the COMBI website. See external links for training and testing materials.

10.1 COMMUNICATION

10.1.1 Form

[X] Form 1
[X] Form 2

10.1.2 Details

Participant is allowed to look at devices or clocks to determine date or time. If it takes more than a few seconds, then code as “no”.

Participant may simply answer “Yes” without providing date and time. If any doubt, clarify by asking them to tell you the date and time.

10.1.3 Characteristics

On 4/1/2013 codes were changed, and existing cases were re-coded in the database.

Codes at implementation:
2.1:
0 - Consistently
1 - Inconsistently
2 - No
9 - Unknown

2.2:
0 - Speech
1 - Writing or spelling device
2 - Gestures or signals
8 - Not Applicable
9 - Unknown

2.3:
0 - Yes
1 - Yes, but takes more than a few seconds
2 - Sometimes
3 - No
8 - Not Applicable
9 - Unknown

2.4, & 2.5:
0 - No
1 - Yes
8 - Not Applicable
9 - Unknown

Codes on/after 4/1/2013:
2.1:
1 - No
2 - Inconsistently
3 - Consistently
9 - Unknown

2.2:
1 - Speech
2 - Writing Or Spelling Device
3 - Gestures Or Signals
8 - Not Applicable
9 - Unknown

2.3:
1 - No
2 - Sometimes
3 - Yes, But Takes More Than A Few Seconds
4 - Yes
8 - Not Applicable
9 - Unknown

2.4, & 2.5:
1 - No
2 - Yes
8 - Not Applicable
9 - Unknown

10.1.4 Variables

Form Type	Variable	ID	Question	History
Form 1	DRSVerA	477	Communication ability:	1989-10-01 - Variable Added
Form 1	DRSVerD	477	Communication ability:	1989-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	drs2_1F	645	2.1 Is [name] able to communicate with you in a way that you and others clearly understand?	2012-10-01 - Variable Added
Form 2	drs2_2F	646	2.2 How do they communicate primarily?	2012-10-01 - Variable Added
Form 2	drs2_3F	647	2.3 Are you [they] able to give your [their] correct name, location, year, month, day, and time of day promptly when asked?	2012-10-01 - Variable Added
Form 2	drs2_4F	648	2.4 Does [name] have only a few words that [s/he] uses over and over or does [s/he] express him/herself only through random answers, shouting or swearing?	2012-10-01 - Variable Added
Form 2	drs2_5F	649	2.5 Does [name] only moan, groan or make other sounds that are not understandable?	2012-10-01 - Variable Added

10.1.5 Codes and Values

ID	Code	Description
477	0	Oriented
477	1	Confused
477	2	Inappropriate
477	3	Incomprehensible
477	4	None
477	99	Unknown (Or assessment not done, or does not reflect patient's status during the 3 calendar day window)
645	1	No - Skip to 2.4
645	2	Inconsistently (Go to 2.2)
645	3	Consistently (Go to 2.2)
645	66	Variable Did Not Exist
645	99	Unknown
646	1	Speech
646	2	Writing Or Spelling Device
646	3	Gestures Or Signals

ID	Code	Description
646	66	Variable Did Not Exist
646	88	Not Applicable (Go to 2.2)
646	99	Unknown
647	1	No - Skip to 3.0
647	2	Sometimes - Skip to 3.0
647	3	Yes But Takes More Than A Few Seconds - Skip to 3.0
647	4	Yes - Skip to 4.0
647	66	Variable Did Not Exist
647	88	Not Applicable (Go to 2.2)
647	99	Unknown
648	1	No (Go to 2.5)
648	2	Yes - Skip to 4.0
648	66	Variable Did Not Exist
648	88	Not Applicable
648	99	Unknown
649	1	No - Skip to 4.0
649	2	Yes - Skip to 4.0
649	66	Variable Did Not Exist
649	88	Not Applicable
649	99	Unknown

10.1.6 History

Date	Description
2015-10-01	Changed DEFINITION : clarification language from 'Questions 2.1, 2.2, 2.4 and 2.5 are only to be asked only of the SO.' to 'Questions 2.1, 2.2, 2.4 and 2.5 are not to be asked of the participant.'

Date	Description
2022-07-01	Changed SCRIPT : Current TBIMS Telephone Script Are you [they] able to give the correct date and time within a few seconds of being asked? to read; Are you [they] able to give your [their] correct name, location, year, month, day, and time of day promptly when asked? Note for interviewer: - Day can be day of week or date of month. - Time of day can be actual time or able to differentiate morning/afternoon/evening.

10.2 DRS - CALCULATED

10.2.1 Definition

Computed DRS - Sum of all admission DRS Scores. If any one of the items are unknown, the total score becomes 99.

To account for the half point variables both DRSaLow and DRSaHigh are calculated which rounds the ".5" accordingly Calculates the Disability Rating Score.

DRS Interview at Follow-Up was created as a standardized post-acute interview (PI) that did not include the DRS motor item and that altered the scoring of the communication item. The eye-opening item of the original DRS was not included in PI and was scored as zero.

10.2.2 Details

Total score is calculated using a computer program.

The DRS-PI provides a structured interview for administration of the Disability Rating Scale (DRS) over the telephone. Except for cases with very severe limitations (eg, minimally conscious), the scoring algorithm for the DRS-PI results in a score that is comparable to the original DRS. However, there are differences between the original DRS and the DRS-PI for cases with very severe limitations. The Motor item of the DRS was not included in the DRS-PI because almost all cases interviewed in the development of the DRS-PI obtained a zero response on this item. In addition, the scoring of the Communication item was altered so that no score above 2 can be obtained. Scoring of the Communication item was altered in this way because very few scores above 2 were obtained in the development sample and collapsing all categories above 2 resulted in better fit of the Communication item with the Rasch model on which the DRS-PI was based. The Eye Opening item of the original DRS was not included

in the DRS-PI interview and automatically scored as zero because eye opening should be present in all TBI cases who survive several months or more.

The Expanded DRS-PI adds additional items the DRS-PI and results in a score with a less skewed distribution than either the DRS-PI or the original DRS.

Original DRS. In order to obtain a score similar to the original DRS using the DRS-PI structured interview, an attempt can be made to administer the Motor item over the telephone. This item is only included in the Caregiver version since the Motor score will be zero if the person with TBI is able to respond to the interview questions. The Communication is the same as for the DRS-PI/ Expanded DRS-PI but is scored differently. Scoring algorithms for the DRS-PI, Expanded DRS-PI and Original DRS are at the end of this document.

The development of the DRS-PI and Expanded DRS-PI is described in: Malec JF, Hammond FM, Giacino JT, Whyte J, Wright J. A structured interview to improve the reliability and psychometric integrity of the Disability Rating Scale. Arch Phys Med Rehabil 2012;93:1603-8.

10.2.3 Variables

Form Type	Variable	ID	Question	History
Form 1	DRSa	464	Disability Rating Scale On Admission	1989-10-01 - Variable Added
Form 1	DRSaHigh	465	Disability Rating Scale On Admission Round High	1989-10-01 - Variable Added
Form 1	DRSaLow	466	Disability Rating Scale On Admission Round Low	1989-10-01 - Variable Added
Form 1	DRSd	467	Disability Rating Scale At Discharge	1989-10-01 - Variable Added
Form 1	DRSdHigh	468	Disability Rating Scale At Discharge Round High	1989-10-01 - Variable Added
Form 1	DRSdLow	469	Disability Rating Scale At Discharge Round Low	1989-10-01 - Variable Added
Form 2	CombinedDRSF		CombinedDRS is a variable that creates a single value based on DRSF, DRS_PI, and DRS_PI_ORIG values. This value uses DRS_PI_ORIG if it exists; if not, then it uses DRS_PI. If both are missing, then it uses DRSF.	
Form 2	CombinedDRSTypeF		CombinedDRSType indicates which of the DRS methods CombinedDRS used for its value.	
Form 2	DRSF	661	Disability Rating Scale Follow-up	1989-10-01 - Variable Added
Form 2	DRSHighF	662	Disability Rating Scale Followup Round Up	1989-10-01 - Variable Added
Form 2	DRSLowF	663	Disability Rating Scale Followup Round Down	1989-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	DRS_PIEmpf	3664	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added
Form 2	DRS_PIEyeF	3665	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added
Form 2	DRS_PIF	643	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added
Form 2	DRS_PIFeedF	3666	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added
Form 2	DRS_PIFunctF	3667	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added
Form 2	DRS_PIGroomF	3668	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added
Form 2	DRS_PIMotF	3669	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added
Form 2	DRS_PIToiletF	3670	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added
Form 2	DRS_PIVerF	3671	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added
Form 2	DRS_PI_ORIGF	644	Disability Rating Scale Interview Follow-up	2012-10-01 - Variable Added

10.2.4 Codes and Values

ID	Code	Description
464	999	Unknown
465	999	Unknown
466	999	Unknown
467	999	Unknown
468	999	Unknown
469	999	Unknown
643	999	Unknown
644	999	Unknown
661	999	Unknown
662	999	Unknown
663	999	Unknown
3664	0	Not Restricted
3664	1	Selected Jobs: Competitive

ID	Code	Description
3664	2	Sheltered Workshop: Non-competitive
3664	3	Not Employable
3665	0	Spontaneous
3665	1	To Speech
3665	2	To Pain
3665	3	None
3665	99	Unknown
3666	0	Complete
3666	1	Partial
3666	2	Minimal
3666	3	None
3667	0	Completely Independent
3667	1	Independent in Special Environment
3667	2	Mildly Dependent: Limited assistance
3667	3	Moderately Dependent: Moderate assistance
3667	4	Markedly Dependent: Assist all major activities, all times
3667	5	Totally Dependent: 24 hour nursing care
3667	99	Unknown
3668	0	Complete
3668	1	Partial
3668	2	Minimal
3668	3	None
3668	99	Unknown
3669	0	Obeying
3669	1	Localizing
3669	2	Withdrawing
3669	3	Flexing

ID	Code	Description
3669	4	Extending
3669	5	None
3669	99	Unknown
3670	0	Complete
3670	1	Partial
3670	2	Minimal
3670	3	None
3670	99	Unknown
3671	0	Oriented
3671	1	Confused
3671	2	Inappropriate
3671	3	Incomprehensible
3671	4	None
3671	99	Unknown

10.2.5 History

No history found for the Domain.

10.3 EMPLOYABILITY

10.3.1 Form

[X] Form 1
[X] Form 2

10.3.2 Details

The employment section is asking not only about ability to be employed, but also the ability to work as a student or homemaker. When asking an unemployed participant “Can you func-

tion with complete independence in work or social situations?", focus on housework and/or social situations an appropriate way to word the question in circumstances like this would be "Can you function with complete independence in work or social situations? And by work, I'm referring to household activities that you may be responsible for."

If it's already clear from completing the FIM that they are unable to complete household tasks due to disability, focus on social situations.

Form 2 - 'Jobs of your choosing' may be clarified with 'jobs you think you would like and be able to do'.

10.3.3 Characteristics

On 4/1/2013 codes were changed, and existing cases were re-coded in the database.

Codes at implementation:
8.1, 8.2, & 8.3:
0 - Always
1 - Most of the Time 2 - Some of the Time
3 - Never
9 - Unknown

8.4, 8.5, 8.6, & 8.7:
0 - Certain or Very Certain I Can
1 - Uncertain
2 - Certain or Very Certain I Cannot
9 - Unknown

Codes on/after 4/1/2013:
8.1, 8.2, & 8.3: 1 - Never
2 - Some of the Time
3 - Most of the Time
4 - Always
9 - Unknown

8.4, 8.5, 8.6, & 8.7:
1 - Certain Or Very Certain I Cannot
2 - Uncertain
3 - Certain Or Very Certain I Can
9 - Unknown

10.3.4 Variables

Form Type	Variable	ID	Question	History
Form 1	DRSEmpA	470	Employability:	1989-10-01 - Variable Added
Form 1	DRSEmpD	470	Employability:	1989-10-01 - Variable Added
Form 2	drs8_1F	653	8.1 Can you function with complete independence in work or social situations?	2012-10-01 - Variable Added
Form 2	drs8_2F	653	8.2 Can you understand, remember, and follow directions?	2012-10-01 - Variable Added
Form 2	drs8_3F	653	8.3 Can you keep track of time, schedules and appointments?	2012-10-01 - Variable Added
Form 2	drs8_4F	657	8.4 How certain are you that you can perform in a wide variety of jobs of your choosing or manage a home independently or participate in school full-time?	2012-10-01 - Variable Added
Form 2	drs8_5F	658	8.5 How certain are you that you can be successful at work, school or in home management with some reduction in the work load or with other accommodations due to disabilities?	2012-10-01 - Variable Added
Form 2	drs8_6F	659	8.6 How certain are you that you can be successful at work, school or in home management but with limited choices in jobs or school courses due to disabilities?	2012-10-01 - Variable Added
Form 2	drs8_7F	660	8.7 How certain are you that you can be able to work at home or in a special setting like a sheltered workshop in which the work is very routine and there is very frequent supervision and support?	2012-10-01 - Variable Added

10.3.5 Codes and Values

ID	Code	Description
470	0.0	Not Restricted
470	0.5	Between Not Restricted and Selective Jobs, Competitive (Code no longer used)
470	1.0	Selected Jobs, Competitive
470	1.5	Between Selected Jobs and Sheltered Workshop (Code no longer used)
470	2.0	Sheltered Workshop, Non-Competitive
470	2.5	Between Sheltered Workshop and Not Employable (Code no longer used)
470	3.0	Not Employable

ID	Code	Description
470	99.9	Unknown (Or assessment not done, or does not reflect patient's status during the 3 calendar day window)
653	1	Never
653	2	Some Of The Time
653	3	Most Of The Time
653	4	Always
653	66	Variable Did Not Exist
653	99	Unknown
657	1	Certain Or Very Certain I Cannot (Go to 8.5.)
657	2	Uncertain (Go to 8.5.)
657	3	Certain Or Very Certain I Can - END
657	66	Variable Did Not Exist
657	99	Unknown
658	1	Certain Or Very Certain I Cannot (Go to 8.6.)
658	2	Uncertain (Go to 8.6.)
658	3	Certain Or Very Certain I Can - END
658	66	Variable Did Not Exist
658	88	Not Applicable
658	99	Unknown
659	1	Certain Or Very Certain I Cannot (Go to 8.7.)
659	2	Uncertain (Go to 8.7.)
659	3	Certain Or Very Certain I Can - END
659	66	Variable Did Not Exist
659	88	Not Applicable
659	99	Unknown
660	1	Certain Or Very Certain I Cannot - END
660	2	Uncertain - END
660	3	Certain Or Very Certain I Can - END

ID	Code	Description
660	66	Variable Did Not Exist
660	88	Not Applicable - END
660	99	Unknown

10.3.6 History

Date	Description
2016-04-01	Added Note: Jobs of your choosing may be clarified with 'jobs you think you would like and be able to do'.

10.4 EYE OPENING

10.4.1 Form

[X] Form 1
[ ] Form 2

10.4.2 Variables

Form Type	Variable	ID	Question	History
Form 1	DRSEyeA	471	Eye opening:	1989-10-01 - Variable Added
Form 1	DRSEyeD	471	Eye opening:	1989-10-01 - Variable Added

10.4.3 Codes and Values

ID	Code	Description
471	0	Spontaneous
471	1	To Speech

ID	Code	Description
471	2	To Pain
471	3	None
471	99	Unknown (Or assessment not done, or does not reflect patient's status during the 3 calendar day window)

10.4.4 History

No history found for the Domain.

10.5 FEEDING

10.5.1 Form

[X] Form 1
[X] Form 2

10.5.2 Characteristics

On 4/1/2013 codes were changed, and existing cases were re-coded in the database.

Codes at implementation:
4.1:
0 - Yes
1 - No
9 - Unknown

4.2, & 4.3:
0 - Always
1 - Most of the Time
2 - Some of the Time
3 - Never
9 - Unknown

Codes on/after 4/1/2013:
4.1:
1 - No

2 - Yes
9 - Unknown

4.2, & 4.3:
1 - Never
2 - Some Of The Time
3 - Most Of The Time
4 - Always
9 - Unknown

10.5.3 Variables

Form Type	Variable	ID	Question	History
Form 1	DRSFeedA	472	Feeding:	1989-10-01 - Variable Added
Form 1	DRSFeedD	472	Feeding:	1989-10-01 - Variable Added
Form 2	drs4_1F	652	4.1 Can you feed yourself independently or manage tube feedings appropriately without help or reminders?	2012-10-01 - Variable Added
Form 2	drs4_2F	653	4.2 Do you understand what eating or feeding utensils or equipment are for and how they should be used?	2012-10-01 - Variable Added
Form 2	drs4_3F	653	4.3 Do you know when meal or feeding times are?	2012-10-01 - Variable Added

10.5.4 Codes and Values

ID	Code	Description
472	0.0	Complete
472	0.5	Between Complete and Partial (Code no longer used)
472	1.0	Partial
472	1.5	Between Partial and Minimal (Code no longer used)
472	2.0	Minimal
472	2.5	Between Minimal and None (Code no longer used)
472	3.0	None

ID	Code	Description
472	99.9	Unknown (Or assessment not done, or does not reflect patient's status during the 3 calendar day window)
652	1	No (Go to 4.2)
652	2	Yes - Mark 4 = Always in 4.2. and 4.3., then skip to 5.0.
652	66	Variable Did Not Exist
652	99	Unknown
653	1	Never
653	2	Some Of The Time
653	3	Most Of The Time
653	4	Always
653	66	Variable Did Not Exist
653	99	Unknown

10.5.5 History

No history found for the Domain.

10.6 FUNCTIONING

10.6.1 Form

[X] Form 1
[X] Form 2

10.6.2 Details

These questions evaluate if the person with TBI is able to live as s/he wishes and what kind of assistance s/he needs from others. Physical difficulties are considered in the scoring.

Form 2 - 'Thinking abilities' may be clarified with 'Thinking abilities include things such as concentrating, understanding, and remembering.'

10.6.3 Characteristics

On 4/1/2013 codes were changed, and existing cases were re-coded in the database.

Codes at implementation:
7.1:
0 - Yes
1 - No
9 - Unknown

7.2, 7.6a, 7.6b, & 7.6c:
0 - No
1 - Yes
9 - Unknown

7.3, 7.4, & 7.5:
0 - Never
1 - Some of the Time
2 - Most of the Time
3 - Always
9 - Unknown

Codes on/after 4/1/2013:
7.1, 7.2, 7.6a, 7.6b, & 7.6c:
1 - No
2 - Yes
9 - Unknown

7.3, 7.4, & 7.5:
1 - Never
2 - Some Of The Time
3 - Most Of The Time
4 - Always
9 - Unknown

10.6.4 Variables

Form Type	Variable	ID	Question	History
Form 1	DRSFuncA	473	Level of functioning:	1989-10-01 - Variable Added
Form 1	DRSFuncD	473	Level of functioning:	1989-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	drs7_1F	656	7.1 Do you function completely independently? That is, you do not require any physical assistance, supervision, equipment, devices, or reminders for cognitive, social, behavioral, emotional, and physical function?	2012-10-01 - Variable Added
Form 2	drs7_2F	656	7.2 Do you REQUIRE special aids or equipment such as a brace, walker, wheelchair, memory notebook, day planner, verbal reminders, prompts, cues, or alarm watch because of a disability?	2012-10-01 - Variable Added
Form 2	drs7_3F	653	7.3 Do you require PHYSICAL assistance from another person to meet daily needs?	2012-10-01 - Variable Added
Form 2	drs7_4F	653	7.4 Do you require assistance from another person in tasks that require THINKING ABILITIES?	2012-10-01 - Variable Added
Form 2	drs7_5F	653	7.5 Do you require assistance from another person to manage EMOTIONS AND BEHAVIOR?	2012-10-01 - Variable Added
Form 2	drs7_6aF	656	7.6a Do you take care of some of your needs but also need a helper who is always close by?	2012-10-01 - Variable Added
Form 2	drs7_6bF	656	7.6b Do you need help with all major activities and the assistance of another person all the time?	2012-10-01 - Variable Added
Form 2	drs7_6cF	656	7.6c Do you need 24-hour care and are not able to help with your own care at all?	2012-10-01 - Variable Added

10.6.5 Codes and Values

ID	Code	Description
473	0.0	Completely Independent
473	0.5	Between Completely Independent and Independent in Special Environment (Code no longer used)
473	1.0	Independent in Special Environment
473	1.5	Between Independent in Special Environment and Mildly Dependent (Code no longer used)
473	2.0	Mildly Dependent: Limited assistance (Non-resident helper)
473	2.5	Between Mildly Dependent and Moderately Dependent (Code no longer used)

ID	Code	Description
473	3.0	Moderately Dependent: Moderate assistance （Person in home）
473	3.5	Between Moderately Dependent and Markedly Dependent （Code no longer used）
473	4.0	Markedly Dependent: Assist all major activities, all times
473	4.5	Between Markedly Dependent and Totally Dependent （Code no longer used）
473	5.0	Totally Dependent: 24 hour nursing care
473	99.9	Unknown （Or assessment not done, or does not reflect patient's status during the 3 calendar day window）
653	1	Never
653	2	Some Of The Time
653	3	Most Of The Time
653	4	Always
653	66	Variable Did Not Exist
653	99	Unknown
656	1	No
656	2	Yes
656	66	Variable Did Not Exist
656	99	Unknown

10.6.6 History

Date	Description
2014-04-01	Changed DEFINITION : eliminated ”stop rule” associated with item 7.2.

10.7 GROOMING

10.7.1 Form

[X] Form 1
[X] Form 2

10.7.2 Characteristics

On 4/1/2013 codes were changed, and existing cases were re-coded in the database.

Codes at implementation: 6.1:
0 - Yes
1 - No
9 - Unknown

6.2, 6.3, & 6.4:
0 - Always
1 - Most of the Time
2 - Some of the Time
3 - Never
9 - Unknown

Codes on/after 4/1/2013: 6.1:
1 - No
2 - Yes
9 - Unknown

6.2, 6.3, & 6.4:
1 - Never
2 - Some Of The Time
3 - Most Of The Time
4 - Always
9 - Unknown

10.7.3 Variables

Form Type	Variable	ID	Question	History
Form 1	DRSGroomA	474	Grooming:	1989-10-01 - Variable Added
Form 1	DRSGroomD	474	Grooming:	1989-10-01 - Variable Added
Form 2	drs6_1F	655	6.1 Can you dress and groom yourself independently and appropriately or direct someone else in these activities without help or reminders?	2012-10-01 - Variable Added
Form 2	drs6_2F	653	6.2 Do you know how to bathe and wash?	2012-10-01 - Variable Added
Form 2	drs6_3F	653	6.3 Do you understand how to get dressed?	2012-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	drs6_4F	653	6.4 Can you start and finish these grooming activities without prompting?	2012-10-01 - Variable Added

10.7.4 Codes and Values

ID	Code	Description
474	0.0	Complete
474	0.5	Between Complete and Partial (Code no longer used)
474	1.0	Partial
474	1.5	Between Partial and Minimal (Code no longer used)
474	2.0	Minimal
474	2.5	Between Minimal and None (Code no longer used)
474	3.0	None
474	99.9	Unknown (Or assessment not done, or does not reflect patient's status during the 3 calendar day window)
653	1	Never
653	2	Some Of The Time
653	3	Most Of The Time
653	4	Always
653	66	Variable Did Not Exist
653	99	Unknown
655	1	No (Go to 6.2)
655	2	Yes - Mark 4 = Always in 6.2. and 6.3., then skip to 7.0
655	66	Variable Did Not Exist
655	99	Unknown

10.7.5 History

No history found for the Domain.

10.8 MOTOR

10.8.1 Form

[X] Form 1
[X] Form 2

10.8.2 Variables

Form Type	Variable	ID	Question	History
Form 1	DRSMotA	475	Motor response:	1997-01-01 - Variable Added
Form 1	DRSMotD	475	Motor response:	1997-01-01 - Variable Added
Form 2	drs3_1F	650	3.1 Are you [they] able to obey commands? For example, move finger, look up, close eyes, stick out tongue.	2015-01-15 - Variable Added
Form 2	drs3_2F	651	3.2 If you pinch an arm/leg hard enough to hurt, how does [name] respond:	2015-01-15 - Variable Added

10.8.3 Codes and Values

ID	Code	Description
475	0	Obeying
475	1	Localizing
475	2	Withdrawing
475	3	Flexing
475	4	Extending
475	5	None

ID	Code	Description
475	99	Unknown (Or assessment not done, or does not reflect patient's status during the 3 calendar day window)
650	1	No
650	2	Inconsistently
650	3	Yes
650	66	VariableDid Not Exist
650	99	Unknown
651	1	Localization
651	2	Withdrawal
651	3	Flexion
651	4	Extension
651	5	No Response
651	66	VariableDid Not Exist
651	88	Not Applicable
651	99	Unknown

10.8.4 History

No history found for the Domain.

10.9 TOILETING

10.9.1 Form

[X] Form 1
[X] Form 2

10.9.2 Characteristics

On 4/1/2013 codes were changed, and existing cases were re-coded in the database.

Codes at implementation:
5.1:
0 - Yes
1 - No
9 - Unknown

5.2, & 5.3
0 - Always
1 - Most of the Time
2 - Some of the Time
3 - Never
9 - Unknown

Codes on/after 4/1/2013:
5.1:
1 - No
2 - Yes
9 - Unknown

5.2, & 5.3
1 - Never
2 - Some Of The Time
3 - Most Of The Time
4 - Always
9 - Unknown

10.9.3 Variables

Form Type	Variable	ID	Question	History
Form 1	DRSToiletA	476	Toileting:	1989-10-01 - Variable Added
Form 1	DRSToiletD	476	Toileting:	1989-10-01 - Variable Added
Form 2	drs5_1F	654	5.1 Can you use the toilet or manage your bowel and bladder routine independently and appropriately without help or reminders?	2012-10-01 - Variable Added
Form 2	drs5_2F	653	5.2 Do you understand how to manage your clothing or special equipment when toileting or in bowel and bladder management?	2012-10-01 - Variable Added
Form 2	drs5_3F	653	5.3 Do you know when to use the toilet or to conduct bowel and bladder management?	2012-10-01 - Variable Added

10.9.4 Codes and Values

ID	Code	Description
476	0.0	Complete
476	0.5	Between Complete and Partial (Code no longer used)
476	1.0	Partial
476	1.5	Between Partial and Minimal (Code no longer used)
476	2.0	Minimal
476	2.5	Between Minimal and None (Code no longer used)
476	3.0	None
476	99.9	Unknown (Or assessment not done, or does not reflect patient's status during the 3 calendar day window)
653	1	Never
653	2	Some Of The Time
653	3	Most Of The Time
653	4	Always
653	66	Variable Did Not Exist
653	99	Unknown
654	1	No (Go to 5.2)
654	2	Yes - Mark 4 = Always in 5.2. and 5.3., then skip to 6.0
654	66	Variable Did Not Exist
654	99	Unknown

10.9.5 History

No history found for the Domain.

11 EDUCATION

11.0.1 Definition

Education of participant and/or special needs or concerns regarding education.

11.1 EDUCATION - CALCULATED

11.1.1 Definition

Education of participant and/or special needs or concerns regarding education.

11.1.2 Variables

Form Type	Variable	ID	Question	History
Form 1	BTACTEducation	480	BTACTEducation	
Form 1	EDUCATION	480	Education	2001-01-01 - Variable Added
Form 2	BTACTEducationF	666	Education Followup	
Form 2	EDUCATIONF	666	Education Followup	2001-01-01 - Variable Added

11.1.3 Codes and Values

ID	Code	Description
480	1	8th Grade or Less
480	2	9th - 11th Grade
480	2.5	GED

ID	Code	Description
480	3	HS/GED
480	3.5	HS
480	4	Trade
480	5	Some College
480	6	Associate
480	7	Bachelors
480	8	Masters
480	9	Doctorate
480	21	Other
480	999	Unknown
666	1	8th Grade or Less
666	2	9 - 11
666	2.5	GED
666	3	HS/GED
666	3.5	HS
666	4	Trade
666	5	Some College
666	6	Associate
666	7	Bachelors
666	8	Masters
666	9	Doctorate
666	21	Other
666	999	Unknown

11.1.4 History

No history found for the Domain.

11.2 EDUCATION YEARS

11.2.1 Definition

EduYears - Highest grade of school completed at the time just prior to injury (Form 1)
EduYearsF - Number of years of education successfully completed at the time of follow-up interview (Form 2)

11.2.2 Form

[X] Form 1
[X] Form 2

11.2.3 Source

Form 1 - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

11.2.4 Details

The number of years of education coded may not equal the actual number of years spent in school. For example, a person who is held back two years in elementary school and then drops out of school in the 10th grade (for a total of 11 full years) would be coded as having completed 9 years; or, a person may take 6 years to complete a BA (for a total of 18 years), but, as indicated, only 16 years are coded.

GED, trade school, and other types of schooling not listed, are not counted toward years of education

If person is not sure of number of years, code the greater number.

If person takes a few courses in a college setting with no intention of earning a degree, code “Work toward Associate’s degree, no diploma”.

If participant attended school in a foreign country, data collectors should prompt the participant to pick the most comparable category.

If during a follow-up, a participant or proxy reports a level of education that conflicts with the level of education previously reported (e.g. a lower level completed at follow-up than at Form 1 or a prior follow-up), confirm with the participant or proxy, and re-code the level of education in the database, as well as on any paper documents, to the correct level.

If a participant's intention changes (e.g. participant reports working towards an Associate's Degree at follow-up, but had previously reported working towards a Bachelor's Degree) do not change previous data.

11.2.5 Reference

Heaton RK, Miller SW, Taylor MJ, Grant I. Revised Comprehensive Norms for an Expanded Halstead-Reitan Battery: Demographically Adjusted Neuropsychological Norms for African American and Caucasian Adults. Lutz, FL: Psychological Assessment Resources, Inc., 2004, pages 17-18.

11.2.6 Characteristics

All data on educational level are available in the calculated variable "EDUCATION" and "EDUCATION2". This calculated variable merges data from the older variable "Highest grade of school completed", which EDUYR and EduYearsF replaced on 1/1/01. Prior to 1/15/2010 this variable erroneously included cases with ''13=Work toward an Associate's degree'' and ''14=Associate's degree'' under ''5=Some College''. Cases with''15=Work toward a Bachelor's degree'' were erroneously included under ''6=Associate degree''.

11.2.7 Variables

Form Type	Variable	ID	Question	History
Form 1	EduYears	481	How many years of education have you completed? If you have not graduated from high school, choose the number of years spent in school. If you have at least a high school diploma, please indicate the highest degree earned (or worked toward).	2001-01-01 - Variable Added
Form 2	EduYearsF	667	How many years of education have you completed (at time of interview)?	2001-01-01 - Variable Added

11.2.8 Codes and Values

ID	Code	Description
481	1	1 Year or Less

ID	Code	Description
481	2	2 Years
481	3	3 Years
481	4	4 Years
481	5	5 Years
481	6	6 Years
481	7	7 Years
481	8	8 Years
481	9	9 Years
481	10	10 Years
481	11	11 or 12 Years: No diploma
481	12	HS Diploma
481	13	Work Toward Associate’s
481	14	Associate’s Degree
481	15	Work Toward Bachelor’s
481	16	Bachelor’s Degree
481	17	Work Toward Master’s
481	18	Master’s Degree
481	19	Work Toward Doctoral Level
481	20	Doctoral Level Degree
481	21	Other
481	666	Variable Did Not Exist
481	999	Unknown
667	1	1 Year or Less
667	2	2 Years
667	3	3 Years
667	4	4 Years
667	5	5 Years

ID	Code	Description
667	6	6 Years
667	7	7 Years
667	8	8 Years
667	9	9 Years
667	10	10 Years
667	11	11 or 12 years: No diploma
667	12	HS Diploma
667	13	Work Toward Associate’s
667	14	Associate’s Degree
667	15	Work Toward Bachelor’s
667	16	Bachelor’s Degree
667	17	Work Toward Master’s
667	18	Master’s Degree
667	19	Work Toward Doctoral Level
667	20	Doctoral Level Degree
667	21	Other
667	666	Variable Did Not Exist
667	999	Unknown

11.2.9 History

Date	Description
2001-01-01	Changed DEFINITION : EDUCATION YEARS replaced HIGHEST GRADE OF SCHOOL COMPLETED.
2001-07-01	Added NOTE : that actual years of education may not equal the actual number of years in school.
2001-07-01	Added NOTE : instruction to not count GED, trade school, or other types of education not listed in the syllabus toward years of education.
2001-08-20	Added NOTE : about recording the higher number, if person is uncertain.

Date	Description
2002-01-01	Added SOURCE : NAFFSA website.
2003-01-01	Changed CODE : 1 from “1 year” to “1 year or less”.
2003-01-01	Changed CODE : ’1 = Var didn’t exist at the time this form was filled out’ to ’66= Var didn’t exist at the time this form was filled out’.
2004-04-01	Changed DEFINITION : added ”successfully” prior to ”completed”.
2004-04-01	Changed SOURCE : added Heaton reference.
2004-04-01	Added CHARACTERISTICS : information about the calculated education variable.
2006-01-01	Added NOTE : to code ”associate” if person took a few college courses without intending to earn a BA.
2006-01-01	Added NOTE : about coding foreign education the same as US education.
2008-04-01	Added NOTE : highest level of education should be maintained even if person decided to stop working toward a degree
2008-04-01	Added CODE : ’99 - Unknown’.
2009-10-01	Changed NOTE : If person takes a few courses in a college setting with no intention of earning a degree, code ”Work toward Associate’s degree, no diploma”. (Previously indicated to code ”Associate’s degree”)
2013-04-01	Question re-worded from ”How far have you gone in school?” to ”How many years of education have you completed?” to match Form II.
2013-04-01	Added NOTE : if participant reports a level of education that conflicts with levels reported previously reported by family, re-code the incorrect education level.
2014-10-01	Added NOTE: If participant attended school in a foreign country, data collectors should prompt the participant to pick the most comparable category.
2014-10-01	Deleted NOTE: Code years of foreign education completed the same as years of US education. The TBIMS has not yet found a satisfactory method for determining equivalence, and leaves it up to the data collector to confirm/convert levels of education.
2014-10-01	Added NOTE : if a participant’s intention changes (e.g. participant reports working towards an Associate’s Degree at follow-up, but had previously reported working towards a Bachelor’s Degree) do not change previous data.

11.3 GED

11.3.1 Definition

GED - GED (General Educational Development or Diploma) status just prior to the injury (Form 1)

GEDF - GED (General Educational Development or Diploma) status at time of follow-up (Form 2)

11.3.2 Form

[X] Form 1
[X] Form 2

11.3.3 Source

Form 1 - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

11.3.4 Details

If person has not graduated from high school and has not attended college, then code either "1" or "2", depending on whether or not he/she has a GED. If person has graduated from high school and/or has attended college, then code "88 - Not Applicable: HS diploma or attended college".

11.3.5 Variables

Form Type	Variable	ID	Question	History
Form 1	GED	506	Did you earn a GED instead of graduating from high school?	2001-08-20 - Variable Added
Form 2	GEDF	691	Did you earn a GED instead of graduating from high school?	2001-08-20 - Variable Added

11.3.6 Codes and Values

ID	Code	Description
506	0	No
506	1	Yes
506	66	Variable Did Not Exist
506	88	Not Applicable: HS diploma or attended college
506	99	Unknown
691	0	No
691	1	Yes
691	66	Variable Did Not Exist
691	88	Not Applicable: HS diploma or attended college
691	99	Unknown

11.3.7 History

Date	Description
2001-11-01	Changed DEFINITION : for Pre Injury History corrected to read ”at time of injury” (rather than follow-up)
2002-01-01	Added CODE : 3=N/A.
2004-01-01	Added NOTE : that coding is contingent on subject’s high school/college education.

11.4 LEARNING DISABILITY

11.4.1 Definition

Pre-injury history of learning and/or behavior problems in school. Was the person with brain injury officially classified as Special Education student prior to his/her injury?

11.4.2 Form

[X] Form 1
[ ] Form 2

11.4.3 Source

Pre-Injury History (participant or proxy)

11.4.4 Details

Participants who express that they had difficulty with school or were held back a grade or two, but never classified as a special education student should be coded “No”.

Gifted programs do not count as special education.

11.4.5 Characteristics

Some cases older than 1/1/97 have data for this variable because Centers were encouraged to collect data retrospectively for older cases.

11.4.6 Variables

Form Type	Variable	ID	Question	History
Form 1	SpEd	556	While in school, were you ever classified as a special education student?	1997-01-01 - Variable Added

11.4.7 Codes and Values

ID	Code	Description
556	0	No
556	1	Yes
556	66	Variable Did Not Exist

ID	Code	Description
556	77	Refused
556	99	Unknown

11.4.8 History

Date	Description
2004-07-01	Added CHARACTERISTICS : an explanation for data in cases existing prior to implementation date (1/1/97).
2009-01-01	Added CODE : ’7 - Refused’.
2016-12-01	Added NOTE : gifted programs do not count as special education.

