# Data Dictionary

TBIMS National Data and Statistical Center

2025-10-06

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# ANXIETY

## GAD

### 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

### Form

[ ] Form 1
[X] Form 2

### Source

Interview, Mail-Out (participant only)

## 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.

## Links

GAD-7 Spanish Translation

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | GADAfraidF | 690 | g. Feeling afraid as if something awful might happen: |
| Form 2 | GADAnnoyF | 690 | f. Becoming easily annoyed or irritable: |
| Form 2 | GADCntrlWryF | 690 | b. Not being able to stop or control worrying: |
| 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? |
| Form 2 | GADNervousF | 690 | a. Feeling nervous, anxious or on edge: |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | GADRelaxF | 690 | d. Trouble relaxing: |
| Form 2 | GADRestlessF | 690 | e. Being so restless that it is hard to sit still: |
| Form 2 | GADWorryF | 690 | c. Worrying too much about different things: |

**Codes**

**Code Group: 690**

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

**Code Group: 689**

| Code | Description |
|---|---|
| 0 | Not Difficult at All |
| 1 | Somewhat Difficult |
| 2 | Very Difficult |
| 3 | Extremely Difficult |
| 66 | Variable Did Not Exist |
| 81 | Not Applicable: No problems |
| 82 | Not Applicable: No data from person with TBI |

| Code | Description |
|---|---|
| 99 | Unknown |

### GAD - CALCULATED

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | GAD7TOTF | 688 | Generalized Anxiety Disorder Total Score |

#### Codes

#### Code Group: 688

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

## ASSOCIATED INJURIES

### Definition

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

### 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)

## SCI

### Definition

Any injury to neural elements within the spinal canal.

### Form

[X] Form 1
[ ] Form 2

### Source

Abstraction (acute record)

### 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.

### Reference

ASIA

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | SCI | 552 | Spinal cord injury: |

#### Codes

**Code Group: 552**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 99 | Unknown |

## CARE (CONTINUITY ASSESSMENT RECORD AND EVALUATION)

### 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.

### 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

### Form

[X] Form 1
[ ] Form 2

### Source

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

### 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.

### Links

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

### Characteristics

CARE Tool was added on 10/01/2019.

## MOBILITY

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | MOB12StepsA | 3988 | O. 12 steps: The ability to go up and down 12 steps with or without a rail. |
| Form 1 | MOB12StepsD | 3988 | O. 12 steps: The ability to go up and down 12 steps with or without a rail. |
| Form 1 | MOB1StepCurbA | 3988 | M. 1 step (curb): The ability to step over a curb or up and down one step. |
| Form 1 | MOB1StepCurbD | 3988 | M. 1 step (curb): The ability to step over a curb or up and down one step. |
| Form 1 | MOB4StepsA | 3988 | N. 4 steps: The ability to go up and down four steps with or without a rail. |
| Form 1 | MOB4StepsD | 3988 | N. 4 steps: The ability to go up and down four steps with or without a rail. |
| 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. |
| 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. |
| 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). |
| 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). |
| 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. |
| 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. |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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. |
| 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. |
| 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. |
| 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. |
| Form 1 | MOBScooterTypeA | 3990 | SS1. Indicate the type of wheelchair/scooter used. |
| Form 1 | MOBScooterTypeD | 3990 | SS3. Indicate the type of wheelchair/scooter used. |
| Form 1 | MOBSitA | 3988 | B. Sit to lying: The ability to move from sitting on side of bed to lying flat on the bed. |
| Form 1 | MOBSitD | 3988 | B. Sit to lying: The ability to move from sitting on side of bed to lying flat on the bed. |
| 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. |
| 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. |
| Form 1 | MOBToilettranA | 3988 | F. Toilet transfer: The ability to safely get on and off a toilet or commode. |
| Form 1 | MOBToilettranD | 3988 | F. Toilet transfer: The ability to safely get on and off a toilet or commode. |
| Form 1 | MOBWCScooterA | 3999 | Q1. Does the patient use a wheelchair/scooter? |
| Form 1 | MOBWCScooterD | 3999 | Q3. Does the patient use a wheelchair/scooter? |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | MOBWCtypeA | 3990 | RR1. Indicate the type of wheelchair/scooter used. |
| Form 1 | MOBWCtypeD | 3990 | RR3. Indicate the type of wheelchair/scooter used. |
| 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. |
| 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. |
| Form 1 | MOBWalk150ftA | 3988 | K. Walk 150 feet: Once standing, the ability to walk at least 150 feet in a corridor or similar space. |
| Form 1 | MOBWalk150ftD | 3988 | K. Walk 150 feet: Once standing, the ability to walk at least 150 feet in a corridor or similar space. |
| Form 1 | MOBWalkUnevenA | 3988 | L. Walking 10 feet on uneven surfaces: The ability to walk 10 feet on uneven or sloping surfaces, such as grass or gravel. |
| Form 1 | MOBWalkUnevenD | 3988 | L. Walking 10 feet on uneven surfaces: The ability to walk 10 feet on uneven or sloping surfaces, such as grass or gravel. |
| 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. |
| 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. |
| 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. |
| 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. |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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. |
| 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. |

**Codes**

**Code Group: 3988**

| Code | Description |
|---|---|
| 1 | Dependent ( Helper does ALL of the effort. Patient does none of the effort to complete the activity. Or, |
| 2 | Substantial/maximal assistance ( Helper does MORE THAN HALF the effort. Helper lifts or holds trunk |
| 3 | Partial/moderate assistance ( Helper does LESS THAN HALF the effort. Helper lifts, holds or supports |
| 4 | Supervision or touching assistance ( Helper provides VERBAL CUES or TOUCHING/STEADYING ass |
| 5 | Setup or clean-up assistance ( Helper SETS UP or CLEANS UP; patient completes activity. Helper as |
| 6 | Independent ( Patient completes the activity by him/herself with no assistance from a helper ) |
| 66 | Variable did not exist |
| 77 | Patient refused |
| 81 | Not applicable ( Not attempted and the patient did not perform this activity prior to the current illness, e |
| 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 |
| 99 | Unknown ( No information, form not completed ) |

**Code Group: 3990**

| Code | Description |
|---|---|
| 1 | Manual |
| 2 | Motorized |
| 88 | N/A |

**Code Group: 3999**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable did not exist |

## SELF CARE

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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 |
| 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 |
| 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. |
| 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. |
| Form 1 | SCLBDressA | 3988 | G. Lower body dressing: The ability to dress and undress below the waist, including fasteners; does not include footwear. |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | SCLBDressD | 3988 | G. Lower body dressing: The ability to dress and undress below the waist, including fasteners; does not include footwear. |
| 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.] |
| 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.] |
| 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. |
| 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. |
| 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. |
| 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. |
| Form 1 | SCUBDressA | 3988 | F. Upper body dressing: The ability to put on and remove shirt or pajama top; includes buttoning, if applicable. |
| Form 1 | SCUBDressD | 3988 | F. Upper body dressing: The ability to put on and remove shirt or pajama top; includes buttoning, if applicable. |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|

### Codes

### Code Group: 3988

| Code | Description |
|---|---|
| 1 | Dependent ( Helper does ALL of the effort. Patient does none of the effort to complete the activity. Or, |
| 2 | Substantial/maximal assistance ( Helper does MORE THAN HALF the effort. Helper lifts or holds trunk |
| 3 | Partial/moderate assistance ( Helper does LESS THAN HALF the effort. Helper lifts, holds or supports |
| 4 | Supervision or touching assistance ( Helper provides VERBAL CUES or TOUCHING/STEADYING ass |
| 5 | Setup or clean-up assistance ( Helper SETS UP or CLEANS UP; patient completes activity. Helper as |
| 6 | Independent ( Patient completes the activity by him/herself with no assistance from a helper ) |
| 66 | Variable did not exist |
| 77 | Patient refused |
| 81 | Not applicable ( Not attempted and the patient did not perform this activity prior to the current illness, e |
| 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 |
| 99 | Unknown ( No information, form not completed ) |

## COLLECTION METHODS

### 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.

## Form

[X] Form 1
[X] Form 2

## Source

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

## Details

### 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

### 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.

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DataFrom | 431 | Who answered these questions? |
| Form 1 | DataMethod | 432 | Data collection method: |
| Form 2 | CollectionFormatF | 608 | Format used for data collection: |
| Form 2 | CollectionLanguageF | 609 | Language interview was conducted in: |
| Form 2 | CollectionMethodPrimaryF | 610 | Primary method of data collection: |
| Form 2 | CollectionMethodSecondaryF | 611 | Secondary method of data collection: |
| Form 2 | CollectionSourcePrimaryF | 612 | Primary source of data collection: |
| Form 2 | CollectionSourceSecondaryF | 613 | Secondary source of data collection: |
| Form 2 | CollectiontranslationserviceF | 614 | If Spanish or other language, was a translation service used: |
| Form 2 | IntStatus | 718 | Interview status: |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | LengthInterviewF | 720 | How long did this interview take: |
| Form 2 | LostDeathSrchF | 4030 | Death Search: |
| Form 2 | LostDirAsstF | 4030 | Directory Assistance: |
| Form 2 | LostHospRecF | 4030 | Hospital Records: |
| Form 2 | LostHospStaffF | 4030 | Hospital Staff: |
| Form 2 | LostInmateSrchF | 4030 | Inmate Search: |
| Form 2 | LostIntSitesF | 4030 | Internet Sites: |
| Form 2 | LostLocSrvF | 4030 | Location Serivces: |
| Form 2 | LostNoteF | | Note: |
| Form 2 | LostPhoneF | 4030 | Phone Contact: |
| Form 2 | LostPostalF | 4030 | Postal: |
| Form 2 | LostReasonF | 724 | If lost, why? |
| Form 2 | ReasonNoDataIndF | 750 | Reason person with TBI not providing data: |

**Codes**

**Code Group: 431**

| Code | Description |
|---|---|
| 0 | Participant |
| 1 | Spouse |
| 2 | Parent(s) |
| 3 | Sibling |
| 4 | Adult Child |
| 5 | Boyfriend, girlfriend, fiance |
| 7 | Other relative |
| 8 | Friend |
| 9 | Professional Caregiver |

| Code | Description |
|---|---|
| 88 | NA |
| 99 | Unknown |

**Code Group: 432**

| Code | Description |
|---|---|
| 1 | Interview |
| 2 | Questionnaire |
| 3 | Spanish Questionnaire |
| 4 | Professional Translator: Spanish |
| 5 | Professional Translator: Other language |
| 6 | Other translator: Spanish |
| 7 | Other translator: Other language |
| 10 | Other |
| 888 | NA |
| 999 | Unknown |

**Code Group: 608**

| Code | Description |
|---|---|
| 1 | Online Interview |
| 2 | Paper Interview |

**Code Group: 609**

| Code | Description |
|---|---|
| 1 | English |
| 2 | Spanish |
| 3 | Other |

| Code | Description |
|---|---|

**Code Group: 610**

| Code | Description |
|---|---|
| 1 | In Person Interview |
| 2 | Telephone Interview |
| 3 | Questionnaire Mailing |
| 4 | Data Obtained from Second Source |
| 81 | NA: Funding Not available |
| 82 | Not Applicable |
| 99 | Unknown |

**Code Group: 611**

| Code | Description |
|---|---|
| 1 | In Person Interview |
| 2 | Telephone Interview |
| 3 | Questionnaire Mailing |
| 4 | Data Obtained from Second Source |
| 81 | NA: Funding Not available |
| 82 | NA: No Secondary Method of Data Collection |
| 99 | Unknown |

**Code Group: 612**

| Code | Description |
|---|---|
| 0 | Participant |
| 1 | Spouse |
| 2 | Parent(s) |

| Code | Description |
|---|---|
| 3 | Sibling |
| 4 | Adult Child |
| 5 | Boyfriend, girlfriend, fiancé |
| 7 | Other relative |
| 8 | Friend |
| 9 | Professional Caregiver |
| 10 | Medical Record |
| 20 | Other |
| 888 | NA |
| 999 | Unknown |