12 EMPLOYMENT

12.1 CURRENT EMPLOYMENT

12.1.1 Definition

Form 1
The purpose of the preinjury employment variables is to record the extent to which participants were engaging in productive work and, also, their personal earning power [Earn] at the time of injury. Whether employment was legal or illegal is not relevant to coding any of the employment variables. (But see NOTE below about collecting information about illegal employment.)

Code employment status in the month prior to injury.

Determine primary employment status using the following prioritization, regardless of the number of hours worked: competitive employment, degree-oriented education, taking care of house or family, job-directed/on-the-job training, supported employment, sheltered employment, non-directed coursework, volunteer work, retirement (age-related), retirement (disability-related), and no productive activity.

Form 2
Code employment status at the time of the follow-up.

Employment Status Codes

2- Full Time Student Regular class
3 - Part Time Student Regular class
5 - Competitively Employed Minimum wage or greater, legal or illegal employment, *includes on leave with pay - not related to index injury.
8 - Special Employed Sheltered workshop, supportive employment, has job coach
10 - Unemployed: Looking Looking for work in the 4 weeks prior to injury
13 - Unemployed: Not looking Not looking for work in 4 weeks prior to injury for any reason
14 - Hospitalized Without Pay During Most of 4 Weeks Prior to Injury During Most of 4 Weeks Prior to Injury

12.1.2 Form

[X] Form 1
[X] Form 2

12.1.3 Source

Form 1 - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

12.1.4 Details

Competitive Employment is employment for which an individual is compensated at or above the minimum wage, but not less than the customary wage and level of benefits paid by the employer for the same or similar work performed by individuals who are not disabled.

If patient is in the hospital at the time of follow-up, employment status is that status existing at the time of admission to the hospital.

If participant is employed for only part of the month prior to the injury, code employment status as during the majority of the work days during that month.

If participant has been hired but has not yet started work, they should NOT be coded as competitively employed.

12.1.4.0.1 Students - Code student as full-time or part-time based on self-report.

- If participant is a student at the time of injury, but has not gone back to school yet at time of follow-up, they are still considered a student.
- If participant is not a student at the time of injury, but is planning on attending school, they should NOT be considered a student.
- If participant is regularly attending GED classes and not working, code Employment Status as “3-Part Time Student”.

12.1.4.0.2 Special Employment

- If participant returns to previous job, but is unable to complete all the duties they previously were responsible for without the assistance of others, code as ‘08 - Special Employment (sheltered workshop, supportive employment, has job coach)’.

12.1.4.0.3 Retirement

- Code “9 - Retired: Age-related” if respondent indicates that retirement was due to age (use respondent’s definition).
- If participant reports retiring due to fatigue (presumably “Retired: Disability” due to the brain injury) and due to the job not being the kind of work they were trained to do (ie “Retired: Other”), code according to the coding priority. The coding priority lists “Retired: Disability” but does not list “Retired: Other”, so “retired, disability” is the higher priority and is the correct code.
- The term “retired” can be used even if there has never been any competitive employment, so that based on age, one may consider themselves as retired.

12.1.4.0.4 Illegal Employment

- Competitive employment includes work that is illegal (e.g., selling drugs) as well as illegally engaging in legal work (e.g., non-citizens doing construction work without proper work authorization documentation).
- Do not ask the respondent if employment at the time of injury was legal or illegal. That distinction is not needed for any of the employment questions. If in the course of the interview you learn that some or all employment was illegal, continue asking the employment questions as long as providing that information does not become uncomfortable for the respondent and would therefore risk jeopardizing the rest of the interview.

12.1.4.0.5 Military

- Active Duty soldiers who have not yet returned to work should be coded as “13 - Unemployed: Not Looking”, and the rest of the employment variables as “NA - No competitive employment”.

12.1.4.0.6 Other

- Competitive sub-minimum wage employment such as baby-sitting, newspaper delivery, and piecework should be coded “55 - Other.”

- If participant works in a foreign country, assume wage is not sub-minimum unless there is information to the contrary.

- Worker’s compensation and temporary disability should both be coded “55-Other”.
- Participants who are working in a “trial job” through workers compensation and not receiving any separate payment should be coded as “55 - Other”.

12.1.5 Characteristics

Starting 7/1/01, data are entered into a new field that uses the additional coding categories implemented on 7/1/01. The old field has been retained in the database. Data for all cases is available in the calculated variable “EMPLOYMENT”, which merges these two fields.

*As of 1/1/06, all cases with “77” were recoded as “55”, in order to allow “77” to be used for “refused”.

12.1.6 Variables

Form Type	Variable	ID	Question	History
Form 1	Emp1	482	At the time of the injury, what was your primary employment status?	2004-04-01 - Variable Added
Form 2	Emp1F	669	What is your current employment status?	2004-04-01 - Variable Added

12.1.7 Codes and Values

ID	Code	Description
482	2	Full Time Student (Regular class)
482	3	Part Time Student (Regular class)
482	4	Special Education / Other Non-Regular Education
482	5	Competitively Employed (Minimum wage or greater, legal or illegal employment, *includes on leave with pay - not related to index injury.)
482	7	Taking Care of House or Family
482	8	Special Employed (Sheltered workshop, supportive employment, has job coach)
482	9	Retired: Age-related
482	10	Unemployed: Looking (Looking for work in the 4 weeks prior to injury)
482	11	Volunteer Work
482	12	Retired: Disability
482	13	Unemployed: Not looking (Not looking for work in 4 weeks prior to injury for any reason)

ID	Code	Description
482	14	Hospitalized Without Pay During Most of 4 Weeks Prior to Injury (During Most of 4 Weeks Prior to Injury)
482	15	Retired: Other
482	16	On Leave From Work: Not receiving pay
482	55	Other
482	666	Variable Did Not Exist
482	777	Refused
482	888	Not Applicable
482	999	Unknown
669	2	Full Time Student (Regular class)
669	3	Part Time Student (Regular class)
669	4	Special Education / Other Non-Regular Education
669	5	Competitively Employed (Minimum wage or greater, legal or illegal employment, *includes on leave with pay not due to index injury)
669	7	Taking Care of House or Family
669	8	Special Employed (Sheltered workshop, supportive employment, has job coach)
669	9	Retired: Age-related
669	10	Unemployed: Looking (Looking for work in the last 4 weeks)
669	11	Volunteer Work
669	12	Retired: Disability
669	13	Unemployed: Not Looking (Not looking for work in last 4 weeks for any reason)
669	14	Hospitalized Without Pay (Not looking for work in the last 4 weeks)
669	15	Retired: Other
669	16	On Leave from Work: Not receiving pay (Not receiving pay)
669	17	Medical leave with pay or Workers Comp (Due to initial index injury)
669	55	Other
669	666	Variable Did Not Exist
669	777	Refused

ID	Code	Description
669	999	Unknown

12.1.8 History

Date	Description
1994-08-19	Deleted NOTE : regarding collecting data from subject and SO.
1994-08-19	Added CODE : ”88 - Not Applicable: No Secondary Employment Status ”
1999-10-01	Changed CODE : added ”has job coach” to code ”8 - Special Employed”.
1999-10-01	Added NOTE : to prioritize employment status if more than one.
2001-07-01	Changed DEFINITION : replaced ”at annual evaluation” with ”in the month prior to the annual evaluation”.
2001-07-01	Changed CODE : replaced ”7 - Homemaker” with ”7 - Taking care of house or family”.
2001-07-01	Changed CODE : ”(looking for work in the last 4 weeks)” to definition of ”10 - Unemployed: Looking”.
2001-07-01	Added CODE : ”12 - Retired: Disability”.
2001-07-01	Added CODE : ”13 - Unemployed (not looking for work in the last 4 weeks)”.
2001-07-01	Added CODE : ”14 - Hospitalized Without Pay (during most of the last 4 weeks)”.
2001-07-01	Added CODE : ”15 - Retired : Other”.
2001-07-01	Deleted NOTE : source of income support for disability as a criterion for classification.
2001-07-01	Changed NOTE : revised the prioritization list as follows: ”taking care of house or family” replaces ”home management (homemaker)”, ”job-directed/on-the-job training” reverses position with ”supported employment”, ”volunteer work” replaces ”volunteer activity”, ”retirement (age-related), retirement (disability-related)” replaces ”active leisure/retirement, disability-related retirement”.
2001-07-01	Added NOTE : that for the code”9 - Retired: Age-related”, accept the respondent’s statement as to whether age was the cause of retirement.
2002-04-01	Changed CODE (EmpWk, EmpWkF) : added “not competitively employed during prior year” to code “88 - NA”.
2002-07-01	Added NOTE : about minimum wage in foreign country.
2002-07-01	Added NOTE : about coding if did not work all days in prior month.
2002-07-01	Changed CODE (EmpWkF) : changed code 88 from ”not competitively employed” to ”no competitive employment in the last year”.

Date	Description
2003-01-01	Added NOTE : to use priority list to determine primary status, regardless of hours worked.
2003-10-01	Changed DEFINITION : an instruction to use the priority list to determine primary and secondary, if more than two employment statuses.
2003-10-01	Added NOTE : to code as employed if hired prior to evaluation but has not yet started work.
2004-01-01	Added NOTE : to code education as full-time or part-time based on self-report.
2004-07-01	Changed CODES : Replaced ”4 weeks prior to injury” with ”last 4 weeks” for descriptions of employment status ”10 - Unemployed: Looking”, ”13 -Unemployed: Not looking”, ”14 - Hospitalized Without Pay”.
2004-07-01	Changed NOTE (EmpWk, EmpWkF) : changed time period from ”since the last evaluation” to ”in the last year”
2004-12-03	Added NOTE : if participant reports retiring due to fatigue how to code.
2006-01-01	Added NOTE : definition of illegal employment.
2006-01-01	Added NOTE : appropriate strategy to use in collecting information if employment was illegal.
2006-01-01	Added CODE: ”16 - on leave from work not receiving pay”.
2006-01-01	Changed CODE : added ”includes on leave with pay” to code ”5 - Competitively Employed”
2006-01-01	Changed CODE : ”77 - Other” to ” 55 - Other”
2006-01-01	Added CODE : ”77 - Refused”.
2006-01-01	Added NOTE : to code ”99 - Unknown” if data collector does not ask because employment was illegal.
2006-06-26	Added NOTE : if participant has been hired but has not yet started work, they should NOT be coded as competitively employed.
2008-04-01	Added NOTE: If a person has been hired but has not yet started work, they should NOT be coded as competitively employed.
2008-06-28	Added NOTE: if participant returns to previous job, but is unable to complete all the duties they previously were responsible for without the assistance of others, code as ’08 - Special Employment (sheltered workshop, supportive employment, has job coach)’.
2009-03-03	Added NOTE: if participant is not working, but regularly attending GED classes, code Employment Status as ”3-Part Time Student”.
2009-04-01	Deleted NOTE : If participant is in jail, code ”55 - Other”.
2009-08-18	Added NOTE: participants who are working in a ”trial job” through workers compensation and not receiving any separate payment should be coded as ”other”.

Date	Description
2011-05-18	Added NOTE : if participant is not a student at the time of injury but planning to attend school, code as a non-student.
2013-01-01	Added NOTE (EmpWk, EmpWkF) : about coding infrequent employment.
2014-10-01	Added NOTE: Worker’s compensation and temporary disability should both be coded ”55-Other”.
2014-10-01	Added NOTE (EmpWk, EmpWkF) : Weeks worked should be calculated by multiplying the number of months by 4.
2016-01-15	Added CODE Form 2 : ”17 - Medical leave with pay or Workers Comp (Due to intitial index injury)”.
2016-01-15	Changed CODE : added ”not due to index injury” to ”5 - Competitively Employed”.
2016-01-15	Added NOTE: If on medical leave with pay or Worker’s Compensation due to initial TBI, then code as ”17 - Medical Leave with pay or Worker’s Compensation”.
2016-09-30	Added NOTE : the term “retired” can be used even if there has never been any competitive employment, so that based on age, one may consider themselves as retired.
2020-09-30	Added NOTE : Competitive Employment is employment for which an individual is compensated at or above the minimum wage, but not less than the customary wage and level of benefits paid by the employer for the same or similar work performed by individuals who are not disabled.
2021-12-23	Added Instruction to Form 1 Data Entry : ”Determine status using the following prioritization, regardless of the number of hours worked: competitive employment, degree-oriented education, taking care of house or family, job-directed/on-the-job training, supported employment, sheltered employment, non-directed coursework, volunteer work, retirement (age-related), retirement (disability-related), and no productive activity.” (This was already on Form 2)
2023-01-15	Removed NOTES: references to coding secondary employment were removed.

12.2 EMPLOYMENT - CALCULATED

12.2.1 Variables

Form Type	Variable	ID	Question	History
Form 1	EMPLOYMENT	484	At time of injury, what was your employment status?	1989-10-01 - Variable Added
Form 2	DAYSTo1stEmpl	617	Days From Injury to Employment	1989-10-01 - Variable Added
Form 2	EMPLOYMENTF	672	Employment Followup	1989-10-01 - Variable Added

12.2.2 Codes and Values

ID	Code	Description
484	2	Full Time Student
484	3	Part Time Student
484	4	Special Education/Other Non-Regular Education
484	5	Competitively Employed
484	7	Taking Care of House or Family
484	8	Special Employed
484	9	Retired
484	10	Unemployed
484	11	Volunteer
484	12	Other
484	888	Not Applicable
484	999	Unknown
617	66666	Variable Did Not Exist
617	77777	Refused
617	88888	No Competitive Employment Since Injury
617	88899	Began Competitive Employment in Prior Follow-up Year
617	99999	Unknown When Competitive Employment Began
672	2	Full Time Student
672	3	Part Time Student
672	4	Special Education / Other Non-Regular Education
672	5	Competitively Employed
672	7	Taking Care of House or Family
672	8	Special Employed
672	9	Retired
672	10	Unemployed
672	11	Volunteer Work

ID	Code	Description
672	12	Other
672	888	Not Applicable
672	999	Unknown

12.2.3 History

No history found for the Domain.

12.3 FIRST EMPLOYMENT

12.3.1 Definition

Date the person with brain injury began competitive employment after discharge from inpatient rehabilitation. Includes illegal employment (see Employment Status [EMPFirstF] for more information and for data collection instructions).

12.3.2 Form

[ ] Form 1
[X] Form 2

12.3.3 Source

Form 2 - Interview, Mail-out (participant or proxy)

12.3.4 Details

The first day of work in which reimbursement was at or above the minimum wage.

If the exact date is unknown, estimate to the nearest half-month and code the day in the middle of that half month.

Length of employment does not matter (e.g., employed for 1 day counts).

If on disability payments and return to work, count this as the first day (if competitive).

Ask this question if the participant has been competitively employed since the last evaluation even if not currently competitively employed.

If participant has been hired but has not begun work, code as “08/08/8888 - Not Applicable: No post-injury competitive employment”.

12.3.5 Variables

Form Type	Variable	ID	Question	History
Form 2	EmpFirstF	670	When did you start working in a regular job following your injury? (If no post-injury employment, code as	2001-07-01 - Variable Added

12.3.6 Codes and Values

ID	Code	Description
670	06/06/6666	Variable Did Not Exist
670	07/07/7777	Refused
670	08/08/8888	Not Applicable: No post-injury competitive employment
670	08/08/8899	Not Applicable: Competitive employment reported at prior evaluation
670	09/09/9999	Unknown

12.3.7 History

Date	Description
2002-07-01	Changed CODE : ”08/08/8888” from “not competitively employed” to ”no post-injury competitive employment”.
2002-07-01	Added NOTE : ask this question even if participant is not currently competitively employed.
2006-01-01	Added DEFINITION : that this includes illegal employment.
2006-01-01	Added CODE : ”07/07/7777 = Refused”
2006-01-01	Added NOTE : code ”09/09/9999 - Unknown” if data collector does not ask question because first employment was illegal (or may have been).

Date	Description
2006-01-01	DELETED NOTE : to exclude illegal employment.

12.4 OCCUPATIONAL CATEGORY

12.4.1 Definition

OCC - The major census occupational category in which the patient's occupation is included for his/her primary occupation in the year prior to injury.

OCCF - The major census occupational category in which the patient's occupation is included for his/her primary occupation in the month prior to follow-up evaluation.

Instructions from Bureau of Census for collecting this information appear to not distinguish legal from illegal employment. The TBIMS Data Committee clarified that illegal employment is to be included (to take effect 1/1/06). See Employment Status for more information and for data collection instructions.

12.4.2 Form

[X] Form 1
[X] Form 2

12.4.3 Source

Form 1 - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

12.4.4 Details

Form 2 - Code only if Employment Status is coded "05 - Competitively Employed" or "08 - Special Employed" for either the primary or secondary occupation. Otherwise this variable must be coded "888 - Not Applicable."

Code the patient's primary occupation. For a list of the specific occupations in each coding category, see the "1990 Census of Population Occupational Classification System", pages 9-22 of this document: See External Link. For instructions using this document see External Links.

Classification Principles listed in the Standard Occupational Classification User Guide may be followed to assist in coding occupational categories. Newer Standard Occupational Classifications may also be used to help categorize occupations not included in the list of 1990 Census Occupation Codes. (see External Link - Standard Occupational Classification User Guide)

If an occupation can be found using the newer SOC Classification and Coding Structure, try to identify other occupations in the same Minor Group that are included in the list of 1990 Census Occupation Codes. Select the 1990 classification that includes other occupations in the same SOC Classification and Coding Minor Group. If other occupations in the same Minor Group are not included in the list of 1990 Census Occupation Codes, try to find other occupations in the same Major Group. Note: There is a search function on the left side of the SOC webpage that is extremely helpful for finding occupations under their Major Group.

Example: Interpreter; Major Group = Arts, Design Entertainment, Sports, and Media Occupations; Minor Group = Media and Communication Workers; Other occupations under Media and Communication Workers = Public Relations Specialists and Announcers; 1990 Classification for Public Relations Specialists and Announcers = Professional Specialty Occupations.

Data collectors should clarify duties involved with ambiguous job titles to ensure accurate assignment of occupational category as needed.

12.4.5 Links

1990 Census Occupation Codes
Standard Occupational Classification User Guide

12.4.6 Reference

1990 Occupational Classification System, Alphabetical Index of Industries and Occupations, 1990 Census of Population and Housing, Bureau of the Census, U.S. Department of Commerce, pp 9-22. See External Links

12.4.7 Variables

Form Type	Variable	ID	Question	History
Form 1	OCC	531	If you were employed in the year before the injury, what type of job (not the name of the company) were you working at?	1989-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	OCCF	728	What kind of work do you currently do?	1989-10-01 - Variable Added

12.4.8 Codes and Values

ID	Code	Description
531	1	Executive, Administrative, and Managerial
531	2	Professional Specialty
531	3	Technicians and Related Support
531	4	Sales
531	5	Administrative Support Including Clerical
531	6	Private Household
531	7	Protective Service
531	8	Service, Except Protective and Household
531	9	Farming, Forestry, and Fishing
531	10	Precision Production, Craft, and Repair
531	11	Machine Operators, Assemblers, and Inspectors
531	12	Transportation and Material Moving
531	13	Handlers, Equipment Cleaners, Helpers, and Laborers
531	14	Military Occupations
531	777	Refused
531	888	Not Applicable
531	999	Unknown
728	1	Executive, Administrative, and Managerial
728	2	Professional Specialty
728	3	Technicians and Related Support
728	4	Sales
728	5	Administrative Support

ID	Code	Description
728	6	Private Household
728	7	Protective Service
728	8	Service, except Protective and Household
728	9	Farming, Forestry, and Fishing
728	10	Precision Production, Craft, and Repair
728	11	Machine Operators, Assemblers, and Inspectors
728	12	Transportation and Material Moving
728	13	Handlers, Equipment Cleaners, Helpers, and Laborers
728	14	Military Occupations
728	777	Refused
728	888	Not Applicable
728	999	Unknown

12.4.9 History

Date	Description
1994-01-01	Deleted NOTE : referring to a new census code for homemaker.
1994-02-01	Added ”1970” to clarify which codes are being used.
1994-09-13	Converted to using the 1990 Census codes and only coding major category of occupation instead of specific classification.
1995-07-01	Added NOTE : clarifying when to code variable in relationship to variable EMP.
2001-07-01	Changed DEFINITION : substituted “in the month prior to injury” for “at the time of injury”.
2002-01-01	Added NOTE : to code this variable if EMP is ”5 - Competitively employed” or ”8 - Special employment” in either primary or secondary occupation.
2004-01-01	Deleted NOTE : referring to primary and secondary employment status.
2006-01-01	Added DEFINITION : that this includes illegal employment.
2006-01-01	Added CODE : ”77 - Refused”.

Date	Description
2006-01-01	Added NOTE : to code ”99 - Unknown” if data collector does not ask question because employment was illegal.
2008-10-01	Added NOTE : about coding of prostitution and drug dealing.
2014-04-01	Added NOTE : about using newer Standard Occupational Classifications to help categorize occupations not included in the list of 1990 Census Occupation Codes, including an example of how to crosswalk back to 1990 categories.
2016-04-01	Added NOTE: about clarifying ambiguous job titles as needed.

13 ETIOLOGY

13.0.1 Definition

Includes Cause of Injury, Primary and Secondary ICD External Cause of Injury Codes.

Guidelines for coding ICD External Cause of Injury Codes : See Links

Cause of Injury
1 - Motor Vehicle Does not include auto racing. Auto racing is coded 18
2 - Motorcycle Includes 2-wheeled, motorized vehicle including mopeds, motorized dirt bikes, and motorized scooters
3 - Bicycle Includes tricycles and unicycles
4 - All-Terrain Vehicle (ATV) and All-Terrain Cycle (ATC) Includes both 3-wheeled and 4-wheeled recreational vehicles, dune buggy and go-cart
5 - Other Vehicular: Unclassified Includes tractor, bulldozer, steam roller, train, road grader, forklift, aircraft
10 - Gunshot Wound
11 - Assaults With Blunt Instrument Non-penetrating
12 - Other Violence Includes all other penetrating wounds: stabbing, impalement. Also includes explosions. (Those caused by bomb, grenade, dynamite, gasoline)
13 - Water Sports Includes diving, water skiing, surfing (includes body surfing), swimming, boating, etc.
14 - Field/Track Sports Includes football, baseball, softball, basketball, volleyball, field hockey, lacrosse, soccer, rugby, high jump and pole vault
15 - Gymnastic Activities Includes trampoline, breakdancing and other gym activities
16 - Winter Sports Includes snow skiing, sled, snow tube, toboggan, snowmobile, etc.
17 - Air Sports Includes hang gliding, parachuting, para-sailing, glider kite, etc. (Does not include airplane. Airplane is coded 05)
18 - Other Sports Includes wrestling, horseback riding, rodeo (e.g. bronco/bull riding), skateboard, auto racing, etc.
19 - Fall Includes jumping and being pushed
20 - Hit By Falling/Flying Object Includes ditch cave-in, avalanche, rock slide
21 - Pedestrian
22 - Other Unclassified Includes lightning, kicked by an animal, machinery accidents
999 - Unknown

13.0.2 Form

[X] Form 1
[ ] Form 2

13.0.3 Source

Abstraction (acute record)

13.0.4 Details

13.0.4.0.1 Cause of Injury

Cause of Injury is an important variable. Data collector should always know cause of TBI (needed to determine study inclusion), therefore cause and ICD External Cause of Injury codes should never be missing or unknown.

Cause of injury should correspond with the primary ICD External Cause of Injury Code and both codes should correspond with the narrative documented in the medical chart (history and physical) pay special attention to description of injured person (ie passenger, driver, pedal cyclist, etc.)

If the cause is not known, investigate as thoroughly as feasible and make a determination if possible. Also, be alert to information becoming available at a later time and be ready to record and submit it.

If person is found “down”, try to determine what happened.

On rare occasions, the cause of injury (Cause of Injury and ICD External Code variables) may be coded as “unknown” if unable to determine the mechanism or circumstances of injury. However, the data collector/admitting physiatrist should still be able to conclude that the primary mode of injury was traumatic in these cases, as this is a requirement for inclusion in the study.

13.0.4.0.2 ICD External Cause of Injury Codes

When taking External Cause of Injury Codes from the Medical Record, they should be checked to ensure that they reflect the best / most current information available about the cause of the injury. Data collectors may submit ICD External Cause of Injury Code that differ from those recorded in the Medical Record in cases where they feel the Medical Record ICD External Cause of Injury Code may not reflect the best / most current information available. There should be clear documentation on the data collection form when an ICD External Cause of Injury Code entered into the database does not reflect the ICD External Cause of Injury Code

recorded in the Medical Record. In unusual cases where no ICD External Cause of Injury Code relative to the injury that resulted in traumatic brain injury is recorded in the Medical Record, the data collector should use best judgement and the consultation of other personnel, as necessary, to determine the appropriate ICD External Cause of Injury Code from the TBIMS database list.

Code 2 causes of injury if there were 2 causes. If only one cause, the second ICD External Cause of Injury Code should be coded as the place of injury.

Place of injury codes should be used with any primary ICD External Cause of Injury Code to denote the PLACE where the accident or poisoning occurred. This code should always be secondary, never primary.

Late effects of injury codes are to be used to indicate circumstances classifiable as the cause of death or disability from late effects related to an injury. These include conditions reported as such, or occurring as sequelae one year or more after injury purposely inflicted by another person or injuries where intention is undetermined.

The TBIMS inclusion criteria specifies that participants present to the Model System ED with injuries occurring within 72 hours of admission. Therefore, all cases with a late effect external code listed as primary should be reviewed to assure that the injury is truly new and not pre-existing. If the current admission is due to a pre-existing TBI, this case does not fit the TBIMS inclusion criteria and should be excluded from the study.

ICD External Cause of Injury Codes can be assigned by data collector if medical record personnel unavailable.

888 (fall) is a valid External Cause of Injury ICD Code. Don't use 888 as "not applicable" (88888 = not applicable).
88888 should NEVER be the primary External Cause of Injury ICD Code, but can be the secondary code.

Include the preceding "V", "W", "X", or "Y" for ICD-10 cause of injury codes.

The following ICD External Cause of Injury Code should rarely, if ever, be the primary. These codes should be reviewed and validated prior to data entry: - accidental poisoning by drugs, medicinal substances; - accidental poisoning by other solid and liquid substances, gases, and vapors; - misadventures to patients during surgical and medical care; surgical and medical procedures as the cause of abnormal reaction of patient or later complication, without mention of misadventure at the time of the procedure; - accidents caused by fire and flames; - accidents due to natural and environmental factors; - accidents caused by submersion, suffocation, and foreign bodies; - assault by corrosive or caustic substance (except poisoning) - assault by poisoning - assault by hanging and strangulation - assault by submersion - drowning - assault by hot liquid - injuries undetermined whether accidentally or purposely inflicted

If two vehicles are involved, the cause of injury should be coded according to the vehicle on/in which the patient was riding (e.g. patient cycling on a bicycle and hit by a car, the cause would be the bicycle since that is the vehicle the patient was riding on.)

If two events are involved, the cause of injury should be coded according to the initial event (e.g. patient riding a bicycle fell, lost control and fell into ditch would be coded as a bicycle accident, not a fall.)

If two events are involved, and the participant sustains injuries from both events, the cause of injury should be coded according to the initial event. (e.g. patient hit in the head and fell to ground hitting head again would be coded as assault). If in doubt which event occurred first, ask the TBIMS physician which cause would be primary based on the extent of injury apparently caused by both events.

If person jumps from a moving vehicle, use code 19 in this variable, however, use appropriate vehicular ICD external code (E818.? for ICD-9 or V87.8XXA for ICD-10) ICD External Cause of Injury Code [CSEICD].

If injury occurred in parking lot of a public building, code “Y92.481 - Parking lot as the place of occurrence of the external cause”.

Cause of injury for patients who were “struck by a fist” should be coded as ‘’11 = Assaults with blunt instrument (non-penetrating)‘‘. Although an’‘instrument’ ’ was not technically utilized in the assault, this code best describes the etiology of the injury.

Do not include codes regarding drug or alcohol use or intoxication at the time of the injury in the External ICD code fields.

13.0.5 Links

ICD-10-CM List of External Cause of Morbidity Codes
ICD-10-CM/PCS Medical Coding Reference
ICD-10-CM Place of occurrence of External Cause

13.0.6 Reference

SCVMC (Santa Clara Valley Medical Center

ICD-9-CM 2001: International Classification of Diseases 9th Revision Clinical Modification, AMA Press. Volume 1, 2000, 251-279. ISBN: 1579471501.

13.0.7 Variables

Form Type	Variable	ID	Question	History
Form 1	Cause	414	Cause of injury:	1989-10-01 - Variable Added
Form 1	CauseE1	415	ICD External cause of injury code 1:	1989-10-01 - Variable Added
Form 1	CauseE2	415	ICD External cause of injury code 2:	1989-10-01 - Variable Added

13.0.8 Codes and Values

ID	Code	Description
414	1	Motor Vehicle (Does not include auto racing. Auto racing is coded 18)
414	2	Motorcycle (2-wheeled, motorized vehicle including mopeds, motorized dirt bikes, and motorized scooters)
414	3	Bicycle (Includes tricycles and unicycles)
414	4	All-Terrain Vehicle (ATV) and All-Terrain Cycle (ATC) (Includes both 3-wheeled and 4-wheeled recreational vehicles, dune buggy and go-cart.)
414	5	Other Vehicular: Unclassified (Includes tractor, bulldozer, steam roller, train, road grader, forklift, aircraft)
414	10	Gunshot Wound
414	11	Assaults With Blunt Instrument (Non-penetrating)
414	12	Other Violence (Includes all other penetrating wounds: stabbing, impalement. Also includes explosions. Those caused by bomb, grenade, dynamite, gasoline))
414	13	Water Sports (Includes diving, water skiing, surfing (includes body surfing), swimming, boating, etc.)
414	14	Field/Track Sports (Includes football, baseball, softball, basketball, volleyball, field hockey, lacrosse, soccer, rugby, high jump and pole vault)
414	15	Gymnastic Activities (Includes trampoline, breakdancing and other gym activities)
414	16	Winter Sports (Includes snow skiing, sled, snow tube, toboggan, snowmobile, etc.)
414	17	Air Sports (Includes hang gliding, parachuting, para-sailing, glider kite, etc. (Does not include airplane. Airplane is coded 05.))

ID	Code	Description
414	18	Other Sports (Includes wrestling, horseback riding, rodeo (e.g. bronco/bull riding), skateboard, auto racing, etc.)
414	19	Fall (Includes jumping and being pushed)
414	20	Hit By Falling/Flying Object (Includes ditch cave-in, avalanche, rock slide)
414	21	Pedestrian
414	22	Other Unclassified (Includes lightning, kicked by an animal, machinery accidents)
414	999	Unknown
415	88888	Not Applicable: No other E-codes (No other E-codes)
415	99999	Unknown

13.0.9 History

Date	Description
1999-04-01	Added NOTE : on how to code person jumping from moving vehicle.
2006-01-01	Added NOTE : about person found ”down”.
2006-01-01	Added NOTE : about importance of this variable.
2006-01-01	Changed CODE : NA code from 888.8 to 88888
2006-01-01	Changed CODE : ”unknown” code from 999.9 to 99999 to match new format of ”88888=NA”.
2009-06-15	Added NOTE : to code ”struck by a fist” as ”11 = Assaults with blunt instrument (non-penetrating)”.
2009-10-01	Added NOTE : about how to code injuries caused by an assault with a fist.
2011-04-01	Changed LINK : Guidelines for coding Cause of Injury and Etiology of Injury (Place of injury codes may be used with any primary E-Code).
2012-11-26	Added NOTE : if someone is cycling on a bicycle, but then, gets hit by a car if two ”vehicles” are involved in the cause of injury, the one in which the person was riding in (or ”on”) would be coded, so you would code the bicycle.
2013-02-01	Added NOTE : about coding bicycle vs. motor vehicle
2014-04-01	Changed CODE : Can now accommodate both ICD-9 and ICD-10 Codes.

Date	Description
2014-04-01	Added LINK : ICD-10-CM/PCS Medical Coding Reference.
2014-10-01	Added NOTE : how to code in injury occurred in parking lot.
2015-02-18	Added NOTE : regarding not including coded related to alcohol intoxication at time of accident
2015-09-30	Added NOTE : regarding how to code if two events are involved, and the participant sustains injuries from both events.
2016-04-01	Added LINK: E-Code Decision Tree
2018-01-15	Added NOTE : if two events are involved, the cause of injury should be coded according to the initial event
2018-04-01	Deleted NOTE : referring to ICD 9 coding
2018-05-15	Added NOTE: Code 2 causes of injury if there were 2 causes. If only one cause, the second ICD cause of injury code should be coded as the place of injury.
2020-01-30	Added NOTE: Added ”motorized scooter” to Cause of Injury code ”2-Motorcycle” code help
2020-10-20	Added NOTE : On rare occasions, the cause of injury (Cause of Injury and ICD External Code variables) may be coded as “unknown” if unable to determine the mechanism or circumstances of injury. However, the data collector/admitting physiatrist should still be able to conclude that the primary mode of injury was traumatic in these cases, as this is a requirement for inclusion in the study.

14 FIM

14.0.1 Definition

The FIM instrument is a measure of disability. It is intended to measure what the person with the disability actually does, not what he or she ought to be able to do, or might be able to do if certain circumstances were different. It is to be completed based on assessment over 3 calendar days for each assessment period.

FIM instrument data are to be collected according to the current (10/01/2012) IRF-PAI coding instructions (see External Links, supplemented by any further instructions in your syllabus). Information about the FIM instrument can be found in the IRF-PAI manual in section III, pages 39-95. If it is not possible for your Center to follow the correct manual, notify the TBINDC.

At Form 1, only Cognitive FIM items are collected.

The rating scale below should be used for each item. The syllabus provides additional detail on the ratings specific to the items.

Ratings should be based on the poorest performance during the 72-hour assessment period.

Rating Scale
7 - Complete Independence (Timely, safely)
6 - Modified Independence (Extra time, device)
5 - Supervision (performs 100%, but needs supervision)
4 - Minimal Assist (>= 75%)
3 - Moderate Assist (50 - 74%)
2 - Maximal Assist (25 - 49%)
1 - Total Assist (< 25%)

14.0.2 Form

[X] Form 1
[X] Form 2

14.0.3 Source

Form 1 - Abstract from FIM form (rehab record)
Form 2 - Interview (participant or proxy)

14.0.4 Details

All FIM items have an “assessment time period”. The assessment time period for all FIM items (except Bladder and Bowel Frequency of Accidents) is 3 days.

Scoring reflects the patient’s poorest (most dependent) functioning during the assessment time period. The evaluation is therefore not a snapshot of the patient’s performance at the time of evaluation, but a summary of performance over the entire assessment time period.

All FIM items must be scored. Record what patient actually does. If FIM assessment cannot be completed within the window of 3 calendar days, it should still reflect the patients’ status within that time period. If this is not possible and the assessments are done out of the window of 3 calendar days, code as “Unknown”. Every effort should be made to obtain the FIM assessments; however, if any items are not assessed, code “Unknown.” Do not leave blanks.

According to the UDS Procedures for Scoring the FIM instrument, “if the subject would be put at risk for injury if tested or does not perform the activity, enter 1.” Use this same rule for the TBI Model Systems FIM instrument data collection.

For Eating, Grooming, Bathing, Dressing Upper and Lower Body, Toileting and Transfers, if activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

The “Unknown” code is specific to the Model Systems and is to be used when the activity was not assessed within the window due to site specific reasons (e.g. therapists were unable to track patient down to assess FIM item.) At discharge, if an item is not assessed because the patient does not perform the activity, (e.g., patient is unable to perform activity due to an illness or other reasons, or it is unsafe for them to perform the activity) it should be coded as a “1-Total Assistance”. If the patient was being evaluated at admission with either of these reasons, the score would be a “0”.

If patient has an intermittent acute care stay during inpatient rehabilitation, use the FIM scores from the first rehabilitation admission and the last definitive discharge. In addition, if a patient has an intermittent stay which is longer than 30 days, it is then considered a system discharge and the discharge date from rehabilitation is the system discharge date and the FIM scores should correspond to that date.

The patient’s score on measures of function should not reflect arbitrary limitations or circumstances imposed by the facility. For example, a patient who can routinely ambulate more than 150 feet throughout the day with supervision (score of 5 for FIM Locomotion: Walking/Wheelchair item), but who is observed to ambulate only 20 feet at night to use the toilet

because that is the distance from his/her bed, should receive a Walk score of 5 rather than a lower score (IRF-PAI Training Manual 1/16/02, page III-4).