**Code Group: 613**

| Code | Description |
|---|---|
| 0 | Participant |
| 1 | Spouse |
| 2 | Parent(s) |
| 3 | Sibling |
| 4 | Adult Child |
| 5 | Boyfriend, girlfriend, fiancé |
| 7 | Other relative |
| 8 | Friend |
| 9 | Professional Caregiver |
| 10 | Medical Record |
| 20 | Other |
| 888 | NA: No Secondary Data Source |
| 999 | Unknown |

**Code Group: 614**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 88 | NA - Interview conducted in English |

**Code Group: 718**

| Code | Description |
|---|---|
| 1 | Followed |
| 2 | Lost |
| 3 | Refused |
| 4 | Incarcerated |
| 5 | Withdrew |
| 6 | Expired |
| 7 | No Funding |
| 87 | Future FollowUpPeriod |

**Code Group: 720**

| Code | Description |
|---|---|
| 8881 | NA- Data Collected Online |
| 8882 | NA- Data Collected by Mail-Out |
| 9999 | Unknown |

**Code Group: 4030**

| Code | Description |
|---|---|
| 0 | No |

| Code | Description |
|---|---|
| 1 | Yes |

**Code Group: NA**

| Code | Description |
|---|---|

**Code Group: 724**

| Code | Description |
|---|---|
| 1 | No Known Valid Contact Information |
| 2 | Valid Contact Information, No Response To Contact (Passive Refusal) |
| 3 | Valid Contact Information, Participant Not Physically or Cognitively Available, No Valid SO |
| 4 | Language Barrier |
| 5 | Out of Country |
| 81 | Not Applicable |
| 82 | Not Applicable, Expired |
| 83 | Not Applicable (Funding Not Available) |
| 88 | Not Applicable (Data Was Provided) |
| 99 | Unknown |

**Code Group: 750**

| Code | Description |
|---|---|
| 3 | Physically Or Cognitively Unable |
| 4 | Not Available |
| 5 | Stated Refusal |
| 6 | No Response To Contact |
| 8 | Language Barrier |
| 9 | Expired |

| Code | Description |
|---|---|
| 81 | Not Applicable (Funding Not Available) |
| 82 | Not Applicable (Data Was Provided) |
| 99 | Unknown |

# CRANIAL COMPLICATIONS

c(“ “,” “)

## ICP - INTRACRANIAL HYPERTENSION

### Definition

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

### Form

[X] Form 1
[ ] Form 2

### Source

Abstraction (acute record)

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | CC_Hypertension | 417 | Intracranial hypertension: |

#### Codes

#### Code Group: 417

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

## SEIZURES

### SEIZURES FOLLOW-UP

### Definition

Self-Reported Seizures

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

### Form

[ ] Form 1
[X] Form 2

### Source

Interview, Mail-Out (participant or proxy)

### Details

Include only seizures since discharge from rehabilitation.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | PastYearSeizF | 730 | How many seizures have you had in the past year (or since your discharge)? |

#### Codes

#### Code Group: 730

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

## SEIZURES POST INJURY

### Definition

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

### Form

[X] Form 1
[ ] Form 2

### Source

Abstraction (acute and rehabilitation record)

### 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

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | HospSeiz | 512 | Evidence of seizure post-injury: |
| Form 1 | Seiz24 | 553 | Seizures during first 24 hours after injury: |
| Form 1 | Seiz24to7 | 553 | Seizures between 24 hours and 7 days after injury: |
| Form 1 | Seiz7Plus | 553 | Seizure more than 7 days after injury: |

**Codes**

**Code Group: 512**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 553**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable |
| 99 | Unknown |

## SEIZURES PRE INJURY

### Definition

Seizures present prior to injury

### Form

[X] Form 1
[ ] Form 2

### Source

Pre-Injury History (participant or proxy)

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PriorSeiz | 535 | Prior to this injury, has a physician ever told you that you have a seizure disorder? |

#### Codes

**Code Group: 535**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

# CRANIAL SURGERY

## CRANIOTOMY

### Definition

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

### Form

[X] Form 1
[ ] Form 2

### Source

Abstraction (acute record)

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Craniotomy | 421 | Craniotomy/Craniectomy: |

#### Codes

#### Code Group: 421

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

# DEATH

## DEATH - CALCULATED

### Definition

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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DEATHYEAR | | Year of death |
| Form 2 | DAYStoDEATHF | 3650 | Days from Birth to Death |

#### Codes

#### Code Group: NA

| Code | Description |
|---|---|

**Code Group: 3650**

| Code | Description |
|---|---|
| 999999 | Unknown |

## DEATH CAUSE

### 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 .

### Form

[X] Form 1
[X] Form 2

### Source

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

## 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'.

## 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

## Reference

UAB

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

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DeathCause1 | 438 | Primary cause of death ICD diagnosis code: |
| Form 1 | DeathCause2 | 438 | Secondary cause of death ICD diagnosis code: |
| Form 1 | DeathECode | 438 | External cause of death ICD code: |
| Form 2 | DeathCause1F | 618 | Cause of death ICD diagnosis code: primary: |
| Form 2 | DeathCause2F | 618 | Cause of death ICD diagnosis code: secondary: |
| Form 2 | DeathECodeF | 618 | External cause of death ICD code: |

### Codes

#### Code Group: 438

| Code | Description |
|---|---|
| 44444 | Person Expired But Cause Unknown |
| 88888 | Not Applicable ( Person alive or no other internal cause of death indicated, or death due to external c |
| 99999 | Unknown if Person Expired |

**Code Group: 618**

| Code | Description |
|---|---|
| 44444 | Expired: Cause unknown |
| 88888 | Not Applicable: Person alive or death not due to external causes |
| 99999 | Unknown if person Expired |

## DEATH CERTIFICATE

### 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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Deathcertstat | 9867 | Status of collection of death certificate |
| Form 1 | Deathstate | 19563 | State in which the death occurred |
| Form 2 | DeathcertstatF | 19561 | Status of collection of death certificate |
| Form 2 | DeathstateF | 774 | State in which the death occurred |

#### Codes

**Code Group: 9867**

| Code | Description |
|---|---|
| 1 | Received |
| 2 | Pending |
| 3 | Unable to obtain |

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 88 | Not Applicable |

**Code Group: 19563**

| Code | Description |
|---|---|
| AK | Alaska |
| AL | Alabama |
| AR | Arkansas |
| AZ | Arizona |
| CA | California |
| CO | Colorado |
| CT | Connecticut |
| DC | District of Columbia |
| DE | Delaware |
| FL | Florida |
| GA | Georgia |
| HI | Hawaii |
| IA | Iowa |
| ID | Idaho |
| IL | Illinois |
| IN | Indiana |
| KS | Kansas |
| KY | Kentucky |
| LA | Louisiana |
| MA | Massachusetts |
| MD | Maryland |
| ME | Maine |

| Code | Description |
|---|---|
| MI | Michigan |
| MN | Minnesota |
| MO | Missouri |
| MS | Mississippi |
| MT | Montana |
| NC | North Carolina |
| ND | North Dakota |
| NE | Nebraska |
| NH | New Hampshire |
| NJ | New Jersey |
| NM | New Mexico |
| NV | Nevada |
| NY | New York |
| OH | Ohio |
| OK | Oklahoma |
| OR | Oregon |
| PA | Pennsylvania |
| RI | Rhode Island |
| SC | South Carolina |
| SD | South Dakota |
| TN | Tennessee |
| TX | Texas |
| UT | Utah |
| VA | Virginia |
| VT | Vermont |
| WA | Washington |
| WI | Wisconsin |

| Code | Description |
|---|---|
| WV | West Virginia |
| WY | Wyoming |
| 666 | Variable Did Not Exist |
| 888 | Not Applicable |
| 999 | Unknown |

**Code Group: 19561**

| Code | Description |
|---|---|
| 1 | Received |
| 2 | Pending |
| 3 | Unable to Obtain |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable |

**Code Group: 774**

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

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

| Code | Description |
|---|---|
| OR | Oregon |
| PA | Pennsylvania |
| RI | Rhode Island |
| SC | South Carolina |
| SD | South Dakota |
| TN | Tennessee |
| TX | Texas |
| UT | Utah |
| VA | Virginia |
| VT | Vermont |
| WA | Washington |
| WI | Wisconsin |
| WV | West Virginia |
| WY | Wyoming |
| 666 | Variable Did Not Exist |
| 888 | Not Applicable |
| 999 | Unknown |

## DEATH DATE

### Definition

Date of Death collected by abstraction or found on death certificate

### Form

[X] Form 1
[X] Form 2

### Source

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

### Details

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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Death | 437 | Date of death: |
| Form 2 | DeathF | 619 | Date of death: |

#### Codes

**Code Group: 437**

| Code | Description |
|---|---|
| 08/08/8888 | Not Applicable |
| 09/09/9999 | Unknown |

**Code Group: 619**

| Code | Description |
|---|---|
| 04/04/4444 | Expired: Date unknown |
| 08/08/8888 | Not Applicable: Person Alive |
| 09/09/9999 | Unknown |

# DEMOGRAPHICS

## ADDRESS

### 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.

### Form

[X] Form 1
[X] Form 2

### 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)

## 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).

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | ZipDis | 568 | Zip code after rehab discharge: |
| Form 1 | ZipInj | 569 | What was the zip code at the place where you were living before the injury? |
| Form 2 | AddressConsentF | 570 | Authorization received for collection of street address: |
| Form 2 | CityF | | City: |
| Form 2 | StateF | 774 | State: |
| Form 2 | Street1F | | Street address: |
| Form 2 | ZipF | 794 | What is your zip code: |

### Codes

#### Code Group: 568

| Code | Description |
|---|---|
| 66666 | Variable Did Not Exist ( Cases admitted to System before 1/1/01 ) |
| 88888 | Not Applicable: Expired in Rehab; Outside US |
| 99999 | Unknown |

**Code Group: 569**

| Code | Description |
|---|---|
| 66666 | Variable Did Not Exist ( Cases admitted to System before 1/1/01 ) |
| 88888 | Not Applicable: Expired in Rehab; Outside US |
| 99999 | Unknown |

**Code Group: 570**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |

**Code Group: NA**

| Code | Description |
|---|---|

**Code Group: 774**

| Code | Description |
|---|---|
| AK | Alaska |
| AL | Alabama |
| AR | Arkansas |
| AZ | Arizona |

| Code | Description |
|---|---|
| CA | California |
| CO | Colorado |
| CT | Connecticut |
| DC | District of Columbia |
| DE | Delaware |
| FL | Florida |
| GA | Georgia |
| HI | Hawaii |
| IA | Iowa |
| ID | Idaho |
| IL | Illinois |
| IN | Indiana |
| KS | Kansas |
| KY | Kentucky |
| LA | Louisiana |
| MA | Massachusetts |
| MD | Maryland |
| ME | Maine |
| MI | Michigan |
| MN | Minnesota |
| MO | Missouri |
| MS | Mississippi |
| MT | Montana |
| NC | North Carolina |
| ND | North Dakota |
| NE | Nebraska |
| NH | New Hampshire |

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

**Code Group: 794**

| Code | Description |
|---|---|
| 66666 | Variable Did Not Exist ( Follow-up evaluation before 7/1/01 ) |
| 88888 | Not Applicable: Person lives outside of the US |
| 99999 | Unknown |

## BIRTHDATE

### 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.

### Form

[X] Form 1
[ ] Form 2

### Source

Pre-Injury History (participant or proxy)

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Birth | 408 | What is your date of birth? |

#### Codes

**Code Group: 408**

| Code | Description |
|---|---|
| 09/09/9999 | Unknown |

## CULTURAL

### 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?"

### Form

[X] Form 1
[X] Form 2

### Source

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

### Details

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

### 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.

### 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.

### 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.

## 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | CountryBirthF | 420 | What is your country of birth? |
| Form 1 | CountryBirthOthF | | Country of birth (if not born in the US): |
| Form 1 | LngSpkHmF | 519 | What is the primary language spoken in your home? |
| Form 1 | LngSpkHmOthF | | Language spoken (if not English or Spanish): |
| Form 1 | YearsinUSF | 566 | How many years have you been in the United States (if not born in the US)? |
| Form 1 | YearsinUSFUPF | 567 | Followup period when years spent in the US was asked: |
| Form 2 | CountryBirthF | 616 | What is your country of birth? |
| Form 2 | CountryBirthOthF | | Country of birth (if not born in the US): |
| Form 2 | LngSpkHmF | 723 | What is the primary language spoken in your home? |
| Form 2 | LngSpkHmOthF | | Language spoken (if not English or Spanish): |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | YearsInUSF | 792 | How many years have you been in the United States? |
| Form 2 | YearsinUSFUPF | 7842 | Followup period when years spent in the US was asked: |

**Codes**

**Code Group: 420**

| Code | Description |
|---|---|
| 1 | United States |
| 2 | Other Than United States |
| 77 | Refused |
| 99 | Unknown |

**Code Group: NA**

| Code | Description |
|---|---|

**Code Group: 519**

| Code | Description |
|---|---|
| 1 | English |
| 2 | Spanish |
| 3 | Other Language |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 566**

| Code | Description |
|---|---|
| 777 | Refused |
| 888 | Not Applicable: Born in US |
| 999 | Unknown |

**Code Group: 567**

| Code | Description |
|---|---|
| 888 | Not Applicable: Born in US |
| 999 | Unknown |

**Code Group: 616**

| Code | Description |
|---|---|
| 1 | United States |
| 2 | Other Than the United States |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 723**

| Code | Description |
|---|---|
| 1 | English |
| 2 | Spanish |
| 3 | Other Language |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 792**

| Code | Description |
|---|---|
| 777 | Refused |
| 888 | Not Applicable: Born in US |
| 999 | Unknown |

**Code Group: 7842**

| Code | Description |
|---|---|
| 888 | Not Applicable: Born in US |
| 999 | Unknown |

## DEMOGRAPHICS - CALCULATED

### 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | AGE | 392 | Age at Injury |
| Form 1 | AGENoPHI | 393 | Age Calculated for NonPHI |
| Form 1 | BMI | 3348 | BMI at Injury |
| Form 1 | BMICat | 409 | BMI Category |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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 |
| Form 2 | BMIF | 3597 | BMI at Followup |
| Form 2 | RuralF | 765 | Urbanicity |

**Codes**

**Code Group: 392**

| Code | Description |
|---|---|
| 9999 | Unknown |

**Code Group: 393**

| Code | Description |
|---|---|
| 777 | 89 Years Old or Older |
| 999 | Unknown |

**Code Group: 3348**

| Code | Description |
|---|---|

**Code Group: 409**

| Code | Description |
|---|---|
| 1 | Very severely underweight |
| 2 | Severely underweight |

| Code | Description |
|---|---|
| 3 | Underweight |
| 4 | Normal |
| 5 | Overweight |
| 6 | Obese Class I |
| 7 | Obese Class II |
| 8 | Obese Class III |

**Code Group: 4153**

| Code | Description |
|---|---|
| 1 | Rural |
| 2 | Urban |
| 3 | Suburban |

**Code Group: 600**

| Code | Description |
|---|---|
| 1 | Very severely underweight |
| 2 | Severely underweight |
| 3 | Underweight |
| 4 | Normal |
| 5 | Overweight |
| 6 | Obese Class I |
| 7 | Obese Class II |
| 8 | Obese Class III |
| 99 | Unknown |

**Code Group: 3597**

| Code | Description |
|---|---|

**Code Group: 765**

| Code | Description |
|---|---|
| 1 | Rural |
| 2 | Urban |
| 3 | Suburban |

## GEOGRAPHIC IDENTIFIERS (GEO-ID) - CALCULATED

### 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | CensusBlock | | Census Block |
| 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. |

**Codes**

**Code Group: NA**

| Code | Description |
|---|---|

## HOUSEHOLD

### 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

## Form

[X] Form 1
[X] Form 2

## 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)

## Details

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

## 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'.

## Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | LivWhoDis | 7834 | Primary person living with after rehab discharge: |
| Form 1 | LivWhoInj | 518 | Before the injury, who was the primary person living with you? |
| Form 2 | LivWhoF | 7804 | Who are you currently living with? |

**Codes**

**Code Group: 7834**

| Code | Description |
|---|---|
| 1 | Alone |
| 2 | With spouse or significant other |
| 3 | Other family |
| 4 | Someone else |
| 88 | NA: Expired in Rehab |
| 99 | Unknown |

**Code Group: 518**

| Code | Description |
|---|---|
| 1 | Alone |
| 2 | Spouse or Significant Other |
| 3 | Other Family |
| 4 | Someone Else |
| 99 | Unknown |

**Code Group: 7804**

| Code | Description |
|---|---|
| 1 | Alone |
| 2 | Spouse or significant other |
| 3 | Other family |
| 4 | Someone else |
| 99 | Unknown |

## MARITAL

### 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

### Form

[X] Form 1
[X] Form 2

### Source

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

### Details

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

## Reference

UAB

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Mar | 525 | What is your marital status? |
| Form 2 | MarF | 726 | What is your current marital status? |

### Codes

#### Code Group: 525

| Code | Description |
|---|---|
| 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 ) |
| 5 | Widowed |
| 7 | Other |
| 99 | Unknown |

#### Code Group: 726

| Code | Description |
|---|---|
| 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 ) |
| 5 | Widowed |

| Code | Description |
|---|---|
| 7 | Other |
| 99 | Unknown |

## PHYSICAL MEASUREMENTS

### 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?”

### Form

[X] Form 1
[X] Form 2

### 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)

### 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).

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Height | 510 | Height in inches: |
| Form 1 | Weight | 7813 | Weight in pounds: |
| Form 2 | HeightF | 704 | How tall are you without shoes (in Inches)? |
| Form 2 | WeightF | 7814 | How much do you weigh without shoes (in Pounds)? |

### Codes

**Code Group: 510**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Applicable (Any Arm Or Leg Amputation) |
| 999 | Unknown |

**Code Group: 7813**

| Code | Description |
|---|---|
| 6666 | Variable Did Not Exist |
| 8888 | Not Applicable (Any Arm Or Leg Amputation) |
| 9999 | Unknown |

**Code Group: 704**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Applicable (Any Arm Or Leg Amputation) |
| 999 | Unknown |

**Code Group: 7814**

| Code | Description |
|---|---|
| 6666 | Variable Did Not Exist |
| 8888 | Not Applicable (Any Arm Or Leg Amputation) |
| 9999 | Unknown |

## RACE

### 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?”

### Form

[X] Form 1
[X] Form 2

### Source

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

### 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.

## 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

## 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

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | EthnicityF | 674 | Are you of Hispanic, Latino, or Spanish origin? |
| Form 1 | RaceAsnF | 742 | Asian: |
| Form 1 | RaceBlkF | 742 | Black, African American: |
| Form 1 | RaceIndF | 742 | American Indian, or Alaskan Native: |
| Form 1 | RacePIF | 742 | Native Hawaiian or other Pacific Islander: |
| Form 1 | RacePrimary | 541 | If you selected more than one race or ethnicity, with which do you identify most strongly? |
| Form 1 | RaceWhtF | 742 | White: |
| Form 2 | EthnicityF | 7843 | Are you of Hispanic, Latino, or Spanish origin? |
| Form 2 | RaceAsnF | 7844 | Asian: |
| Form 2 | RaceBlkF | 7844 | Black, African American: |
| Form 2 | RaceIndF | 7844 | American Indian or Alaskan Native: |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | RacePIF | 7844 | Native Hawaiian or other Pacific Islander: |
| Form 2 | RaceWhtF | 7844 | White: |

**Codes**

**Code Group: 674**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 742**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 541**

| Code | Description |
|---|---|
| 1 | White |
| 2 | Black |
| 3 | Asian/Pacific Islander |

| Code | Description |
|---|---|
| 4 | Native American |
| 5 | Hispanic Origin |
| 6 | Biracial or Multiracial |
| 7 | Other |
| 88 | Not Applicable |
| 99 | Unknown |

**Code Group: 7843**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 7844**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

## RESIDENCE

### 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

### Form

[X] Form 1
[X] Form 2

### 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)

## 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”.

## Links

List of Online Offender Database

## 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | ResDis | 548 | Residence after rehab discharge: |
| Form 1 | ResInj | 549 | Before the injury, where were you living? |
| Form 2 | ResF | 764 | Where do you live now? |

**Codes**

**Code Group: 548**

| Code | Description |
|---|---|
| 1 | Private Residence ( Includes house, apartment, mobile home, foster home, condominium, dormitory (s |
| 2 | Nursing Home/Subacute Care ( Includes medi-center, residential, institutions licensed as hospitals but |
| 3 | Adult Home ( Includes adult foster care, indep. living center, transitional living facility, assisted living, su |
| 4 | Correctional Institution ( Includes prison, jail, penitentiary, correctional center, labor camp, halfway hou |
| 5 | Hotel/Motel ( Includes YWCA, YMCA, guest ranch, inn ) |
| 6 | Homeless ( Includes a shelter for the homeless ) |
| 7 | Hospital: Acute care |
| 8 | Hospital: Rehabilitation |
| 9 | Hospital: Other ( Includes mental hospital, inpatient drug treatment ) |
| 10 | Other |
| 888 | Not Applicable: Expired in rehab |
| 999 | Unknown |

**Code Group: 549**

| Code | Description |
|---|---|
| 1 | Private Residence ( Includes house, apartment, mobile home, foster home, condominium, dormitory (s |
| 2 | Nursing Home/Subacute Care ( Includes medi-center, residential, institutions licensed as hospitals but |

| Code | Description |
|---|---|
| 3 | Adult Home ( Includes adult foster care, indep. living center, transitional living facility, assisted living, su |
| 4 | Correctional Institution ( Includes prison, jail, penitentiary, correctional center, labor camp, halfway hou |
| 5 | Hotel/Motel ( Includes YWCA, YMCA, guest ranch, inn ) |
| 6 | Homeless ( Includes a shelter for the homeless ) |
| 7 | Hospital: Acute care |
| 8 | Hospital: Rehabilitation |
| 9 | Hospital: Other ( Includes mental hospital, inpatient drug treatment ) |
| 10 | Other |
| 999 | Unknown |

**Code Group: 764**

| Code | Description |
|---|---|
| 1 | Private Residence ( Includes house, apartment, mobile home, foster home, condominium, dormitory (s |
| 2 | Nursing Home/Subacute Care ( Includes medi-center, residential, institutions licensed as hospitals but |
| 3 | Adult Home ( Includes adult foster care, indep. living center, transitional living facility, assisted living, su |
| 4 | Correctional Institution ( Includes prison, jail, penitentiary, correctional center, labor camp, halfway hou |
| 5 | Hotel/Motel ( Includes YWCA, YMCA, guest ranch, inn ) |
| 6 | Homeless ( Includes a shelter for the homeless ) |
| 7 | Hospital: Acute care |
| 8 | Hospital: Rehabilitation |
| 9 | Hospital: Other ( Includes mental hospital, inpatient drug treatment ) |
| 10 | Other |
| 999 | Unknown |

## SEX

### Definition

Current sex of subject

### Form

[X] Form 1
[ ] Form 2

### Source

Abstraction (acute or rehab record)

### Details

If transgender, record current sex.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | SexF | 554 | Sex: |
| Form 2 | SexF | 4026 | Sex |