FIM scores may be abstracted from the medical record as long as the notes are specific (e.g. “patient feeding themselves independently”; “patient is unable to ambulate”; “patient needs the assistance of two people for all transfers”).

If a patient expires while in the rehabilitation facility, record a score of Level 1 for all discharge FIM items.

Total admission FIM is calculated using the admission walking score if participant is walking at discharge or the admission wheelchair score if the person is in a wheelchair at discharge.

At follow-up, FIM may be asked of anyone who would know the details of the participant’s functioning in these areas.

14.0.5 Links

FIM Manual - IRF-PAI instructions for FIM data collection
Introduction (COMBI)
Summary of the differences between the 4/2004 instructions and the 1/2002 instructions
FIM Decision Rule
FIM Cognitive Rating Form
Fone FIM for TBIMS * *Fone FIM to be used only as a supplement to assist as needed in determining FIM scoring - not as word-for-word administration.*

14.0.6 Reference

Uniform Data System for Medical Rehabilitation 232 Parker Hall SUNY South Campus 3435 Main Street Buffalo, New York 14214 3007 (716) 829 2076; FAX (716) 829 2080

The IRF-PAI instructions for the FIM instrument are disseminated through the website of The Centers for Medicare and Medicaid Services. For information about the CMMS, go to: http://www.cms.hhs.gov/researchers/projects/APR/2003/facts.pdf.

14.0.7 Characteristics

12 additional FAM items were collected from 10/01/1989 to 4/01/1998 when the collection of the FAM items became optional. FAM items were removed 7/01/1999.

On 4/1/02 new fields were created to accept data collected with the new (1/1/02) IRF-PAI instructions. The old fields are still in the database. At present there are no calculated variables that merge old data and with new data. Calculated variables based on either old or new scoring are available.

On 10/1/2019, centers began collecting the CARE Item Set at Form 1, and the collection of FIM Motor variables at Form 1 was no longer required. FIM Cognitive variables continue to be collected.

On 7/1/2020, the collection of FIM Motor variables at Form 1 was discontinued.

On 1/15/2025, a new coding rule was implemented: “If all FIM Cognitive items = 7 and FIM Stairs = 7, then remaining FIM items can be skipped and coded as 7.”. FIM Cognitive questions are now asked first, followed by FIM Stairs and the remaining FIM Motor items in the standard FIM order.

14.0.8 Training

Testing and certification of data collectors of this variable is required. Check with your center for their requirements for FIM certification.

ITHealthTrack training and certification materials (DVDs) are available at each local TBIMS center and also on the website under the Training & Certification tab (click on the “Certification” dropdown, then “Certification File Manager”, then “FIM Certification Materials”. Please contact CB Eagye at “PEagye@craighospital.org” for additional training and certification details.

A score of 80% or greater is required for FIM certification.

See external links for ITHealthTrack Exam Instructions and Exam Form.

14.1 BATHING

14.1.1 Definition

Bathing includes washing, rinsing, and drying the body from the neck down (excluding the neck and back) in either a tub, shower, or sponge/bed bath. The patient performs the activity safely.

14.1.2 Details

If activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

14.1.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMBathF	677	Bathing:	1989-10-01 - Variable Added

14.1.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.1.5 History

No history found for the Domain.

14.2 BED TRANSFER

14.2.1 Definition

Transfers: Bed, Chair, Wheelchair includes all aspects of transferring from a bed to a chair and back, or from a bed to a wheelchair and back, or coming to a standing position if walking is the typical mode of locomotion. The patient performs the activity safely. # Details If activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

14.2.2 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMBedTransF	677	Bed, chair, wheelchair transfers:	1989-10-01 - Variable Added

14.2.3 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.2.4 History

No history found for the Domain.

14.3 BLADDER ACCIDENT

14.3.1 Definition

Bladder Management: Frequency of Accidents – Bladder accidents refers to the act of wetting linen or clothing with urine, and includes bedpan and urinal spills.

14.3.2 Details

For Frequency of Bladder Accidents and Frequency of Bowel Accidents, the assessment time period is 7 days - that is, the number of accidents is counted across the 7 days prior to the patient's FIM evaluation.

For a Bladder or Bowel Management score of 6-Modified Independence on the FIM, the patient must be able to manage all aspects of their bladder/bowel care independently and have had no accidents within the last 7 days. An accident is defined by FIM as any soiling of linens or clothing, and if the participant wears a diaper, the bowel movement or urine must be fully contained within the diaper, not soiling clothing or bedding. So if the patient wears a diaper, and they are able to retrieve the diaper, change it , and dispose of it without assistance, AND they have no accidents outside of the diaper then the total Bladder or Bowel Management score would be a 6.

14.3.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMBladAccF	675	Bladder management – frequency of accidents:	1989-10-01 - Variable Added

14.3.4 Codes and Values

ID	Code	Description
675	1	Five or More Accidents in the Past 7 Days
675	2	Four Accidents in the Past 7 Days
675	3	Three Accidents in the Past 7 Days
675	4	Two Accidents in the Past 7 Days
675	5	One Accident in the Past 7 Days
675	6	No Accidents: Uses device (Catheter, Ostomy)
675	7	No Accidents
675	66	Variable Did Not Exist
675	88	Not Applicable: Variable not due this year
675	99	Unknown

14.3.5 History

No history found for the Domain.

14.4 BLADDER ASSISTANCE

14.4.1 Definition

Bladder Management - Level of Assistance includes the safe use of equipment or agents for bladder management.

14.4.2 Details

For a Bladder or Bowel Management score of 6-Modified Independence on the FIM, the patient must be able to manage all aspects of their bladder/bowel care independently and have had no accidents within the last 7 days. An accident is defined by FIM as any soiling of linens or clothing, and if the participant wears a diaper, the bowel movement or urine must be fully contained within the diaper, not soiling clothing or bedding. So if the patient wears a diaper, and they are able to retrieve the diaper, change it , and dispose of it without assistance, AND they have no accidents outside of the diaper then the total Bladder or Bowel Management score would be a 6.

14.4.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMBladAsstF	677	Bladder management – level of assistance:	1989-10-01 - Variable Added

14.4.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.4.5 History

No history found for the Domain.

14.5 BLADDER MANAGEMENT

14.5.1 Definition

Bladder Management includes complete and intentional control of the urinary bladder and, if necessary, use of equipment or agents for bladder control.

Bladder Management equals the lower score from Bladder Management: Level of Assistance and Bladder Management: Frequency of Accidents.

14.5.2 Details

For Bladder Management, if patient does not void (e.g., renal failure and on hemodialysis), assign code “7. Complete Independence”.

For a Bladder or Bowel Management score of 6-Modified Independence on the FIM, the patient must be able to manage all aspects of their bladder/bowel care independently and have had no accidents within the last 7 days. An accident is defined by FIM as any soiling of linens or clothing, and if the participant wears a diaper, the bowel movement or urine must be fully contained within the diaper, not soiling clothing or bedding. So if the patient wears a diaper, and they are able to retrieve the diaper, change it , and dispose of it without assistance, AND they have no accidents outside of the diaper then the total Bladder or Bowel Management score would be a 6.

14.5.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMBladMgtF	677	Bladder management:	1989-10-01 - Variable Added

14.5.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist

ID	Code	Description
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.5.5 History

Date	Description
2013-04-01	Added NOTE: how to code if participant wears a diaper.

14.6 BOWEL ACCIDENT

14.6.1 Definition

Bowel Management - Frequency of Accidents - Bowel accidents refer to the act of soiling linen or clothing with stool, and includes bedpan spills.

14.6.2 Details

For Frequency of Bladder Accidents and Frequency of Bowel Accidents, the assessment time period is 7 days - that is, the number of accidents is counted across the 7 days prior to the patient's FIM evaluation. Because the admission FIM evaluation must be done at the end of the first 3 days after rehab admission, the assessment time period therefore includes the 4 days prior to rehab admission. If information is not available from this 4-day period, then treat only the 3 days after rehab admission as the assessment time period. No adjustment in scoring of items Bladder and Bowel Frequency of Accidents is made when the assessment time period is shorter than 7 days.

For a Bladder or Bowel Management score of 6-Modified Independence on the FIM, the patient must be able to manage all aspects of their bladder/bowel care independently and have had no accidents within the last 7 days. An accident is defined by FIM as any soiling of linens or clothing, and if the participant wears a diaper, the bowel movement or urine must be fully contained within the diaper, not soiling clothing or bedding. So if the patient wears a diaper, and they are able to retrieve the diaper, change it , and dispose of it without assistance, AND they have no accidents outside of the diaper then the total Bladder or Bowel Management score would be a 6.

14.6.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMBwlAccF	675	Bowel management – frequency of accidents:	1989-10-01 - Variable Added

14.6.4 Codes and Values

ID	Code	Description
675	1	Five or More Accidents in the Past 7 Days
675	2	Four Accidents in the Past 7 Days
675	3	Three Accidents in the Past 7 Days
675	4	Two Accidents in the Past 7 Days
675	5	One Accident in the Past 7 Days
675	6	No Accidents: Uses device (Catheter, Ostomy)
675	7	No Accidents
675	66	Variable Did Not Exist
675	88	Not Applicable: Variable not due this year
675	99	Unknown

14.6.5 History

Date	Description
2013-04-01	Added NOTE: how to code if participant wears a diaper.

14.7 BOWEL ASSISTANCE

14.7.1 Definition

Bowel Management - Level of Assistance includes use of equipment or agents for bowel management.

14.7.2 Details

For a Bladder or Bowel Management score of 6-Modified Independence on the FIM, the patient must be able to manage all aspects of their bladder/bowel care independently and have had no accidents within the last 7 days. An accident is defined by FIM as any soiling of linens or clothing, and if the participant wears a diaper, the bowel movement or urine must be fully contained within the diaper, not soiling clothing or bedding. So if the patient wears a diaper, and they are able to retrieve the diaper, change it , and dispose of it without assistance, AND they have no accidents outside of the diaper then the total Bladder or Bowel Management score would be a 6.

14.7.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMBwlAsstF	677	Bowel management – level of assistance:	1989-10-01 - Variable Added

14.7.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.7.5 History

No history found for the Domain.

14.8 BOWEL MANAGEMENT

14.8.1 Definition

Bowel Management includes complete and intentional control of bowel movements and, if necessary, use of equipment or agents for bowel control.

Bowel Management equals the lower score from Bowel Management: Level of Assistance and Bowel Management: Frequency of Accidents.

14.8.2 Details

For Frequency of Bladder Accidents and Frequency of Bowel Accidents, the assessment time period is 7 days - that is, the number of accidents is counted across the 7 days prior to the patient's FIM evaluation. Because the admission FIM evaluation must be done at the end of the first 3 days after rehab admission, the assessment time period therefore includes the 4 days prior to rehab admission. If information is not available from this 4-day period, then treat only the 3 days after rehab admission as the assessment time period. No adjustment in scoring of items Bladder and Bowel Frequency of Accidents is made when the assessment time period is shorter than 7 days.

For a Bladder or Bowel Management score of 6-Modified Independence on the FIM, the patient must be able to manage all aspects of their bladder/bowel care independently and have had no accidents within the last 7 days. An accident is defined by FIM as any soiling of linens or clothing, and if the participant wears a diaper, the bowel movement or urine must be fully contained within the diaper, not soiling clothing or bedding. So if the patient wears a diaper, and they are able to retrieve the diaper, change it, and dispose of it without assistance, AND they have no accidents outside of the diaper then the total Bladder or Bowel Management score would be a 6.

14.8.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMBwlMgtF	677	Bowel management:	1989-10-01 - Variable Added

14.8.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.8.5 History

No history found for the Domain.

14.9 COMPREHENSION

14.9.1 Definition

Comprehension includes understanding of either auditory or visual communication (e.g., writing, sign language, gestures).

14.9.2 Details

Comprehension of complex or abstract information includes (but is not limited to) understanding current events appearing in television programs or newspaper articles, or abstract information on subjects such as religion, humor, math, or finances used in daily living. It may also include understanding information given during a group conversation. Information about basic daily needs refers to conversation, directions, and questions or statements related to the subject's need for nutrition, fluids, elimination, hygiene or sleep (physiological needs).

7 - No help from another person, extra time, or special equipment needed for either abstract or basic needs
6 - If either: a) takes more time than is reasonable to understand complex and abstract information AND/OR uses any special equipment such as glasses for visual comprehension or a hearing aid for auditory comprehension
5 - Help needed (slowed speech rate, repetition, stressing certain words or phrases, pauses, or visual or gestural cues) to understand directions and conversation about basic daily needs, such as hunger, thirst, or discomfort, only rarely (less than 10% of the time) [Participant understands lengthy instructions most of the time]
4 - ONLY occasional help needed to understand directions and conversation about basic daily needs (about 25% of the time) (Participant understands short sentences)
3 - Understand questions about basic daily needs half or more of the time (Participant understands 2-3 word sentences)
2 - Can understand or respond appropriately and consistently with prompting (one word, one thought at a time)
1 - Unable to understand or responds inappropriately or inconsistently despite prompting (understands VERY little)

NOTE - Wearing of eyeglasses causes Comprehension to be scored "6" only if the person's primary form of comprehension is visual (rather than auditory, which is usually primary).

14.9.3 Variables

Form Type	Variable	ID	Question	History
Form 1	FIMCompA	490	Comprehension:	1989-10-01 - Variable Added
Form 1	FIMCompD	490	Comprehension:	1989-10-01 - Variable Added
Form 2	FIMCompF	677	Comprehension:	1989-10-01 - Variable Added

14.9.4 Codes and Values

ID	Code	Description
490	1	Total Assist (< 25%)
490	2	Maximal Assist (25 - 49%)
490	3	Moderate Assist (50 - 74%)
490	4	Minimal Assist (>= 75%)
490	5	Supervision (100%)
490	6	Modified Independence (Extra time, device)
490	7	Complete Independence (Timely, safely)
490	66	Variable Did Not Exist
490	99	Unknown
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.9.5 History

No history found for the Domain.

14.10 DRESSING LOWER

14.10.1 Defintition

Dressing – Lower Body includes dressing and undressing from the waist down, as well as applying and removing a prosthesis or orthosis when applicable. The patient performs this activity safely.

14.10.2 Details

If activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

14.10.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMDrsdwnF	677	Dressing lower body:	1989-10-01 - Variable Added

14.10.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)

ID	Code	Description
677	99	Unknown

14.10.5 History

No history found for the Domain.

14.11 DRESSING UPPER

14.11.1 Definition

Dressing – Upper Body includes dressing and undressing above the waist, as well as applying and removing a prosthesis or orthosis when applicable. The patient performs this activity safely.

14.11.2 Details

If activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

14.11.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMDrupF	677	Dressing upper body:	1989-10-01 - Variable Added

14.11.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)

ID	Code	Description
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.11.5 History

No history found for the Domain.

14.12 EATING

14.12.1 Definition

Eating includes the ability to use suitable utensils to bring food to the mouth, as well as the ability to chew and swallow the food once the meal is presented in the customary manner on a table or tray. The patient performs this activity safely.

14.12.2 Details

If activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

14.12.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMFeedF	677	Eating:	1989-10-01 - Variable Added

14.12.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.12.5 History

No history found for the Domain.

14.13 EXPRESSION

14.13.1 Definition

Expression includes clear vocal or non-vocal expression of language. This item includes either intelligible speech or clear expression of language using writing or a communication device.

14.13.2 Details

7 - No help from another person, extra time, or special equipment needed to express complex and abstract ideas, such a family matters, current events or household finances
6 - If either: a) takes more time than is reasonable to express complex and abstract information AND/OR uses any special equipment such augmentative communication system AND/OR has mild difficulty with word-finding problems or mild dysarthria

5 - Help needed such as repetition or prompting to express basic daily needs, such as hunger, thirst or discomfort, only rarely (less than 10% of the time)
4 - ONLY occasional help to express basic daily needs (about 25% of the time)
3 - Express basic daily needs half or more of the time
2 - Can express appropriately and consistently with prompting
1 - Unable to express or expresses inappropriately or inconsistently despite prompting

14.13.3 Variables

Form Type	Variable	ID	Question	History
Form 1	FIMExpressA	490	Expression:	1989-10-01 - Variable Added
Form 1	FIMExpressD	490	Expression:	1989-10-01 - Variable Added
Form 2	FIMExpressF	677	Expression:	1989-10-01 - Variable Added

14.13.4 Codes and Values

ID	Code	Description
490	1	Total Assist (< 25%)
490	2	Maximal Assist (25 - 49%)
490	3	Moderate Assist (50 - 74%)
490	4	Minimal Assist (>= 75%)
490	5	Supervision (100%)
490	6	Modified Independence (Extra time, device)
490	7	Complete Independence (Timely, safely)
490	66	Variable Did Not Exist
490	99	Unknown
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)

ID	Code	Description
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.13.5 History

No history found for the Domain.

14.14 FIM - CALCULATED

FIM Total Scores

14.14.1 Variables

Form Type	Variable	ID	Question	History
Form 1	FIMCOGA	487	FIM Cognitive on Admission:	1989-10-01 - Variable Added
Form 1	FIMCOGD	488	FIM Cognitive at Discharge:	1989-10-01 - Variable Added
Form 1	FIMMOTA	492	FIM Motor on Admission:	1989-10-01 - Variable Added
Form 1	FIMMOTD	493	FIM Motor at Discharge:	1989-10-01 - Variable Added
Form 1	FIMTOTA	494	FIM Total at Admission:	1989-10-01 - Variable Added
Form 1	FIMTOTD	495	FIM Total at Discharge:	1989-10-01 - Variable Added
Form 2	FIMCOGF	676	FIM Cognitive Follow-up:	1989-10-01 - Variable Added
Form 2	FIMMOTF	679	FIM Motor Followup:	1989-10-01 - Variable Added
Form 2	FIMTOTF	680	FIM Total (New) Follow-up:	1989-10-01 - Variable Added

14.14.2 Codes and Values

ID	Code	Description
487	999	Unknown
488	999	Unknown
492	999	Unknown
493	999	Unknown
494	9999	Unknown
495	9999	Unknown
676	999	Unknown
679	999	Unknown
680	9999	Unknown

14.14.3 History

No history found for the Domain.

14.15 GROOMING

14.15.1 Definition

Grooming includes oral care, hair grooming (combing or brushing hair), washing the hands (including rinsing and drying), washing the face (including rinsing and drying) and either shaving the face or applying make-up. If the subject neither shaves nor applies make-up, Grooming includes only the first four tasks. The patient performs this activity safely. This item includes obtaining articles necessary for grooming.

14.15.2 Details

If activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

14.15.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMGroomF	677	Grooming:	1989-10-01 - Variable Added

14.15.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.15.5 History

No history found for the Domain.

14.16 LOCOMOTION MODE

14.16.1 Definition

Locomotion Mode - the more frequent mode of locomotion (walk or wheelchair).

Locomotion: Walk includes walking on a level surface once in a standing position. The patient performs the activity safely.

Locomotion: Wheelchair includes using a wheelchair on a level surface once in a seated position. The patient performs the activity safely.

14.16.2 Details

The patient's score on measures of function should not reflect arbitrary limitations or circumstances imposed by the facility. For example, a patient who can routinely ambulate more than 150 feet throughout the day with supervision (score of 5 for FIM Locomotion: Walking/Wheelchair item), but who is observed to ambulate only 20 feet at night to use the toilet because that is the distance from his/her bed, should receive a Walk score of 5 rather than a lower score (IRF-PAI Training Manual 1/16/02, page III-4).

14.16.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMLocoF	677	Walking/Wheelchair:	1989-10-01 - Variable Added
Form 2	FIMLocoModeF	678	Walking/Wheelchair – mode:	1989-10-01 - Variable Added

14.16.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist

ID	Code	Description
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown
678	w	Walk
678	c	Wheelchair
678	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
678	99	Unknown

14.16.5 History

Date	Description
2004-08-19	Added NOTE: if patient is walking and not using wheelchair, code Wheelchair On Admission as ”8. Not Applicable.”

14.17 MEMORY

14.17.1 Definition

Memory includes skills related to recognizing and remembering while performing daily activities in an institutional or community setting. Memory in this context includes the ability to store and retrieve information, particularly verbal and visual. The functional evidence of memory includes recognizing people frequently encountered, remembering daily routines, and executing requests without being reminded. A deficit in memory impairs learning as well as performance of tasks.

14.17.2 Details

7 - No help from another person, extra time, or special equipment needed to to remember people, routines and requests
6 - If either: a) has slight difficulty recognizing people, remembering daily routines and carrying out requests without need for repetition AND/OR uses self-initiated or environmental cues,

prompts or aids to recognize people, remember daily routines, or to carry out requests
5 - Needs help from another person ONLY rarely to recognize and remember people, daily routines, or to carry out requests(less than 10% of the time)
4 - Need ONLY occasional help to remember people, daily routines, or to carry out requests (about 25% of the time)
3 - Remembers people, routines and requests half or more of the time
2 - Participant remembers 25-50% of time
1 - Participant needs help to remember all of the time or does s/he not effectively recognize and remember (Participant remembers less than 25% or the time)

14.17.3 Variables

Form Type	Variable	ID	Question	History
Form 1	FIMMemA	490	Memory:	1989-10-01 - Variable Added
Form 1	FIMMemD	490	Memory:	1989-10-01 - Variable Added
Form 2	FIMMemF	677	Memory:	1989-10-01 - Variable Added

14.17.4 Codes and Values

ID	Code	Description
490	1	Total Assist (< 25%)
490	2	Maximal Assist (25 - 49%)
490	3	Moderate Assist (50 - 74%)
490	4	Minimal Assist (>= 75%)
490	5	Supervision (100%)
490	6	Modified Independence (Extra time, device)
490	7	Complete Independence (Timely, safely)
490	66	Variable Did Not Exist
490	99	Unknown
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)

ID	Code	Description
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.17.5 History

No history found for the Domain.

14.18 METHOD

14.18.1 Definition

Method used to collect FIM Cognitive items include the following:

1 – assessed by clinical staff following UDS rules
2 – assessed by clinical staff, single administration
3 – abstracted from medical record (e.g., reading clinical notes in the medical record to determine score)
4 – assessed by research staff following UDS rules
5 – assessed by research staff, single administration
6 – assessed by consulting clinical staff
7 – assessed using a mixture of above (describe method in open text field)

14.18.2 Form

[X] Form 1
[ ] Form 2

14.18.3 Source

Form 1 - See code choices for acceptable collection methods

14.18.4 Variables

Form Type	Variable	ID	Question	History
Form 1	FIMMeth	4147	FIM Cognitive Method of Data Collection:	2020-07-01 - Variable Added
Form 1	FIMMethDesc		Description of Method if Multiple Methods Used:	2020-07-01 - Variable Added

14.18.5 Codes and Values

ID	Code	Description
4147	1	Assessed By Clinical Staff Following UDS Rules
4147	2	Assessed By Clinical Staff, Single Administration
4147	3	Abstracted From Medical Record ((e.g., Reading Clinical Notes In The Medical Record To Determine Score))
4147	4	Assessed By Research Staff Following UDS Rules
4147	5	Assessed By Research Staff, Single Administration
4147	6	Assessed By Consulting Clinical Staff
4147	7	Assessed Using A Mixture Of Above ((Describe Method In Open Text Field))
4147	66	Variable Did Not Exist
4147	88	Not applicable
4147	99	Unknown

14.18.6 History

No history found for the Domain.

14.19 PROBLEM SOLVING

14.19.1 Definition

Problem Solving includes skills related to solving problems of daily living. This means making reasonable, safe, and timely decisions regarding financial, social, and personal affairs, as well as the initiation, sequencing, and self-correcting of tasks and activities to solve problems.

14.19.2 Details

7 - No help from another person, extra time, or special equipment needed to solve complex problems like managing a checking account or confronting interpersonal problems
6 - If either: a) takes more time in make appropriate decisions or solve problems AND/OR slight difficulty deciding what to do when a problem arises or initiating and carrying out steps to solve a problem (Participant less confident, more uncertain in making decisions and solving problems)
5 - Help needed to solve routine problems only rarely or only when under stressful conditions (less than 10% of the time) (Participant asks for help)
4 - ONLY occasional help need to solve routine problems effectively (help needed about 25% of the time)
3 - Solves routine problems appropriately half or more of the time
2 - Participant solves routine problems 25-50% of the time
1 - Unable to solve problems, needs constant 1:1 help

14.19.3 Variables

Form Type	Variable	ID	Question	History
Form 1	FIMProbSlvA	490	Problem solving:	1989-10-01 - Variable Added
Form 1	FIMProbSlvD	490	Problem solving:	1989-10-01 - Variable Added
Form 2	FIMProbSlvF	677	Problem solving:	1989-10-01 - Variable Added

14.19.4 Codes and Values

ID	Code	Description
490	1	Total Assist (< 25%)
490	2	Maximal Assist (25 - 49%)
490	3	Moderate Assist (50 - 74%)
490	4	Minimal Assist (>= 75%)
490	5	Supervision (100%)
490	6	Modified Independence (Extra time, device)
490	7	Complete Independence (Timely, safely)
490	66	Variable Did Not Exist
490	99	Unknown
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.19.5 History

No history found for the Domain.

14.20 SOCIAL INTERACTION

14.20.1 Definition

Social Interaction includes skills related to getting along and participating with others in therapeutic and social situations. It represents how one deals with one's own needs together with the needs of others.

14.20.2 Details

Examples of socially inappropriate behaviors include temper tantrums; loud, foul, or abusive language; excessive laughing or crying; physical attack; or very withdrawn or non-interactive behavior.

7 - No help from another person, extra time, or special equipment needed to interact with others in social and therapeutic situations
6 - If either: a) takes more time in social situations AND/OR interacts appropriately only in structured or modified environments AND/OR requires medication for social interaction
5 - Help needed to interact appropriately only rarely or only when under unfamiliar or stressful conditions (less than 10% of the time)
4 - ONLY occasional help need to interact appropriately with others (help needed about 10-25% of the time)
3 - Interacts appropriately half or more of the time (helper stays with them at activity)
2 - Interacts appropriately 25-50% of the time with assistance (helper stays for interaction)
1 - Unable to interact appropriately even with assistance

14.20.3 Variables

Form Type	Variable	ID	Question	History
Form 1	FIMSocialA	490	Social interaction:	1989-10-01 - Variable Added
Form 1	FIMSocialD	490	Social interaction:	1989-10-01 - Variable Added
Form 2	FIMSocialF	677	Social interaction:	1989-10-01 - Variable Added

14.20.4 Codes and Values

ID	Code	Description
490	1	Total Assist (< 25%)
490	2	Maximal Assist (25 - 49%)
490	3	Moderate Assist (50 - 74%)
490	4	Minimal Assist (>= 75%)
490	5	Supervision (100%)
490	6	Modified Independence (Extra time, device)
490	7	Complete Independence (Timely, safely)
490	66	Variable Did Not Exist
490	99	Unknown
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.20.5 History

No history found for the Domain.

14.21 STAIRS

14.21.1 Definition

Locomotion: Stairs includes going up and down 12 to 14 stairs (one flight) indoors in a safe manner.

14.21.2 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMStairsF	677	Stairs:	1989-10-01 - Variable Added

14.21.3 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.21.4 History

No history found for the Domain.

14.22 TOILET TRANSFER

14.22.1 Definition

Transfers: Toilet includes safely getting on and off a toilet.

14.22.2 Details

If activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

14.22.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMToilTransF	677	Toilet transfers:	1989-10-01 - Variable Added

14.22.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.22.5 History

No history found for the Domain.

14.23 TOILETING

14.23.1 Definition

Toileting includes maintaining perineal hygiene and adjusting clothing before and after using a toilet, commode, bedpan, or urinal. The patient performs this activity safely.

14.23.2 Details

If activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

14.23.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMToiletF	677	Toileting:	1989-10-01 - Variable Added

14.23.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)

ID	Code	Description
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.23.5 History

No history found for the Domain.

14.24 TUB TRANSFER

14.24.1 Definition

Transfers: Tub/shower includes getting into and out of a tub/shower. The patient performs the activity safely.

14.24.2 Details

If activity is not performed, assign code “1. Total Assist” (do not use the “0” code at follow-up).

14.24.3 Variables

Form Type	Variable	ID	Question	History
Form 2	FIMTubTransF	677	Tub or shower transfers:	1989-10-01 - Variable Added

ID	Code	Description

14.24.4 Codes and Values

ID	Code	Description
677	1	Total Assist (< 25%)
677	2	Maximal Assist (25 - 49%)
677	3	Moderate Assist (50 - 74%)
677	4	Minimal Assist (>= 75%)
677	5	Supervision (100%)
677	6	Modified Independence (Extra time, device)
677	7	Complete Independence (Timely, safely)
677	66	Variable Did Not Exist
677	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
677	99	Unknown

14.24.5 History

No history found for the Domain.

15 FINANCE

15.1 EARNINGS

15.1.1 Definition

Earn - Dollar earnings from all jobs held by patient during the year prior to injury. Includes illegal employment (see Employment Status for more information and for data collection instructions).

EarnF - Annualized income from competitive employment, based on all competitive employment at the time of the evaluation. Calculate the person's income for the next year as if he/she were to continue to earn at the rate at the time of the follow-up evaluation. Do not take into account anticipated future changes in income - no matter how large or how temporary the present rate of earning.

Includes illegal as well as legal employment (see 'Employment Status' for more information and for data collection instructions).

15.1.2 Form

[X] Form 1
[X] Form 2

15.1.3 Source

Form 1 - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

15.1.4 Details

Form 2 - Ask this question only if person is currently competitively employed, because this is a measure of projected income based on current competitive employment.

Include only competitive, above-minimum wage employment. Include salary, commissions, tips, and bonuses.

Code pre-tax income (gross annual income).

Exclude income support, investment income, settlements and other non-employment sources of income such as pension, or disability income support.

If patient is illegally employed and–in the data collector's judgement - it would be inappropriate to ask about this participant's income, then use code'999. Unknown'.

If data collector does not ask this question because participant was illegally employed, code '999. Unknown'.

Do not ask 'how much did you earn last year?' as this may be incorrect due to different current salary earnings.

Income earned as a result of owning a business in which participant is not truly competitively employed should be considered an investment rather than a salary and should be coded under the Family Income variable.

15.1.5 Characteristics

In 2003, one Model System had difficulty obtaining this information.

15.1.6 Variables

Form Type	Variable	ID	Question	History
Form 1	Earn	479	If you were employed in the year before the injury, what were your annual earnings (total salary) for the year before injury? Include only earnings from work - do not include income from investments, lawsuits, lottery, etc.	2001-07-01 - Variable Added
Form 2	EarnF	665	What is your total annual salary, based on your current job(s)?	2001-07-01 - Variable Added

15.1.7 Codes and Values

ID	Code	Description
479	1	$9,999 or less
479	2	$10,000 - $19,999
479	3	$20,000 - $29,999
479	4	$30,000 - $39,999
479	5	$40,000 - $49,999
479	6	$50,000 - $59,999
479	7	$60,000 - $69,999
479	8	$70,000 - $79,999
479	9	$80,000 - $89,999
479	10	$90,000 - $99,999
479	11	$100,000 or More
479	666	Variable Did Not Exist
479	777	Refused
479	888	Not Applicable: No competitive employment in the last year
479	999	Unknown
665	1	$9,999 or less
665	2	$10,000 - $19,999
665	3	$20,000 - $29,999
665	4	$30,000 - $39,999
665	5	$40,000 - $49,999
665	6	$50,000 - $59,999
665	7	$60,000 - $69,999
665	8	$70,000 - $79,999
665	9	$80,000 - $89,999
665	10	$90,000 - $99,999
665	11	$100,000 or More

ID	Code	Description
665	666	Variable Did Not Exist
665	777	Refused
665	888	Not Applicable: Not currently competitively employed
665	999	Unknown

15.1.8 History

Date	Description
2001-08-20	Added CODE : '66 - Variable did not exist'.
2001-10-01	Changed DEFINITION : to emphasize this is an annualized estimate based on current jobs.
2001-10-01	Added DEFINITION : to take into account definite future changes in income.
2002-01-01	Added NOTE : that this is pretax earnings.
2002-01-01	Changed DEFINITION : to instruct not to take into account known future changes in earning.
2002-01-01	Added NOTE : that this variable can be collected along with FAMILY INCOME AND SOURCE
2002-04-01	Changed CODE : added “not competitively employed” to code 88.
2002-07-01	Changed CODE : 88 from ”not competitively employed” to ”no competitive employment”, to indicate that 88 should be used only if person has not been competitively employed for the entire year prior to injury.
2002-07-01	Added NOTE : to ask this question only if person is currently competitively employed.
2004-01-01	Added NOTE : to include tips.
2004-01-01	Added NOTE : explaining why to include only participants who are competitively employed.
2004-04-01	Changed DEFINITION : removed reference to ”annual” evaluation.
2006-01-01	Changed DEFINITION : that this includes illegal employment.
2006-01-01	Added NOTE : to code '99=Unknown' if data collector did not ask question because employment was illegal.
2007-01-01	Added NOTE : to not ask how much person made last year.
2009-04-01	Changed CODE :illegal employment from 55 to 99.

15.2 HOUSEHOLD INCOME

15.2.1 Definition

Household income during the past year (from time of data collection back 12 months)

15.2.2 Form

[ ] Form 1
[X] Form 2

15.2.3 Source

Form 2 - Interview, Mail-out (participant or best source)

15.2.4 Details

This variable will be coded at each Form 2 follow-up. Preface the question as needed by saying, ‘’How much money people have often determines what services they have access to and how healthy they can be after an injury. For this reason, we are interested in knowing the household income of people in our study. I am going to ask you to estimate how much money was made in your entire household during the past year (12 months preceding today). You do not have to tell me the exact amount. I am going to read some choices and you can just tell me which one applies to your household. Be assured that your answers will be stored in a database that does not include your name, and we will not be talking to any government agency about your income. When I ask you to estimate your household income, this means your combined family income. I mean your income PLUS the income of all family members living in this household (including cohabiting partners, and armed forces members living at home). Please consider the following types of income that you may receive: wages and salaries; self-employment income (including business and farm); social security and railroad retirement; disability pension; SSI; cash assistance from state or county welfare; non-cash assistance (e.g., food stamps); interest income from banks and investment accounts; dividend income from stocks and mutual funds; net rental income; royalties, estates, and trusts; child support, alimony, or contributions from other family members; VA payments, workers comp, or unemployment comp. What is your best estimate of the total income of all family members in your household from all sources, before taxes, in the last year?’ ’

If the participant does not know the household income, then ask if there is another person that you can speak with who may be able to answer. Word the question in the same manner.

For participants who live with one or more roommates who contribute to household expenses, but who do not otherwise contribute funds for the needs and care of the person with injury, do not include their income.

The participant should be considered the best source to define who they consider ‘’family’ ’ to be. If at college or temporary address, take what the participant considers their permanent home/family to be.

See external link for more strategies to assist in collecting Household Income.

15.2.5 Links

Script and strategies to facilitate successful data collection of Household Income

15.2.6 Reference

The categories chosen were based on the 2008 income statistics at the following site: http://www.census.gov/compendia/statab/2011/tables/11s0689.pdf

15.2.7 Variables

Form Type	Variable	ID	Question	History
Form 2	HHIncomeF	705	I am going to read a list of income categories. Which category best describes your total family income for the past year. Include the income of any family member who was living with you, as well as your own income when choosing the category.	2012-10-01 - Variable Added

15.2.8 Codes and Values

ID	Code	Description
705	1	Less than $25,000
705	2	$25,000 - $49,999
705	3	$50,000 - $99,999
705	4	$100,000 - $149,999

ID	Code	Description
705	5	$150,000 - $199,999
705	6	$200,000 or More
705	77	Refused
705	66	Variable Did Not Exist
705	99	Unknown

15.2.9 History

Date	Description
2013-10-01	Added NOTE : The participant should be considered the best source to define who they consider ”family” to be. If at college or temporary address, take what the participant considers their permanent home/family to be.
2014-04-01	Added LINK : Script and strategies to facilitate successful data collection of Household Income

16 FOLLOW-UP DATE

16.1 FOLLOW-UP DATE

16.1.1 Definition

Date of Follow-up Evaluation

16.1.2 Form

[ ] Form 1
[X] Form 2

16.1.3 Source

Data Collector

16.1.4 Details

For date of follow-up evaluation, enter date when first data are collected (if data collection is done with more than one contact) with patient or significant other. If no follow-up data are collected from patient or significant other, code the reason (05/05/5555, 07/07/7777, etc.).

If a completed mailout is returned but not dated, the date of follow-up should be coded as the date the mailout was postmarked.

Court ordered rehab is considered as a form of incarceration for the purposes of the TBIMS, and should be coded accordingly.