#### Codes

#### Code Group: 554

| Code | Description |
|---|---|
| 1 | Female |
| 2 | Male |
| 99 | Unknown |

**Code Group: 4026**

| Code | Description |
|---|---|
| 1 | Female |
| 2 | Male |
| 99 | Unknown |

## SOCIOECONOMIC STATUS - CALCULATED

### 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

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | ACSYEARS | | The five-year aggregate dataset imported from IPUMS. |
| Form 2 | GeoCounty | | County name |
| Form 2 | GeoState | | State name |
| 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) |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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 2 | PercentSNAP | | The percent of households in the census tract who received food stamps/SNAP in the past 12 months |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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 |

**Codes**

**Code Group: NA**

| Code | Description |
|---|---|

## 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.

### 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).

---

### 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.**

## PHQ

### 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

### Form

[ ] Form 1
[X] Form 2

### Source

Interview, Mail-Out (participant only)

### 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.

### Links

PHQ-9 Manual
PHQ-9 Spanish Translation

### Reference

PHQ9 Pfizer

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | PHQBadF | 733 | f. Feeling bad about yourself or that you are a failure or have let yourself or your family down: |
| Form 2 | PHQConcentrateF | 733 | g. Trouble concentrating on things, such as reading the newspaper or watching television: |
| Form 2 | PHQDeadF | 733 | i. Thoughts that you would be better off dead or hurting yourself in some way: |
| 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? |
| Form 2 | PHQDownF | 733 | b. Feeling down, depressed, or hopeless: |
| Form 2 | PHQEatF | 733 | e. Poor appetite or overeating: |
| Form 2 | PHQPleasureF | 733 | a. Little interest or pleasure in doing things: |
| Form 2 | PHQSleepF | 733 | c. Trouble falling or staying asleep, or sleeping too much: |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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: |
| Form 2 | PHQTiredF | 733 | d. Feeling tired or having little energy: |

**Codes**

**Code Group: 733**

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

**Code Group: 732**

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

| Code | Description |
|---|---|
| 82 | Not Applicable: No data from person with TBI |
| 99 | Unknown |

### PHQ - CALCULATED

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | PHQ9TOTF | 731 | Patient Health Questionnaire Total Score |

**Codes**

**Code Group: 731**

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

## DRS (DISABILITY RATING SCALE)

### 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.

## Form

[X] Form 1
[X] Form 2

## 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)

## Details

### 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.

### 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.

## 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)

## 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.

## 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.

### 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.

## COMMUNICATION

### Form

[X] Form 1
[X] Form 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.

## 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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRSVerA | 477 | Communication ability: |
| Form 1 | DRSVerD | 477 | Communication ability: |
| Form 2 | drs2_1F | 645 | 2.1 Is [name] able to communicate with you in a way that you and others clearly understand? |
| Form 2 | drs2_2F | 646 | 2.2 How do they communicate primarily? |
| 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? |
| 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? |
| Form 2 | drs2_5F | 649 | 2.5 Does [name] only moan, groan or make other sounds that are not understandable? |

**Codes**

**Code Group: 477**

| Code | Description |
|---|---|
| 0 | Oriented |
| 1 | Confused |
| 2 | Inappropriate |
| 3 | Incomprehensible |
| 4 | None |
| 99 | Unknown ( Or assessment not done, or does not reflect patient's status during the 3 calendar day wind |

**Code Group: 645**

| Code | Description |
|---|---|
| 1 | No - Skip to 2.4 |
| 2 | Inconsistently ( Go to 2.2 ) |
| 3 | Consistently ( Go to 2.2 ) |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 646**

| Code | Description |
|---|---|
| 1 | Speech |
| 2 | Writing Or Spelling Device |
| 3 | Gestures Or Signals |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable ( Go to 2.2 ) |
| 99 | Unknown |

**Code Group: 647**

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

**Code Group: 648**

| Code | Description |
|---|---|
| 1 | No ( Go to 2.5 ) |
| 2 | Yes - Skip to 4.0 |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable |
| 99 | Unknown |

**Code Group: 649**

| Code | Description |
|---|---|
| 1 | No - Skip to 4.0 |
| 2 | Yes - Skip to 4.0 |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable |
| 99 | Unknown |

## DRS - CALCULATED

### 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.

### 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRSa | 464 | Disability Rating Scale On Admission |
| Form 1 | DRSaHigh | 465 | Disability Rating Scale On Admission Round High |
| Form 1 | DRSaLow | 466 | Disability Rating Scale On Admission Round Low |
| Form 1 | DRSd | 467 | Disability Rating Scale At Discharge |
| Form 1 | DRSdHigh | 468 | Disability Rating Scale At Discharge Round High |
| Form 1 | DRSdLow | 469 | Disability Rating Scale At Discharge Round Low |
| 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 |
| Form 2 | DRSHighF | 662 | Disability Rating Scale Followup Round Up |
| Form 2 | DRSLowF | 663 | Disability Rating Scale Followup Round Down |
| Form 2 | DRS_PIEmpf | 3664 | Disability Rating Scale Interview Follow-up |
| Form 2 | DRS_PIEyeF | 3665 | Disability Rating Scale Interview Follow-up |
| Form 2 | DRS_PIF | 643 | Disability Rating Scale Interview Follow-up |
| Form 2 | DRS_PIFeedF | 3666 | Disability Rating Scale Interview Follow-up |
| Form 2 | DRS_PIFunctF | 3667 | Disability Rating Scale Interview Follow-up |
| Form 2 | DRS_PIGroomF | 3668 | Disability Rating Scale Interview Follow-up |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | DRS_PIMotF | 3669 | Disability Rating Scale Interview Follow-up |
| Form 2 | DRS_PIToiletF | 3670 | Disability Rating Scale Interview Follow-up |
| Form 2 | DRS_PIVerF | 3671 | Disability Rating Scale Interview Follow-up |
| Form 2 | DRS_PI_ORIGF | 644 | Disability Rating Scale Interview Follow-up |

**Codes**

**Code Group: 464**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 465**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 466**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 467**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 468**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 469**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: NA**

| Code | Description |
|---|---|

**Code Group: 661**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 662**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 663**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 3664**

| Code | Description |
|---|---|
| 0 | Not Restricted |
| 1 | Selected Jobs: Competitive |
| 2 | Sheltered Workshop: Non-competitive |
| 3 | Not Employable |

**Code Group: 3665**

| Code | Description |
|---|---|
| 0 | Spontaneous |
| 1 | To Speech |
| 2 | To Pain |
| 3 | None |
| 99 | Unknown |

**Code Group: 643**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 3666**

| Code | Description |
|---|---|
| 0 | Complete |
| 1 | Partial |
| 2 | Minimal |
| 3 | None |

**Code Group: 3667**

| Code | Description |
|---|---|
| 0 | Completely Independent |
| 1 | Independent in Special Environment |
| 2 | Mildly Dependent: Limited assistance |
| 3 | Moderately Dependent: Moderate assistance |
| 4 | Markedly Dependent: Assist all major activities, all times |
| 5 | Totally Dependent: 24 hour nursing care |
| 99 | Unknown |

**Code Group: 3668**

| Code | Description |
|---|---|
| 0 | Complete |
| 1 | Partial |
| 2 | Minimal |
| 3 | None |
| 99 | Unknown |

**Code Group: 3669**

| Code | Description |
|---|---|
| 0 | Obeying |
| 1 | Localizing |
| 2 | Withdrawing |
| 3 | Flexing |
| 4 | Extending |
| 5 | None |
| 99 | Unknown |

**Code Group: 3670**

| Code | Description |
|---|---|
| 0 | Complete |
| 1 | Partial |
| 2 | Minimal |
| 3 | None |
| 99 | Unknown |

**Code Group: 3671**

| Code | Description |
|---|---|
| 0 | Oriented |
| 1 | Confused |
| 2 | Inappropriate |
| 3 | Incomprehensible |
| 4 | None |
| 99 | Unknown |

**Code Group: 644**

| Code | Description |
|---|---|
| 999 | Unknown |

## EMPLOYABILITY

### Form

[X] Form 1
[X] Form 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 function 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’.

## 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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRSEmpA | 470 | Employability: |
| Form 1 | DRSEmpD | 470 | Employability: |
| Form 2 | drs8_1F | 653 | 8.1 Can you function with complete independence in work or social situations? |
| Form 2 | drs8_2F | 653 | 8.2 Can you understand, remember, and follow directions? |
| Form 2 | drs8_3F | 653 | 8.3 Can you keep track of time, schedules and appointments? |
| 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? |
| 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? |
| 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? |
| 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? |

**Codes**

**Code Group: 470**

| Code | Description |
|---|---|
| 0.0 | Not Restricted |
| 0.5 | Between Not Restricted and Selective Jobs, Competitive ( Code no longer used ) |
| 1.0 | Selected Jobs, Competitive |
| 1.5 | Between Selected Jobs and Sheltered Workshop ( Code no longer used ) |
| 2.0 | Sheltered Workshop, Non-Competitive |
| 2.5 | Between Sheltered Workshop and Not Employable ( Code no longer used ) |
| 3.0 | Not Employable |
| 99.9 | Unknown ( Or assessment not done, or does not reflect patient's status during the 3 calendar day wind |

**Code Group: 653**

| Code | Description |
|---|---|
| 1 | Never |
| 2 | Some Of The Time |
| 3 | Most Of The Time |
| 4 | Always |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 657**

| Code | Description |
|---|---|
| 1 | Certain Or Very Certain I Cannot ( Go to 8.5. ) |
| 2 | Uncertain ( Go to 8.5. ) |
| 3 | Certain Or Very Certain I Can - END |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 658**

| Code | Description |
|---|---|
| 1 | Certain Or Very Certain I Cannot ( Go to 8.6. ) |
| 2 | Uncertain ( Go to 8.6. ) |
| 3 | Certain Or Very Certain I Can - END |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable |
| 99 | Unknown |

**Code Group: 659**

| Code | Description |
|---|---|
| 1 | Certain Or Very Certain I Cannot ( Go to 8.7. ) |
| 2 | Uncertain ( Go to 8.7. ) |
| 3 | Certain Or Very Certain I Can - END |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable |
| 99 | Unknown |

**Code Group: 660**

| Code | Description |
|---|---|
| 1 | Certain Or Very Certain I Cannot - END |
| 2 | Uncertain - END |
| 3 | Certain Or Very Certain I Can - END |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable - END |
| 99 | Unknown |

## EYE OPENING

### Form

[X] Form 1
[ ] Form 2

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRSEyeA | 471 | Eye opening: |
| Form 1 | DRSEyeD | 471 | Eye opening: |

### Codes

### Code Group: 471

| Code | Description |
|---|---|
| 0 | Spontaneous |
| 1 | To Speech |
| 2 | To Pain |
| 3 | None |
| 99 | Unknown ( Or assessment not done, or does not reflect patient's status during the 3 calendar day wind |

## FEEDING

### Form

[X] Form 1
[X] Form 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

## Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRSFeedA | 472 | Feeding: |
| Form 1 | DRSFeedD | 472 | Feeding: |
| Form 2 | drs4_1F | 652 | 4.1 Can you feed yourself independently or manage tube feedings appropriately without help or reminders? |
| 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? |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | drs4_3F | 653 | 4.3 Do you know when meal or feeding times are? |

**Codes**

**Code Group: 472**

| Code | Description |
|---|---|
| 0.0 | Complete |
| 0.5 | Between Complete and Partial ( Code no longer used ) |
| 1.0 | Partial |
| 1.5 | Between Partial and Minimal ( Code no longer used ) |
| 2.0 | Minimal |
| 2.5 | Between Minimal and None ( Code no longer used ) |
| 3.0 | None |
| 99.9 | Unknown ( Or assessment not done, or does not reflect patient's status during the 3 calendar day wind |

**Code Group: 652**

| Code | Description |
|---|---|
| 1 | No ( Go to 4.2 ) |
| 2 | Yes - Mark 4 = Always in 4.2. and 4.3., then skip to 5.0. |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 653**

| Code | Description |
|---|---|
| 1 | Never |

| Code | Description |
|---|---|
| 2 | Some Of The Time |
| 3 | Most Of The Time |
| 4 | Always |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

## FUNCTIONING

### Form

[X] Form 1
[X] Form 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.’

### 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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRSFuncA | 473 | Level of functioning: |
| Form 1 | DRSFuncD | 473 | Level of functioning: |
| 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? |
| 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? |
| Form 2 | drs7_3F | 653 | 7.3 Do you require PHYSICAL assistance from another person to meet daily needs? |
| Form 2 | drs7_4F | 653 | 7.4 Do you require assistance from another person in tasks that require THINKING ABILITIES? |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | drs7_5F | 653 | 7.5 Do you require assistance from another person to manage EMOTIONS AND BEHAVIOR? |
| 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? |
| Form 2 | drs7_6bF | 656 | 7.6b Do you need help with all major activities and the assistance of another person all the time? |
| 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? |

**Codes**

**Code Group: 473**

| Code | Description |
|---|---|
| 0.0 | Completely Independent |
| 0.5 | Between Completely Independent and Independent in Special Environment ( Code no longer used ) |
| 1.0 | Independent in Special Environment |
| 1.5 | Between Independent in Special Environment and Mildly Dependent ( Code no longer used ) |
| 2.0 | Mildly Dependent: Limited assistance ( Non-resident helper ) |
| 2.5 | Between Mildly Dependent and Moderately Dependent ( Code no longer used ) |
| 3.0 | Moderately Dependent: Moderate assistance ( Person in home ) |
| 3.5 | Between Moderately Dependent and Markedly Dependent ( Code no longer used ) |
| 4.0 | Markedly Dependent: Assist all major activities, all times |
| 4.5 | Between Markedly Dependent and Totally Dependent ( Code no longer used ) |
| 5.0 | Totally Dependent: 24 hour nursing care |
| 99.9 | Unknown ( Or assessment not done, or does not reflect patient's status during the 3 calendar day wind |

**Code Group: 656**

| Code | Description |
|---|---|
| 1 | No |
| 2 | Yes |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 653**

| Code | Description |
|---|---|
| 1 | Never |
| 2 | Some Of The Time |
| 3 | Most Of The Time |
| 4 | Always |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

## GROOMING

### Form

[X] Form 1
[X] Form 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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRSGroomA | 474 | Grooming: |
| Form 1 | DRSGroomD | 474 | Grooming: |
| 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? |
| Form 2 | drs6_2F | 653 | 6.2 Do you know how to bathe and wash? |
| Form 2 | drs6_3F | 653 | 6.3 Do you understand how to get dressed? |
| Form 2 | drs6_4F | 653 | 6.4 Can you start and finish these grooming activities without prompting? |

**Codes**

**Code Group: 474**

| Code | Description |
|---|---|
| 0.0 | Complete |
| 0.5 | Between Complete and Partial ( Code no longer used ) |
| 1.0 | Partial |
| 1.5 | Between Partial and Minimal ( Code no longer used ) |
| 2.0 | Minimal |
| 2.5 | Between Minimal and None ( Code no longer used ) |
| 3.0 | None |
| 99.9 | Unknown ( Or assessment not done, or does not reflect patient's status during the 3 calendar day wind |

**Code Group: 655**

| Code | Description |
|---|---|
| 1 | No ( Go to 6.2 ) |
| 2 | Yes - Mark 4 = Always in 6.2. and 6.3., then skip to 7.0 |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 653**

| Code | Description |
|---|---|
| 1 | Never |
| 2 | Some Of The Time |
| 3 | Most Of The Time |
| 4 | Always |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

## MOTOR

### Form

[X] Form 1
[X] Form 2

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRSMotA | 475 | Motor response: |
| Form 1 | DRSMotD | 475 | Motor response: |
| 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. |
| Form 2 | drs3_2F | 651 | 3.2 If you pinch an arm/leg hard enough to hurt, how does [name] respond: |

### Codes

#### Code Group: 475

| Code | Description |
|---|---|
| 0 | Obeying |
| 1 | Localizing |
| 2 | Withdrawing |
| 3 | Flexing |
| 4 | Extending |
| 5 | None |
| 99 | Unknown ( Or assessment not done, or does not reflect patient's status during the 3 calendar day wind |

**Code Group: 650**

| Code | Description |
|---|---|
| 1 | No |
| 2 | Inconsistently |
| 3 | Yes |
| 66 | VariableDid Not Exist |
| 99 | Unknown |

**Code Group: 651**

| Code | Description |
|---|---|
| 1 | Localization |
| 2 | Withdrawal |
| 3 | Flexion |
| 4 | Extension |
| 5 | No Response |
| 66 | VariableDid Not Exist |
| 88 | Not Applicable |
| 99 | Unknown |

## TOILETING

### Form

[X] Form 1
[X] Form 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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRSToiletA | 476 | Toileting: |
| Form 1 | DRSToiletD | 476 | Toileting: |
| 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? |
| 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? |
| Form 2 | drs5_3F | 653 | 5.3 Do you know when to use the toilet or to conduct bowel and bladder management? |

**Codes**

**Code Group: 476**

| Code | Description |
|---|---|
| 0.0 | Complete |
| 0.5 | Between Complete and Partial ( Code no longer used ) |
| 1.0 | Partial |
| 1.5 | Between Partial and Minimal ( Code no longer used ) |
| 2.0 | Minimal |
| 2.5 | Between Minimal and None ( Code no longer used ) |
| 3.0 | None |
| 99.9 | Unknown ( Or assessment not done, or does not reflect patient's status during the 3 calendar day wind |

**Code Group: 654**

| Code | Description |
|---|---|
| 1 | No ( Go to 5.2 ) |
| 2 | Yes - Mark 4 = Always in 5.2. and 5.3., then skip to 6.0 |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 653**

| Code | Description |
|---|---|
| 1 | Never |
| 2 | Some Of The Time |
| 3 | Most Of The Time |
| 4 | Always |
| 66 | Variable Did Not Exist |

| Code | Description |
|---|---|
| 99 | Unknown |

# EDUCATION

### Definition

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

## EDUCATION - CALCULATED

### Definition

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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | BTACTEducation | 480 | BTACTEducation |
| Form 1 | EDUCATION | 480 | Education |
| Form 2 | BTACTEducationF | 666 | Education Followup |
| Form 2 | EDUCATIONF | 666 | Education Followup |

#### Codes

**Code Group: 480**

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

| Code | Description |
|---|---|
| 3 | HS/GED |
| 3.5 | HS |
| 4 | Trade |
| 5 | Some College |
| 6 | Associate |
| 7 | Bachelors |
| 8 | Masters |
| 9 | Doctorate |
| 21 | Other |
| 999 | Unknown |

**Code Group: 666**

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

## EDUCATION YEARS

### 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)

### Form

[X] Form 1
[X] Form 2

### Source

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

### 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.

## 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.

## 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''.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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). |
| Form 2 | EduYearsF | 667 | How many years of education have you completed (at time of interview)? |

### Codes

#### Code Group: 481

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

**Code Group: 667**

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

## GED

### 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)

### Form

[X] Form 1
[X] Form 2

### Source

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

### 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”.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | GED | 506 | Did you earn a GED instead of graduating from high school? |
| Form 2 | GEDF | 691 | Did you earn a GED instead of graduating from high school? |

### Codes

**Code Group: 506**

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

**Code Group: 691**

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

## LEARNING DISABILITY

### 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?

### Form

[X] Form 1
[ ] Form 2

### Source

Pre-Injury History (participant or proxy)

## 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.

## Characteristics

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

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | SpEd | 556 | While in school, were you ever classified as a special education student? |

### Codes

#### Code Group: 556

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

# EMPLOYMENT

## CURRENT EMPLOYMENT

### 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

### Form

[X] Form 1
[X] Form 2

## Source

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

## 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.

### 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”.

### 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)’.

### 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.

### 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.

### 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”.

### 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”.

## 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”.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Emp1 | 482 | At the time of the injury, what was your primary employment status? |
| Form 2 | Emp1F | 669 | What is your current employment status? |

### Codes

#### Code Group: 482

| Code | Description |
|---|---|
| 2 | Full Time Student ( Regular class ) |
| 3 | Part Time Student ( Regular class ) |
| 4 | Special Education / Other Non-Regular Education |
| 5 | Competitively Employed ( Minimum wage or greater, legal or illegal employment, *includes on leave w |
| 7 | Taking Care of House or Family |
| 8 | Special Employed ( Sheltered workshop, supportive employment, has job coach ) |
| 9 | Retired: Age-related |
| 10 | Unemployed: Looking ( Looking for work in the 4 weeks prior to injury ) |
| 11 | Volunteer Work |
| 12 | Retired: Disability |
| 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 Inju |

| Code | Description |
|---|---|
| 15 | Retired: Other |
| 16 | On Leave From Work: Not receiving pay |
| 55 | Other |
| 666 | Variable Did Not Exist |
| 777 | Refused |
| 888 | Not Applicable |
| 999 | Unknown |

**Code Group: 669**

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

| Code | Description |
|---|---|
| 777 | Refused |
| 999 | Unknown |

## EMPLOYMENT - CALCULATED

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | EMPLOYMENT | 484 | At time of injury, what was your employment status? |
| Form 2 | DAYSTo1stEmpF | 617 | Days From Injury to Employment |
| Form 2 | EMPLOYMENTF | 672 | Employment Followup |

### Codes

**Code Group: 484**

| Code | Description |
|---|---|
| 2 | Full Time Student |
| 3 | Part Time Student |
| 4 | Special Education/Other Non-Regular Education |
| 5 | Competitively Employed |
| 7 | Taking Care of House or Family |
| 8 | Special Employed |
| 9 | Retired |
| 10 | Unemployed |
| 11 | Volunteer |
| 12 | Other |
| 888 | Not Applicable |

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 617**

| Code | Description |
|---|---|
| 66666 | Variable Did Not Exist |
| 77777 | Refused |
| 88888 | No Competitive Employment Since Injury |
| 88899 | Began Competitive Employment in Prior Follow-up Year |
| 99999 | Unknown When Competitive Employment Began |

**Code Group: 672**

| Code | Description |
|---|---|
| 2 | Full Time Student |
| 3 | Part Time Student |
| 4 | Special Education / Other Non-Regular Education |
| 5 | Competitively Employed |
| 7 | Taking Care of House or Family |
| 8 | Special Employed |
| 9 | Retired |
| 10 | Unemployed |
| 11 | Volunteer Work |
| 12 | Other |
| 888 | Not Applicable |
| 999 | Unknown |

## FIRST EMPLOYMENT

### 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).

### Form

[ ] Form 1
[X] Form 2

### Source

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

### 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”.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | EmpFirstF | 670 | When did you start working in a regular job following your injury? (If no post-injury employment, code as |

### Codes

**Code Group: 670**

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

## OCCUPATIONAL CATEGORY

### 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.

### Form

[X] Form 1
[X] Form 2

### Source

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

## 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.

## Links

1990 Census Occupation Codes
Standard Occupational Classification User Guide

## 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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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? |
| Form 2 | OCCF | 728 | What kind of work do you currently do? |

**Codes**

**Code Group: 531**

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

**Code Group: 728**

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

# ETIOLOGY

## 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**

## Form

[X] Form 1
[ ] Form 2

## Source

Abstraction (acute record)

## Details

### 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.

### 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.

### 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

### 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Cause | 414 | Cause of injury: |
| Form 1 | CauseE1 | 415 | ICD External cause of injury code 1: |
| Form 1 | CauseE2 | 415 | ICD External cause of injury code 2: |