16.1.5 Characteristics

For historical purposes only, a date of “09/09/9999 - Unknown” was a valid code, however, going forward, cases that are coded as “Followed” should always have a valid date.

16.1.6 Variables

Form Type	Variable	ID	Question	History
Form 2	Followup	686	Follow-up evaluation date:	1989-10-01 - Variable Added

16.1.7 Codes and Values

ID	Code	Description
686	04/04/4444	Expired
686	05/05/5555	Withdrew authorization
686	07/07/7777	Not Applicable: Includes refused, incarcerated and lost
686	08/08/8888	Not Applicable: Other (No follow-up evaluation. [DROPPED])
686	09/09/9999	Unknown (Collected via secondary source)

16.1.8 History

No history found for the Domain.

16.2 FOLLOW-UP DATE - CALCULATED

16.2.1 Variables

Form Type	Variable	ID	Question	History
Form 2	AGEF	573	Age at Follow-Up	1989-10-01 - Variable Added
Form 2	AGENoPHIF	574	Age at Follow-Up (No PHI Version)	1989-10-01 - Variable Added
Form 2	DAYStoFUF	3651	Days From Injury to Followup	1989-10-01 - Variable Added
Form 2	FUYearF		Year of the Follow-up interview	

16.2.2 Codes and Values

ID	Code	Description
573	9999	Unknown
574	777	89 Years Old or Older
574	999	Unknown
3651	999999	Unknown

16.2.3 History

No history found for the Domain.

17 GENERAL HEALTH

17.1 GENERAL HEALTH

17.1.1 Definition

- In general, would you say your health is: excellent, very good, good, fair, poor?

17.1.2 Form

[ ] Form 1
[X] Form 2

17.1.3 Source

Interview, Mail-out (participant only)

17.1.4 Details

This question is a self-reported measure collected during the Form II interview for all participants.

This question should NOT be administered to a significant other, or any other proxy. If the individual is unable to provide data, use code “88. Not Applicable: No data from person with TBI.”

17.1.5 Reference

Question 1: Medicare Survey Question #1; NHANES question
Question 2: Medicare Survey Question #11; CDC question with state comparative data for over 65; NHANES question

17.1.6 Variables

Form Type	Variable	ID	Question	History
Form 2	GenHlthF	693	In general would you say your health is…	2012-10-01 - Variable Added

17.1.7 Codes and Values

ID	Code	Description
693	1	Excellent
693	2	Very Good
693	3	Good
693	4	Fair
693	5	Poor
693	66	Variable Did Not Exist
693	82	Not Applicable - No data From Person With TBI
693	99	Unknown

17.1.8 History

No history found for the Domain.

18 GOS-E (GLASGOW OUTCOME SCALE - EXTENDED)

For information about the GOS-E (Glasgow Outcome Scale-Extended), see External Links under GOS-E subdomain below.

18.1 GOS-E

18.1.1 Definition

For information about the GOS-E (Glasgow Outcome Scale-Extended), see External Links.

18.1.2 Form

[ ] Form 1
[X] Form 2

18.1.3 Source

Interview (participant or proxy)

18.1.4 Details

Background of Instrument
The Glasgow Outcome Scale (GOS) was originally developed by Jennett and Bond as an examiner-rated measure of outcome. It has most typically been used to assess outcome in neurosurgery studies and has been widely used for clinical drug trials in acute TBI. The original GOS did not have a structured interview to accompany it. Raters, who may have been neurosurgeons, research nurses, or neuropsychologists, would give a GOS outcome rating based on all available information, including interviews with patients and their families, evaluation and examination of the patient, and any factual evidence they were able to obtain.

Wilson et al. developed a structured interview to improve reliability of ratings on the GOS, as well as to extend the rating categories so that they would better characterize patients at different levels.

Instructions for Rating

The interview can be administered to either the patient or a family member or other informant. However, the GOS-E is not meant to be a self-perception instrument. Raters should rate each item based on the most accurate information they have, regardless of source. The following guidelines should help with the rating.

- Although you are administering the interview to one person, you can obtain clarification from other sources if you feel that a particular item or items is inaccurate. For example, if the person with injury is the only person available to interview, you would administer the interview to him/her. However, if that person has limited insight into difficulties, and you know from another source that some of the answers are inaccurate, you can rate those particular items based on the most accurate information you have. For example, if someone who is in your post-acute program at the time of follow-up tells you they can travel without assistance, while their therapist says that they are medically restricted from driving and are currently receiving transportation training, you should assign the GOS-E score based on the information from the source that you feel to be most accurate. This does not mean that you are required to interview multiple sources. It just means that if you happen to have information from multiple sources, you can combine that information to increase the accuracy of your rating.
- Many GOS-E questions overlap with other questions that you may have already asked as part of local or national database projects. It is not necessary to ask the question again for the GOS-E. If you already know the answer to a question, you can fill it in and move on to the next question. (Dr. Dikmen confirmed this with the authors of the GOS-E when we first began using it.)
- Collect and record all subscale scores *unless* instructed to skip some of them by the skip instructions on the Form 2.
- The intention of the GOS-E is to measure the person's ABILITY to do things, whether or not they actually do them, so scoring should be based on what a person is able to do.

All raters should familiarize themselves with the original GOS-E article by Wilson and colleagues. Pay particular attention to the section on Assigning an Outcome Category (p. 576). This includes guidelines on how to account for pre-injury functioning.

Instructions for coding Unknown items

Every effort should be made to obtain the GOS-E assessment, however, if it can not be assessed, use code "99. Unknown." Do not leave blanks.

There should not be many "unknown" answers from a respondent. If there are, then the respondent is probably not sufficiently informed about the person with TBI to be the basis

for scoring the GOS-E. If there ARE many “unknown” responses and no better source of information is available, then the overall rating for the GOS-E should be “unknown”. Data collectors should use their judgment as to whether there are too many “unknown” responses to allow the GOS-E to accurately indicate the person’s level. Confer with your Model System’s data manager if uncertain.

For a GOS-E item that the respondent does not provide enough information to score other than “unknown”, the data collector should attempt to infer the score from alternative sources, such as the respondent’s answers to numerically higher GOS-E items, other items in the Form 2, and probes asked of the respondent and other persons informed about the person with TBI.

Additional Tips
Code deficits due to age as ‘Effects of Illness or Injury to Another Part of the Body’.

GOS-E is a “best source” variable. Not necessary to ask the two “supplemental” questions about seizures and source of disability (not present on data collection form).

The employment section can be based on education instead of employment if the participant was not working prior to injury. Evaluate whether the participant was attending school without difficulty (extra time, assistance, tutors, etc.). If the participant has returned to school part-time because she can not return to a full schedule due to the injury, then yes, code 5b as 1-Reduced work capacity. If you don’t have enough information to rate their schooling ability, you can skip the employment section and code as 88’s, and move onto the next GOS-E section.

If the person was unemployed and not seeking work before the injury, then they should be rated on the answers given to questions 6 and 7. For example, if the person is long-term unemployed or retired, then they should be rated on social and leisure activities and personal relationships. See external link, Wilson et al.- Frequently Asked Questions (p. 576).

The hierarchical nature of the GOS-E items causes lower items in the scale to not contribute to the overall score if the person is able to perform the task described by a higher item.

DATA ENTRY: Enter into the database all subscale scores that do not autofill. For each case that you enter, check to be sure that the auto-filled total score in the database is the same as the total score that has been recorded on the Form 2. Notify your Data Manager of any discrepancies.

DATA MANAGERS: If errors in calculating the total score turn up on the Form 2, provide your data collector(s) with more training in scoring the GOS-E and in calculating the total score. Contact the TBIMS NDSC if you have questions.

18.1.5 Links

PubMed: JT Wilson, et. al. (1998) GOSE-Manual Frequently Asked Questions for GOS-E (COMBI) Properties of the GOS-E instrument (COMBI) GOS-E References (COMBI)

18.1.6 Reference

JT Wilson, L Pettigrew, G Teasdale. Structured Interviews for the Glasgow Outcome Scale and the Extended Glasgow Outcome Scale: Guidelines for their use. Journal of Neurotrauma, Vol. 15 No. 8, 1998. For an abstract of this article, see External Links.

For additional references, see External Links.

18.1.7 Characteristics

On 7/1/00 a field for data with the new scoring was created. The old field (data prior to 7/1/00) is also in the database. GOS-E data can be collapsed onto the GOS scale if analyses require.

18.1.8 Variables

Form Type	Variable	ID	Question	History
Form 2	GOSAssistAllF	694	2a. Is the assistance of another person at home essential every day for some activities of daily living?	1998-04-01 - Variable Added
Form 2	GOSAssistPriorF	7630	2c. Was assistance at home essential before the injury?	1998-04-01 - Variable Added
Form 2	GOSCommandsF	695	1. Is the participant able to obey simple commands or say any words?	1998-04-01 - Variable Added
Form 2	GOSDisruptExF	696	7b. What has been the extent of disruption or strain?	1998-04-01 - Variable Added
Form 2	GOSDisruptF	7639	7a. Have there been psychological problems which have resulted in ongoing family disruption or disruption to friendships?	1998-04-01 - Variable Added
Form 2	GOSFactorF	698	10. You noted (reference last problematic item i.e. not being able to travel without assistance). Is that due to...	2007-10-01 - Variable Added
Form 2	GOSFrqHlpF	7629	2b. Do you need frequent help or someone to be around at home most of the time?	1998-04-01 - Variable Added
Form 2	GOSPrbCurrentF	7641	8a. Are there any other current problems relating to the injury which affect daily life?	1998-04-01 - Variable Added
Form 2	GOSPrbFamF	7640	7c. Were there problems with family or friends before the injury?	1998-04-01 - Variable Added
Form 2	GOSPrbPriorF	7642	8b. Were similar problems present before the injury?	1998-04-01 - Variable Added
Form 2	GOSRestrictF	699	5b. How restricted are you?	1998-04-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	GOSShopF	7631	3a. Are you able to shop without assistance?	1998-04-01 - Variable Added
Form 2	GOSShopPriorF	7632	3b. Were you able to shop without assistance before the injury?	1998-04-01 - Variable Added
Form 2	GOSSocF	7637	6a. Are you able to resume regular social and leisure activities outside home?	1998-04-01 - Variable Added
Form 2	GOSSocPriorF	7638	6c. Did you engage in regular social and leisure activities outside the home before the injury?	1998-04-01 - Variable Added
Form 2	GOSSocRestrictF	700	6b. What is the extent of restriction on your social and leisure activities?	1998-04-01 - Variable Added
Form 2	GOSTotalF	701	9. GOS-E score:	1998-04-01 - Variable Added
Form 2	GOSTravelF	7633	4a. Are you able to travel locally without assistance?	1998-04-01 - Variable Added
Form 2	GOSTravelPriorF	7634	4b. Were you able to travel without assistance before the injury?	1998-04-01 - Variable Added
Form 2	GOSWorkF	7635	5a. Are you currently able to work to your previous capacity?	1998-04-01 - Variable Added
Form 2	GOSWorkPriorF	7636	5c. Were you either working or seeking employment before the injury?	1998-04-01 - Variable Added

18.1.9 Codes and Values

ID	Code	Description
694	0	No (3a)
694	1	Yes
694	66	Variable Did Not Exist
694	88	NA
694	99	Unknown
695	0	No (Stop! VS)
695	1	Yes (2a)
695	66	Variable Did Not Exist
695	99	Unknown
696	1	Occasionally: Less than weekly (LGR)

ID	Code	Description
696	2	Frequent: Once per week or more but tolerable (UMD)
696	3	Constant: Daily and intolerable (LMD)
696	66	Variable Did Not Exist
696	88	NA
696	99	Unknown
698	1	Effects of Head Injury
698	2	Effects of Illness or Injury to Another Part of the Body
698	3	A Mixture of These
698	66	Variable Did Not Exist
698	88	Not Applicable
698	99	Unknown
699	1	Reduced Work Capacity (UMD)
699	2	Sheltered Workshop or Non-Competitive Job or Currently Unable to Work (LMD)
699	66	Variable Did Not Exist
699	88	NA
699	99	Unknown
700	1	Participate a Bit Less : At least half as often as before injury (LGR)
700	2	Participate Much Less: Less than half as often (UMD)
700	3	Unable to Participate: Rarely, if ever, take part (LMD)
700	66	Variable Did Not Exist
700	88	NA
700	99	Unknown
701	1	Dead
701	2	Vegetative State (VS)
701	3	Lower Severe Disability (LSD)
701	4	Upper Severe Disability (USD)
701	5	Lower Moderate Disability (LMD)

ID	Code	Description
701	6	Upper Moderate Disability (UMD)
701	7	Lower Good Recovery (LGR)
701	8	Upper Good Recovery (UGR)
701	66	Variable Did Not Exist
701	99	Unknown
7629	0	No (USD)
7629	1	Yes (LSD)
7629	66	Variable Did Not Exist
7629	88	NA
7629	99	Unknown
7630	0	No (Stop!)
7630	1	Yes (Go to item 3a)
7630	66	Variable Did Not Exist
7630	88	NA
7630	99	Unknown
7631	0	No (USD)
7631	1	Yes (4a)
7631	66	Variable Did Not Exist
7631	88	NA
7631	99	Unknown
7632	0	No (4a)
7632	1	Yes (Stop!)
7632	66	Variable Did Not Exist
7632	88	NA
7632	99	Unknown
7633	0	No (USD)
7633	1	Yes (5a)

ID	Code	Description
7633	66	Variable Did Not Exist
7633	88	NA
7633	99	Unknown
7634	0	No (5a)
7634	1	Yes (Stop!)
7634	66	Variable Did Not Exist
7634	88	NA
7634	99	Unknown
7635	0	No
7635	1	Yes (6a)
7635	66	Variable Did Not Exist
7635	88	NA
7635	99	Unknown
7636	0	No (6a)
7636	1	Yes (Stop!)
7636	66	Variable Did Not Exist
7636	88	NA
7636	99	Unknown
7637	0	No
7637	1	Yes (7a)
7637	66	Variable Did Not Exist
7637	88	NA
7637	99	Unknown
7638	0	No (7a)
7638	1	Yes (Stop!)
7638	66	Variable Did Not Exist
7638	88	NA

ID	Code	Description
7638	99	Unknown
7639	0	No (8a)
7639	1	Yes
7639	66	Variable Did Not Exist
7639	88	NA
7639	99	Unknown
7640	0	No (Stop!)
7640	1	Yes (8a)
7640	66	Variable Did Not Exist
7640	88	NA
7640	99	Unknown
7641	0	No (Stop! UGR)
7641	1	Yes (8b)
7641	66	Variable Did Not Exist
7641	88	NA
7641	99	Unknown
7642	0	No (Stop! LGR)
7642	1	Yes (Stop! UGR)
7642	66	Variable Did Not Exist
7642	88	NA
7642	99	Unknown

18.1.10 History

Date	Description
2021-10-22	Added NOTE : Incorporated links “28a Instructions for Rating GOS-E” and items 1 and 2 from “28b Instructions for scoring the GOS-E with Unknown Items.” to data dictionary Details. Removed both of these links.

18.2 GOS-E - CALCULATED

Scoring the GOS-E with Unknown Items

1. If there is an “unknown” response in any part of a GOS-E item (e.g., 2a, 2b, or 2c) then that entire item (e.g., 2) is not used in determining the GOS-E overall score.
2. Because the TBIMS scoring instructions treat questions 1-8 as hierarchical (i.e., higher numbered questions indicate higher levels of functioning), if responses to a higher-numbered question indicate that the person is functioning at that level, then “unknown” responses to lower items should be disregarded in determining the overall score.
3. If all items above a given item are “unknown”, then the GOS-E overall score is “unknown”. (Because it is not possible to determine the person’s highest level of performance.)
4. If the person has difficulty with the first item above an item that is “unknown”, then the GOS-E overall score is “unknown”. (Because it is not possible to identify the lowest item with which the person has difficulty.)

18.2.1 Variables

Form Type	Variable	ID	Question	History
Form 2	GOSEF	697	GOS-E Incl. Expired	1998-04-01 - Variable Added

18.2.2 Codes and Values

ID	Code	Description
697	1	Dead
697	2	Vegetative State (VS)
697	3	Lower Severe Disability (LSD)
697	4	Upper Severe Disability (USD)
697	5	Lower Moderate Disability (LMD)
697	6	Upper Moderate Disability (UMD)
697	7	Lower Good Recovery (LGR)
697	8	Upper Good Recovery (UGR)

ID	Code	Description
697	66	Variable Did Not Exist
697	99	Unknown

18.2.3 History

Date	Description
2021-10-22	Added NOTE : Incorportated items 3-6 from link ”28b Instructions for scoring the GOS-E with Unknown Items” to Details. Removed link to form 28b.

19 INJURY COMORBIDITIES

19.1 ICD DIAGNOSIS

19.1.1 Definition

ICD-10 Diagnosis Codes assigned by acute hospital(s) on discharge.

19.1.2 Form

[X] Form 1
[ ] Form 2

19.1.3 Source

Abstraction (acute record)

19.1.4 Details

These codes should be assigned by medical records and recorded on the chart at acute discharge. Numbers should be coded just as they appear on the record and not padded with zeros.

This variable should include all ICD-CM codes from any system acute care hospitalization irrespective of relatedness to TBI. If there are multiple acute stays, ICD-CM codes should be taken from all acute stays.

Do NOT include V, W, X or Y codes, as these are “External Causes of Morbidity” codes which should only be coded under the ICD External Cause of Injury Codes variables.

If you suspect errors in ICD-CM coding and can verify correct codes, please use corrected codes.

Do not assign ICD codes for a diagnosis found on acute admit or discharge note that was not included on the center’s medical record ICD list.

It is recommended by the Data Committee that only ICD codes reported in the medical record should be used.

If there is a “Problem List” in the acute medical record that has word-for-word code descriptions without the ICD code associated with the description, a data collector can enter the description in the ICD database and search to identify the appropriate code.

19.1.5 Links

ICD-10-CM/PCS Medical Coding Reference

19.1.6 Characteristics

ICD 9 CM Related: (moved to collecting ICD-10-codes only in 2017)
V-codes are to be included when using ICD-9-CM. The ‘99999. Unknown’ code used in this syllabus should not be confused with the ICD-9-CM code for ‘99999. Other Unspecified Complication.’

19.1.7 Variables

Form Type	Variable	ID	Question	History
Form 1	ICDCount		ICD Count	
Form 1	Mod1ICDold	3490	Please Enter All Abstracted ICDs	2014-04-01 - Variable Added

19.1.8 Codes and Values

No codes found for the given group IDs.

19.1.9 History

Date	Description
2021-08-06	Added NOTE : If there is a ”Problem List” in the acute medical record that has word-for-word code descriptions but not the ICD code associated with the description, a data collector can enter the description in the ICD database and search to identify the appropriate code.
2024-11-05	Added Note: ”Do NOT include V, W, X or Y codes, as these are ”External Causes of Morbidity” codes which should only be coded under the ICD External Cause of Injury Codes variables.” This is not a change in procedure. Just adding clarification to the DD.

19.2 ICD DIAGNOSIS - CALCULATED

19.2.1 Variables

Form Type	Variable	ID	Question	History
Form 1	ICDs	7644	Indicator of ICD Codes Entered	

19.2.2 Codes and Values

ID	Code	Description
7644	0	No
7644	1	Yes

19.2.3 History

No history found for the Domain.

20 KEYS

20.0.1 Definition

Keys includes Center ID, Subject ID, Mod1 and Mod2 ID, Follow-Up Period, and GUID.

20.0.2 Form

[X] Form 1
[X] Form 2

20.0.3 Source

Data Collector

20.0.4 Details

20.0.4.0.1 GUID

Please contact the NDSC for assistance with gaining FITBIR access to be able to create GUIDs.

20.0.4.0.2 Mod1ID and Mod2ID

'Mod1ID' and 'Mod2ID' are unique identifiers within their corresponding datasets.

'Mod1ID' uniquely identifies the rows in the Form 1 dataset. Form 1 data is collected upon intake and includes subject history and demographic variables. It has one row per subject.

'Mod2ID' uniquely identifies the rows in the Form 2 dataset, which contains follow-up data. Follow-up data is collected at certain years post-injury: 1, 2, 5, 10, 15, and every 5 years thereafter. There are multiple rows per subject in this dataset, so it also contains Mod1ID, which can then be used as a key to merge the two datasets.

For example, if a subject has follow-up data at Year 1, Year 2, and Year 5 timepoints, they will have one row in Form 1 and three rows in Form 2. A second subject may only have follow-up data at Year 1 and Year 2, so they will have one row in Form 1 and two rows in Form 2. Here is an illustration:

Form 1: Mod1ID
1
2

Form 2: Mod1ID Mod2ID
1 1
1 2
1 3
2 4
2 5

20.0.5 Links

GUID Manual

20.0.6 Characteristics

As of 4/1/02, the TBIMS data entry system has the capacity to present data entry screens that match more than one version of the Form I. Obtain the data entry screens that match the Form I you wish to enter by selecting the version number of your Form I from the drop down menu.

As of 4/1/04, all versions of Form I from V7.5 on are available as data entry screens. If the version of the Form I that you wish to edit or enter into the database is not listed on the drop-down menu, refer to external link.

20.0.7 Variables

Form Type	Variable	ID	Question	History
Form 1	Center	418	Center ID:	1989-10-01 - Variable Added
Form 1	GUID_consentF	507	Did participant consent to FITBIR GUID?	2015-01-01 - Variable Added
Form 1	GUID_realF		Real GUID:	2015-01-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	Mod1Id		Id Number for Participant Record	
Form 1	StaffInitials		Staff initials:	
Form 1	SubjectId		Subject ID:	1989-10-01 - Variable Added
Form 2	Center	606	Center ID:	1989-10-01 - Variable Added
Form 2	FollowUpPeriod	687	Followup period:	1989-10-01 - Variable Added
Form 2	GUID_consentF	4022	GUID_consent	
Form 2	GUID_realF		GUID_real	
Form 2	Mod2Id		Id Number for Follow-Up Evaluation	
Form 2	StaffInitialsF		Staff initials	
Form 2	SubjectId		Subject ID:	1989-10-01 - Variable Added

20.0.8 Codes and Values

ID	Code	Description
418	2	The Virginia Commonwealth TBI Model System
418	3	The Institute for Rehabilitation and Research (TIRR Memorial Hermann)
418	4	Southeastern Michigan Traumatic Brain Injury System (SEMTBIS)
418	5	Northern California TBI Model System
418	6	The Ohio Regional TBI Model System
418	7	Moss TBI Model System
418	8	University of Alabama at Birmingham Traumatic Brain Injury Care System
418	9	Rocky Mountain Regional Brain Injury System
418	10	Georgia Model Brain Injury System (GAMBIS)
418	11	Spaulding/Partners Traumatic Brain Injury Model System at Harvard Medical School
418	12	Mayo Clinic Traumatic Brain Injury Model System
418	13	University of Missouri
418	14	TBI Model System of Mississippi

ID	Code	Description
418	15	Northern New Jersey Traumatic Brain Injury System (NNJTBIS)
418	16	Carolinas Traumatic Brain Injury Rehabilitation and Research System
418	17	Oregon Health Sciences University
418	18	University of Washington Traumatic Brain Injury Model System
418	19	JFK-Johnson Rehabilitation Institute Traumatic Brain Injury Model System
418	20	University of Pittsburgh Medical Center Traumatic Brain Injury Model System (UPMC-TBI Model System)
418	21	North Texas Traumatic Brain Injury Model System
418	22	New York Traumatic Brain Injury Model System
418	23	Midwest Regional Traumatic Brain Injury Model System
418	28	Rusk Rehabilitation TBIMS at NYU
418	29	Indiana University / Rehabilitation Hospital of Indiana
418	30	South Florida TBI Model System
418	50	NDSC
507	1	Consented
507	2	Deceased prior
507	3	Did Not Consent
507	77	Refused
606	2	The Virginia Commonwealth TBI Model System
606	3	The Institute for Rehabilitation and Research (TIRR Memorial Hermann)
606	4	Southeastern Michigan Traumatic Brain Injury System (SEMTBIS)
606	5	Northern California TBI Model System
606	6	The Ohio Regional TBI Model System
606	7	Moss TBI Model System
606	8	University of Alabama at Birmingham Traumatic Brain Injury Care System
606	9	Rocky Mountain Regional Brain Injury System
606	10	Georgia Model Brain Injury System (GAMBIS)
606	11	Spaulding/Partners Traumatic Brain Injury Model System at Harvard Medical School

ID	Code	Description
606	12	Mayo Clinic Traumatic Brain Injury Model System
606	13	University of Missouri
606	14	TBI Model System of Mississippi
606	15	Northern New Jersey Traumatic Brain Injury System (NNJTBIS)
606	16	Carolinas Traumatic Brain Injury Rehabilitation and Research System
606	17	Oregon Health Sciences University
606	18	University of Washington Traumatic Brain Injury Model System
606	19	JFK-Johnson Rehabilitation Institute Traumatic Brain Injury Model System
606	20	University of Pittsburgh Medical Center Traumatic Brain Injury Model System (UPMC-TBI Model System)
606	21	North Texas Traumatic Brain Injury Model System
606	22	New York Traumatic Brain Injury Model System
606	23	Midwest Regional Traumatic Brain Injury Model System
606	28	Rusk Rehabilitation TBIMS at NYU
606	29	Indiana University / Rehabilitation Hospital of Indiana
606	30	South Florida TBI Model System
606	50	NDSC
687	1	Year 1
687	2	Year 2
687	5	Year 5
687	10	Year 10
687	15	Year 15
687	20	Year 20
687	25	Year 25
687	30	Year 30
687	35	Year 35
4022	1	Consented
4022	2	Deceased Prior

ID	Code	Description
4022	3	Did Not Consent
4022	77	Refused

20.0.9 History

Date	Description
1995-01-01	Changed CODE : added 2 digits to number to identify year of annual follow-up evaluation.
2004-01-01	Changed CODE : corrected number of digits–changed from 11 to 9.
2010-04-01	Removed centers 13 - Missouri, and 17 - Oregon, corresponding with archival of data from non-participating centers

21 MENTAL HEALTH

21.1 PSYCHIATRIC HOSPITALIZATION

21.1.1 Definition

Determine if the person with brain injury had any psychiatric hospitalizations prior to his/her injury by asking;

- “Have you ever been hospitalized for a psychiatric problem?”

This question is followed by asking whether it happened in the year before injury;

- “Were you hospitalized for a psychiatric problem in the year before the injury?”

21.1.2 Form

[X] Form 1
[ ] Form 2

21.1.3 Source

Form 1 Pre-Injury History (participant or proxy)

21.1.4 Variables

Form Type	Variable	ID	Question	History
Form 1	PsyHosp	537	Have you ever been hospitalized for a psychiatric problem?	2007-10-01 - Variable Added
Form 1	PsyHospPrior	537	If yes, were you hospitalized for a psychiatric problem in the year before the injury?	2007-10-01 - Variable Added

21.1.5 Codes and Values

ID	Code	Description
537	0	No
537	1	Yes
537	66	Variable Did Not Exist
537	77	Refused
537	88	Not Applicable
537	99	Unknown

21.1.6 History

Date	Description
2009-01-01	Added CODE : '7 - Refused' to PsyHosp and PsyHospPrior.

21.2 SUICIDE

21.2.1 Definition

Determine if the person with brain injury has attempted suicide in the past year.

Form 1
Asks “Have you ever attempted suicide?”

If yes, this question is followed up by asking “Did you ever attempt suicide in the year before the injury?”

Form 2
Asks “In the past year, have you attempted suicide?”

21.2.2 Form

[X] Form 1
[X] Form 2

21.2.3 Source

Form 1 Pre-Injury History (participant or proxy)
Form 2 Interview, Mail-Out (participant or proxy)

21.2.4 Variables

Form Type	Variable	ID	Question	History
Form 1	Suicide	558	Have you ever attempted suicide?	2007-10-01 - Variable Added
Form 1	SuicidePrior	558	If yes, did you attempt suicide in the year before the injury?	2007-10-01 - Variable Added
Form 2	SuicideF	777	In the past year, have you attempted suicide?	1997-01-01 - Variable Added

21.2.5 Codes and Values

ID	Code	Description
558	0	No
558	1	Yes
558	66	Variable Did Not Exist
558	77	Refused
558	88	Not Applicable
558	99	Unknown
777	0	No
777	1	Yes
777	66	Variable Did Not Exist
777	77	Refused
777	88	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
777	99	Unknown

21.2.6 History

Date	Description
2003-01-01	Changed DEFINITION : Replaced during the last year with Since the last interview in [month, year].
2003-10-01	Changed DEFINITION : Replaced Since the last interview in [month,year], with In the past year.
2004-07-01	Changed CODE : added back in the code for "Not due this year" plus a statement that this code is no longer used.
2009-01-01	Changed CODE : "Variable not collected this year" (outdated code) reassigned from 7 to 6.

21.3 TREATMENT

21.3.1 Definition

Asks "Have you ever received treatment for any mental health problems? (Examples include depression, anxiety, schizophrenia, and alcohol/drug abuse)."

If yes, this question is followed by up by asking "Did you receive treatment for any mental health problems in the year before the injury?"

21.3.2 Form

[X] Form 1
[ ] Form 2

21.3.3 Source

Form 1 Pre-Injury History (participant or proxy)

21.3.4 Details

Taking a prescribed medication (e.g. antidepressants) should be considered 'treatment' for the underlying condition.

Treatment for ADD/ADHD should NOT be included as treatment for mental health problems.

21.3.5 Variables

Form Type	Variable	ID	Question	History
Form 1	MntlEver	529	Have you ever received treatment for any mental health problems? (Examples include depression, anxiety, schizophrenia, and alcohol/drug abuse)	2007-10-01 - Variable Added
Form 1	MntlPrior	529	If yes, did you receive treatment for any mental health problems in the year before injury?	2007-10-01 - Variable Added

21.3.6 Codes and Values

ID	Code	Description
529	0	No
529	1	Yes
529	66	Variable Did Not Exist
529	77	Refused
529	88	Not Applicable
529	99	Unknown

21.3.7 History

Date	Description
2008-04-01	Added CODE : '8 - N/A' and note pertaining to it's use.
2009-01-01	Added CODE : '7 - Refused' to Mntlever and MntlPrior.
2010-08-18	Added NOTE : taking a prescribed medication (e.g. antidepressants) should be considered 'treatment' for the underlying condition.
2015-01-01	Added NOTE : treatment for ADD/ADHD should NOT be included as treatment for mental health problems.

22 MILITARY

22.0.1 Definition

Determine history of military service. These variables are intended to allow for better comparison with DOD/VA data.

The following questions are asked:

- Have you ever served in the military?
- If yes, how many years of active duty did you serve?
- If yes, were you ever deployed in a combat zone?

22.0.2 Form

[X] Form 1
[X] Form 2

22.0.3 Source

Form 1 - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

22.0.4 Details

Guard or reserve duty should be considered as service in the military, but does not count toward years of active duty.

Include service in foreign military.

Round up if months of duty are given (e.g., month of active duty = .5 years; 14 months of active duty = 1.5 years)

22.0.5 Reference

DVBIC SIG

22.0.6 Variables

Form Type	Variable	ID	Question	History
Form 1	MILCombatF	526	Were you ever deployed in a combat zone?	2010-04-01 - Variable Added
Form 1	MILServeF	527	Have you ever served in the military?	2010-04-01 - Variable Added
Form 1	MILYearsF	528	How many years of active duty have you served in the military?	2010-04-01 - Variable Added
Form 2	MILCombatF	4025	Were you ever deployed in a combat zone?	
Form 2	MILServeF	4023	Have you ever served in the military?	
Form 2	MILYearsF	4024	How many years of active duty did you serve?	

22.0.7 Codes and Values

ID	Code	Description
526	0	No
526	1	Yes
526	66	Variable Did Not Exist
526	77	Refused
526	88	Not Applicable: Never served in military
526	99	Unknown
527	0	No
527	1	Yes
527	66	Variable Did Not Exist
527	77	Refused
527	99	Unknown
528	666.0	Variable Did Not Exist

ID	Code	Description
528	777.0	Refused
528	888.0	Not Applicable: Never served in military
528	999.0	Unknown
4023	0	No
4023	1	Yes
4023	66	Variable Did Not Exist
4023	77	Refused
4023	99	Unknown
4024	666	Variable Did Not Exist
4024	777	Refused
4024	888	Not applicable
4024	999	Unknown
4025	0	No
4025	1	Yes
4025	66	Variable Did Not Exist
4025	77	Refused
4025	88	Not applicable
4025	99	Unknown

22.0.8 History

No history found for the Domain.

23 NEUROPSYCH

23.0.1 Definition

Includes BTACT - Brief Test of Adult Cognition by Telephone data collection at Form I and Form II

23.0.2 Characteristics

Brief Test of Adult Cognition by Telephone (BTACT) data collection at Form I and Form II began on 10/01/2017.

The following is a list of all the Neuropsychological Battery tests, in order of administration collected at Form I and Form II from 1989 -2003:
a. Galveston Orientation and Amnesia Test (GOAT)
b. Multilingual Aphasia Examination Token Test
c. Wechsler Memory Scale-Revised Logical Memory
e. Wechsler Memory Scale-Revised Digit Span
g. Grooved Pegboard
h. Benton Visual Discrimination Test
j. Controlled Oral Word Association (COWA)
k. Rey Auditory Verbal Learning Test (Rey A VLT)
l. Symbol Digit Modalities Test
m. Reitan Trail Making
n. WAIS-R Block Design
p. Wisconsin Card Sorting Test
q. Neurobehavioral Rating Scale (dropped in 1996)

The following is a list of Neuropsychological Battery tests collected only at Form I from 10/01/2007-09/30/2017;
a. O-Log
b CVL-T
c. Reitan Trail Making

23.1 BTACT

23.1.1 Definition

23.1.1.0.1 Brief Test of Adult Cognition by Telephone (BTACT)

The BTACT is a brief (15-20 minute) and reliable telephone-administered test that includes six subtests assessing important areas of cognition. The subtests were selected for inclusion in the BTACT based on their ability to assess a wide range of cognitive abilities (see below) and for their sensitivity to normal age-related changes. Other important features of the subtests include well-established psychometric properties, ease of administration via telephone by lay interviewers, and brief administration time. Two psychometrically equivalent alternate forms are available, and the BTACT is available in English and Spanish. Previous research has demonstrated that in-person and telephone administration of BTACT subtests yield equivalent results (Lachman et al., 2011). The subtests in the BTACT include: Rey Auditory Verbal Learning Test, Digits Backward, Number Series, Animal Fluency, Backward Counting.

Descriptions of subtests included in the Brief Test of Adult Cognition by Telephone BTACT:

- **EPISODIC VERBAL MEMORY (Word List Recall)** - Immediate Recall of 15-item word list (RAVLT; 1 trial only) SCORE = Total correct in 60 sec (Optional: repetitions, intrusions, Recall efficiency (total time/#words)) and Delayed Recall of word list (at end of assessment) Score = Total correct (Optional: repetitions, intrusions, Forgetting (Immediate-delayed recall)).
- **WORKING MEMORY** (Digits Backward [WAIS-III]) Score = Longest accurately recalled string.
- **EXECUTIVE** (Category Animal Fluency) Score = Number correct in 60 seconds, (Optional: repetitions, intrusions).
- **REASONING** (Number Series) Score = Number correct (5 trials of increasing difficulty).
- **REACTION TIME** (Backward Counting) Score = Last number reached minus number of errors (reversals, skips, incorrect numbers).

23.1.2 Form

[X] Form 1
[X] Form 2

23.1.3 Source

BTACT testing to be administered to participant only

23.1.4 Details

See BTACT SOP link below for full administration guidelines.

23.1.4.0.1 Form 1

- If BTACT window closes prior to patient consenting to the TBIMS, clinical judgement should be used to code whether or not BTACT could have been completed at that time (e.g., consult with treating neuropsychologist or other rehab team members). If determined patient would not have been able to complete the BTACT due to cognitive impairment, code as "Not Attempted due to cognitive impairment." Do not attempt to abstract information from the medical record to make this determination.
- If a proxy consents to the TBIMS for the participant, all attempts should still be made to complete the BTACT with the participant, even if the participant is not out of PTA.

23.1.5 Links

MIDUS Refresher means and SD for cognitive test
BTACT SOP

23.1.6 Reference

The Brief Test of Adult Cognition by Telephone (BTACT; Tun & Lachman, 2006)

23.1.7 Characteristics

Researchers should evaluate the appropriate "window" for each specific study, and exclude BTACT data collected outside of their preferred window.

23.1.8 Training

Please refer to the BTACT Training videos under the Training Manual (found under both Form 1 and Form 2 training modules).

23.2 BACKWARD COUNTING

23.2.1 Definition

Backward Counting is a sub-test of the BTACT.