### Codes

#### Code Group: 414

| Code | Description |
|---|---|
| 1 | Motor Vehicle ( Does not include auto racing. Auto racing is coded 18 ) |
| 2 | Motorcycle ( 2-wheeled, motorized vehicle including mopeds, motorized dirt bikes, and motorized scoo |
| 3 | Bicycle ( Includes tricycles and unicycles ) |

| Code | Description |
|---|---|
| 4 | All-Terrain Vehicle (ATV) and All-Terrain Cycle (ATC) ( Includes both 3-wheeled and 4-wheeled recreat |
| 5 | Other Vehicular: Unclassified ( Includes tractor, bulldozer, steam roller, train, road grader, forklift, aircra |
| 10 | Gunshot Wound |
| 11 | Assaults With Blunt Instrument ( Non-penetrating ) |
| 12 | Other Violence ( Includes all other penetrating wounds: stabbing, impalement. Also includes explosion |
| 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, s |
| 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 |
| 18 | Other Sports ( Includes wrestling, horseback riding, rodeo (e.g. bronco/bull riding), skateboard, auto ra |
| 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 |

**Code Group: 415**

| Code | Description |
|---|---|
| 88888 | Not Applicable: No other E-codes ( No other E-codes ) |
| 99999 | Unknown |

## FIM

### 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%)

## Form

[X] Form 1
[X] Form 2

## Source

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

## 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.

## 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.*

## 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.



## 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.

### 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.

## BATHING

### 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.

### Details

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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMBathF | 677 | Bathing: |

#### Codes

**Code Group: 677**

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

## BED TRANSFER

### 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).

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMBedTransF | 677 | Bed, chair, wheelchair transfers: |

#### Codes

#### Code Group: 677

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

## BLADDER ACCIDENT

### 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.

### 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMBladAccF | 675 | Bladder management – frequency of accidents: |

**Codes**

**Code Group: 675**

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

## BLADDER ASSISTANCE

### Definition

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

### 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMBladAsstF | 677 | Bladder management – level of assistance: |

**Codes**

**Code Group: 677**

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

## BLADDER MANAGEMENT

### 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.

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMBladMgtF | 677 | Bladder management: |

#### Codes

#### Code Group: 677

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

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

## BOWEL ACCIDENT

### Definition

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

### 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMBwlAccF | 675 | Bowel management – frequency of accidents: |

**Codes**

**Code Group: 675**

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

## BOWEL ASSISTANCE

### Definition

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

### 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMBwlAsstF | 677 | Bowel management – level of assistance: |

**Codes**

**Code Group: 677**

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

## BOWEL MANAGEMENT

### 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.

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMBwlMgtF | 677 | Bowel management: |

#### Codes

#### Code Group: 677

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

## COMPREHENSION

### Definition

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

### 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).

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | FIMCompA | 490 | Comprehension: |
| Form 1 | FIMCompD | 490 | Comprehension: |
| Form 2 | FIMCompF | 677 | Comprehension: |

**Codes**

**Code Group: 490**

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

| Code | Description |
|---|---|
| 99 | Unknown |

**Code Group: 677**

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

## DRESSING LOWER

### 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.

### Details

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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMDrsdwnF | 677 | Dressing lower body: |

**Codes**

**Code Group: 677**

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

## DRESSING UPPER

### 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.

### Details

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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMDrupF | 677 | Dressing upper body: |

**Codes**

**Code Group: 677**

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

## EATING

### 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.

### Details

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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMFeedF | 677 | Eating: |

**Codes**

**Code Group: 677**

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

## EXPRESSION

### 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.

### 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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | FIMExpressA | 490 | Expression: |
| Form 1 | FIMExpressD | 490 | Expression: |
| Form 2 | FIMExpressF | 677 | Expression: |

**Codes**

**Code Group: 490**

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

**Code Group: 677**

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

## FIM - CALCULATED

FIM Total Scores

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | FIMCOGA | 487 | FIM Cognitive on Admission: |
| Form 1 | FIMCOGD | 488 | FIM Cognitive at Discharge: |
| Form 1 | FIMMOTA | 492 | FIM Motor on Admission: |
| Form 1 | FIMMOTD | 493 | FIM Motor at Discharge: |
| Form 1 | FIMTOTA | 494 | FIM Total at Admission: |
| Form 1 | FIMTOTD | 495 | FIM Total at Discharge: |
| Form 2 | FIMCOGF | 676 | FIM Cognitive Follow-up: |
| Form 2 | FIMMOTF | 679 | FIM Motor Followup: |
| Form 2 | FIMTOTF | 680 | FIM Total (New) Follow-up: |

**Codes**

**Code Group: 487**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 488**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 492**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 493**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 494**

| Code | Description |
|---|---|
| 9999 | Unknown |

**Code Group: 495**

| Code | Description |
|---|---|
| 9999 | Unknown |

**Code Group: 676**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 679**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: 680**

| Code | Description |
|---|---|
| 9999 | Unknown |

## GROOMING

### 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.

### Details

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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMGroomF | 677 | Grooming: |

### Codes

**Code Group: 677**

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

## LOCOMOTION MODE

### 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.

### 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).

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMLocoF | 677 | Walking/Wheelchair: |
| Form 2 | FIMLocoModeF | 678 | Walking/Wheelchair – mode: |

### Codes

#### Code Group: 677

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

#### Code Group: 678

| Code | Description |
|---|---|
| w | Walk |
| c | Wheelchair |
| 88 | Not Applicable: Variable not due this year ( Code no longer used; data now collected in all follow-up ye |

| Code | Description |
|---|---|
| 99 | Unknown |

## MEMORY

### 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.

### 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)

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | FIMMemA | 490 | Memory: |
| Form 1 | FIMMemD | 490 | Memory: |
| Form 2 | FIMMemF | 677 | Memory: |

**Codes**

**Code Group: 490**

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

**Code Group: 677**

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

## METHOD

### 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)

### Form

[X] Form 1
[ ] Form 2

### Source

Form 1 - See code choices for acceptable collection methods

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | FIMMeth | 4147 | FIM Cognitive Method of Data Collection: |
| Form 1 | FIMMethDesc | | Description of Method if Multiple Methods Used: |

#### Codes

#### Code Group: 4147

| Code | Description |
|---|---|
| 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 |
| 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) ) |
| 66 | Variable Did Not Exist |
| 88 | Not applicable |
| 99 | Unknown |

**Code Group: NA**

| Code | Description |
|---|---|

## PROBLEM SOLVING

### 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.

### 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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | FIMProbSlvA | 490 | Problem solving: |
| Form 1 | FIMProbSlvD | 490 | Problem solving: |
| Form 2 | FIMProbSlvF | 677 | Problem solving: |

**Codes**

**Code Group: 490**

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

**Code Group: 677**

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

## SOCIAL INTERACTION

### 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.

### 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

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | FIMSocialA | 490 | Social interaction: |
| Form 1 | FIMSocialD | 490 | Social interaction: |
| Form 2 | FIMSocialF | 677 | Social interaction: |

**Codes**

**Code Group: 490**

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

**Code Group: 677**

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

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

## STAIRS

### Definition

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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMStairsF | 677 | Stairs: |

#### Codes

#### Code Group: 677

| Code | Description |
|---|---|
| 1 | Total Assist ( < 25% ) |
| 2 | Maximal Assist ( 25 - 49% ) |
| 3 | Moderate Assist ( 50 - 74% ) |
| 4 | Minimal Assist ( >= 75% ) |
| 5 | Supervision ( 100% ) |

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

## TOILET TRANSFER

### Definition

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

### Details

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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMToilTransF | 677 | Toilet transfers: |

#### Codes

#### Code Group: 677

| Code | Description |
|---|---|
| 1 | Total Assist ( < 25% ) |
| 2 | Maximal Assist ( 25 - 49% ) |
| 3 | Moderate Assist ( 50 - 74% ) |
| 4 | Minimal Assist ( >= 75% ) |

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

## TOILETING

### 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.

### Details

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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMToiletF | 677 | Toileting: |

#### Codes

#### Code Group: 677

| Code | Description |
|---|---|
| 1 | Total Assist ( < 25% ) |
| 2 | Maximal Assist ( 25 - 49% ) |

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

## TUB TRANSFER

### Definition

Transfers: Tub/shower includes getting into and out of a tub/shower. 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).

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FIMTubTransF | 677 | Tub or shower transfers: |

#### Codes

#### Code Group: 677

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

# FINANCE

## EARNINGS

### 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).

### Form

[X] Form 1
[X] Form 2

## Source

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

## 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.

## Characteristics

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

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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. |
| Form 2 | EarnF | 665 | What is your total annual salary, based on your current job(s)? |

**Codes**

**Code Group: 479**

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

**Code Group: 665**

| Code | Description |
|---|---|
| 1 | $9,999 or less |
| 2 | $10,000 - $19,999 |
| 3 | $20,000 - $29,999 |
| 4 | $30,000 - $39,999 |
| 5 | $40,000 - $49,999 |
| 6 | $50,000 - $59,999 |
| 7 | $60,000 - $69,999 |
| 8 | $70,000 - $79,999 |
| 9 | $80,000 - $89,999 |
| 10 | $90,000 - $99,999 |
| 11 | $100,000 or More |
| 666 | Variable Did Not Exist |
| 777 | Refused |
| 888 | Not Applicable: Not currently competitively employed |
| 999 | Unknown |

## HOUSEHOLD INCOME

### Definition

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

### Form

[ ] Form 1
[X] Form 2

## Source

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

## 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.

## Links

Script and strategies to facilitate successful data collection of Household Income

## 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

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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. |

### Codes

### Code Group: 705

| Code | Description |
|---|---|
| 1 | Less than $25,000 |
| 2 | $25,000 - $49,999 |
| 3 | $50,000 - $99,999 |
| 4 | $100,000 - $149,999 |
| 5 | $150,000 - $199,999 |
| 6 | $200,000 or More |
| 77 | Refused |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

# FOLLOW-UP DATE

## FOLLOW-UP DATE

### Definition

Date of Follow-up Evaluation

### Form

[ ] Form 1
[X] Form 2

### Source

Data Collector

### 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.

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | Followup | 686 | Follow-up evaluation date: |

**Codes**

**Code Group: 686**

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

## FOLLOW-UP DATE - CALCULATED

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | AGEF | 573 | Age at Follow-Up |
| Form 2 | AGENoPHIF | 574 | Age at Follow-Up (No PHI Version) |
| Form 2 | DAYStoFUF | 3651 | Days From Injury to Followup |
| Form 2 | FUYearF | | Year of the Follow-up interview |

**Codes**

**Code Group: 573**

| Code | Description |
|---|---|
| 9999 | Unknown |

**Code Group: 574**

| Code | Description |
|---|---|
| 777 | 89 Years Old or Older |
| 999 | Unknown |

**Code Group: 3651**

| Code | Description |
|---|---|
| 999999 | Unknown |

**Code Group: NA**

| Code | Description |
|---|---|

# GENERAL HEALTH

## GENERAL HEALTH

### Definition

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

### Form

[ ] Form 1
[X] Form 2

### Source

Interview, Mail-out (participant only)

## 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.”

## 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

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | GenHlthF | 693 | In general would you say your health is… |

### Codes

### Code Group: 693

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

# GOS-E (GLASGOW OUTCOME SCALE - EXTENDED)

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

## GOS-E

### Definition

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

### Form

[ ] Form 1
[X] Form 2

### Source

Interview (participant or proxy)