23.2.2 Details

REACTION TIME (Backward Counting) Score = Last number reached minus number of errors (reversals, skips, incorrect numbers).

23.2.3 Variables

Form Type	Variable	ID	Question	History
Form 1	BackCountDigits	400	Backward counting number of digits produced:	2017-10-01 - Variable Added
Form 1	BackCountErrors	400	Backward counting number of errors:	2017-10-01 - Variable Added
Form 1	BackCountLastNum	400	Backward counting last number reached:	2017-10-01 - Variable Added
Form 1	BackCountTCC	401	Backward counting test completion code:	2017-10-01 - Variable Added
Form 1	BackCountTime	402	Backward counting total time if less than 30 sec (otherwise enter 30 seconds):	2017-10-01 - Variable Added
Form 2	BackCountDigits	594	Backward counting number of digits produced:	2017-10-01 - Variable Added
Form 2	BackCountErrors	594	Backward counting number of errors:	2017-10-01 - Variable Added
Form 2	BackCountLastNum	594F	Backward counting last number reached:	2017-10-01 - Variable Added
Form 2	BackCountTCC	F595	Backward counting test completion code:	2017-10-01 - Variable Added
Form 2	BackCountTime	F594	Backward counting total time if less than 30 sec (otherwise enter 30 seconds):	2017-10-01 - Variable Added

23.2.4 Codes and Values

ID	Code	Description
400	666	Variable Did Not Exist

ID	Code	Description
400	888	Not Tested
400	999	Unknown
401	1	Test Administered in full- results valid
401	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
401	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
401	4	Test Attempted BUT Not Completed (Refusal to continue)
401	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
401	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
401	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
401	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
401	9	Test Not Attempted (Refusal)
401	10	Test Not Attempted (Non-English Speaking Patient)
401	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
401	12	Test Not Attempted (Not Consented Within Window)
401	13	Test Not Attempted (Not Admitted to Rehab Within Window At Form I)
401	14	Suspect That a Participant is Writing Down Answers
401	16	Other
401	666	Variable Did Not Exist
402	666	Variable Did Not Exist
402	888	Not Tested
402	999	Unknown
594	666	Variable Did Not Exist
594	888	Not Tested
594	999	Unknown
595	1	Test Administered in full- results valid
595	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
595	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)

ID	Code	Description
595	4	Test Attempted BUT Not Completed (Refusal to continue)
595	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
595	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
595	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
595	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
595	9	Test Not Attempted (Refusal)
595	10	Test Not Attempted (Non-English Speaking Patient)
595	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
595	13	Test Not Attempted (Not Admitted To Rehab Within Window At Form I)
595	14	Suspect That a Participant is Writing Down Answers
595	16	Other
595	666	Variable Did Not Exist
595	888	Not Applicable, No Data From Person with TBI

23.2.5 History

No history found for the Domain.

23.3 BTACT - CALCULATED

23.3.1 Definition

WordRecallCorrectF_i_n 'Word recall total correct Standardized to MIDUS'

DelayWordRecallCorrectF_i_n 'Delayed word recall total correct Standardized to MIDUS'

BackDigitCorrectF_i_n 'Backward digit span highest level reached Standardized to MIDUS'

FluencyCorrectF_i_n 'Category fluency total correct Standardized to MIDUS'

ReasonCorrectF_i_n 'Reasoning total correct Standardized to MIDUS'

BackCountDigitsF_i_n ‘Backward counting number of digits produced Standardized to MIDUS’

MeanWordCorrect_i_n ‘Word recall total correct and Delayed word recall total correct Standardized to MIDUS’

B3TCOMP_i_n ‘BTACT Composite Score Standardized to MIDUS’

B3TEM_i_n ‘BTACT Episodic Memory Factor Standardized to MIDUS’.

B3TEF_i_n ‘BTACT Executive Function Factor (without SGST) Standardized to MIDUS’.

23.3.2 Variables

Form Type	Variable	ID	Question	History
Form 1	B3TCOMP		BTACT Total score standardized by age, sex and education	
Form 1	B3TEF		BTACT executive functioning subscale	
Form 1	B3TEM		BTACT episodic memory subscale	
Form 1	BackCountDigits_i_n		Recalculation of the back count digits when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 1	BackDigitCorrect_i_n		Recalculation of the back digit correct when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 1	DelayWordRecallCorrect_i_n		Recalculation of the delayed word recall when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 1	FluencyCorrect_i_n		Recalculation of the fluency correct when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 1	ReasonCorrect_i_n		Recalculation of the reasoning correct when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 1	WordRecallCorrect_i_n		Recalculation of the word recall when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 2	B3TCOMPF		BTACT Total score standardized by age, sex and education	

Form Type	Variable	ID	Question	History
Form 2	B3TEFF		BTACT executive functioning subscale	
Form 2	B3TEMF		BTACT episodic memory subscale	
Form 2	BackCountDigitsF_i_n		Recalculation of the back count digits when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 2	BackDIgitCorrectF_i_n		Recalculation of the back digit correct when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 2	DelayWordRecallCorrectF_i_n		Recalculation of the delayed word recall when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 2	FluencyCorrectF_i_n		Recalculation of the fluency correct when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 2	ReasonCorrectF_i_n		Recalculation of the reasoning correct when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	
Form 2	WorRecallCorrectF_i_n		Recalculation of the word recall when test completion scores are 2 and 7 the value is scored to zero accounting for test not completed (due to cognitive/neurological reasons)	

23.3.3 Codes and Values

No codes found for the given group IDs.

23.3.4 History

No history found for the Domain.

23.4 BTACT INFO

23.4.1 Definition

BTACT Completion Information includes BTACT administration date, administration method, and language used to complete testing.

See BTACT SOP link below for full administration guidelines.

23.4.2 Details

BTACT Administration - completion method used (phone or in-person).

BTACT Date - Date that the BTACT administration began.

BTACT Language - Language used to complete BTACT.

At Form 2, BTACTs collected more than 4 weeks after the original Form 2 interview can stand alone and do not require data collectors to verify previously collected data.

23.4.3 Links

MIDUS Refresher means and SD for cognitive test
BTACT SOP

23.4.4 Reference

The Brief Test of Adult Cognition by Telephone (BTACT; Tun & Lachman, 2006)

23.4.5 Variables

Form Type	Variable	ID	Question	History
Form 1	BTACTAdm	410	BTACT administration:	2017-10-01 - Variable Added
Form 1	BTACTDate	411	Date that BTACT administration began:	2017-10-01 - Variable Added
Form 1	BTACTLanguage	412	Language used for BTACT:	2017-10-01 - Variable Added
Form 1	BTACTTCC	3349	Overall test completion code:	2017-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	BTACTAdmF	602	BTACT administration:	2017-10-01 - Variable Added
Form 2	BTACTDateF	603	Date that BTACT administration began:	2017-10-01 - Variable Added
Form 2	BTACTLanguageF	604	Language used for BTACT:	2017-10-01 - Variable Added
Form 2	BTACTTCCF	3598	BTACT overall completion code:	2017-10-01 - Variable Added

23.4.6 Codes and Values

ID	Code	Description
410	1	Phone
410	2	In-person
410	66	Variable Did Not Exist
410	88	Not Applicable: Battery not given
411	06/06/6666	Variable Did Not Exist
411	08/08/8888	Not Applicable: Battery not given
411	09/09/9999	Unknown
412	1	English
412	2	Spanish
412	66	Variable Did Not Exist
412	88	N/A
412	99	Unknown
602	1	Phone
602	2	In-person
602	66	Variable Did Not Exist
602	88	Not Applicable: Battery not given
603	06/06/6666	Variable Did Not Exist
603	08/08/8888	Not Applicable: Battery not given
603	09/09/9999	Unknown

ID	Code	Description
604	1	English
604	2	Spanish
604	66	Variable Did Not Exist
604	88	N/A
604	99	Unknown
3349	1	Test Administered in full- results valid
3349	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
3349	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
3349	4	Test Attempted BUT Not Completed (Refusal to continue)
3349	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
3349	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
3349	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
3349	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
3349	9	Test Not Attempted (Refusal)
3349	10	Test Not Attempted (Non-English Speaking Patient)
3349	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
3349	12	Test Not Attempted (Not Consented Within Window)
3349	13	Test Not Attempted (Form 1: Not Admitted In Window/Form 2: Collected Out of Window)
3349	14	Suspect That a Participant is Writing Down Answers
3349	16	Other
3349	666	Variable Did Not Exist
3598	1	Test Administered in full- results valid
3598	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
3598	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
3598	4	Test Attempted BUT Not Completed (Refusal to continue)
3598	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
3598	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)

ID	Code	Description
3598	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
3598	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
3598	9	Test Not Attempted (Refusal)
3598	10	Test Not Attempted (Non-English Speaking Patient)
3598	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
3598	13	Test Not Attempted (Form 1: Not Admitted In Window/Form 2: Collected Out of Window)
3598	14	Suspect That a Participant is Writing Down Answers
3598	16	Other
3598	666	Variable Did Not Exist
3598	888	Not Applicable. No Data From Person with TBI (Form II)

23.4.7 History

Date	Description
2018-10-01	Added NOTE: At Form 2, BTACTs collected more than 4 weeks after the original Form 2 interview can stand alone and do not require data collectors to verify previously collected data.

23.5 DELAYED WORD RECALL

23.5.1 Definition

Delayed Word Recall or “Short-Delay Word Recall” is a sub-test of the BTACT.

23.5.2 Details

Delayed Recall of word list (at end of assessment)
Score = Total correct (Optional: repetitions, intrusions, Forgetting (Immediate-delayed recall)).

Although the BTACT audio training instructs that the upper time limit for administering the Delay Word Recall to be coded is 30 minutes, for the purposes of the TBIMS, any delay above 20 minutes should be coded as not collected, as instructed in the BTACT SOP.

23.5.3 Variables

Form Type	Variable	ID	Question	History
Form 1	DelayWordRecallCorrect	440	Delayed word recall total correct:	2017-10-01 - Variable Added
Form 1	DelayWordRecallNI	441	Delayed word recall number of intrusions:	2017-10-01 - Variable Added
Form 1	DelayWordRecallMiddle	442	Delayed word recall middle correct:	2017-10-01 - Variable Added
Form 1	DelayWordRecallPrimacy	443	Delayed word recall primacy correct:	2017-10-01 - Variable Added
Form 1	DelayWordRecallRecency	444	Delayed word recall recency correct:	2017-10-01 - Variable Added
Form 1	DelayWordRecallRep	445	Delayed word recall number of repetitions:	2017-10-01 - Variable Added
Form 1	DelayWordRecallTCC	447	Delayed word recall test completion code:	2017-10-01 - Variable Added
Form 2	DelayWordRecallCorrectF	624	Delayed word recall total correct:	2017-10-01 - Variable Added
Form 2	DelayWordRecallNIF	625	Delayed word recall number of intrusions:	2017-10-01 - Variable Added
Form 2	DelayWordRecallMiddleF	626	Delayed word recall middle correct:	2017-10-01 - Variable Added
Form 2	DelayWordRecallPrimacyF	627	Delayed word recall primacy correct:	2017-10-01 - Variable Added
Form 2	DelayWordRecallRecencyF	628	Delayed word recall recency correct:	2017-10-01 - Variable Added
Form 2	DelayWordRecallRepF	629	Delayed word recall number of repetitions:	2017-10-01 - Variable Added
Form 2	DelayWordRecallTCCF	627	Delayed word recall test completion code:	2017-10-01 - Variable Added

23.5.4 Codes and Values

ID	Code	Description
440	666	Variable Did Not Exist
440	888	Not Tested
440	999	Unknown
441	1	Test Administered in full- results valid

ID	Code	Description
441	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
441	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
441	4	Test Attempted BUT Not Completed (Refusal to continue)
441	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
441	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
441	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
441	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
441	9	Test Not Attempted (Refusal)
441	10	Test Not Attempted (Non-English Speaking Patient)
441	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
441	12	Test Not Attempted (Not Consented Within Window)
441	13	Test Not Attempted (Not Admitted to Rehab Within Window At Form I)
441	14	Suspect That a Participant is Writing Down Answers
441	16	Other
441	666	Variable Did Not Exist
624	666	Variable Did Not Exist
624	888	Not Tested
624	999	Unknown
627	1	Test Administered in full- results valid
627	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
627	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
627	4	Test Attempted BUT Not Completed (Refusal to continue)
627	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
627	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
627	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
627	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
627	9	Test Not Attempted (Refusal)

ID	Code	Description
627	10	Test Not Attempted (Non-English Speaking Patient)
627	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
627	13	Test Not Attempted (Not Admitted To Rehab Within Window At Form I)
627	14	Suspect That a Participant is Writing Down Answers
627	16	Other
627	666	Variable Did Not Exist
627	888	Not Applicable, No Data From Person with TBI

23.5.5 History

Date	Description
2021-11-19	Added NOTE: Although the BTACT audio training instructs that the upper time limit for administering the Delay Word Recall to be coded is 30 minutes, for the purposes of the TBIMS, any delay above 20 minutes should be coded as not collected, as instructed in the BTACT SOP.

23.6 DIGITS BACKWARD

23.6.1 Definition

Digits Backward is a sub-test of the BTACT.

23.6.2 Details

WORKING MEMORY (Digits Backward [WAIS-III]) Score = Longest accurately recalled string.

23.6.3 Variables

Form Type	Variable	ID	Question	History
Form 1	BackDigitCorrect	404	Backward digit span highest level reached:	2017-10-01 - Variable Added
Form 1	BackDigitTCC	405	Backward digit span test completion code:	2017-10-01 - Variable Added
Form 2	BackDigitCorrectF	598	Backward digit span highest level reached:	2017-10-01 - Variable Added
Form 2	BackDigitTCCF	599	Backward digit span test completion code:	2017-10-01 - Variable Added

23.6.4 Codes and Values

ID	Code	Description
404	66	Variable Did Not Exist
404	88	Not Tested
404	99	Unknown
405	1	Test Administered in full- results valid
405	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
405	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
405	4	Test Attempted BUT Not Completed (Refusal to continue)
405	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
405	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
405	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
405	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
405	9	Test Not Attempted (Refusal)
405	10	Test Not Attempted (Non-English Speaking Patient)
405	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
405	12	Test Not Attempted (Not Consented Within Window)
405	13	Test Not Attempted (Not Admitted to Rehab Within Window At Form I)
405	14	Suspect That a Participant is Writing Down Answers
405	16	Other
405	666	Variable Did Not Exist

ID	Code	Description
598	66	Variable Did Not Exist
598	88	Not Tested
598	99	Unknown
599	1	Test Administered in full- results valid
599	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
599	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
599	4	Test Attempted BUT Not Completed (Refusal to continue)
599	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
599	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
599	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
599	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
599	9	Test Not Attempted (Refusal)
599	10	Test Not Attempted (Non-English Speaking Patient)
599	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
599	13	Test Not Attempted (Not Admitted To Rehab Within Window At Form I)
599	14	Suspect That a Participant is Writing Down Answers
599	16	Other
599	666	Variable Did Not Exist
599	888	Not Applicable, No Data From Person with TBI (Form 2)

23.6.5 History

No history found for the Domain.

23.7 FLUENCY

23.7.1 Definition

Fluency or “Category Fluency” is a sub-test of the BTACT.

23.7.2 Details

EXECUTIVE (Category Animal Fluency) Score = Number correct in 60 seconds, (Optional: repetitions, intrusions).

23.7.3 Variables

Form Type	Variable	ID	Question	History
Form 1	FluencyCorrect	497	Category fluency total correct:	2017-10-01 - Variable Added
Form 1	FluencyCorrect15_30	497	Category fluency total correct 15 - 30 sec:	2013-10-01 - Variable Added
Form 1	FluencyCorrect1_15	497	Category fluency total correct 1 - 15 sec:	2013-10-01 - Variable Added
Form 1	FluencyCorrect30_45	497	Category fluency total correct 30 - 45 sec:	2013-10-01 - Variable Added
Form 1	FluencyCorrect45_60	497	Category fluency total correct 45 - 60 sec:	2013-10-01 - Variable Added
Form 1	FluencyInt	497	Category fluency number of intrusions:	2017-10-01 - Variable Added
Form 1	FluencyRep	497	Category fluency number of repetitions:	2017-10-01 - Variable Added
Form 1	FluencyTCC	498	Category fluency test completion code:	2017-10-01 - Variable Added
Form 2	FluencyCorrect15_30F	3718	Category fluency total correct 15 - 30 sec:	2013-10-01 - Variable Added
Form 2	FluencyCorrect1_15F	3718	Category fluency total correct 1 - 15 sec:	2013-10-01 - Variable Added
Form 2	FluencyCorrect30_45F	3718	Category fluency total correct 30 - 45 sec:	2013-10-01 - Variable Added
Form 2	FluencyCorrect45_60F	3718	Category fluency total correct 45 - 60 sec:	2013-10-01 - Variable Added
Form 2	FluencyCorrectF	3718	Category fluency total correct:	2017-10-01 - Variable Added
Form 2	FluencyIntF	3718	Category fluency number of intrusions:	2017-10-01 - Variable Added
Form 2	FluencyRepF	3718	Category fluency number of repetitions:	2017-10-01 - Variable Added
Form 2	FluencyTCCF	685	Category fluency test completion code:	2017-10-01 - Variable Added

23.7.4 Codes and Values

ID	Code	Description
497	666	Variable Did Not Exist

ID	Code	Description
497	888	Not Tested
497	999	Unknown
498	1	Test Administered in full- results valid
498	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
498	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
498	4	Test Attempted BUT Not Completed (Refusal to continue)
498	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
498	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
498	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
498	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
498	9	Test Not Attempted (Refusal)
498	10	Test Not Attempted (Non-English Speaking Patient)
498	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
498	12	Test Not Attempted (Not Consented Within Window)
498	13	Test Not Attempted (Not Admitted to Rehab Within Window At Form I)
498	14	Suspect That a Participant is Writing Down Answers
498	16	Other
498	666	Variable Did Not Exist
685	1	Test Administered in full- results valid
685	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
685	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
685	4	Test Attempted BUT Not Completed (Refusal to continue)
685	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
685	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
685	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
685	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
685	9	Test Not Attempted (Refusal)

ID	Code	Description
685	10	Test Not Attempted (Non-English Speaking Patient)
685	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
685	13	Test Not Attempted (Not Admitted To Rehab Within Window At Form I)
685	14	Suspect That a Participant is Writing Down Answers
685	16	Other
685	666	Variable Did Not Exist
685	888	Not Applicable, No Data From Person with TBI
3718	666	Variable Did Not Exist
3718	888	Not Tested
3718	999	Unknown

23.7.5 History

No history found for the Domain.

23.8 REASONING

23.8.1 Definition

Reasoning or “Number Series” is a sub-test of the BTACT.

23.8.2 Details

REASONING (Number Series) Score = Number correct (5 trials of increasing difficulty).

23.8.3 Variables

Form Type	Variable	ID	Question	History
Form 1	Reason01	542	Trial 1:	2017-10-01 - Variable Added
Form 1	Reason02	542	Trial 2:	2017-10-01 - Variable Added
Form 1	Reason03	542	Trial 3:	2017-10-01 - Variable Added
Form 1	Reason04	542	Trial 4:	2017-10-01 - Variable Added
Form 1	Reason05	542	Trial 5:	2017-10-01 - Variable Added
Form 1	ReasonCorrect	544	Reasoning total correct:	2017-10-01 - Variable Added
Form 1	ReasonTCC	545	Reasoning test completion code:	2017-10-01 - Variable Added
Form 2	Reason01F	7717	Trial 1:	2017-10-01 - Variable Added
Form 2	Reason02F	7717	Trial 2:	2017-10-01 - Variable Added
Form 2	Reason03F	7717	Trial 3:	2017-10-01 - Variable Added
Form 2	Reason04F	7717	Trial 4:	2017-10-01 - Variable Added
Form 2	Reason05F	7717	Trial 5:	2017-10-01 - Variable Added
Form 2	ReasonCorrectF	749	Reasoning total correct:	2017-10-01 - Variable Added
Form 2	ReasonTCCF	751	Reasoning test completion code:	2017-10-01 - Variable Added

23.8.4 Codes and Values

ID	Code	Description
542	0	Incorrect
542	1	Correct
542	66	Variable Did Not Exist
542	88	Not Tested
544	66	Variable Did Not Exist
544	88	Not Tested
544	99	Unknown
545	1	Test Administered in full- results valid
545	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)

ID	Code	Description
545	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
545	4	Test Attempted BUT Not Completed (Refusal to continue)
545	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
545	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
545	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
545	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
545	9	Test Not Attempted (Refusal)
545	10	Test Not Attempted (Non-English Speaking Patient)
545	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
545	12	Test Not Attempted (Not Consented Within Window)
545	13	Test Not Attempted (Not Admitted to Rehab Within Window At Form I)
545	14	Suspect That a Participant is Writing Down Answers
545	16	Other
545	666	Variable Did Not Exist
749	66	Variable Did Not Exist
749	88	Not Tested
749	99	Unknown
751	1	Test Administered in full- results valid
751	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
751	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
751	4	Test Attempted BUT Not Completed (Refusal to continue)
751	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
751	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
751	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
751	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
751	9	Test Not Attempted (Refusal)
751	10	Test Not Attempted (Non-English Speaking Patient)

ID	Code	Description
751	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
751	13	Test Not Attempted (Not Admitted To Rehab Within Window At Form I)
751	14	Suspect That a Participant is Writing Down Answers
751	16	Other
751	666	Variable Did Not Exist
751	888	Not Applicable, No Data From Person with TBI
7717	0	Incorrect
7717	1	Correct
7717	66	Variable Did Not Exist
7717	88	Not Tested

23.8.5 History

No history found for the Domain.

23.9 WORD RECALL

23.9.1 Definition

Word Recall or Word List Recall is a sub-test of the BTACT

23.9.2 Details

EPISODIC VERBAL MEMORY (Word List Recall) - Immediate Recall of 15-item word list (RAVLT; 1 trial only) SCORE = Total correct in 60 sec (Optional: repetitions, intrusions, Recall efficiency (total time/#words)) and Delayed Recall of word list (at end of assessment) Score = Total correct (Optional: repetitions, intrusions, Forgetting (Immediate-delayed recall)).

23.9.3 Variables

Form Type	Variable	ID	Question	History
Form 1	WordRecallCorrect	564	Word recall total correct:	2017-10-01 - Variable Added
Form 1	WordRecallInt	564	Word recall number of intrusions:	2017-10-01 - Variable Added
Form 1	WordRecallMiddle	564	Word recall middle correct:	2017-10-01 - Variable Added
Form 1	WordRecallPrimacy	564	Word recall primacy correct:	2017-10-01 - Variable Added
Form 1	WordRecallRecency	564	Word recall recency correct:	2017-10-01 - Variable Added
Form 1	WordRecallRep	564	Word recall number of repetitions:	2017-10-01 - Variable Added
Form 1	WordRecallTCC	565	Word recall test completion code:	2017-10-01 - Variable Added
Form 2	WordRecallCorrectF	788	Word recall total correct:	2017-10-01 - Variable Added
Form 2	WordRecallIntF	788	Word recall number of intrusions:	2017-10-01 - Variable Added
Form 2	WordRecallMiddleF	788	Word recall middle correct:	2017-10-01 - Variable Added
Form 2	WordRecallPrimacyF	788	Word recall primacy correct:	2017-10-01 - Variable Added
Form 2	WordRecallRecencyF	788	Word recall recency correct:	2017-10-01 - Variable Added
Form 2	WordRecallRepF	788	Word recall number of repetitions:	2017-10-01 - Variable Added
Form 2	WordRecallTCCF	791	Word recall test completion code:	2017-10-01 - Variable Added

23.9.4 Codes and Values

ID	Code	Description
564	666	Variable Did Not Exist
564	888	Not Tested
564	999	Unknown
565	1	Test Administered in full- results valid
565	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
565	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
565	4	Test Attempted BUT Not Completed (Refusal to continue)
565	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
565	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)

ID	Code	Description
565	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
565	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
565	9	Test Not Attempted (Refusal)
565	10	Test Not Attempted (Non-English Speaking Patient)
565	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
565	12	Test Not Attempted (Not Consented Within Window)
565	13	Test Not Attempted (Not Admitted to Rehab Within Window At Form I)
565	14	Suspect That a Participant is Writing Down Answers
565	16	Other
565	666	Variable Did Not Exist
788	666	Variable Did Not Exist
788	888	Not Tested
788	999	Unknown
791	1	Test Administered in full- results valid
791	2	Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons)
791	3	Test Attempted BUT Not Completed (Due to non-neurological Physical reasons)
791	4	Test Attempted BUT Not Completed (Refusal to continue)
791	5	Test Attempted BUT Not Completed (Non-English Speaking Patient)
791	6	Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific)
791	7	Test Not Attempted (Due to the severity of Cognitive/Neurological deficits)
791	8	Test Not Attempted (Due to non-neurologic/ Physical reasons)
791	9	Test Not Attempted (Refusal)
791	10	Test Not Attempted (Non-English Speaking Patient)
791	11	Test Not Attempted (Logistical Reasons, Other Reasons – site-specific)
791	13	Test Not Attempted (Not Admitted to Rehab Within Window At Form I)
791	14	Suspect That a Participant is Writing Down Answers
791	16	Other

ID	Code	Description
791	666	Variable Did Not Exist
791	888	Not Applicable, No Data From Person with TBI

23.9.5 History

No history found for the Domain.

24 NHANES (NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY)

24.0.1 Definition

Types of conditions diagnosed, along with if the onset was before, after or about the same time as the TBI.
All definitions provided below are from Mayo Clinic (http://www.mayoclinic.org) except chronic pain. If a participant asks for a definition of the disease, it is acceptable to tell them the following:

Hypertension/High Blood Pressure: High blood pressure is a common condition in which the long-term force of the blood against your artery walls is high enough that it may eventually cause health problems, such as heart disease. Determined by a high reading with a blood pressure cuff.

Congestive Heart Failure: Congestive heart failure occurs when your heart muscle doesn't pump blood as well as it should. Do not include heart murmurs, irregular heartbeats, chest pain, or heart attacks

Myocardial Infarction/Heart Attack: A heart attack occurs when the flow of blood to the heart is blocked, most often by a build-up of fat, cholesterol and other substances, which form a plaque in the arteries that feed the heart (coronary arteries). The interrupted blood flow can damage or destroy part of the heart muscle. (http://www.mayoclinic.org/diseases-conditions/heart-attack/basics/definition/con-20019520)

Stroke: A stroke occurs when the blood supply to part of your brain is interrupted or severely reduced, depriving brain tissue of oxygen and nutrients. This can occur if a brain's blood vessel gets blocks, or if it bursts.

High blood cholesterol: Determined by a lab blood test

Diabetes, high blood sugar, or sugar in the urine: Disease in which too little or no insulin is produced by the pancreas (Type 1) or insulin is produced but cannot be used normally by the body (Type 2) Do NOT include Diabetes Insipidus, Pre-Diabetes or Gestational Diabetes.

Liver Disease, such as Hepatitis: Hepatitis A, B, and C: Hepatitis A, B, and C are infections caused by viruses that attacks the liver. Toxic hepatitis is an inflammation of your liver in reaction to certain substances to which you're exposed. Toxic hepatitis can be caused by alcohol,

chemicals, drugs or nutritional supplements. Cirrhosis: a late stage of scarring (fibrosis) of the liver caused by many forms of liver diseases and conditions, such as hepatitis and chronic alcohol abuse. Liver disease includes: viral hepatitis (including hepatitis A, hepatitis B; and hepatitis C); autoimmune liver disease (including primary biliary cirrhosis; autoimmune hepatitis, sclerosing cholangitis); genetic liver diseases (including alpha-1-antitrysin deficiency, hemochromotosis, and Wilson's disease); drug- or medication-induced liver disease; alcoholic liver disease; non-alcoholic fatty liver disease; fatty liver disease; liver cancer; liver cyst; liver abscess; liver fibrosis; and liver cirrhosis. Do not include gallbladder disease; gallstones; or cholecystitis

Rheumatoid Arthritis: Rheumatoid arthritis is a chronic inflammatory disorder that typically affects the small joints in your hands and feet. Unlike the wear-and-tear damage of osteoarthritis, rheumatoid arthritis affects the lining of your joints, causing a painful swelling that can eventually result in bone erosion and joint deformity

Osteoarthritis: The most common form of arthritis; it involves the wearing away of the cartilage that caps the bones in your joints.

Dementia, like Alzheimer's: Dementia describes a group of symptoms affecting memory, thinking and social abilities severely enough to interfere with your daily life. It isn't a specific disease, but several different diseases may cause dementia, including Lewy Body and frontotemporal dementia. Though dementia generally involves memory loss, memory loss has different causes. Having memory loss alone doesn't mean you have dementia

Parkinson's Disease: Parkinson's disease is a progressive nervous system disorder that affects movement. Symptoms start gradually, sometimes starting with a barely noticeable tremor in just one hand. Tremors are common, but the disorder also commonly causes stiffness or slowing of movement.

Panic Attacks: a sudden episode of intense fear that triggers severe physical reactions when there is no real danger or apparent cause. Panic attacks can be very frightening. When panic attacks occur, you might think you're losing control, having a heart attack or even dying. This problem interferes with daily activities and cause significant distress

PTSD: a mental health condition that's triggered by a terrifying event — either experiencing it or witnessing it. Symptoms may include flashbacks, nightmares and severe anxiety, as well as uncontrollable thoughts about the event. This problem interferes with daily activities and cause significant distress

24.0.2 Form

[X] Form 1
[X] Form 2

24.0.3 Source

Form 1 - Pre-Injury Interview (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

24.0.4 Details

This measure can be collected from best source available during the Form 2 interview for all participants. Conditions with positive responses will remain positive and should not be asked again on subsequent follow-ups.

For conditions that are present, the follow-up question should be asked:
- 'Was that before, after or about the same time as your TBI (insert number of years since TBI)?'

First administration: For participants being administered the NHANES for the first time since study enrollment ask "has a doctor or other health professional ever told you that you had…" for each medical condition.

Follow-up administration: For participants who were previously administered the NHANES, if a condition was positively endorsed at a previous data collection time-point, do not ask that item again. Otherwise ask "has a doctor or other health professional ever told you that you had…"

Before, after or about the same time as TBI: A 6 month window on either side of the injury date would be considered to be 'about the same time' as TBI.

Do not accept self-diagnosis or a diagnosis that does not come from a doctor or other health professional. "Doctor" is meant to include health care providers who diagnose medical conditions.

The following are acceptable: - Medical Doctors (MD) in all medical specialties including Psychiatrists - Doctors of Osteopathic Medicine (DO) - Physician Assistants (PA) -Nurse Practitioners (NP) - Psychologists, Neuropsychologists (Ph.D. or Psy.D) - Podiatrists (DPM)

Not acceptable (these providers treat but do not diagnose) - Speech Pathologists (SLP) - Registered Nurses (RN) - Physical Therapists (PT) - Social Workers (LSW, LICSW) - Occupational Therapists (OT) - Naturopathic Doctors (ND) - Counselors (LMHC, LMFT, CRC) - Chiropractors (DC)

24.0.5 Reference

Variables were sourced through the following existing surveys. For items 1-8: * Medicare survey questions #20, 22-26, 32, 33 * Medicare Health Outcomes Survey (MHOS)
* Medicare Survey: SAMPLING METHODOLOGY

2009 Cohort 12 Baseline Sampling
CMS identified beneficiaries who were eligible for sampling as follows: * MAOs with fewer than 500 members were not required to report HOS. * For MAOs with 500 to 1,200 members, all eligible members were included in the sample. * For MAOs with more than 1,200 members and less than 3,000 members, a simple random sample of 1,200 members was selected for the baseline survey. * For MAOs with 3,000 or more members, members who responded to the 2008 Cohort 11 Baseline survey were excluded from the 2009 Cohort 12 Baseline sample. * Members were defined as eligible if they did not have End Stage Renal Disease (ESRD). The six months enrollment requirement was waived beginning in 2009.

For a more detailed discussion on sampling, data collection and submission please refer to the HEDIS 2009 Volume 6 manual1 and the Medicare HOS website at www.hosonline.org. National Committee for Quality Assurance. HEDIS® 2009, Volume 6: Specifications for the Medicare Health Outcomes Survey. Washington, DC: NCQA Publication, 2009. Not sure how to access the comparative data; there is an application to use the data, to use the full survey or parts of the survey.

National Health and Nutrition Examination Survey (NHANES)
The NHANES interview includes demographic, socioeconomic, dietary, and health-related questions. The examination component consists of medical, dental, and physiological measurements, as well as laboratory tests administered by highly trained medical personnel. Findings from this survey will be used to determine the prevalence of major diseases and risk factors for diseases. Information will be used to assess nutritional status and its association with health promotion and disease prevention. NHANES findings are also the basis for national standards for such measurements as height, weight, and blood pressure. Data from this survey will be used in epidemiological studies and health sciences research, which help develop sound public health policy, direct and design health programs and services, and expand the health knowledge for the Nation. Datasource/Methods: Personal interviews, physical exams, lab tests, nutritional assessment, DNA repository Targeted sample size: 5,000 people/year, all ages. Oversample 60+, blacks & Hispanics Data: Data is available for 1999-2008; the most recent data set available is 2007-2008

National Health Interview Survey (NHIS)
The National Health Interview Survey (NHIS) has monitored the health of the nation since 1957. NHIS data on a broad range of health topics are collected through personal household interviews. For over 50 years, the U.S. Census Bureau has been the data collection agent for the National Health Interview Survey. Survey results have been instrumental in providing

data to track health status, health care access, and progress toward achieving national health objectives.

24.0.6 Characteristics

The following Health Condition items were collected from 10/01/2012 to 10/01/2017. See Health Conditions - Archive for more information.
- Cancer
- COPD
- Diabetes
- Heart Attack
- Heart Conditions
- Heart Failure
- High Blood Pressure
- Liver Disease
- Stroke

On 4/1/2022, collection of age diagnosed, along with the following NHANES items were removed from Data Collection.
- OtherHeartConditions - Heart arrhythmias
- Emphysema - Emphysema or asthma or COPD
- Pneumonia
- SleepDisorder - Sleep disorder like sleep apnea - Cataracts
- ChronicPain
- Alcoholism
- DrugAddiction
- Depression
- Anxiety
- BipolarDisorder - Bipolar disorder or manic-depression - ADDADHD - Attention deficit disorder (ADD) / Attention deficit hyperactivity disorder (ADHD)
- OCD - Obsessive-compulsive disorder

On 10/1/2024, collection of current Form 2 NHANES items were added to Form 1 collection.

24.1 CHOLESTEROL

24.1.1 Definition

High blood cholesterol - A compound of the sterol type found in most body tissues. Cholesterol and its derivatives are important constituents of cell membranes and precursors of other

steroid compounds, but a high proportion in the blood of low-density lipoprotein (which transports cholesterol to the tissues) is associated with an increased risk of coronary heart disease.
- Determined by a lab blood test

24.1.2 Variables

Form Type	Variable	ID	Question	History
Form 1	HighBloodCholesterol	9699	5. High blood cholesterol?	2024-10-01 - Variable Added
Form 1	HighBloodCholesterolTBIOnset	9712	5a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	HighBloodCholesterolF	714	5. High blood cholesterol?	2017-10-01 - Variable Added
Form 2	HighBloodCholesterolTBIOnsetF	713	5a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.1.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes

ID	Code	Description
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.1.4 History

No history found for the Domain.

24.2 CONGESTIVE HEART FAILURE

24.2.1 Definition

Congestive heart failure - Disease where the heart is too weak to pump blood throughout the body as well as it should. INTERVIEWER: Do not count heart murmurs, irregular heart beats, chest pain, or heart attacks.

24.2.2 Variables

Form Type	Variable	ID	Question	History
Form 1	CongestiveHeartFailure	9699	2. Congestive heart failure?	2024-10-01 - Variable Added
Form 1	CongestiveHeartFailureTBIOnset	9712	2a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	CongestiveHeartFailure2F	7144	2. Congestive heart failure?	2017-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	CongestiveHeartFailureTBIOnsetF	7138	2a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.2.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A

ID	Code	Description
9712	99	Unknown

24.2.4 History

No history found for the Domain.

24.3 DEMENTIA

24.3.1 Definition

Dementia of some kind, like Alzheimer's - Group of symptoms affecting memory, thinking, and social abilities enough to interfere with daily functioning; other examples are Lewy Body and frontotemporal dementia

INTERVIEWER: Though dementia generally involves memory loss, memory loss has different causes. Having memory loss alone doesn't mean it's dementia.