### 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.

## 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)

## 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.

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | GOSAssistAllF | 694 | 2a. Is the assistance of another person at home essential every day for some activities of daily living? |
| Form 2 | GOSAssistPriorF | 7630 | 2c. Was assistance at home essential before the injury? |
| Form 2 | GOSCommandsF | 695 | 1. Is the participant able to obey simple commands or say any words? |
| Form 2 | GOSDisruptExF | 696 | 7b. What has been the extent of disruption or strain? |
| Form 2 | GOSDisruptF | 7639 | 7a. Have there been psychological problems which have resulted in ongoing family disruption or disruption to friendships? |
| Form 2 | GOSFactorF | 698 | 10. You noted (reference last problematic item i.e. not being able to travel without assistance). Is that due to... |
| Form 2 | GOSFrqHlpF | 7629 | 2b. Do you need frequent help or someone to be around at home most of the time? |
| Form 2 | GOSPrbCurrentF | 7641 | 8a. Are there any other current problems relating to the injury which affect daily life? |
| Form 2 | GOSPrbFamF | 7640 | 7c. Were there problems with family or friends before the injury? |
| Form 2 | GOSPrbPriorF | 7642 | 8b. Were similar problems present before the injury? |
| Form 2 | GOSRestrictF | 699 | 5b. How restricted are you? |
| Form 2 | GOSShopF | 7631 | 3a. Are you able to shop without assistance? |
| Form 2 | GOSShopPriorF | 7632 | 3b. Were you able to shop without assistance before the injury? |

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

**Codes**

**Code Group: 694**

| Code | Description |
|---|---|
| 0 | No (3a) |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 7630**

| Code | Description |
|---|---|
| 0 | No (Stop!) |
| 1 | Yes (Go to item 3a) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 695**

| Code | Description |
|---|---|
| 0 | No (Stop! VS) |
| 1 | Yes (2a) |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 696**

| Code | Description |
|---|---|
| 1 | Occasionally: Less than weekly (LGR) |
| 2 | Frequent: Once per week or more but tolerable (UMD) |
| 3 | Constant: Daily and intolerable (LMD) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 7639**

| Code | Description |
|---|---|
| 0 | No (8a) |
| 1 | Yes |

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 698**

| Code | Description |
|---|---|
| 1 | Effects of Head Injury |
| 2 | Effects of Illness or Injury to Another Part of the Body |
| 3 | A Mixture of These |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable |
| 99 | Unknown |

**Code Group: 7629**

| Code | Description |
|---|---|
| 0 | No (USD) |
| 1 | Yes (LSD) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 7641**

| Code | Description |
|---|---|
| 0 | No (Stop! UGR) |
| 1 | Yes (8b) |
| 66 | Variable Did Not Exist |

| Code | Description |
|---|---|
| 88 | NA |
| 99 | Unknown |

**Code Group: 7640**

| Code | Description |
|---|---|
| 0 | No (Stop!) |
| 1 | Yes (8a) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 7642**

| Code | Description |
|---|---|
| 0 | No (Stop! LGR) |
| 1 | Yes (Stop! UGR) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 699**

| Code | Description |
|---|---|
| 1 | Reduced Work Capacity (UMD) |
| 2 | Sheltered Workshop or Non-Competitive Job or Currently Unable to Work (LMD) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

| Code | Description |
|---|---|

**Code Group: 7631**

| Code | Description |
|---|---|
| 0 | No (USD) |
| 1 | Yes (4a) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 7632**

| Code | Description |
|---|---|
| 0 | No (4a) |
| 1 | Yes (Stop!) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 7637**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes (7a) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 7638**

| Code | Description |
|---|---|
| 0 | No (7a) |
| 1 | Yes (Stop!) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 700**

| Code | Description |
|---|---|
| 1 | Participate a Bit Less : At least half as often as before injury (LGR) |
| 2 | Participate Much Less: Less than half as often (UMD) |
| 3 | Unable to Participate: Rarely, if ever, take part (LMD) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 701**

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

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 99 | Unknown |

**Code Group: 7633**

| Code | Description |
|---|---|
| 0 | No (USD) |
| 1 | Yes (5a) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 7634**

| Code | Description |
|---|---|
| 0 | No (5a) |
| 1 | Yes (Stop!) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

**Code Group: 7635**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes (6a) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

| Code | Description |
|---|---|

**Code Group: 7636**

| Code | Description |
|---|---|
| 0 | No (6a) |
| 1 | Yes (Stop!) |
| 66 | Variable Did Not Exist |
| 88 | NA |
| 99 | Unknown |

## 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.)

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | GOSEF | 697 | GOS-E Incl. Expired |

### Codes

**Code Group: 697**

| Code | Description |
|---|---|
| 1 | Dead |
| 2 | Vegetative State (VS) |
| 3 | Lower Severe Disability (LSD) |
| 4 | Upper Severe Disability (USD) |
| 5 | Lower Moderate Disability (LMD) |
| 6 | Upper Moderate Disability (UMD) |
| 7 | Lower Good Recovery (LGR) |
| 8 | Upper Good Recovery (UGR) |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

# INJURY COMORBIDITIES

## ICD DIAGNOSIS

### Definition

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

### Form

[X] Form 1
[ ] Form 2

### Source

Abstraction (acute record)

## 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.

## Links

ICD-10-CM/PCS Medical Coding Reference

## 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.’

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | ICDCount | | ICD Count |
| Form 1 | Mod1ICDold | 3490 | Please Enter All Abstracted ICDs |

**Codes**

**Code Group: NA**

| Code | Description |
|---|---|

**Code Group: 3490**

| Code | Description |
|---|---|

## ICD DIAGNOSIS - CALCULATED

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | ICDs | 7644 | Indicator of ICD Codes Entered |

**Codes**

| Code | Description |
|---|---|

**Code Group: 7644**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |

# KEYS

## Definition

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

## Form

[X] Form 1
[X] Form 2

## Source

Data Collector

## Details

### GUID

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

### 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

## Links

GUID Manual

## 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Center | 418 | Center ID: |
| Form 1 | GUID_consentF | 507 | Did participant consent to FITBIR GUID? |
| Form 1 | GUID_realF | | Real GUID: |
| Form 1 | Mod1Id | | Id Number for Participant Record |
| Form 1 | StaffInitials | | Staff initials: |
| Form 1 | SubjectId | | Subject ID: |
| Form 2 | Center | 606 | Center ID: |
| Form 2 | FollowUpPeriod | 687 | Followup period: |
| 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: |

**Codes**

**Code Group: 418**

| Code | Description |
|---|---|
| 2 | The Virginia Commonwealth TBI Model System |
| 3 | The Institute for Rehabilitation and Research (TIRR Memorial Hermann) |
| 4 | Southeastern Michigan Traumatic Brain Injury System (SEMTBIS) |
| 5 | Northern California TBI Model System |
| 6 | The Ohio Regional TBI Model System |
| 7 | Moss TBI Model System |
| 8 | University of Alabama at Birmingham Traumatic Brain Injury Care System |
| 9 | Rocky Mountain Regional Brain Injury System |

| Code | Description |
|---|---|
| 10 | Georgia Model Brain Injury System (GAMBIS) |
| 11 | Spaulding/Partners Traumatic Brain Injury Model System at Harvard Medical School |
| 12 | Mayo Clinic Traumatic Brain Injury Model System |
| 13 | University of Missouri |
| 14 | TBI Model System of Mississippi |
| 15 | Northern New Jersey Traumatic Brain Injury System (NNJTBIS) |
| 16 | Carolinas Traumatic Brain Injury Rehabilitation and Research System |
| 17 | Oregon Health Sciences University |
| 18 | University of Washington Traumatic Brain Injury Model System |
| 19 | JFK-Johnson Rehabilitation Institute Traumatic Brain Injury Model System |
| 20 | University of Pittsburgh Medical Center Traumatic Brain Injury Model System (UPMC-TBI Model Syste |
| 21 | North Texas Traumatic Brain Injury Model System |
| 22 | New York Traumatic Brain Injury Model System |
| 23 | Midwest Regional Traumatic Brain Injury Model System |
| 28 | Rusk Rehabilitation TBIMS at NYU |
| 29 | Indiana University / Rehabilitation Hospital of Indiana |
| 30 | South Florida TBI Model System |
| 50 | NDSC |

**Code Group: 507**

| Code | Description |
|---|---|
| 1 | Consented |
| 2 | Deceased prior |
| 3 | Did Not Consent |
| 77 | Refused |

**Code Group: NA**

Code Description

**Code Group: 606**

| Code | Description |
|---|---|
| 2 | The Virginia Commonwealth TBI Model System |
| 3 | The Institute for Rehabilitation and Research (TIRR Memorial Hermann) |
| 4 | Southeastern Michigan Traumatic Brain Injury System (SEMTBIS) |
| 5 | Northern California TBI Model System |
| 6 | The Ohio Regional TBI Model System |
| 7 | Moss TBI Model System |
| 8 | University of Alabama at Birmingham Traumatic Brain Injury Care System |
| 9 | Rocky Mountain Regional Brain Injury System |
| 10 | Georgia Model Brain Injury System (GAMBIS) |
| 11 | Spaulding/Partners Traumatic Brain Injury Model System at Harvard Medical School |
| 12 | Mayo Clinic Traumatic Brain Injury Model System |
| 13 | University of Missouri |
| 14 | TBI Model System of Mississippi |
| 15 | Northern New Jersey Traumatic Brain Injury System (NNJTBIS) |
| 16 | Carolinas Traumatic Brain Injury Rehabilitation and Research System |
| 17 | Oregon Health Sciences University |
| 18 | University of Washington Traumatic Brain Injury Model System |
| 19 | JFK-Johnson Rehabilitation Institute Traumatic Brain Injury Model System |
| 20 | University of Pittsburgh Medical Center Traumatic Brain Injury Model System (UPMC-TBI Model Syste |
| 21 | North Texas Traumatic Brain Injury Model System |
| 22 | New York Traumatic Brain Injury Model System |
| 23 | Midwest Regional Traumatic Brain Injury Model System |
| 28 | Rusk Rehabilitation TBIMS at NYU |
| 29 | Indiana University / Rehabilitation Hospital of Indiana |

| Code | Description |
|---|---|
| 30 | South Florida TBI Model System |
| 50 | NDSC |

**Code Group: 687**

| Code | Description |
|---|---|
| 1 | Year 1 |
| 2 | Year 2 |
| 5 | Year 5 |
| 10 | Year 10 |
| 15 | Year 15 |
| 20 | Year 20 |
| 25 | Year 25 |
| 30 | Year 30 |
| 35 | Year 35 |

**Code Group: 4022**

| Code | Description |
|---|---|
| 1 | Consented |
| 2 | Deceased Prior |
| 3 | Did Not Consent |
| 77 | Refused |

# MENTAL HEALTH

## PSYCHIATRIC HOSPITALIZATION

### 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?”

### Form

[X] Form 1
[ ] Form 2

### Source

Form 1 Pre-Injury History (participant or proxy)

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PsyHosp | 537 | Have you ever been hospitalized for a psychiatric problem? |
| Form 1 | PsyHospPrior | 537 | If yes, were you hospitalized for a psychiatric problem in the year before the injury? |

#### Codes

**Code Group: 537**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 88 | Not Applicable |
| 99 | Unknown |

## SUICIDE

### 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?”

### Form

[X] Form 1
[X] Form 2

### Source

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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Suicide | 558 | Have you ever attempted suicide? |
| Form 1 | SuicidePrior | 558 | If yes, did you attempt suicide in the year before the injury? |
| Form 2 | SuicideF | 777 | In the past year, have you attempted suicide? |

**Codes**

**Code Group: 558**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 88 | Not Applicable |
| 99 | Unknown |

**Code Group: 777**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 88 | Not Applicable: Variable not due this year ( Code no longer used; data now collected in all follow-up ye |
| 99 | Unknown |

# TREATMENT

## 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?”

## Form

[X] Form 1
[ ] Form 2

## Source

Form 1 Pre-Injury History (participant or proxy)

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | MntlEver | 529 | Have you ever received treatment for any mental health problems? (Examples include depression, anxiety, schizophrenia, and alcohol/drug abuse) |
| Form 1 | MntlPrior | 529 | If yes, did you receive treatment for any mental health problems in the year before injury? |

### Codes

**Code Group: 529**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 88 | Not Applicable |
| 99 | Unknown |

# MILITARY

### 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?

### Form

[X] Form 1
[X] Form 2

### Source

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

## 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)

## Reference

DVBIC SIG

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | MILCombatF | 526 | Were you ever deployed in a combat zone? |
| Form 1 | MILServeF | 527 | Have you ever served in the military? |
| Form 1 | MILYearsF | 528 | How many years of active duty have you served in the military? |
| 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? |

### Codes

#### Code Group: 526

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |

| Code | Description |
|---|---|
| 88 | Not Applicable: Never served in military |
| 99 | Unknown |

**Code Group: 527**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 528**

| Code | Description |
|---|---|
| 666.0 | Variable Did Not Exist |
| 777.0 | Refused |
| 888.0 | Not Applicable: Never served in military |
| 999.0 | Unknown |

**Code Group: 4025**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 88 | Not applicable |
| 99 | Unknown |

| Code | Description |
|---|---|

**Code Group: 4023**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 4024**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 777 | Refused |
| 888 | Not applicable |
| 999 | Unknown |

# NEUROPSYCH

## Definition

Includes BTACT - Brief Test of Adult Cognition by Telephone data collection at Form I and Form II

## 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

## BTACT

### Definition

#### 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).

## Form

[ X ] Form 1
[ X ] Form 2

## Source

BTACT testing to be administered to participant only

## Details

See BTACT SOP link below for full administration guidelines.