24.3.2 Variables

Form Type	Variable	ID	Question	History
Form 1	Dementia	9699	10. Dementia of some kind, like Alzheimer's?	2024-10-01 - Variable Added
Form 1	DementiaTBIOnset	9712	10a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	DementiaF	714	10. Dementia of some kind, like Alzheimer's?	2017-10-01 - Variable Added
Form 2	DementiaTBIOnsetF	715	10a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

ID	Code	Description

24.3.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.3.4 History

No history found for the Domain.

24.4 DIABETES

24.4.1 Definition

Diabetes, high blood sugar, or sugar in the urine - Disease in which too little or no insulin is produced by the pancreas (Type 1) or insulin is produced but cannot be used normally by the body (Type 2)

Do NOT include Diabetes Insipidus, Pre-Diabetes (there's a difference between elevated and high blood sugar), or Gestational Diabetes.

24.4.2 Variables

Form Type	Variable	ID	Question	History
Form 1	DiabetesHighBloodSugar	6689	6. Diabetes, high blood sugar, or sugar in the urine?	2024-10-01 - Variable Added
Form 1	DiabetesHighBloodSugarTBIOnset	6713	6a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	DiabetesHighBloodSugarF	7014	6. Diabetes, high blood sugar, or sugar in the urine?	2017-10-01 - Variable Added
Form 2	DiabetesHighBloodSugarTBIOnsetF	7038	6a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.4.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist

ID	Code	Description
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.4.4 History

No history found for the Domain.

24.5 HYPERTENSION

24.5.1 Definition

Hypertension or high blood pressure - Abnormally high blood pressure. - High blood pressure is a common condition in which the long-term force of the blood against your artery walls

is high enough that it may eventually cause health problems, such as heart disease. Determined by a high reading with a blood pressure cuff.

24.5.2 Variables

Form Type	Variable	ID	Question	History
Form 1	Hypertension	9699	1. Hypertension or high blood pressure?	2024-10-01 - Variable Added
Form 1	HypertensionTBIOnset	9713	1a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	HypertensionF	714	1. Hypertension or high blood pressure?	2017-10-01 - Variable Added
Form 2	HypertensionTBIOnsetF	713	1a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.5.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes

ID	Code	Description
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.5.4 History

No history found for the Domain.

24.6 LIVER DISEASE

24.6.1 Definition

Liver disease (such as hepatitis) - Also includes liver cancer, alcohol related liver disease, autoimmune disorders, and genetic diseases.

INTERVIEWER: Include viral hepatitis (including hepatitis A, hepatitis B; and hepatitis C); autoimmune liver disease (including primary biliary cirrhosis; autoimmune hepatitis, sclerosing cholangitis); genetic liver diseases (including alpha-1-antitrysin deficiency, hemochromotosis, and Wilson's disease); drug- or medication-induced liver disease; alcoholic liver disease; non-alcoholic fatty liver disease; fatty liver disease; liver cancer; liver cyst; liver abscess; liver fibrosis; and liver cirrhosis.

INTERVIEWER: Do not include gallbladder disease; gallstones; or cholecystitis.

24.6.2 Variables

Form Type	Variable	ID	Question	History
Form 1	LiverDisease	9699	7. Liver disease (such as hepatitis)?	2024-10-01 - Variable Added
Form 1	LiverDiseaseTBIOnset	9712	7a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	LiverDiseaseF	714	7. Liver disease (such as hepatitis)?	2017-10-01 - Variable Added
Form 2	LiverDiseaseTBIOnsetF	713	7a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.6.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI

ID	Code	Description
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.6.4 History

No history found for the Domain.

24.7 MOVEMENT DISORDER

24.7.1 Definition

Movement Disorder like Parkinson's- Chronic progressive neurologic disease that can include tremor, slowness of movement, rigidity or stiffness, and problems with balance

24.7.2 Variables

Form Type	Variable	ID	Question	History
Form 1	MovementDisorder	8699	11. Parkinson's disease?	2024-10-01 - Variable Added
Form 1	MovementDisorderTBI	9712	11a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	MovementDisorderF	7414	11. Parkinson's disease?	2017-10-01 - Variable Added
Form 2	MovementDisorderTBIF	7413	11a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.7.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.7.4 History

No history found for the Domain.

24.8 MYOCARDIAL INFARCTION

24.8.1 Definition

Myocardial infarction or heart attack - Occurs when flow of blood to the heart is blocked causing damage to a part of the heart muscle.

24.8.2 Variables

Form Type	Variable	ID	Question	History
Form 1	HeartAttack	9699	3. A myocardial infarction or heart attack?	2024-10-01 - Variable Added
Form 1	HeartAttackTBIOnset	9712	3a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	HeartAttackF	714	3. A myocardial infarction or heart attack?	2017-10-01 - Variable Added
Form 2	HeartAttackTBIOnsetF	713	3a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.8.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A

ID	Code	Description
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.8.4 History

No history found for the Domain.

24.9 OSTEOARTHRITIS

24.9.1 Definition

Osteoarthritis - When the protective cartilage on the ends of bones wears down; sometimes called “old age” or “wear and tear” arthritis

24.9.2 Variables

Form Type	Variable	ID	Question	History
Form 1	Osteoarthritis	9699	9. Osteoarthritis?	2024-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	OsteoarthritisTBIOnset	9712	9a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	OsteoarthritisF	714	9. Osteoarthritis?	2017-10-01 - Variable Added
Form 2	OsteoarthritisTBIOnsetF	713	9a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.9.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI

ID	Code	Description
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.9.4 History

No history found for the Domain.

24.10 PANIC ATTACKS

24.10.1 Definition

Panic attacks - A sudden feeling of acute and disabling anxiety. - Anxiety disorder that involves repeated episodes of sudden feelings of intense anxiety and fear or terror that peak within minutes

24.10.2 Variables

Form Type	Variable	ID	Question	History
Form 1	PanicAttacks	9699	12. Panic attacks?	2024-10-01 - Variable Added
Form 1	PanicAttacksTBIOnset	9712	12a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	PanicAttacksF	714	12. Panic attacks?	2017-10-01 - Variable Added
Form 2	PanicAttacksTBIOnsetF	713	12a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.10.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.10.4 History

No history found for the Domain.

24.11 PTSD

24.11.1 Definition

Post-traumatic stress disorder (PTSD) - Mental health condition triggered by a terrifying event; symptoms may include flashbacks, nightmares, and severe anxiety

24.11.2 Variables

Form Type	Variable	ID	Question	History
Form 1	PTSDHlth	9699	13. PTSD (Post-traumatic stress disorder)?	2024-10-01 - Variable Added
Form 1	PTSDTBIOnset	9712	13a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	PTSDHlthF	714	13. PTSD (Post-traumatic stress disorder)?	2017-10-01 - Variable Added
Form 2	PTSDTBIOnsetF	713	13a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.11.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A

ID	Code	Description
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.11.4 History

No history found for the Domain.

24.12 RHEUMATOID ARTHRITIS

24.12.1 Definition

Rheumatoid arthritis - An autoimmune disease characterized by chronic inflammation of joints

24.12.2 Variables

Form Type	Variable	ID	Question	History
Form 1	RheumatoidArthritis	9699	8. Rheumatoid arthritis?	2024-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	RheumatoidArthritis	9712	8a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	RheumatoidArthritisF	714	8. Rheumatoid arthritis?	2017-10-01 - Variable Added
Form 2	RheumatoidArthritisTBIOnsetF	713	8a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.12.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI

ID	Code	Description
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.12.4 History

No history found for the Domain.

24.13 STROKE

24.13.1 Definition

Stroke - Happens when the blood flow to the brain is interrupted due to narrowing of the blood vessels, clots, or bleeding.

24.13.2 Variables

Form Type	Variable	ID	Question	History
Form 1	Stroke	9699	4. A stroke?	2024-10-01 - Variable Added
Form 1	StrokeTBIOnset	9712	4a. If yes, was that before, after or about the same time as your TBI?	2024-10-01 - Variable Added
Form 2	StrokeF	714	4. A stroke?	2017-10-01 - Variable Added
Form 2	StrokeTBIOnsetF	713	4a. If yes, was that before, after or about the same time as your TBI?	2017-10-01 - Variable Added

24.13.3 Codes and Values

ID	Code	Description
713	1	Before TBI
713	2	Same Time As TBI
713	3	After TBI
713	66	Variable Did Not Exist
713	88	N/A
713	99	Unknown
714	0	No
714	1	Yes
714	66	Variable Did Not Exist
714	88	N/A
714	99	Unknown
9699	0	No
9699	1	Yes
9699	66	Variable Did Not Exist
9699	88	N/A
9699	99	Unknown
9712	1	Before TBI
9712	2	Same Time As TBI
9712	3	After TBI
9712	66	Variable Did Not Exist
9712	88	N/A
9712	99	Unknown

24.13.4 History

No history found for the Domain.

25 PART-O (PARTICIPATION ASSESSMENT WITH RECOMBINED TOOLS - OBJECTIVE)

25.0.1 Definition

The Participation Assessment with Recombined Tools-Objective (PART-O) is an outcome scale measuring participation in the community. The PART-O consolidates questions from 3 commonly used instruments, and measures 3 domains of community participation post-rehabilitation: Productivity, Out and About, and Social Relations.

Form 1 - Only PART-O Productivity items and PART Volunteer are collected

25.0.2 Form

[X] Form 1
[X] Form 2

25.0.3 Details

See PART-O Manual link below for full administration and scoring guidelines.

25.0.4 Source

Interview, Mail-out (participant or proxy)

25.0.5 Links

PART-O Manual
PART-O Rasch Scoring_Malec et al 2016

25.0.6 Characteristics

On 10/01/2017 the code for refused and unknown were switched to conform to coding standards.

Participant responses to these variables may be affected by the COVID-19 pandemic starting in March of 2020.

The PART-O score can accommodate missing variables (a social score can be calculated if you have 3 of 5 variables), whereas the Rasch score needs complete data on all the measures (all variables need to have valid values). Therefore there are more missing Part-O Rasch calculated scores.

25.0.7 Training

Data Collectors should be familiar with the PART Training Manual (see Links) prior to administering the PART.

25.1 ACTIVITIES

25.1.1 Definition

Hours per week engaged in productive activities. Productivity Items;

PRTHomeF: In a typical week, how many hours do you spend in active homemaking, including cleaning, cooking and raising children?

PRTSchoolF: In a typical week, how many hours do you spend in school working toward a degree or in an accredited technical training program, including hours in class and studying?

PRTWorkF: In a typical week, how many hours do you spend working for money, whether in a job or self-employed?

25.1.2 Characteristics

Productivity items were added to Form 1 data collection on 4/1/2023

25.1.3 Variables

Form Type	Variable	ID	Question	History
Form 1	PRTHome	8068	in a typical week, how many hours did you spend in active homemaking, including cleaning, cooking and raising children?	2023-04-01 - Variable ADDED
Form 1	PRTSchool	8068	in a typical week, how many hours did you spend in school working toward a degree or in an accredited technical training program, including hours in class and studying?	2023-04-01 - Variable ADDED
Form 1	PRTWork	8068	in a typical week, how many hours did you spend working for money, whether in a job or self-employed?	2023-04-01 - Variable ADDED
Form 2	PRTHomeF	737	In a typical week, how many hours do you spend in active homemaking, including cleaning, cooking and raising children?	2007-10-01 - Variable Added
Form 2	PRTSchoolF	737	In a typical week, how many hours do you spend in school working toward a degree or in an accredited technical training program, including hours in class and studying?	2007-10-01 - Variable Added
Form 2	PRTWorkF	737	In a typical week, how many hours do you spend working for money, whether in a job or self-employed?	2007-10-01 - Variable Added

25.1.4 Codes and Values

ID	Code	Description
737	0	None
737	1	1 - 4 Hours
737	2	5 - 9 Hours
737	3	10 - 19 Hours
737	4	20 - 34 Hours
737	5	35 or More Hours
737	66	Variable Did Not Exist
737	77	Refused
737	99	Unknown
8068	0	None
8068	1	1 - 4 Hours

ID	Code	Description
8068	2	5 - 9 Hours
8068	3	10 - 19 Hours
8068	4	20 - 34 Hours
8068	5	35 or More Hours
8068	66	Variable Did Not Exist
8068	77	Refused
8068	99	Unknown

25.1.5 History

Date	Description
2011-12-13	Added NOTE : hours spent working for money should include competitively employment hours, special employment hours, and paid internship hours.
2012-03-28	Added NOTE : if there has been a major change in routine, it is appropriate to base the response that is recorded on the most recent period, as long as there have been three to four weeks of the new pattern
2013-04-24	Added NOTE : for coding hours spent ”raising children”
2015-07-13	Added NOTE : for PRTSchool, if participant is in school full-time and the interview is administered during a school vacation (ie summer break), it is permissible to base the response on the routine during the school year.
2023-04-01	Added CHARACTERISTICS: Productivity items were added to Form 1 data collection on 4/01/2023

25.2 COMMUNITY

25.2.1 Definition

Times per month out and about.

PRTVOL Prior to the injury, in a typical month, how many times do you do volunteer work?

PRTEatOutF: In a typical month, how many times do you eat in a restaurant?

PRTShopF: In a typical month, how many times do you go shopping? Include grocery shopping, as well as shopping for household necessities, or just for fun.

PRTPlaySportF: In a typical month, how many times do you engage in sports or exercise outside your home? Include activities like running, bowling, going to the gym, swimming, walking for exercise and the like.

PRTVolF: In a typical month, how many times do you do volunteer work?

PRTMovieF: In a typical month, how many times do you go to the movies?

PRTWtchSportF: In a typical month, how many times do you attend sports events in person, as a spectator?

PRTReligionF: In a typical month, how many times do you attend religious or spiritual services? Include places like churches, temples and mosques.

25.2.2 Characteristics

Students who live in a dorm and eat in a dorm cafeteria would count as eating in a restaurant.

The volunteer item does not contribute to score for subscales.

25.2.3 Variables

Form Type	Variable	ID	Question	History
Form 1	PRTVol	8780	in a typical month, how many times did you do volunteer work?	2023-10-01 - Variable Added
Form 2	PRTEatOutF	736	In a typical month, how many times do you eat in a restaurant?	2007-10-01 - Variable Added
Form 2	PRTMovieF	3997	In a typical month, how many times do you go to the movies?	2007-10-01 - Variable Added
Form 2	PRTPlaySportF	736	In a typical month, how many times do you engage in sports or exercise outside your home? Include activities like running, bowling, going to the gym, swimming, walking for exercise and the like.	2007-10-01 - Variable Added
Form 2	PRTReligionF	3997	In a typical month, how many times do you attend religious or spiritual services? Include places like churches, temples and mosques.	2007-10-01 - Variable Added
Form 2	PRTShopF	736	In a typical month, how many times do you go shopping? Include grocery shopping, as well as shopping for household necessities, or just for fun.	2007-10-01 - Variable Added
Form 2	PRTVolF	3997	In a typical month, how many times do you do volunteer work?	2007-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	PRTWtchSportF	3997	In a typical month, how many times do you attend sports events in person, as a spectator?	2007-10-01 - Variable Added

25.2.4 Codes and Values

ID	Code	Description
736	0	None
736	1	1 - 4 Times
736	2	5 - 9 Times
736	3	10 - 19 Times
736	4	20 - 34 Times
736	5	35 or More Times
736	66	Variable Did Not Exist
736	77	Refused
736	99	Unknown
3997	0	None
3997	1	One Time
3997	2	Two Times
3997	3	Three Times
3997	4	Four Times
3997	5	Five or More Times
3997	66	Variable Did Not Exist
3997	77	Refused
3997	99	Unknown
8780	0	None
8780	1	One Time
8780	2	Two Times

ID	Code	Description
8780	3	Three Times
8780	4	Four Times
8780	5	Five or More Times
8780	66	Variable Did Not Exist
8780	77	Refused
8780	99	Unknown

25.2.5 History

Date	Description
2013-01-01	Added NOTE : do not count traditional physical therapy as exercise under PRTPlaySport
2013-04-24	Added NOTE : regarding sporadic sporting events
2014-10-01	Added NOTE : PRTReligion can include Bible study if the participant considers the activity to be a formal service
2020-11-02	Added NOTE : Televised or online virtual services should not be counted.
2021-12-21	Added NOTE : To Characteristics - ”The volunteer item does not contribute to score for subscale.”
2024-04-01	Added NOTE : Virtual Bible study would count as attendance.

25.3 MOBILITY

25.3.1 Definition

Leaving the house.

PRTOutHseF: In a typical week, how many days do you get out of your house and go somewhere? It could be anywhere. It doesn’t have to be any place “special”.

25.3.2 Variables

Form Type	Variable	ID	Question	History
Form 2	PRTOutHseF	738	In a typical week, how many days do you get out of your house and go somewhere? It could be anywhere. It doesn't have to be any place "special".	2007-10-01 - Variable Added

25.3.3 Codes and Values

ID	Code	Description
738	0	None
738	1	1 - 2 Days
738	2	3 - 4 Days
738	3	5 - 6 Days
738	4	7 Days
738	66	Variable Did Not Exist
738	77	Refused
738	99	Unknown

25.3.4 History

Date	Description
2014-10-01	Added NOTE : the person must at least "hit the sidewalk" to be counted as "leaving the house".
2014-10-01	Added NOTE : the participant must leave the residential property to be considered out of the house

25.4 PART-O - CALCULATED

25.4.1 Definition

Calculated Variables

25.4.2 Links

PART-O Rasch Scoring_Malec et al 2016

25.4.3 Variables

Form Type	Variable	ID	Question	History
Form 2	PARTOutAboutF	3915	Part OutAbout Subscale	2007-10-01 - Variable Added
Form 2	PARTProductivityF	3916	Part Productivity Subscale	2007-10-01 - Variable Added
Form 2	PARTSocialF	3917	Part Social Subscale	2007-10-01 - Variable Added
Form 2	PARTSummaryF	729	Part Summary Statistic	2007-10-01 - Variable Added
Form 2	PART_BalancedF		Weighted PART Score	
Form 2	PART_Domain_OutF		Weighted Out and About PART Score	
Form 2	PART_Domain_ProdF		Weighted Productivity PART Score	
Form 2	PART_Domain_SocF		Weighted Social PART Score	
Form 2	PART_RaschF		Rasch PART Score	
Form 2	PART_SDF		Weighted PART Standardized Deviation Score	

25.4.4 Codes and Values

ID	Code	Description
729	999	Unknown

25.4.5 History

No history found for the Domain.

25.5 RELATIONSHIP

25.5.1 Definition

Relationship status.

PRTFriendF: Not including your spouse or significant other, do you have a close friend in whom you confide?

PRTRelationF: Are you currently involved in an ongoing intimate, that is, romantic or sexual, relationship?

PRTSpouseF: Do you live with your spouse or significant other?

25.5.2 Variables

Form Type	Variable	ID	Question	History
Form 2	PRTFriendF	740	Not including your spouse or significant other, do you have a close friend in whom you confide?	2007-10-01 - Variable Added
Form 2	PRTRelationF	740	Are you currently involved in an ongoing intimate, that is, romantic or sexual, relationship?	2007-10-01 - Variable Added
Form 2	PRTSpouseF	740	Do you live with your spouse or significant other?	2007-10-01 - Variable Added

25.5.3 Codes and Values

ID	Code	Description
740	0	No
740	1	Yes
740	66	Variable Did Not Exist
740	77	Refused
740	99	Unknown

25.5.4 History

Date	Description
2009-04-01	Changed CODE : Yes/No codes for items; Adult Education, Live with Spouse, Intimate Relationship and Friend to confide in - were changed from 1=Yes, 2=No to 1=No, 2=Yes to be consistent with all other Yes/No TBIMS variables. Existing data recoded to new convention on 4/1/2009.
2012-11-29	Added NOTE : ”Friends” can be defined only as other humans. Dogs and ”god” do not count
2014-10-01	Added NOTE : do not consider an Ex under PRTSpouse

25.6 SOCIAL

25.6.1 Definition

Times per week engaged in social activities.

PRTSocFrndF: In a typical week, how many times do you socialize with friends, in person or by phone? Please do not include socializing with family members

PRTSocFamF: In a typical week, how many times do you socialize with family and relatives, in person or by phone?

PRTEmotSupF: In a typical week, how many times do you give emotional support to other people, that is, listen to their problems or help them with their troubles?

PRTInternetF: In a typical week, how many times do you use the Internet for communication with others? For example, text, email, virtual meetings, social media.?

25.6.2 Form

[ ] Form 1
[X] Form 2

25.6.3 Source

Form 2 - Interview, Mail-out (participant or proxy)

25.6.4 Characteristics

On 4/1/2022, the Internet question was updated from “In a typical week, how many times do you use the Internet for communication, such as for e-mail, visiting chat rooms or instant messaging?” to “In a typical week, how many times do you use the Internet for communication with others? For example, text, email, virtual meetings, social media.”

25.6.5 Variables

Form Type	Variable	ID	Question	History
Form 2	PRTEmotSupF	739	In a typical week, how many times do you give emotional support to other people, that is, listen to their problems or help them with their troubles?	2007-10-01 - Variable Added
Form 2	PRTInternetF	739	In a typical week, how many times do you use the Internet for communication with others? For example, text, email, virtual meetings, social media.	2007-10-01 - Variable Added
Form 2	PRTSocFamF	739	In a typical week, how many times do you socialize with family and relatives, in person or by phone?	2007-10-01 - Variable Added
Form 2	PRTSocFrndF	739	In a typical week, how many times do you socialize with friends, in person or by phone? Please do not include socializing with family members.	2007-10-01 - Variable Added

25.6.6 Codes and Values

ID	Code	Description
739	0	None
739	1	1 - 4 Times
739	2	5 - 9 Times
739	3	10 - 19 Times
739	4	20 - 34 Times
739	5	35 or More Times
739	66	Variable Did Not Exist

ID	Code	Description
739	77	Refused
739	99	Unknown

25.6.7 History

Date	Description
2013-04-24	Added NOTE : if emotional support is given as part of the participant's job (e.g. professional counselor or nurse), then do not count those interactions under PRTEmotSup
2014-10-01	Added NOTE : regarding how to code texting
2014-10-01	Added NOTE : instances of commercial messages (spam, etc.) received should not be counted under PRTInternet.
2014-10-01	Added NOTE : sessions of sending messages should be counted
2014-10-01	Added NOTE : sessions of tweeting should be counted
2014-10-01	Added NOTE : emails as part of work or school should be counted
2015-01-01	Added NOTE : as long as there was some form of interaction, even if it requires maximum assistance and the interaction is minimal (e.g. minimally conscious participant that needs maximum assistance to socialize at family gatherings), this can be counted as socializing.
2018-01-15	Added NOTE : regarding interactive video gaming
2022-01-14	Added NOTE: It is permissible to provide specific contemporary examples such as (as of 2021) Facebook Messenger, Instagram, Twitter, Zoom get-togethers, text, etc.
2022-04-01	Variable Updated : PRTInternet question updated from "In a typical week, how many times do you use the Internet for communication, such as for e-mail, visiting chat rooms or instant messaging?" to "... use the Internet for communication with others? For example, text, email, virtual meetings, social media."

26 PATHWAYS

26.0.1 Definition

Includes date of injury, admission and discharge dates from acute and rehabilitation stays, and dates of any leave of absence (short-term interruption)

26.1 ACUTE

26.1.1 Definition

AcuteAdm: Date of admission to the emergency room
AcuteDis: Date of discharge from acute facility

26.1.2 Form

[X] Form 1
[ ] Form 2

26.1.3 Source

Form 1 - Abstraction (acute record)

26.1.4 Details

If a patient is transferred to an alternate level of care within the designated Model System prior to inpatient rehabilitation, the ALC length of stay should be added to the Model System acute care stay or inpatient rehabilitation stay, whichever is most applicable.

If a patient is hospitalized for other reasons, and receives a TBI while hospitalized and all other inclusion criteria are met, then enroll and code date of admission as date of injury.

26.1.5 Characteristics

Length of stay may be expected to increase slightly as of 1/1/05 simply due to a change in TBIMS Inclusion Criteria which allows patients to not be considered discharged from System if they go to a long term care facility that is able to provide patients with a specified minimum level of services (see definition in Inclusion Criteria), even though this patient does not receive those services.

26.1.6 Variables

Form Type	Variable	ID	Question	History
Form 1	AcuteAdm	388	Date of model system ER admit:	1989-10-01 - Variable Added
Form 1	AcuteDis	388	Date of acute care discharge:	1989-10-01 - Variable Added

26.1.7 Codes and Values

ID	Code	Description
388	08/08/8888	Not Applicable
388	09/09/9999	Unknown

26.1.8 History

No history found for the Domain.

26.2 ACUTE - CALCULATED

26.2.1 Variables

Form Type	Variable	ID	Question	History
Form 1	DAYStoACUTEadm	483	Days From Injury to Acute Admit	1989-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	DAYStoACUTEd	434	Days From Injury to Acute Discharge	1989-10-01 - Variable Added
Form 1	LOSAcute	521	Days From Acute Admit to Acute Discharge	1989-10-01 - Variable Added

26.2.2 Codes and Values

ID	Code	Description
433	8888	Not applicable
433	9999	Unknown
434	8888	Not applicable
434	9999	Unknown
521	888	Not Applicable
521	999	Unknown

26.2.3 History

No history found for the Domain.

26.3 INJURY

26.3.1 Definition

Date of Injury

26.3.2 Form

[X] Form 1
[ ] Form 2

26.3.3 Source

Form 1 - Abstraction (acute record, rehab record)

26.3.4 Details

If a patient is hospitalized for other reasons, and receives a TBI while hospitalized and all other inclusion criteria are met, then enroll and code accordingly.

26.3.5 Variables

Form Type	Variable	ID	Question	History
Form 1	Injury	514	Date of injury:	1989-10-01 - Variable Added

26.3.6 Codes and Values

ID	Code	Description
514	09/09/9999	Unknown

26.3.7 History

Date	Description
2004-08-19	Added NOTE : regarding including patient hospitalized for other reasons, but receives a TBI while hospitalized.

26.4 INJURY - CALCULATED

26.4.1 Variables

Form Type	Variable	ID	Question	History
Form 1	INJYEAR	3479	Year of Injury	1989-10-01 - Variable Added

26.4.2 Codes and Values

No codes found for the given group IDs.

26.4.3 History

No history found for the Domain.

26.5 REHABILITATION

26.5.1 Definition

RehabAdm: Rehab admission date
RehabDis: Rehab discharge date
LOA: Leave of Absence (also referred to as short term interruption) includes transfers out of inpatient rehabilitation to an alternative level of care (acute/sub-acute) for 3 or more days, returning to inpatient rehabilitation within 30 days.

26.5.2 Form

[X] Form 1
[ ] Form 2

26.5.3 Source

Form 1 - Abstraction (rehab record)

26.5.4 Details

If a patient is transferred to an alternate level of care within the designated Model System prior to inpatient rehabilitation, the ALC length of stay should be added to the Model System acute care stay or inpatient rehabilitation stay, which ever is most applicable. An alternate level of care is defined as a transfer of a patient from inpatient rehabilitation to a lower level of care (usually with maintenance therapy) after he/she is medically stable and reaches functional plateau (as determined by a medical doctor and utilization review committee).

Day hospital treatment should not be included as part of inpatient rehabilitation stay.

26.5.4.0.1 Rehab Admission Date

Do not assume that the date of discharge from the acute care hospital is the same as the date of admission to inpatient rehab.

26.5.4.0.2 Rehab Discharge Date

If a patient completes acute care and inpatient rehabilitation and is then transferred to an alternate level of care (regardless of whether it is a designated Model System facility or not), this is considered the rehabilitation discharge date and the Residence at Discharge [RES] should reflect this alternate level of care at discharge.

26.5.4.0.3 Leave of Absence (Short Term Interruption)

Dates of LOA/short term interruptions (3 days or more) includes transfers during system inpatient rehabilitation phase only.

Patient is off rehabilitation 30 days or less for each interruption.

Transfers for more than 30 days should be considered a discharge, not a rehab interruption, and first day of last interruption is coded as date of discharge.

Any returns to inpatient rehab after 30 days should be coded as a Rehospitalization at the Form 2, year 1 followup.

If more than two short term interruptions, code the two longest.

26.5.5 Characteristics

Length of stay may be expected to increase slightly as of 1/1/05 simply due to a change in TBIMS Inclusion Criteria which allows patients to not be considered discharged from System if they go to a long term care facility that is able to provide patients with a specified minimum level of services (see definition in Inclusion Criteria), even though this patient does not receive those services.

26.5.6 Variables

Form Type	Variable	ID	Question	History
Form 1	LOA1End	520	First interruption end date:	1989-10-01 - Variable Added
Form 1	LOA1Start	520	First interruption start date:	1989-10-01 - Variable Added
Form 1	LOA2End	520	Second interruption end date:	1989-10-01 - Variable Added
Form 1	LOA2Start	520	Second interruption start date:	1989-10-01 - Variable Added
Form 1	RehabAdm	546	Date of rehab admit:	1989-10-01 - Variable Added
Form 1	RehabDis	546	Date of rehab discharge:	1989-10-01 - Variable Added

26.5.7 Codes and Values

ID	Code	Description
520	08/08/8888	Not Applicable
520	09/09/9999	Unknown
546	08/08/8888	Not Applicable
546	09/09/9999	Unknown

26.5.8 History

Date	Description
1994-02-01	Added NOTE : this variable refers to rehab phase only and how to code a system readmission after 30 days.
1994-02-01	Added NOTE : all references to ”transfer” changed to ”interruption”.
1999-04-20	Added NOTE : regarding coding more than two interruptions.
2002-01-01	Added NOTE : to not assume that date of acute discharge is the same as admission to inpatient rehab.
2002-01-01	Added NOTE : about coding time spent in an alternative care facility following discharge from System acute hospital.
2006-01-01	Added CHARACTERISTICS : LOS is likely to increase slightly simply due to a change in TBIMS Inclusion Criteria.

26.6 REHABILITATION - CALCULATED

26.6.1 Definition

Computer uses interruption data to calculate Net Length of Stay, via the formula below: Net LOA = (Disch date - Adm date) - Days off rehab service.

26.6.2 Variables

Form Type	Variable	ID	Question	History
Form 1	DAYSToREHABAdm	435	Days From Injury to Rehab Admit	1989-10-01 - Variable Added
Form 1	DAYStoREHABdc	436	Days From Injury to Rehab Discharge	1989-10-01 - Variable Added
Form 1	LOSRehab	522	Days Spent in Rehab	1989-10-01 - Variable Added
Form 1	LOSRehabNoInt	523	Days From Rehab Admit to Rehab Discharge not Including Interuptions	1989-10-01 - Variable Added
Form 1	LOSTot	524	Days From Acute Admit to Rehab Dis (Excluding LOS)	1989-10-01 - Variable Added

26.6.3 Codes and Values

ID	Code	Description
435	8888	Not Applicable
435	9999	Unknown
436	8888	Not Applicable
436	9999	Unknown
522	888	Not Applicable
522	999	Unknown
523	888	Not Applicable
523	999	Unknown
524	888	Not Applicable
524	999	Unknown

26.6.4 History

No history found for the Domain.

27 PAYOR SOURCE

27.0.1 Definition

Primary (largest) payor source(s) for both acute and rehabilitation hospitalizations

4 - Private Insurance includes Employee Insurance, Privately Purchased Policies such as BCBS, HMO, PPO, TRICARE/TRIWEST, Federal Exchanges, etc.
8 - State or County includes State Crippled Children, Department Of Rehab, etc.
14 - Charity includes Hospital Provided Free Care

27.0.2 Form

[X] Form 1
[ ] Form 2

27.0.3 Source

Form 1 - Abstraction (acute record, rehab record)

27.0.4 Details

Any given payor may have many kinds of policies, so the name of the payor is often not sufficient information for determining type of policy. If the payor source is not clear, contact your hospital's billing department to determine correct payor source.

Code '55. Payor Source Pending' should be used only as a place holder until the actual payment source is known.

Payor sources fitting more than 1 category should be coded only once, and are not to be broken-out between the primary and secondary sources. If present, any type of ''managed care' ' category should be given the highest prioritization. For example, if the payor source is "Auto Insurance with HMO" code '6. HMO.'

Medicaid HMO should be coded '2. Medicaid'.

27.0.5 Characteristics

All cases coded as '01 - Medicare' or '02 - Medicaid' prior to 4/2/99 remained in these coding categories. Centers with the ability to perform retrospective re-coding, re-coded these cases to codes 15 through 18 as appropriate.

Several categories were combined / re-defined on 10/1/2011:

01 = Medicare (unable to determine if traditionally or managed care administered) [CHANGED TO 01 = Medicare]
02 = Medicaid (unable to determine if traditionally or managed care administered) [CHANGED TO 02 = Medicaid]
03 = Workers' Compensation [UNCHANGED]
04 = Blue Cross/Shield [COMBINED WITH 05 = Private Insurance (Other); CHANGED TO 04 = Private Insurance, Other (BC/BS, Employee Insurance, Privately Purchased Policies, Etc.)]
05 = Private Insurance (Other) [COMBINED WITH 04 = Blue Cross/Blue Shield; CODE 05 REMOVED]
06 = HMO (Health Maintenance Organization) [UNCHANGED]
07 = Private Pay [CHANGED TO 07 = Self Or Private Pay]
08 = State Crippled Children's [COMBINED WITH 09 = Department of Rehabilitation; CHANGED TO 08 = State or County (State Crippled Children, Department of Rehab, Etc.)]
09 = Department of Rehabilitation [COMBINED WITH 08 = State Crippled Children's; CODE 09 REMOVED]
10 = No Fault Insurance [CHANGED TO 10 = Auto Insurance]
11 = PPO [UNCHANGED]
12 = CHAMPUS [CHANGED TO 12 = TRICARE/TRIWEST (Formerly CHAMPUS)]
14 = Hospital (free bed) [CHANGED TO 14 = Hospital Free Care]
15 = Medicare (traditionally administered) [COMBINED WITH 01 = Medicare (unable to determine if traditionally or managed care administered); CODE 15 REMOVED]
16 = Medicaid (traditionally administered) [COMBINED WITH 02 = Medicaid (unable to determine if traditionally or managed care administered); CODE 16 REMOVED]
17 = Medicare (managed care administered) [COMBINED WITH 01 = Medicare (unable to determine if traditionally or managed care administered); CODE 17 REMOVED]
18 = Medicaid (managed care administered) [COMBINED WITH 02 = Medicaid (unable to determine if traditionally or managed care administered); CODE 18 REMOVED]
19 = DoD (VA database only - not a TBIMS code) [UNCHANGED]
20 = VA (VA database only - not a TBIMS code) [UNCHANGED]
55 = Medicaid Pending [CHANGED TO 55 = Payor Source Pending]
77 = Other [UNCHANGED]
88 = N/A (No care given or no secondary payor) [CHANGED TO 88 = Not Applicable (No Secondary Payor)]
99 = Unknown [UNCHANGED]

In 2017 More categories were combined - the existing variable was copied to the variable archive and the live variable was recoded by combining all private insurance together (4-private insurance: other; 6-HMO; 11-PPO; and 12-TRICARE/TRIWEST). Also recommended to rename “Hospital Free Care” as “Charity.”

In 2018, copied current variable to Archives and re-coded variable to combine all private insurances together and rename Hospital Free care to “Charity”

27.0.6 Variables

Form Type	Variable	ID	Question	History
Form 1	AcutePay1	8072	Primary acute payor:	1989-10-01 - Variable Added
Form 1	AcutePay2	390	Secondary acute payor:	1989-10-01 - Variable Added
Form 1	RehabPay1	8073	Primary rehabilitation payor:	1989-10-01 - Variable Added
Form 1	RehabPay2	547	Secondary rehabilitation payor:	1989-10-01 - Variable Added

27.0.7 Codes and Values

ID	Code	Description
390	1	Medicare
390	2	Medicaid
390	3	Workers Compensation
390	4	Private Insurance (Employee Insurance, Privately Purchased Policies such as BCBS, HMO, PPO, TRICARE/TRIWEST, Federal Exchanges, etc.)
390	7	Self or Private Pay
390	8	State or County (State Crippled Children, Department Of Rehab, etc.)
390	10	Auto Insurance
390	14	Charity (Hospital Provided Free Care)
390	15	Other
390	55	Payor Source Pending
390	888	Not Applicable: No secondary payor

ID	Code	Description
390	999	Unknown
547	1	Medicare
547	2	Medicaid
547	3	Workers Compensation
547	4	Private Insurance (Employee Insurance, Privately Purchased Policies such as BCBS, HMO, PPO, TRICARE/TRIWEST, Federal Exchanges, etc.)
547	7	Self or Private Pay
547	8	State or County (State Crippled Children, Department Of Rehab, etc.)
547	10	Auto Insurance
547	14	Charity (Hospital Provided Free Care)
547	15	Other
547	55	Payor Source Pending
547	888	Not Applicable: No secondary payor
547	999	Unknown
8072	1	Medicare
8072	2	Medicaid
8072	3	Workers Compensation
8072	4	Private Insurance (Employee Insurance, Privately Purchased Policies such as BCBS, HMO, PPO, TRICARE/TRIWEST, Federal Exchanges, etc.)
8072	7	Self or Private Pay
8072	8	State or County (State Crippled Children, Department Of Rehab, etc.)
8072	10	Auto Insurance
8072	14	Charity (Hospital Provided Free Care)
8072	15	Other
8072	55	Payor Source Pending
8072	999	Unknown
8073	1	Medicare
8073	2	Medicaid

ID	Code	Description
8073	3	Workers Compensation
8073	4	Private Insurance (Employee Insurance, Privately Purchased Policies such as BCBS, HMO, PPO, TRICARE/TRIWEST, Federal Exchanges, etc.)
8073	7	Self or Private Pay
8073	8	State or County (State Crippled Children, Department Of Rehab, etc.)
8073	10	Auto Insurance
8073	14	Charity (Hospital Provided Free Care)
8073	15	Other
8073	55	Payor Source Pending
8073	999	Unknown

27.0.8 History

Date	Description
1995-01-01	Deleted CODE : dropped Alternate Level of Care payor source.
1997-01-01	Added NOTE : about Medicaid pending cases.
1999-04-02	Added CODE : to differentiate between traditional and managed care administered Medicare and Medicaid, added note regarding recoding of old data.
2004-01-14	Added NOTE : to contact a person in your hospital’s billing department when payor source is in question.
2008-04-01	Added CODE : 55 = Medicaid Pending
2009-10-01	Added NOTE : code ”55 - Medicaid Pending” should be used only as a place holder until the payment source is known
2009-10-01	Deleted NOTE : if Medicaid status is pending at the time of discharge, code as ”Medicaid” and change code when pending status is determined.
2011-10-01	Changed CODE : several categories were combined/re-classified - see ”Characteristics of Data” for details.
2013-04-01	Added NOTE : Medicaid HMO should be coded ”Medicaid”.
2016-07-01	Removed NOTE: payor source should be verified that it has not changed just prior to the next quarterly submission.

Date	Description
2017-01-01	Added CHARACTERISTICS : Copied current variable to Archives and recoded variable to combine all private insurances together and rename Hospital Free care to ”Charity”
2019-10-01	Removed NOTE: This variable should be collected based on who pays the bill. It should be collected just prior to quarterly submission.
2023-01-15	Removed CODE : ”888 - Not Applicable: No secondary payor” removed from acute and rehab primary payor source.

28 PRE-INJURY CONDITIONS

See subdomain notes

28.1 PRE-INJURY CONDITIONS

28.1.1 Definition

The purpose of this variable is to help determine the pre-injury functional level of the Model System participants. This variable was taken from the wording of the Long Form of the 2000 Census, which asks about current function. To meet our needs, this question was revised to ask specifically about the patient's specific function prior to the TBI regarding:

- Blindness or a severe vision impairment
- Deafness or a severe hearing impairment
- A condition that substantially limited one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying.

28.1.2 Form

[X] Form 1
[ ] Form 2

28.1.3 Source

Pre-Injury History (participant or proxy)

28.1.4 Details

Pre-Injury long-lasting conditions are based on self-report. If participant views as ‘long-lasting’ then code as such.

Alcoholism can be considered a preinjury condition if it interferes with the person’s functioning.

Having glasses/hearing aid does not constitute a severe impairment. If glasses/hearing aid cannot correct the severe vision/hearing impairment, however, then code ‘yes’.

28.1.5 Characteristics

Previously, participants were asked about any preinjury “Blindness, deafness, or a severe vision or hearing impairment” until the questions were split into 2 questions on 7/1/2020 - “Blindness or a severe vision impairment” and “Deafness, or a severe hearing impairment”.

28.1.6 Reference

Questions were taken from the long form of the 2000 census and modified to ask about premorbid function instead of current level of function. (Developed by a group headed by Flora Hammond).

Variable was successfully pilot tested in first quarter 2005.

28.1.7 Variables

Form Type	Variable	ID	Question	History
Form 1	PreconBlind	533	Blindness or a severe vision impairment:	2020-07-01 - Variable ADDED
Form 1	PreconDeaf	533	Deafness or a severe hearing impairment:	2020-07-01 - Variable Added
Form 1	PreconPhys	533	A condition that substantially limited one or more basic physical activities such as walking, climbing stairs, reaching, lifting or carrying:	2005-07-01 - Variable Added

28.1.8 Codes and Values

ID	Code	Description
533	0	No
533	1	Yes
533	66	Variable Did Not Exist
533	99	Unknown

28.1.9 History

Date	Description
2006-01-01	Added NOTE : about alcoholism being a premorbid condition.
2014-10-01	Added NOTE : Having glasses/hearing aid does not constitute a severe impairment. If glasses/hearing aid cannot correct the severe vision/hearing impairment, however, then code 'yes'.
2024-07-01	Added NOTE: Pre-Injury long-lasting conditions are based on self-report. If participant views as 'long-lasting' then code as such.

28.2 PRE-INJURY LIMITATIONS

28.2.1 Definition

The purpose of this variable is to help determine the preinjury functional level of the Model System participants. This variable was taken from the wording of the Long Form of the 2000 Census, which asks about current function. To meet our needs, this question was revised to ask specifically about the patient's difficulty in doing the following activities due to a physical, mental, or emotional condition that has been present for at least 6 months:

- Learning, remembering, or concentrating
- Dressing, bathing, or getting around inside the home
- Going outside the home alone to shop or visit a doctor's office
- Working at a job or business

28.2.2 Form

[X] Form 1
[ ] Form 2

28.2.3 Source

Pre-Injury History (participant or proxy)

28.2.4 Details

Include effects due to alcoholism.

If respondent asks for clarification of what is meant by “mental and emotional conditions”, the following explanation is acceptable: “Mental conditions affect a person’s ability to think or their intelligence. Examples include learning disabilities, dementia, or intellectual disability. Emotional conditions refer to psychological or psychiatric problems.”

If the participant was not working at the time of injury (e.g. unemployed, retired), code Pre-Injury Limitation -Working at a Job or Business” [PrelimWork] on the basis of estimated difficulty had he/she been working. Probe to determine if, at the time of injury, they had physical, mental, or emotional problems that–if they had been working–would have caused them difficulty and which they had had for the past 6 months. If problems has been present for at least 6 months, then code “Yes”. Otherwise code “No”.

28.2.5 Reference

Questions were taken from the long form of the 2000 census and modified to ask about pre-morbid function instead of current level of function. (Developed by a group headed by Flora Hammond.)

Variable was successfully pilot tested in first quarter 2005.

Form Type	Variable	ID	Question	History

28.2.6 Variables

Form Type	Variable	ID	Question	History
Form 1	PrelimDress	534	Dressing, bathing, or getting around inside the home:	2005-07-01 - Variable Added
Form 1	PrelimLearn	534	Learning, remembering, or concentrating:	2005-07-01 - Variable Added
Form 1	PrelimOuthm	534	Going outside the home alone to shop or visit a doctor’s office:	2005-07-01 - Variable Added
Form 1	PrelimWork	534	Working at a job or business:	2005-07-01 - Variable Added

28.2.7 Codes and Values

ID	Code	Description
534	0	No
534	1	Yes
534	66	Variable Did Not Exist
534	99	Unknown

28.2.8 History

Date	Description
2006-01-01	Added NOTE : for data collectors to use in clarifying the meaning of ”mental or emotional conditions”.
2006-01-01	Added NOTE : include effects due to alcoholism.
2006-03-14	Added NOTE: if the participant was not working at the time of injury (e.g. unemployed, retired), code Pre-Injury Limitation -Working at a Job or Business” (PrelimWork) on the basis of estimated difficulty had he/she been working.
2006-04-01	Added NOTE : about coding part d for persons not working at injury.
2020-09-30	Changed NOTE : replaced ”mental retardation” with ”intellectual disability”.

29 REHOSPITALIZATION

29.1 REHOSPITALIZATION

29.1.1 Definition

The reason for each rehospitalization since inpatient rehabilitation discharge or in the past year (whichever is shorter), using Level 2 HCUP coding.

29.1.2 Form

[ ] Form 1
[X] Form 2

29.1.3 Source

Form 2 - Interview, Mail-out (participant or proxy)

29.1.4 Details

This variable includes all types of hospitalizations (i.e., an inpatient stay in any hospital, whether part of a TBI Model System or not).

For each hospitalization a HCUP multi-level code Level 1 and Level 2 will be identified for the PRIMARY REASON for hospitalization.

If hospitalized for more than one reason, code the more severe/significant reason. (e.g. participant was hospitalized for a UTI, but had a seizure while in the hospital and was kept for an extra week because of the seizure, code the seizures as they are the more severe/significant reason for the rehospitalization.)

If more than five hospitalizations, have your Medical Director prioritize which five to code.

An admission of 24 hours or more for ‘observation’ should be considered a hospitalization, and a determination should be made regarding why the rehospitalization occurred. Any stays less than 24 hours will not be considered a hospitalization.

Level 2 HCUP codes are in the format X.X or X.XX (e.g. 2.6 or 2.16).

EXAMPLE: Code an accidental overdose of pain medications as “16.11 Poisoning” in the HCUP coding scheme

29.1.5 Links

Rehospitalization Codes - All Levels
Rehospitalization Codes - Procedures

29.1.6 Characteristics

On 10/1/ 2017 the coding scheme was switched to HCUP.
Data for follow-ups prior to 10/1/99 will be recoded from text field to the categories below.

0 - Rehabilitation
1 - Seizures
2 - Neurologic Disorder: Non-seizure
3 - Psychiatric
4 - Infectious
5 - Orthopedic
6 - General Health Maintenance or OB/Gyn
7 - Other: Not specified elsewhere
8 - Not Applicable: No rehospitalizations / no further rehospitalizations
9 - Unknown

Prior to 1/1/02 the code “9. Unknown” did not distinguish between “unknown if rehospitalized” and “unknown reason for rehospitalization”. On 1/1/02 “9. Unknown” was clarified to mean “unknown reason for rehospitalization”. On 1/1/04 the code “99. Unknown, if Rehospitalized” was added. Thus, between 1/1/02 and 1/1/04 there was no way to record rehospitalization for unknown reason.

9 - Rehospitalized: Reason unknown
99 - Unknown

On 10/1/ 2017 the coding scheme was switched to HCUP

29.1.7 Variables

Form Type	Variable	ID	Question	History
Form 2	Rehosp1lv2F	755	Rehospitalization 1:	2017-10-01 - Variable Added
Form 2	Rehosp2lv2F	755	Rehospitalization 2:	2017-10-01 - Variable Added
Form 2	Rehosp3lv2F	755	Rehospitalization 3:	2017-10-01 - Variable Added
Form 2	Rehosp4lv2F	755	Rehospitalization 4:	2017-10-01 - Variable Added
Form 2	Rehosp5lv2F	755	Rehospitalization 5:	2017-10-01 - Variable Added

29.1.8 Codes and Values

ID	Code	Description
755	666.00	Variable did not exist
755	888.00	N/A
755	991.00	Participant Hospitalized, Reason Unknown
755	992.00	Unknown whether participant was hospitalized

29.1.9 History

No history found for the Domain.

29.2 REHOSPITALIZATION - CALCULATED

29.2.1 Variables

Form Type	Variable	ID	Question	History
Form 2	REHOSPF	752	Rehospitalized in Past Year	1989-10-01 - Variable Added

29.2.2 Codes and Values

ID	Code	Description
752	0	No
752	1	Yes
752	66	Variable Did Not Exist
752	99	Unknown
752	88	Not Applicable

29.2.3 History

No history found for the Domain.

30 SEVERITY

30.0.1 Definition

Injury severity measures

30.0.2 Characteristics

CONSSTAT (Consciousness Status) and DTLOC (Date of First LOC) were collected from 1/01/1990 to 4/01/1999. NO DATA AVAILABLE. Definition = Beginning= first loss of consciousness. End= the emergence from unconsciousness; specifically, the demonstration of environmental awareness as indicated by a Glasgow Coma Score (Motor Component) of 5 or greater. A patient with severe motor or sensory impairment (i.e. spinal cord injury, locked in syndrome) must demonstrate some cord ability to follow eye commands such as close your eyes, look to the right or left, blink your eyes.

DTGCS was collected from 1/01/1990 to 4/01/1999. NO DATA AVAILABLE. Definition =Enter the date the patient's GCS motor score was 5 or greater. NOTE: A patient with severe motor or sensory impairment (i.e. spinal cord injury, locked in syndrome) must demonstrate some ability to follow eye commands such as close your eyes, look to the right or left, blink your eyes. If patient's GCS motor score <5 at the time of TBI system discharge but was >=5 following that date, change the date the GCS motor score >=5 from 8's to the date this occurred.

30.1 COMMAND FOLLOWING

30.1.1 Definition

Date that the individual with brain injury is able to follow simple motor commands. The individual has the ability to follow simple motor commands if:

1) follows simple motor commands accurately at least two out of two times within a 24-hour period, or

2) GCS motor component = 6 (follows simple motor commands), two out of two times within a 24-hour period.

The purpose of this variable is to establish the duration of unconsciousness.

30.1.2 Form

[X] Form 1
[ ] Form 2

30.1.3 Source

Form 1 - Abstraction (acute or rehab record)

30.1.4 Details

A patient with severe motor or sensory impairment (i.e. spinal cord injury, locked in syndrome) must demonstrate some ability to follow eye commands such as close your eyes, look to the right or left, blink eyes.

If patient is able to follow commands, then following surgery he/she can not follow commands for a period of time, use the first date the patient was able to follow commands.

If the two assessments of ability to follow simple motor commands within a 24-hour period fall across two dates, use the second date.

If patient was always able to follow simple motor commands, code date of admission to emergency room.

Notes such as ‘’following commands at times’ ’ or ‘’follows some commands’ ’ may be used, as long as the ability to follow commands is documented 2 times consecutively.

Notes of “inconsistently following commands” should be counted as following.

Other scenarios that indicate following commands include “ability to answer questions appropriately” or “2 consecutive GSC total scores of 15”.

Scenarios that indicate NOT following commands include “localizing”, “flexing”, “withdraws from pain” or “posturing”.

In unusual cases where two or more motor scores of 6 occur within a very short time frame of each other but have motor scores preceding and following that are below 6, data collectors should consult with their Project Director or Medical Director.

If patient was always able to follow simple motor commands, code date of admission to emergency room.

30.1.5 Variables

Form Type	Variable	ID	Question	History
Form 1	FollowComm	499	Date able to follow commands:	1989-10-01 - Variable Added

30.1.6 Codes and Values

ID	Code	Description
499	08/08/8888	Patient Never Able to Follow Simple Motor Commands
499	09/09/9999	Unknown

30.1.7 History

Date	Description
1994-09-13	DELETED NOTE : reference of this variable being a precondition to collect the physical exam data.
1999-10-01	Added NOTE : regarding if patient is able to follow commands, declines, then can again follow commands at a later date.
1999-10-01	Added NOTE : regarding if two assessments of following commands falls across two dates.
2003-01-01	Deleted CODE : 08/08/8888 - NA.
2003-01-01	Added instruction to code as date of admission to ER if patient was never unable to follow commands.
2003-10-01	Added NOTE : that the purpose of this variable is to establish the date of emergence from coma.
2010-10-01	Added NOTE : regarding ambiguous notes such as ”follows some commands”.
2013-07-01	Deleted NOTE : The purpose of this variable is to establish the date of emergence from coma
2013-07-01	Added NOTE: The purpose of this variable is to establish the duration of unconsciousness

Date	Description
2016-07-01	Added NOTE: In unusual cases where two or more motor scores of 6 occur within a very short time frame of each other but have motor scores preceding and following that are below 6, data collectors should consult with their Project Director or Medical Director.
2020-03-26	Added NOTE : Notes of ”inconsistently following commands” should be counted as following.
2022-12-15	Removed NOTE : ”...shows equal strength bilaterally” from other scenarios that indicate command following.

30.2 COMMAND FOLLOWING - CALCULATED

30.2.1 Variables

Form Type	Variable	ID	Question	History
Form 1	TFCDays	559	Days From Injury to Follow Commands	1989-10-01 - Variable Added

30.2.2 Codes and Values

ID	Code	Description
559	7777	Patient Never Able to Follow Simple Motor Commands
559	9999	Unknown

30.2.3 History

No history found for the Domain.

30.3 GCS (GLASGOW COMA SCALE)

30.3.1 Definition

Glasgow Coma Scale scores on admission to emergency department.

30.3.2 Form

[X] Form 1
[ ] Form 2

30.3.3 Source

Form 1 - Abstraction (acute record)

30.3.4 Details

If patient was admitted to a model systems acute facility within the first 24 hours of injury, use model systems ER data. However, if the patient was not admitted to a model systems acute facility within the first 24 hours of injury, use the first ER to obtain GCS data regardless of whether it was a model systems ER or not.

If only 1 GCS is recorded, use that score for an assessment.

If the patient is chemically paralyzed with neuromuscular blocking agents or barbiturates, or is sedated with anesthetics, code the GCS as 'Chemically Paralyzed or Sedated' even if GCS scores are present in the record. The paralysis or sedation must be induced by medical personnel, and not by the patient.

If however, a GCS score of 15 is present in the record, and there is evidence that the patient was given sedatives, do not code as sedated, and use the Verbal score and Total score provided in the record.

Applicable medications commonly used in emergency care for sedation include…

- Neuromuscular blocking agents: atracurium (TRACRIUM), pancuronium (PAVULON), rocuronium (ZEMURON), succinylcholine (ANECTINE, QUELICIN), vecuronium (NORCURON) and ketamine (KETALAR).
- Barbiturates: pentobarbital (NEMBUTAL), and sodium thiopental (SODIUM PENTOTHAL or THIOPENTAL).
- Anesthetics: fentanyl (ABSTRAL, ACTIQ, DUROGESIC, FENTORA, IONSYS, LAZANDA, ONSOLIS, SUBLIMAZE, SUBSYS), lorazepam (ATIVAN), midazolam (VERSED), and propofol (DIPRIVAN).

If chemical paralysis or sedation at time of arrival is unclear, data collectors should seek the advice of their project director or physician at their hospital.

If patient is intubated at the time of assessment, record the verbal score as 8 and the total score as 88. For the purposes of analysis, these cases will not be included unless specified for recoding during analysis.

If patient is intubated and in chemically-induced coma or paralysis, code 8 for verbal response and 7's for eye opening, motor response and 77 for total GCS.

If patient is only nasally intubated, the patient can provide a verbal GCS score (do not code as intubated).
If patient is only bagged, the patient can provide a verbal GCS score (do not code as intubated). Medical records may show this as "BVM" (bag-valve-mask ventilated).

If patient is intubated using RSI (rapid sequence intubation), code as intubated and sedated.

30.3.5 Links

GCS - PubMed:Teasdale et al(1976)

30.3.6 Reference

Teasdale G, Jennett B (1976) Assessment and Prognosis of Coma After Head Injury, Acta Neurochir 34, 45-55.

30.3.7 Characteristics

In the days that 3 GCSs were collected (highest, lowest, admit), there was the option of using 1 GCS for the other 2 GCSs if they were missing. A cursory check suggests that this was not done consistently.

30.3.8 Variables

Form Type	Variable	ID	Question	History
Form 1	GCSEye	502	GCS Eye opening:	1989-10-01 - Variable Added
Form 1	GCSMot	503	GCS Motor:	1989-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	GCSTot	504	GCS Total:	1989-10-01 - Variable Added
Form 1	GCSVer	505	GCS Verbal:	1989-10-01 - Variable Added

30.3.9 Codes and Values

ID	Code	Description
502	1	None
502	2	To Pain
502	3	To Voice
502	4	Spontaneous
502	7	Chemically Paralyzed or Sedated
502	99	Unknown
503	1	None
503	2	Extension to Pain
503	3	Flexion to Pain
503	4	Withdraws from Pain
503	5	Localizes Pain
503	6	Obeys Commands
503	7	Chemically Paralyzed or Sedated
503	99	Unknown
504	77	Chemically Paralyzed or Sedated
504	88	Intubated
504	999	Unknown
505	1	None
505	2	Incomprehensible Sounds
505	3	Inappropriate Speech
505	4	Confused

ID	Code	Description
505	5	Oriented
505	7	Chemically Paralyzed or Sedated
505	8	Intubated
505	99	Unknown

30.3.10 History

Date	Description
1994-02-01	Added NOTE : to clarify which GCS scores to use.
1995-01-01	Deleted CODES : 88 and 8 - Not applicable codes.
1995-07-01	Added CODE : 7 for individual items and 77 for total = ”chemically induced coma or paralysis”.
1995-07-01	Added CODE : T=intubated for verbal item and TT=intubated for total.
1995-07-01	Deleted VARIABLE: eye swelling and intubation items.
1996-04-01	Changed CODES : for patient intubated from “T” and “TT” to “8” and “88”.
1999-01-01	Added NOTE : regarding chemical paralysis.
1999-04-01	Added NOTE : that GCS at ED is Model System ED.
2004-04-01	Changed CODE : added ”sedated” to reasons for coding ”7”.
2004-04-01	Changed NOTE : added list of sedatives.
2009-10-01	Changed DEFINITION : Data from non model systems emergency departments may be used if not admitted to model systems facility within the first 24 hours. Change corresponds with expansion of inclusion criteria to 72 hours.
2011-04-01	Added NOTE : If patient is nasally intubated they can provide a verbal GCS score.
2020-03-25	Added NOTE : If however, a GCS score of 15 is present in the record, and there is evidence that the patient was given sedatives, do not code as sedated, and use the Verbal score and Total score provided in the record.
2021-11-23	Updated NOTE: If patient is only nasally intubated, the patient can provide a verbal GCS score (do not code as intubated). If patient is only bagged, the patient can provide a verbal GCS score (do not code as intubated). Medical records may show this as ”BVM” (bag-valve-mask ventilated). If patient is intubated using RSI (rapid sequence intubation), code as intubated and sedated.
2022-04-19	Added to NOTE : ”Ketamine (KETALAR)” as a

30.4 GCS (GLASGOW COMA SCALE) - CALCULATED

30.4.1 Variables

Form Type	Variable	ID	Question	History
Form 1	GCS	500	GCS Total on Admission	1989-10-01 - Variable Added
Form 1	GCSCat	501	GCS Category	1989-10-01 - Variable Added

30.4.2 Codes and Values

ID	Code	Description
500	77	Patient Chemically Paralyzed or in Chemically-Induced Coma for Treatment Purposes: Sedated
500	88	Intubated
500	999	Unknown Total GCS Score
501	1	Severe
501	2	Moderate
501	3	Mild
501	77	Intubated
501	999	Missing

30.4.3 History

No history found for the Domain.

30.5 PTA

30.5.1 Definition

Date of emergence from Post-traumatic Amnesia (PTA).

Where possible, PTA emergence should be measured (tracked) prospectively by direct testing. With prospective tracking, emergence from PTA is defined as:

1) two consecutive GOAT scores of 76 or greater with no more than 2 full calendar days between assessments (Assessment 1 = Friday, Assessment 2 = Monday, two full days = Saturday, Sunday)

2) two consecutive scores of 11 or greater on the Revised GOAT with no more than 2 full calendar days between assessments (Assessment 1 = Friday, Assessment 2 = Monday, two full days = Saturday, Sunday)

3) two consecutive scores of 25 or greater on the Orientation-Log with no more than 2 full calendar days between assessments (Assessment 1 = Friday, Assessment 2 = Monday, two full days = Saturday, Sunday)

4) two consecutive scores of 8 or greater on the Non-Verbal version of the Orientation-Log with no more than 2 full calendar days between assessments (Assessment 1 = Friday, Assessment 2 = Monday, two full days = Saturday, Sunday), or

5) in the judgment of a qualified clinician (i.e., speech-language pathologist, physician, neuropsychologist), the person has cleared PTA but administration of an orientation test is not possible due to language functioning.

The day of clearance of PTA is the first day the person gets the first of 2 consecutive scores of 76 or greater on the GOAT, the first of 2 consecutive scores of 11 or greater on the Revised GOAT, the first of 2 consecutive scores of 25 or greater on the Orientation-Log, or the first of 2 consecutive scores of 8 or greater on the Non-Verbal version of the Orientation-Log.

If within a 7-day period, there are multiple scores exceeding the PTA cut-off, but the first two are separated by more than two full calendar days (e.g. Assessment 1 = Friday, Assessment 2 = Tuesday; this would be 3 full calendar days apart), then it is acceptable to use the midpoint between the first and second dates the PTA assessment was administered.

It is the choice of the Project Director as to whether to use the GOAT, Revised GOAT (Bode, Heinemann, & Semik, 2000 – see SOURCES) or the Orientation-Log (Jackson, Novack, & Dowler, 1998; Novack, Dowler, Bush, Glen, & Schneider, 2000 – see SOURCES) to establish the duration of PTA. Alternating use of the scales in an individual patient is not acceptable, however. Preferably, copies of the test protocols documenting PTA tracking should be kept in the research record. If the PTA data is elsewhere (e.g., in the rehabilitation chart), the location should be noted in the research record.

The Non-Verbal version of the Orientation-Log is the preferred assessment of orientation for persons with traumatically induced expressive language disorder with significant difficulty generating comprehensible verbal output. Common causes for this problem include expressive aphasia and severe dysarthria accompanied by an inability to write responses. Non-verbal

responses are scored according to the following criteria: 1 = correct upon multiple choice / 0 = incorrect or no response. This scoring adjustment is intended to be used only for non-verbal individuals with significant difficulty generating comprehensible verbal or written output. Careful clinical judgment will be required in each case to determine that the person's expressive problems are clearly due to neurological disorder, and the person is unable to respond in writing.

Determining Date of PTA Emergence During Acute Care

For those patients who are already oriented at rehabilitation admission (as defined by the first two GOAT scores after rehabilitation admission >75), prospective tracking of the date of emergence from PTA is not possible, because the date falls within the acute care stay. In these cases, PTA emergence can be determined via chart review of the acute care records only. (NOTE: Rehabilitation hospital charts may NOT be used for this purpose). The following procedure can be used to determine the length of PTA based on acute care hospital records. This procedure should be followed only for those patients who are oriented at rehabilitation admission.

1. Obtain all available physician, nursing and therapy notes from the acute hospitalization. In most hospital medical records, physician, nursing and therapy notes are filed in different sections. You may have to specifically request therapy and nursing notes, if you routinely only receive the physician progress notes.
2. Review all notes to determine the first DATE on which all notes referencing orientation indicate that the patient is fully oriented, oriented X 3 (or 4), or GCS Verbal Score = 5 (oriented). This is Orientation Day 1.
3. Review notes from the next calendar day to determine if all relevant notes again indicate that the patient is fully oriented.
4. If yes, the second day is Orientation Day 2, and Orientation Day 1 is the resolution date of PTA. If there are missing notes or no comments about orientation on the second day, keep looking for the second day that the notes consistently document full orientation. As long as Orientation Day 2 is no more than 2 full calendar days from Orientation Day 1, and if no notes from intervening days indicate less than full orientation, record Orientation Day 1 as the resolution date of PTA.
5. If any note from calendar days intervening between Orientation Days 1 and 2 indicate less than full orientation, use Day 2 as the new starting point (i.e., new Day 1) and repeat procedure from Step 3 above.
6. If there is no Orientation Day 2 (i.e., if the patient is never fully oriented on more than one day; or if more than 2 full calendar days elapse after Orientation Day 1 with no further notation about orientation), code date of PTA resolution as unknown. An exception would be if on the day before or the day of transfer to rehabilitation, the patient is specifically noted not to be oriented. If the patient then produces GOATs >75 on the first two

examinations after rehabilitation admission, code the date of PTA resolution in the usual manner.

30.5.2 Form

[X] Form 1
[ ] Form 2

30.5.3 Source

Form 1 - Abstraction (acute record only) or measured by direct O-Log or GOAT testing (rehab record)

30.5.4 Details

Administer the test every 1 to 3 calendar days until patient emerges from PTA.

There is no code for “unknown” for method of PTA determination because this should never be unknowable. Please contact the TBINDC if you are in a situation in which this variable is truly unknown (and unknowable).

Code date of admission to ER if person was never in PTA.

If PTA lasts less than 24 hours, code day 2 as the date of emergence from PTA, since this would be the first day that they were fully oriented.

If participant was not out of PTA at Rehab discharge score is coded as “888. Person Still in PTA at time of Rehab Discharge”.
If a person was never in PTA the days = 0.

For cases who do not emerge from PTA by rehab discharge, code the method used to decide if the patient is still in PTA.

The same instrument must be used for all scores to capture the date emerged from PTA during rehabilitation. GOAT and O-Log scores may not be mixed and matched.

Record review can not be used to determine Date Emerged from PTA during rehab. If PTA was not tracked with GOAT or O-Log during rehab and patient did not emerge during the acute stay, Date Emerged from PTA should be coded as “09/09/9999 (Unknown)”, and Method of Determination should be coded as “88. (N/A PTA Not Tracked)”.

Patients who don’t have any documented GOAT or O-Log scores possibly due to other cognitive deficits (e.g. “confused due to dementia’ ‘) and formal testing may not have been possible should be’‘09/09/999 - Unknown’ ’ rather than ‘’08/08/8888 - Never Emerged.’ ’ The method

of PTA determination should be coded as '88. PTA has not been tracked.'. Record review cannot be used to determine emergence from PTA during rehab.

If an acute record states "patient is A&O x3 with choices", and the patient has aphasia or some other expressive language disorder, then testing with choices would be appropriate to asses orientation and would count as being oriented.

Computer calculates duration of post-traumatic amnesia by subtracting the date of injury from this date.

Duration of PTA is calculated only for those cases which emerge from PTA prior to discharge from inpatient rehabilitation.

Duration of PTA is not to be calculated from date of emergence from coma [FLLW], per decision of the neuropsychology databusters group.

Two consecutive GCS Verbal scores of "5-Oriented" may be used to determine length of PTA when there is no other source of documentation using acute chart review.

For cases who never had PTA, code "Method of PTA Determination" as "1-Acute Chart Review".

30.5.5 Links

PTA - Introduction to O-Log (COMBI)
PTA - O-Log frequently asked questions (COMBI)
PTA - O-Log Syllabus (COMBI)
PTA - O-Log Rating Form (COMBI
PTA - O-Log Properties (COMBI)
PTA - O-Log References (COMBI)
PTA - Bode RK, Heinemann, AW, Semik P. for v144a
PTA - Jackson WT, Novack TA, Dowler RN for v144a
PTA - Novack TA, Dowler RN, Bush BA, Glen T, Schneider JJ. for v144a
PTA - Levin, HS, O'Donnell, VM, & Grossman, RG for v144a

30.5.6 Reference

GOAT: Levin, HS, O'Donnell, VM, & Grossman, RG. (1979). The Galveston Orientation and Amnesia Test: A practical scale to assess cognition after head injury. Journal of Nervous and Mental Diseases, 167, 675-684. See External Links

Revised GOAT: Bode RK, Heinemann AW, Semik P. Measurement properties of the Galveston Orientation and Amnesia Test (GOAT) and improvement patterns during inpatient rehabilitation. J Head Trauma Rehabil. 2000 Feb;15(1):637-55. See External Links

Orientation-Log (and Non-Verbal version of the Orientation-Log): Jackson WT, Novack TA, Dowler RN. Effective serial measurement of cognitive orientation in rehabilitation: the Orientation Log. Arch Phys Med Rehabil. 1998 Jun;79(6):718-20. Link to PubMed: See External Links

Novack, TA, Dowler, RN, Bush, BA, Glen, T, Schneider, JJ. Validity of the Orientation Log, Relative to the Galveston Orientation and Amnesia Test. J Head Trauma Rehabil, 2000, 15(3), 957-961. See External Links

30.5.7 Characteristics

A few participants have a very long time in PTA. These have been checked and found to be correct.

A modified GOAT can be used to assist with this decision. The examiner presents three alternatives, in written form and orally, including the correct choice for each question. The patient is to indicate a choice in some manner, such as nodding or pointing. This procedure can be used for all questions except numbers 4 and 5. The three response alternatives for each question should be arranged vertically in large print on an index card. Error points are assigned and subtracted from 80 (the maximum score with items 4 and 5 removed). A score of 61 or higher is reflective of orientation. PTA is considered resolved when a score of 61 or greater is achieved on two consecutive occasions with no more than 2 full calendar days between assessments (Assessment 1 = Friday, Assessment 2 = Monday, two full days = Saturday, Sunday). Scores from the modified GOAT are for determination of PTA duration only.

30.5.8 Variables

Form Type	Variable	ID	Question	History
Form 1	PTADate	538	Date emerged from PTA:	1989-10-01 - Variable Added
Form 1	PTAMethod	540	Method of PTA determination:	1989-10-01 - Variable Added

30.5.9 Codes and Values

ID	Code	Description
538	08/08/8888	Not Applicable: Still in PTA at discharge

ID	Code	Description
538	09/09/9999	Unknown
540	1	Acute Chart Review
540	2	GOAT
540	3	GOAT-R
540	4	O-Log
540	5	Clinical judgement: GOAT/O-Log not possible due to language functioning
540	6	Non-Verbal Version of the O-Log
540	66	Variable Did Not Exist
540	88	Not Applicable: PTA has not been tracked

30.5.10 History

Date	Description
1994-09-13	Added NOTE : regarding use of modified GOAT.
1995-07-01	Added NOTE : regarding calculation of duration of PTA.
1999-10-01	Added NOTE : to clarify which date to use.
2000-07-01	Added NOTE : PTA determination based on Chart Review.
2001-10-01	Added NOTE : that date of emergence from PTA is the date of the first of 2 consecutive scores greater than 75.
2002-01-01	Added DEFINITION : the Revised GOAT, Orientation-Log, and modified GOAT.
2003-01-01	Deleted CODE : “07/07/7777 - Never had amnesia”.
2003-01-01	Added NOTE : that if person never had PTA, code date of admission to ER.
2004-01-01	Added NOTE : that NP databusters confirmed current procedure for calculation (approx 9/02).
2004-04-01	Changed DEFINITION : removed reference to the neuropsychological battery.
2006-01-01	Added NOTE : clocks, calendars are okay for tester to use.
2006-01-01	Added NOTE : about determining date by chart review if person not consented (and if not assessed clinically).
2006-01-01	Removed NOTE : that the Modified GOAT is to be used only for determining PTA.

Date	Description
2008-04-01	ADDED Code: ’5’ clinical judgement.
2009-10-01	Changed DEFINITION : changed wording from ”within a period of 24 to 72 hours” to ”within a period of 1 calendar day to 3 calendar days”.
2010-10-01	Added DEFINITION : details for new assessment method - Non-Verbal version of the Orientation-Log.
2010-10-01	ADDED Code: ’6’ None Verbal Version of the O-LOG.
2011-01-06	Added NOTE : how to code participants who don’t have any documented GOAT or OLOG scores possibly due to other cognitive deficits (e.g. ”confused due to dementia”) and formal testing may not have been possible.
2013-01-01	Added DEFINITION : that GCS Verbal Scores of ’5 = Oriented’ may be used when determining length of PTA by chart review.
2013-06-05	Added NOTE : how to code if note reads ”patient is A&O x3 with choices”.
2015-08-01	Added NOTE : If PTA lasts less than 24 hours, code day 2 as the date of emergence from PTA, since this would be the first day that they were fully oriented.
2015-08-01	Added NOTE : to not use record review to determine PTA during rehab.
2016-01-01	Added NOTE : The same instrument must be used for all scores to capture the date emerged from PTA. GOAT and O-Log scores may not be mixed and matched.
2017-01-15	Changed DEFINITION : clarified ’within a period of 1 calendar day to 3 calendar days’ with ’with no more than 2 full calendar days between assessments (Assessment 1 = Friday, Assessment 2=Monday, two full days=Saturday, Sunday)’.
2025-07-01	Note Added to Definition - ”If within a 7-day period, there are multiple scores exceeding the PTA cut-off, but the first two are separated by more than two full calendar days (e.g. Assessment 1 = Friday, Assessment 2 = Tuesday; this would be 3 full calendar days apart), then it is acceptable to use the midpoint between the first and second dates the PTA assessment was administered. ”

30.6 PTA - CALCULATED

30.6.1 Variables

Form Type	Variable	ID	Question	History
Form 1	PTADays	539	Days From Injury to Date Out of PTA	1989-10-01 - Variable Added

30.6.2 Codes and Values

ID	Code	Description
539	8888	Person Still in PTA at time of Rehab Discharge
539	9999	Unknown

30.6.3 History

No history found for the Domain.

30.7 RTS

30.7.1 Definition

Revised Trauma Score Systolic Blood Pressure and Respiratory Rate at admission to emergency department.

If patient was admitted to a model systems acute facility within the first 24 hours of injury, use model systems ER data. However, if the patient was not admitted to a model systems acute facility within the first 24 hours of injury, use the first ER to obtain RTS data regardless of whether it was a model systems ER or not.

30.7.2 Form

[X] Form 1
[ ] Form 2

30.7.3 Source

Form 1 - Abstraction (acute record)

30.7.4 Details

Do NOT code the actual Revised Trauma Score. Computer will calculate Revised Trauma Score from these data and the GCS.

RESPIRATORY RATE – code actual rate per minute (use 3 characters) (Range = 0 to160)

If the patient was bagged or on mechanical ventilation, and a respiratory rate was recorded, code the respiratory rate that was recorded.

If the patient was bagged or on mechanical ventilation, and a respiratory rate was not recorded, code the respiratory rate as “888 - Unmeasurable”

If a range rather than a single score is given for Respiratory Rate or Systolic Blood Pressure, code as unknown.

SYSTOLIC BLOOD PRESSURE – code actual blood pressure (use 3 characters) (Range = 0 to 280)

Do not use arterial blood pressure.

If both manual and automated blood pressures are recorded on admission to the ER, use the systolic blood pressure recorded on the Revised Trauma Score entered into the trauma registry. This can be found sometimes in the trauma flow-sheets. If unable to locate, use the manual blood pressure.

30.7.5 Variables

Form Type	Variable	ID	Question	History
Form 1	RTSBP	550	Systolic blood pressure at admission to ED:	1989-10-01 - Variable Added 2011-01-01 - Variable Removed 2017-10-01 - Variable Added
Form 1	RTSResp	551	Respiratory rate at admission to ED:	1989-10-01 - Variable Added 2011-01-01 - Variable Removed 2017-10-01 - Variable Added

ID	Code	Description

30.7.6 Codes and Values

ID	Code	Description
550	6666	Variable Did Not Exist
550	8888	Unmeasurable
550	9999	Unknown
551	6666	Variable Did Not Exist
551	8888	Unmeasurable: Bagged or on mechanical ventilation
551	9999	Unknown

30.7.7 History

Date	Description
1995-01-01	Deleted NOTE : ”respiratory effort” and ”capillary refill”.
1998-04-15	Changed CODE : removed ”bagged” from description for RTSBP.
1999-04-01	Added NOTE : that ED refers to Model System ED.
1999-04-20	Changed CODE : added mechanical ventilation to ”888 - unmeasurable” code for respiration.
1999-04-20	Added NOTE : regarding values reported in ranges.
2009-10-01	Changed DEFINITION : Data from non model systems emergency departments may be used if not admitted to model systems facility within the first 24 hours. Change corresponds with expansion of inclusion criteria to 72 hours.
2018-01-15	Added NOTE : do not use arterial BP.
2018-01-25	Added NOTE : do not code the actual Revised Trauma Score.
2018-04-01	Added NOTE : regarding coding of a patient who is bagged or on mechanical ventilation.
2018-05-23	Deleted NOTE : regarding how to code if a range is given
2018-05-23	Added NOTE : to code as unknown if range is given for resp rate or BP

Date	Description
2018-07-01	Added NOTE : if the patient was bagged or on mechanical ventilation, and a respiratory rate was recorded, code the respiratory rate that was recoded. -If the patient was bagged or on mechanical ventilation, and a respiratory rate was not recorded, code the respiratory rate as ”888 - Unmeasureable”
2018-10-01	Added NOTE : if both manual and automated blood pressures are recorded on admission to the ER, use the systolic blood pressure recorded on the Revised Trauma Score entered into the trauma registry. This can be found sometimes in the trauma flowsheets. If unable to locate, use the manual blood pressure.

31 SUBSTANCE USE

31.0.1 Definition

Drug, tobacco and alcohol use prior to injury and at follow-up

31.1 ALCOHOL

31.1.1 Definition

Form 1 - Drinking habits during the month prior to the injury

Form 2 - Drinking habits during the month prior to the follow-up

A “drink” is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. See External Links.

31.1.2 Form

[X] Form 1
[X] Form 2

31.1.3 Source

Form 1 - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

31.1.4 Details

For ALCAnyDrink:
- If coded “0. No” ALCWeek through ALC4Drinks will be autofilled with “888. Not Applicable.”
- If coded “77. Refused”, ALCWeek through ALC4Drinks will be autofilled with ’777. Refused.”
- If coded “66. Variable Did Not Exist”, ALCWeek through ALC4Drinks will be autofilled with “666 = Variable Did Not Exist.”
- If coded “99. Unknown”, ALCWeek through ALC4Drinks will be autofilled with “999 = Unknown”

Base the data recorded for these questions on self-response. Do not be influenced by information about drinking habits that may be available from hospital records, etc.

If cannot get patient’s response, get family, if not family then medical chart.

Use the higher score if a range (in # of drinks) is given.

If participant states they only drink once or twice a month, code “Drinks per Week” as “1”.

Probe for size of drink, and adjust scoring according to answer received.

A “drink” is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. See External Links.

31.1.5 Links

Standard Drink Chart
Substance use - Probelmatic Substance Use Identified in the TBIMS National Dataset

31.1.6 Reference

Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System User’s Guide. Atlanta: U.S. Department of Health and Human Services, 1998. National Household Survey on Drug Abuse. Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

31.1.7 Characteristics

A report on substance use that is based on TBIMS data can be found on COMBI: See Links.

QFVI was added to the Form I database as one of the premorbid history questions on 1/1/97. The QFVI was dropped from both Form I and Form II on 10/1/99 and replaced with alcohol questions from NHSDA and BRFSS module 13. The QFVI data are available in a separate database.
Some cases older than 1/1/97 have data for this variable because Centers were encouraged to collect these data retrospectively for older cases.

STARTING 4/1/04 (version 9.5), THE “7” AND “9” CODES WERE REVERSED IN ORDER TO BE CONSISTENT WITH OTHER VARIABLES (7/77=refused, 9/99=unknown/don’t know/not sure). WHEN WORKING WITH DATA COLLECTION FORMS 9.4 AND EARLIER KEEP IN MIND THAT 7’s ON THE FORM SHOULD APPEAR AS 9’s IN THE DATABASE AND VICE VERSA. TAKE THIS INTO ACCOUNT WHEN DATA ON 9.4 OR EARLIER FORMS ARE BEING CORRECTED, OR COMPARED TO DATA IN THE DATABASE.

In 2003, three Model Systems had difficulty collecting part 1 of this item (the same three Model Systems that had difficulty collecting V192a1:Premorbid Drug Use). (10% or more missing data). Between six and eight Model Systems had difficulty collecting the 3 parts of this item.

31.1.8 Variables

Form Type	Variable	ID	Question	History
Form 1	ALC4Drinks	394	FEMALES ONLY: Considering all types of alcoholic beverages, how many times during the month before the injury did you have four or more drinks on an occasion?	2017-01-15 - Variable Added
Form 1	ALC5Drinks	394	Considering all types of alcoholic beverages, how many times during the month before the injury did you have five or more drinks on an occasion?	1999-10-01 - Variable Added
Form 1	ALCAnyDrink	395	During the month before the injury, did you have at least one drink of any alcoholic beverage such as beer, wine, wine coolers, or liquor?	1999-10-01 - Variable Added
Form 1	ALCDrinks	394	A drink is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. On the days when you drank, about how many drinks did you drink on the average?	1999-10-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	ALCWeek	7853	During the month before the injury, how many days per week did you drink any alcoholic beverages on the average?	1999-10-01 - Variable Added
Form 2	ALC4DrinksF	575	FEMALES ONLY: Considering all types of alcoholic beverages, how many times during the past month did you have four or more drinks on an occasion?	2017-01-15 - Variable Added
Form 2	ALC5DrinksF	575	Considering all types of alcoholic beverages, how many times during the past month did you have five or more drinks on an occasion?	1999-10-01 - Variable Added
Form 2	ALCAnyDrinkF	576	During the past month have you had at least one drink of any alcoholic beverage such as beer, wine, wine coolers, or liquor?	1999-10-01 - Variable Added
Form 2	ALCDrinksF	575	A drink is 1 can or bottle of beer, 1 glass of wine, 1 can or bottle of wine cooler, 1 cocktail, or 1 shot of liquor. On the days when you drank, about how many drinks did you drink on average?	1999-10-01 - Variable Added
Form 2	ALCWeekF	7854	During the past month, how many days per week did you drink any alcoholic beverages on the average?	1999-10-01 - Variable Added

31.1.9 Codes and Values

ID	Code	Description
394	666	Variable Did Not Exist
394	777	Refused
394	888	Not Applicable
394	999	Unknown
395	0	No
395	1	Yes
395	66	Variable Did Not Exist
395	77	Refused
395	99	Unknown
575	666	Variable Did Not Exist
575	777	Refused

ID	Code	Description
575	881	Not Applicable
575	882	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
575	999	Unknown
576	0	No
576	1	Yes
576	66	Variable Did Not Exist
576	77	Refused
576	81	Not Applicable
576	82	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
576	99	Unknown
7853	66	Variable Did Not Exist
7853	77	Refused
7853	88	Not Applicable
7853	99	Unknown
7854	66	Variable Did Not Exist
7854	77	Refused
7854	81	Not Applicable
7854	82	Not Applicable: Variable not due this year
7854	99	Unknown

31.1.10 History

Date	Description
1999-10-01	Dropped QFVI, replaced with alcohol questions from NHSDA and BRFSS module 13.
2003-01-01	Removed references to this variable as being asked of the person with TBI.
2003-01-01	Deleted the question that identifies respondent as the person with TBI or significant other.

Date	Description
2003-10-01	Added NOTE : that scores for these questions should be based on self-reports and should not be influenced by information available clinically in the Model System.
2004-01-01	Added NOTE : coding instruction for item 'week/month' that 66 should be scored for the item not answered.
2004-01-01	Added NOTE : to code the higher score if a range is given.
2004-01-01	Added NOTE : to probe for size of drink and adjust scoring according to answer received.
2004-04-01	Changed CODE : "Unknown" to code "Don't know/Not sure"
2004-04-01	Changed CODE : reversed the codes for "Refused" (was 9, now 7) and "Unknown/Don't know/Not sure" (was 7, now 9)
2004-04-01	Added NOTE : explaining why there are some cases prior to 1/1/97 that have data.
2004-04-01	Added NOTE : that a report on alcohol use based on TBIMS data is on COMBI.
2005-01-01	Added NOTE : that variable is to be collected from participant if possible, or family, or medical chart.
2017-01-15	Added DEFINITION : FOR FEMALES ONLY: Considering all types of alcoholic beverages, how many times during the month before the injury did you have four or more drinks on an occasion?
2018-01-15	Added NOTE: If participant completes both the days and weeks section for number of drinks, enter the higher rate of drinks.
2022-07-01	Added NOTE : If participant states they only drink once or twice a month, code "Drinks per Week" as "1".

31.2 ALCOHOL - CALCULATED

31.2.1 Definition

Items #2-4 are coded "Not Applicable" rather than "0" if the person answers "No" to item #1. Thus, averages for any of the items #2-4 will include data from only for those people who drank, not from all people in the dataset (the average does not include any "0" values).

31.2.2 Variables

Form Type	Variable	ID	Question	History
Form 1	DRINKCat	463	Drinking Category	1999-10-01 - Variable Added
Form 1	PROBLEMUse	536	Substance Problem Use	1999-10-01 - Variable Added
Form 2	DRINKCatF	642	Calculated drinking category	1999-10-01 - Variable Added
Form 2	PROBLEMUseF	735	Substance Problem Use	1999-10-01 - Variable Added

31.2.3 Codes and Values

ID	Code	Description
463	0	Abstaining
463	1	Light
463	2	Moderate
463	3	Heavy
463	99	Unknown
536	0	No
536	1	Yes
536	77	Refused
536	99	Unknown
642	0	Abstaining
642	1	Light
642	2	Moderate
642	3	Heavy
642	99	Unknown
735	0	No
735	1	Yes
735	77	Refused
735	99	Unknown

31.2.4 History

No history found for the Domain.

31.3 ILLICIT DRUG USE

31.3.1 Definition

The intent of the question is to capture problematic use of drugs other than alcohol. Illegal or harmful use of substances is considered problematic use. The use of street drugs and drugs prescribed to someone else constitutes illegal use. “Huffing” or the inhalation of a toxic chemical is considered problematic due to the harmful effects (it is also illegal in 46 states). In addition, the overuse of drugs prescribed to the participant is considered problematic use.

Form 1
- ‘’During the year before your injury, did you use any illicit or non-prescription drugs?’ ’
- “Did you use Marijuana?”
- ‘’Was marijuana prescribed to you?’ ’

Form 2
- ‘’During the last 12 months, did you use any illicit or non-prescription drugs?’ ’
- “Did you use Marijuana?”
- ‘’Was marijuana prescribed to you?’ ’

31.3.2 Form

[X] Form 1
[X] Form 2

31.3.3 Source

Form 1 - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

31.3.4 Details

Use patient's response, even if response contradicts other information. This is a self-report variable.

If unable to get patient's response, get information from family. If unable to get family's response, then use medical chart.

The question should be presented as follows: ''During the year before your injury…" (at Form 1) or "During the last 12 months…" (at Form 2), "…did you use any illicit or non-prescription drugs?'' If further clarification is sought, the following verbiage may be offered: ''We are wanting to know about drugs like marijuana, crack or heroin; or about prescription drugs like pain killers or stimulants that were not prescribed to you; or chemicals you might have inhaled or 'huffed'. We also want to know if sometimes you took more than you should have of any drugs that have been prescribed to you.''

The use of CBD oil, no matter where purchased, should not be counted as marijuana use.

A report on substance use that is based on TBIMS data can be found on COMBI: See Links.

31.3.5 Links

Substance use - Problematic Substance Use Identified in the TBIMS National Dataset

31.3.6 Characteristics

Some cases older than 1/1/97 have data for this variable because Centers were encouraged to collect these data retrospectively for older cases.

In 2003, three Model Systems had difficulty obtaining this information (10% or more missing data).

Prior to 10/1/2011 the variable was defined as follows:

Form 1 - ''Indices of drug use and abuse prior to injury: During the year before your injury, did you use any illicit or non-prescription drugs? "Non-prescription drugs" refers to non-prescribed prescription drugs and street drugs.''

Form 2 - "Index of drug use; asked of best source at every follow-up evaluation."During the last 12 months (or during the time since your injury – if year 1 follow-up) did you use any illicit or non-prescription drugs?" "Non-prescription drugs" refers to prescription drugs obtained without a prescription and street drugs."

On 7/1/2020, began capturing responses to two follow-up marijuana questions. These previously were used to code Illicit Drug Use following these instructions: If participant answers

‘’No,’’ ask… ‘’Did you use Marijuana?’’ If ‘’Yes’’ to marijuana use, ask… ‘’Was marijuana prescribed to you?’’ If prescribed, then code “No.’’ If not prescribed, code ‘’Yes.’’

31.3.7 Variables

Form Type	Variable	ID	Question	History
Form 1	Drugs	478	During the year before the injury, did you use any illicit or non-prescription drugs?	1997-01-01 - Variable Added
Form 1	MJPrescribe	478	Was marijuana prescribed to you?	2020-07-01 - Variable ADDED
Form 1	MJUse	478	Did you use marijuana?	2020-07-01 - Variable ADDED
Form 2	DrugsF	664	During the last 12 months did you use any illicit or non-prescription drugs?	1989-10-01 - Variable Added
Form 2	MJPrescribeF	664	Was marijuana prescribed to you?	2020-07-01 - Variable ADDED
Form 2	MJUseF	664	Did you use marijuana?	2020-07-01 - Variable ADDED

31.3.8 Codes and Values

ID	Code	Description
478	0	No
478	1	Yes
478	66	Variable Did Not Exist
478	77	Refused
478	88	Not applicable
478	99	Unknown
664	0	No
664	1	Yes
664	66	Variable Did Not Exist ([Do Not Use])
664	77	Refused
664	88	Not applicable

ID	Code	Description
664	99	Unknown

31.3.9 History

Date	Description
1999-10-01	Added NOTE : revised time period from 6-12 months to 12 months.
2001-10-01	Added NOTE : about getting data from medical chart, if not available from ptn or SO.
2003-01-01	Added NOTE : removed references to this variable as being asked of the person with TBI and added instruction to ask of best source at every annual evaluation.
2004-04-01	Added LINK : report on COMBI using TBIMS data.
2004-07-01	Added CHARACTERISTICS : explanation for data in cases existing prior to implementation date (1/1/97).
2004-07-01	Deleted NOTE : removed references to ”annual” follow-up.
2006-01-01	Added DEFINITION : of ”non-prescription drugs”.
2009-01-01	Added CODE : 7 = Refused.
2013-10-01	Added NOTE : If participant answers ”No,” ask... ”Did you use Marijuana?” If ”Yes” to marijuana use, ask... ”Was marijuana prescribed to you?” If prescribed, then code ”1=No.” If not prescribed, code ”2=Yes.”
2020-04-01	Added NOTE: The use of CBD oil, no matter where purchased should not be counted as marijuana use.
2020-07-01	Deleted NOTE: If participant answers ”No,” ask... ”Did you use Marijuana?” If ”Yes” to marijuana use, ask... ”Was marijuana prescribed to you?” If prescribed, then code ”1=No.” If not prescribed, code ”2=Yes.”
2020-07-01	Added CHARACTERISTICS: On 7/1/2020, began capturing responses to two follow-up marijuana questions. These previously were used to code Illicit Drug Use following these instructions: If participant answers ”No,” ask... ”Did you use Marijuana?” If ”Yes” to marijuana use, ask... ”Was marijuana prescribed to you?” If prescribed, then code ”1=No.” If not prescribed, code ”2=Yes.”

31.4 SMOKING CIGARETTES

31.4.1 Definition

Form 1 - At the time of your injury, or just prior to your injury, did you smoke cigarettes every day, some days or not at all?
Form 2 - Do you currently smoke cigarettes everyday, some days or not at all?

31.4.2 Form

[X] Form 1
[X] Form 2

31.4.3 Source

Form 1 - Pre-Injury History (participant or proxy)
Form 2 - Interview, Mail-out (participant or proxy)

31.4.4 Details

These measures are to be collected from best source available for the Form I Pre-Injury History Questionnaire/Interview. Do not be influenced by information about smoking habits that may be available from hospital records, etc.

If unable to get patient's response, get information from family. If unable to get family's response, then use medical chart.

Base the data recorded for these questions on self-response.

For cigarettes, do not include: electronic cigarettes (e-cigarettes, NJOY, Bluetip), herbal cigarettes, cigars, cigarillos, little cigars, pipes, bidis, kreteks, water pipes (hookahs), or marijuana.

31.4.5 Reference

Cigarette Smoking
BRFSS 7.2 - national and state norms

31.4.6 Characteristics

On 4/1/2013 codes were changed, and existing cases were re-coded in the database.

Codes at implementation:
1 - Everyday
2 - Some Days
3 - Not At All

Codes on/after 4/1/2013:
1 - Not At All
2 - Some Days
3 - Everyday

31.4.7 Variables

Form Type	Variable	ID	Question	History
Form 1	SmkCig	555	At the time of your injury, or just prior to your injury, did you smoke cigarettes every day, some days, or not at all?	2012-10-01 - Variable Added
Form 2	SmkCigF	769	Do you currently smoke cigarettes every day, some days, or not at all?	2012-10-01 - Variable Added

31.4.8 Codes and Values

ID	Code	Description
555	1	Not At All
555	2	Some Days
555	3	Everyday
555	66	Variable Did Not Exist
555	77	Refused
555	99	Unknown
769	1	Not At All
769	2	Some Days

ID	Code	Description
769	3	Everyday
769	66	Variable Did Not Exist
769	77	Refused
769	99	Unknown

31.4.9 History

Date	Description
2016-10-01	Added NOTE : 'For cigarettes, do not include: electronic cigarettes (e-cigarettes, NJOY, Bluetip), herbal cigarettes, cigars, cigarillos, little cigars, pipes, bidis, kreteks, water pipes (hookahs), or marijuana.'

32 SWLS (SATISFACTION WITH LIFE SCALE)

See subdomain notes

32.1 SWLS

32.1.1 Definition

The person with brain injury should rate his/her satisfaction with life at the time of the follow-up evaluation by indicating his/her level of agreement with the four questions below.

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in life.

For more information, see Links

32.1.2 Form

[ ] Form 1
[X] Form 2

32.1.3 Source

Interview, Mail-Out (Participant only)

32.1.4 Details

Do not embellish when obtaining this information.

If appropriate, when a participant questions what is meant by the word “ideal”, use the cue “best” or “best possible” or “whatever ideal means to you.”

32.1.5 Links

Introduction to the SWLS (COMBI)
SWLS Frequently Asked Questions/Tips (COMBI)
SWLS Spanish Translation

32.1.6 Reference

Diener E, Emmons R, Larsen J, Griffin S. (1985). The Satisfaction With Life Scale. J Personality Assessment, 49(1), 71-75.

Pavot W, Deiner E. (1993). Review of the Satisfaction With Life Scale. Psychological Assessment. 5(3), 164-172.

32.1.7 Characteristics

In 2003, the TBIMS had difficulty obtaining this information (11% missing data). Five Model Systems had missing data rates of 10% or more. Data managers report that missing data are due to some persons with TBI being unable to provide information for the Form II, combined with the requirement that the SWLS must not be answered by anyone other than the person with TBI. A new code was been added to this item to identify these cases.

Participant responses to these variables may be affected by the COVID-19 pandemic starting in March of 2020.

32.1.8 Variables

Form Type	Variable	ID	Question	History
Form 2	SWLSCondF	778	The conditions of my life are excellent:	1997-01-01 - Variable Added
Form 2	SWLSIdealF	778	In most ways my life is close to my ideal:	1997-01-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 2	SWLSImprtF	778	So far I have gotten the important things I want in life:	1997-01-01 - Variable Added
Form 2	SWLSSAtF	778	I am satisfied with my life:	1997-01-01 - Variable Added

32.1.9 Codes and Values

ID	Code	Description
778	1	Strongly Disagree
778	2	Disagree
778	3	Slightly Disagree
778	4	Neither Agree nor Disagree
778	5	Slightly Agree
778	6	Agree
778	7	Strongly Agree
778	66	Variable Did Not Exist
778	81	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
778	82	Not Applicable: No data from person with TBI
778	99	Unknown

32.1.10 History

Date	Description
2021-01-15	Added CHARACTERISTICS : ”Participant responses to these variables may be affected by the onset of the COVID-19 pandemic in March of 2020. ”
2021-10-22	Added NOTE : Updated the instructions for cues from ”...use the cue ”If that’s what it means to you.” to ”... use the cue ”best” or ”best possible” or ”whatever ideal means to you.”

32.2 SWLS - CALCULATED

32.2.1 Variables

Form Type	Variable	ID	Question	History
Form 2	SWLSTOT4F		Satisfaction with life total score using 4 items	
Form 2	SWLSTOTF	779	Satisfaction with Life Scale Total Score:	1998-04-01 - Variable Added

32.2.2 Codes and Values

ID	Code	Description
779	666	Variable Did Not Exist
779	888	Not Applicable: No data from person with TBI
779	999	Unknown

32.2.3 History

No history found for the Domain.

33 TBI HISTORY

See subdomain notes

33.1 OSU TBI-ID

33.1.1 Definition

The OSU TBI Identification Method-Short Form is a structured interview developed using recommendations from the CDC for the detection of and history of exposure to TBI. It was designed to elicit self- or proxy-reports of TBI occurring over a person's lifetime. The OSU TBI-ID-SF uses an interview methodology based on the original longer version, but only measures selected summary indices.

The OSU-TBI-ID method is a means of identifying possible TBIs that may have been previously undiagnosed.

To avoid biases created by terminology used, the interview first elicits recall of all possible head or neck injuries through a series of queries tapping possible causes of TBI. This first step is critical for obtaining a complete history, and should not be interrupted by probing for more details at this stage. After all possible injuries have been elicited, the interviewer goes back to obtain more information about the injuries. For these injuries, the occurrence and length of loss of consciousness is probed. If there is no loss of consciousness, the presence of altered consciousness is probed. Age is also determined for any injuries reported. The final step involves identifying individuals who have experienced a period of time in which they have sustained multiple blows to the head.

Using the structured elicitation method of the OSU TBI-ID-SF, multiple dimensions of history are available, including number of injuries with LOC, number of injuries with LOC>30 minutes, age at first TBI, whether there was an injury with LOC before the age of 15, worst injury and repeated impacts to the head.

The following steps are performed to obtain input information used in each of the TBI ID variables.

First, the length of loss of consciousness as well as whether a person was dazed are classified into the following categories. This is done for each injury listed, excluding the index injury.

- No LOC
- Unknown Duration
- Dazed
- Less than 30 minutes
- 30 minutes to 24 hours
- More than 24 hours

Next, using a person's age, it is determined whether each injury occurred before, concurrent with, or after a person's index injury.

Finally, using the combination of length of loss of consciousness and injury timing, aggregate counts of the TBI ID variables are calculated.

33.1.2 Form

[X] Form 1
[X] Form 2

33.1.3 Source

Interview (participant or proxy)

33.1.4 Details

This is a structured interview to detect lifetime history of TBI. It is not designed to be administered as a paper/pencil questionnaire.

Individuals are not directly asked about whether they had a traumatic brain injury, because of a tendency for misinterpretation of this and similar terms.

Many people have had multiple brain injuries in their life. We want to make sure we capture all injuries. For this reason, the first part of the interview is critical to obtaining information on all possible injuries. It should not be interrupted by probing for details, because that would disrupt the flow of recall.

Step 1: Any injuries to head or neck
The first time the OSU TBI-ID is administered, the five questions about head or neck injuries should be prefaced with "In your lifetime, have you ever…". During subsequent administrations, the five questions about head or neck injuries should be prefaced with "Since we last spoke with you on 'last successful follow-up date', have you…". When asking about head or neck injuries since the last follow-up, do not disregard any new 'lifetime' injuries if reported.

Injuries do not have to have been diagnosed or treated by a physician or other health professional.

Do NOT include the index injury (the TBI that brought them to your facility).

Step 2: Additional Details
When asking about the duration of LOC, participants should be encouraged to use their best guess and only code '5 - Positive Loss of Consciousness, Duration Unknown' when participant is truly unable to estimate the duration of LOC.

If a participant reports a TBI with loss of consciousness of an unknown duration, data collector should do some additional probing to assist the participant with narrowing down the time frame. For example, if the person awakened at the scene, then it is likely that LOC was less than 30 minutes. If the person awakened while already hospitalized, but it was still the day of the injury, then LOC is likely 30 minutes to 24 hours, etc. After probing using various anchors, then the next step would be to offer the individual the choice regarding the three time periods. If the person still does not know, then the time frame should be coded as "5-Positive Loss of Consciousness, Duration Unknown".

If a range is given for age, record the midpoint of the range given.

Passing out from alcohol or marijuana use should not be considered a LOC. Most people will pass out before they are able to drink enough alcohol to lose consciousness. However, someone with severe alcoholism may be able to drink enough alcohol to lose consciousness. Additional probing may be necessary to differentiate between an episode of passing out, and a true LOC.

Step 3: Multiple Mild Injuries:
Some individuals have gone through periods in their life when they have sustained multiple mild TBIs, and they cannot distinguish between them. They usually describe such a period as a 'blur'. For example, they may have been victims of abuse, played football, etc. If the individual is unable to distinguish between these injuries, treat that period in the person's life as one injury. Ask the person to indicate the longest period that he/she was knocked out. For age, first ask the age range of the time period, then see if you can help them determine where the longest LOC happened in that time frame. If not known, use the midpoint of the age range.

- If participant reports engaging in an activity that they had repeated head impacts, but had only one event that they were knocked unconscious, record this event under Step 2, and record the ongoing activity under Step 3.

- If a participant reports a period of repeated injuries at step 2 without a specific event, this should be included in Step 3.

- If the participant is still engaged in an activity that they reported multiple repeated impacts to the head, use the age at the time of the interview as the "end" age.

For assistance in assigning a Cause category in step 3 (Multiple Mild Injuries), see the link below titled “RHI Step 3 Classification”.

33.1.5 Links

OSU TBI-ID
RHI Step 3 Classification

33.1.6 Reference

Ohio State University

33.1.7 Characteristics

The OSU TBI-ID variables replaced the History of TBI variables.

On 1/1/2015 Step 3 was added which asks “(In your lifetime)… or (Since we last spoke with you on last successful follow-up date)… have you (ever) had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?”

On 7/1/2023 a coding option of “Yes” or “No” was added to Step 3 to capture a response in addition to the already existing fields that capture reasons of repeated injuries.

On 1/15/2024 the OSU-TBI-ID was added to Form 1 Data Collection. Coding categories were also added to Step 2 and 3 to replace open text fields.

The error for participants who reported having had a prior TBI (head or neck injury reported), but did not have an entry in the TBI ID table, and who died prior to clarifying this error was removed.

33.1.8 Variables

Form Type	Variable	ID	Question	History
Form 1	Mod2TBIMultiold		Please Enter Multiple TBI Incidents	
Form 1	Mod2TBIold		Please enter TBI information	
Form 1	TBIInjury	8978	Is there any head or neck injury reported?	2024-01-15 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	TBIRepInjury	7649	Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?	2024-01-15 - Variable Added
Form 2	Mod2TBI	3755	Please Enter TBI information	
Form 2	Mod2TBIMulti	3756	Please Enter Multiple TBI Incidents	
Form 2	TBIInjuryF	781	Is there any head or neck injury reported?	2010-04-01 - Variable Added
Form 2	TBIRepInjuryF	7654	Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?	2024-01-15 - Variable Added

33.1.9 Codes and Values

ID	Code	Description
781	0	No
781	1	Yes
781	66	Variable Did Not Exist
781	77	Refused
781	99	Unknown
7649	0	No
7649	1	Yes
7649	66	Variable Did Not Exist
7649	77	Refused
7649	88	Not Applicable
7649	99	Unknown
7654	0	No
7654	1	Yes
7654	66	Variable Did Not Exist
7654	77	Refused

ID	Code	Description
7654	88	Not Applicable
7654	99	Unknown
8978	0	No
8978	1	Yes
8978	66	Variable Did Not Exist
8978	77	Refused
8978	99	Unknown

33.1.10 History

Date	Description
2010-09-17	Added NOTE : if a participant reports a TBI with loss of consciousness of an unknown duration, data collector should do some additional probing to assist the participant with narrowing down the time frame
2011-05-04	Added NOTE : regarding blacking out or passing out from drugs or alcohol
2013-10-01	Changed DEFINITION : regarding asking 'In your lifetime' during first administration of TBI-ID and 'Since we spoke with you' during subsequent follow-ups.
2015-01-15	Changed DEFINITION : to match the updated OSU-TBI ID Data Collection Form, which includes the addition of a new 'Step 3' to capture multiple mild TBI's, and the deletion of the question 'Have you ever lost consciousness due to a drug overdose or being choked?'
2015-01-15	Added NOTE : when asking about the duration of LOC, participants should be encouraged to use their best guess and only code "5 - Positive Loss of Consciousness, Duration Unknown" when participant is truly unable to estimate the duration of LOC.
2018-01-15	Added NOTE : do NOT include the index injury.
2018-04-01	Added NOTE : 'If a range is given for age, record the midpoint of the range given.'
2024-01-15	Added CHARACTERISTICS: On 1/15/2024 the OSU-TBI-ID was added to Form 1 Data Collection. Coding categories were also added to Step 2 and 3 to replace open text fields.

Date	Description
2025-07-01	Added to DETAILS: o If participant reports engaging in an activity that they had repeated head impacts, but had only one event that they were knocked unconscious, record this event under Step 2, and record the ongoing activity under Step 3. o If a participant reports a period of repeated injuries at step 2 without a specific event, this should be included in Step 3. o If the participant is still engaged in an activity that they reported multiple repeated impacts to the head, use the age at the time of the interview as the “end” age.

33.2 OSU TBI-ID - CALCULATED

33.2.1 Variables

Form Type	Variable	ID	Question	History
Form 1	MostSevere	530	Most severe injury reported (not including Index Injury)	2010-04-01 - Variable Added
Form 1	TBI_IDAsked	3557	Was TBI ID asked?	2010-04-01 - Variable Added
Form 1	YoungestAgeLOC		Youngest age that a person recalled having a loss of consciousness	
Form 1	YoungestAgeTBI	3577	Age at earliest TBI reported:	2010-04-01 - Variable Added
Form 1	cntAnyAfterIndex	3361	Number of TBI reported after Index	2010-04-01 - Variable Added
Form 1	cntAnyBefore15y	3362	Number of TBI reported before age 15	2010-04-01 - Variable Added
Form 1	cntAnyBeforeIndex	3363	Number of TBI prior to Index	2010-04-01 - Variable Added
Form 1	cntAnyInjuries	3364	Number of TBI Reported	2010-04-01 - Variable Added
Form 1	cntAnySameIndex	3365	Number of TBI reported same age as Index	2010-04-01 - Variable Added
Form 1	cntLOCAfterIndex	3366	Number of TBI w/LOC reported after Index Injury	2010-04-01 - Variable Added
Form 1	cntLOCBefore15y	3367	Number of TBI w/LOC reported before age 15	2010-04-01 - Variable Added
Form 1	cntLOCBeforeIndex	3368	Number of TBI w/LOC reported before Index Injury	2010-04-01 - Variable Added
Form 1	cntLOCInjuries	3369	Number of TBI reported with LOC:	2010-04-01 - Variable Added
Form 1	cntLOCSameIndex	3370	Number of TBI w/LOC reported at same age as index TBI	2010-04-01 - Variable Added

Form Type	Variable	ID	Question	History
Form 1	cntModSevAfterIndex	3371	Number of TBI Mod/Sev reported after Index injury	2010-04-01 - Variable Added
Form 1	cntModSevBefore15yr	3372	Number of TBI Mod/Sev reported before age 15	2010-04-01 - Variable Added
Form 1	cntModSevBeforeIndex	3373	Number of TBI Mod/Sev reported before index injury	2010-04-01 - Variable Added
Form 1	cntModSevInjuries	3374	Number of reported TBI Moderate/ Severe	2010-04-01 - Variable Added
Form 1	cntModSevSameAsIndex	3375	Number of TBI Mod/Sev reported same age as index injury	2010-04-01 - Variable Added

33.2.2 Codes and Values

ID	Code	Description
530	1	No LOC
530	2	Dazed
530	3	LOC Less than 30 min or unknown duration
530	4	LOC 30min to 24Hr
530	5	LOC more than 24Hr
3557	1	Yes

33.2.3 History

No history found for the Domain.

34 TRANSPORTATION

34.0.1 Definition

Indicates the primary mode of motorized vehicular transportation, according to the best source of information (person with brain injury unless unavailable or unreliable).

34.0.2 Form

[ ] Form 1
[X] Form 2

34.0.3 Source

Form 2 - Interview, Mail-out (participant or proxy)

34.0.4 Details

Taxi, Uber and Lyft should be coded as ‘Public Transit’.

Electric scooters/E-bikes, as well as motorized wheelchairs should be coded as 1- Drives Vehicle.

34.0.5 Variables

Form Type	Variable	ID	Question	History
Form 2	TransModeF	783	What is your primary method of motorized transportation?	1989-10-01 - Variable Added

34.0.6 Codes and Values

ID	Code	Description
783	1	Drives Vehicle
783	2	Rides with Someone Else
783	3	Public Transit
783	4	Special Bus or Van Service
783	81	Not Applicable: Variable not due this year (Code no longer used; data now collected in all follow-up years)
783	82	Not Applicable: No motorized transportation
783	99	Unknown

34.0.7 History

Date	Description
2002-10-14	Added DEFINITION : “motorized” to variable label and to definition.
2002-10-14	Added CODE : “5 NA-no/negligible motorized transportation”.
2018-07-01	Added CODE : the code for ”Not due this year” plus a statement that this code is no longer used.
2023-07-01	Added NOTE: Electric scooters/E-bikes, as well as motorized wheelchairs should be coded as 1-Drives Vehicle.

References

Corrigan, John D, Jeffrey P Cuthbert, Gale G Whiteneck, Marcel P Dijkers, Victor Coronado, Allen W Heinemann, Cynthia Harrison-Felix, and James E Graham. 2012. “Representativeness of the Traumatic Brain Injury Model Systems National Database.” *The Journal of Head Trauma Rehabilitation* 27 (6): 391–403.

Cuthbert, Jeffrey P, John D Corrigan, Gale G Whiteneck, Cynthia Harrison-Felix, James E Graham, Jeneita M Bell, and Victor G Coronado. 2012. “Extension of the Representativeness of the Traumatic Brain Injury Model Systems National Database: 2001 to 2010.” *The Journal of Head Trauma Rehabilitation* 27 (6): E15–27.