### 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.

## Links

MIDUS Refresher means and SD for cognitive test
BTACT SOP

## Reference

The Brief Test of Adult Cognition by Telephone (BTACT; Tun & Lachman, 2006)

## Characteristics

Researchers should evaluate the appropriate “window” for each specific study, and exclude BTACT data collected outside of their preferred window.

## Training

Please refer to the BTACT Training videos under the Training Manual (found under both Form 1 and Form 2 training modules). ### BACKWARD COUNTING ## Definition
Backward Counting is a sub-test of the BTACT.

## Details

REACTION TIME (Backward Counting) Score = Last number reached minus number of errors (reversals, skips, incorrect numbers).

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | BackCountDigits | 400 | Backward counting number of digits produced: |
| Form 1 | BackCountErrors | 400 | Backward counting number of errors: |
| Form 1 | BackCountLastNum | 400 | Backward counting last number reached: |
| Form 1 | BackCountTCC | 401 | Backward counting test completion code: |
| Form 1 | BackCountTime | 402 | Backward counting total time if less than 30 sec (otherwise enter 30 seconds): |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | BackCountDigitsF | 594 | Backward counting number of digits produced: |
| Form 2 | BackCountErrorsF | 594 | Backward counting number of errors: |
| Form 2 | BackCountLastNumF | 594 | Backward counting last number reached: |
| Form 2 | BackCountTCCF | 595 | Backward counting test completion code: |
| Form 2 | BackCountTimeF | 594 | Backward counting total time if less than 30 sec (otherwise enter 30 seconds): |

**Codes**

**Code Group: 400**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Tested |
| 999 | Unknown |

**Code Group: 401**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |

| Code | Description |
|---|---|
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 12 | Test Not Attempted (Not Consented Within Window) |
| 13 | Test Not Attempted (Not Admitted to Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |

**Code Group: 402**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Tested |
| 999 | Unknown |

**Code Group: 594**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Tested |
| 999 | Unknown |

**Code Group: 595**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |

| Code | Description |
|---|---|
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 13 | Test Not Attempted (Not Admitted To Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |
| 888 | Not Applicable, No Data From Person with TBI |

## BTACT - CALCULATED

### 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'.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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 | DelayWordRecallCorret_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) |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | B3TCOMPF | | BTACT Total score standardized by age, sex and education |
| 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) |

**Codes**

**Code Group: NA**

| Code | Description |
|---|---|

## BTACT INFO

### 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.

### 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.

### Links

MIDUS Refresher means and SD for cognitive test
BTACT SOP

### Reference

The Brief Test of Adult Cognition by Telephone (BTACT; Tun & Lachman, 2006)

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | BTACTAdm | 410 | BTACT administration: |
| Form 1 | BTACTDate | 411 | Date that BTACT administration began: |
| Form 1 | BTACTLanguage | 412 | Language used for BTACT: |
| Form 1 | BTACTTCC | 3349 | Overall test completion code: |
| Form 2 | BTACTAdmF | 602 | BTACT administration: |
| Form 2 | BTACTDateF | 603 | Date that BTACT administration began: |
| Form 2 | BTACTLanguageF | 604 | Language used for BTACT: |
| Form 2 | BTACTTCCF | 3598 | BTACT overall completion code: |

**Codes**

**Code Group: 410**

| Code | Description |
|---|---|
| 1 | Phone |
| 2 | In-person |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable: Battery not given |

**Code Group: 411**

| Code | Description |
|---|---|
| 06/06/6666 | Variable Did Not Exist |
| 08/08/8888 | Not Applicable: Battery not given |
| 09/09/9999 | Unknown |

| Code | Description |
|---|---|

**Code Group: 412**

| Code | Description |
|---|---|
| 1 | English |
| 2 | Spanish |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 3349**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 12 | Test Not Attempted (Not Consented Within Window) |
| 13 | Test Not Attempted (Form 1: Not Admitted In Window/Form 2: Collected Out of Window) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |

**Code Group: 602**

| Code | Description |
|---|---|
| 1 | Phone |
| 2 | In-person |
| 66 | Variable Did Not Exist |
| 88 | Not Applicable: Battery not given |

**Code Group: 603**

| Code | Description |
|---|---|
| 06/06/6666 | Variable Did Not Exist |
| 08/08/8888 | Not Applicable: Battery not given |
| 09/09/9999 | Unknown |

**Code Group: 604**

| Code | Description |
|---|---|
| 1 | English |
| 2 | Spanish |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 3598**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 13 | Test Not Attempted (Form 1: Not Admitted In Window/Form 2: Collected Out of Window) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |
| 888 | Not Applicable. No Data From Person with TBI (Form II) |

## DELAYED WORD RECALL

### Definition

Delayed Word Recall or “Short-Delay Word Recall” is a sub-test of the BTACT.

### 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DelayWordRecallCorrect | 440 | Delayed word recall total correct: |
| Form 1 | DelayWordRecallInt | 440 | Delayed word recall number of intrusions: |
| Form 1 | DelayWordRecallMiddle | 440 | Delayed word recall middle correct: |
| Form 1 | DelayWordRecallPrimacy | 440 | Delayed word recall primacy correct: |
| Form 1 | DelayWordRecallRecency | 440 | Delayed word recall recency correct: |
| Form 1 | DelayWordRecallRep | 440 | Delayed word recall number of repetitions: |
| Form 1 | DelayWordRecallTC | 441 | Delayed word recall test completion code: |
| Form 2 | DelayWordRecallCorrectF | 624 | Delayed word recall total correct: |
| Form 2 | DelayWordRecallIntF | 624 | Delayed word recall number of intrusions: |
| Form 2 | DelayWordRecallMiddleF | 624 | Delayed word recall middle correct: |
| Form 2 | DelayWordRecallPrimacyF | 624 | Delayed word recall primacy correct: |
| Form 2 | DelayWordRecallRecencyF | 624 | Delayed word recall recency correct: |
| Form 2 | DelayWordRecallRepF | 624 | Delayed word recall number of repetitions: |
| Form 2 | DelayWordRecallTCF | 627 | Delayed word recall test completion code: |

### Codes

#### Code Group: 440

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Tested |
| 999 | Unknown |

**Code Group: 441**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 12 | Test Not Attempted (Not Consented Within Window) |
| 13 | Test Not Attempted (Not Admitted to Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |

**Code Group: 624**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Tested |
| 999 | Unknown |

**Code Group: 627**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 13 | Test Not Attempted (Not Admitted To Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |
| 888 | Not Applicable, No Data From Person with TBI |

## DIGITS BACKWARD

### Definition

Digits Backward is a sub-test of the BTACT.

### Details

WORKING MEMORY (Digits Backward [WAIS-III]) Score = Longest accurately recalled string.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | BackDigitCorrect | 404 | Backward digit span highest level reached: |
| Form 1 | BackDigitTCC | 405 | Backward digit span test completion code: |
| Form 2 | BackDigitCorrectF | 598 | Backward digit span highest level reached: |
| Form 2 | BackDigitTCCF | 599 | Backward digit span test completion code: |

**Codes**

**Code Group: 404**

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 88 | Not Tested |
| 99 | Unknown |

**Code Group: 405**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |

| Code | Description |
|---|---|
| 12 | Test Not Attempted (Not Consented Within Window) |
| 13 | Test Not Attempted (Not Admitted to Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |

**Code Group: 598**

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 88 | Not Tested |
| 99 | Unknown |

**Code Group: 599**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 13 | Test Not Attempted (Not Admitted To Rehab Within Window At Form I) |

| Code | Description |
|---|---|
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |
| 888 | Not Applicable, No Data From Person with TBI (Form 2) |

## FLUENCY

### Definition

Fluency or “Category Fluency” is a sub-test of the BTACT.

### Details

EXECUTIVE (Category Animal Fluency) Score = Number correct in 60 seconds, (Optional: repetitions, intrusions).

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | FluencyCorrect | 497 | Category fluency total correct: |
| Form 1 | FluencyCorrect15_30 | 497 | Category fluency total correct 15 - 30 sec: |
| Form 1 | FluencyCorrect1_15 | 497 | Category fluency total correct 1 - 15 sec: |
| Form 1 | FluencyCorrect30_45 | 497 | Category fluency total correct 30 - 45 sec: |
| Form 1 | FluencyCorrect45_60 | 497 | Category fluency total correct 45 - 60 sec: |
| Form 1 | FluencyInt | 497 | Category fluency number of intrusions: |
| Form 1 | FluencyRep | 497 | Category fluency number of repetitions: |
| Form 1 | FluencyTCC | 498 | Category fluency test completion code: |
| Form 2 | FluencyCorrect15_30 | 718 | Category fluency total correct 15 - 30 sec: |
| Form 2 | FluencyCorrect1_15 | 718 | Category fluency total correct 1 - 15 sec: |
| Form 2 | FluencyCorrect30_45 | 718 | Category fluency total correct 30 - 45 sec: |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | FluencyCorrect45_60F | 3718 | Category fluency total correct 45 - 60 sec: |
| Form 2 | FluencyCorrectF | 3718 | Category fluency total correct: |
| Form 2 | FluencyIntF | 3718 | Category fluency number of intrusions: |
| Form 2 | FluencyRepF | 3718 | Category fluency number of repetitions: |
| Form 2 | FluencyTCCF | 685 | Category fluency test completion code: |

**Codes**

**Code Group: 497**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Tested |
| 999 | Unknown |

**Code Group: 498**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |

| Code | Description |
|---|---|
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 12 | Test Not Attempted (Not Consented Within Window) |
| 13 | Test Not Attempted (Not Admitted to Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |

**Code Group: 3718**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Tested |
| 999 | Unknown |

**Code Group: 685**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |

| Code | Description |
|---|---|
| 13 | Test Not Attempted (Not Admitted To Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |
| 888 | Not Applicable, No Data From Person with TBI |

## REASONING

### Definition

Reasoning or “Number Series” is a sub-test of the BTACT.

### Details

REASONING (Number Series) Score = Number correct (5 trials of increasing difficulty).

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Reason01 | 542 | Trial 1: |
| Form 1 | Reason02 | 542 | Trial 2: |
| Form 1 | Reason03 | 542 | Trial 3: |
| Form 1 | Reason04 | 542 | Trial 4: |
| Form 1 | Reason05 | 542 | Trial 5: |
| Form 1 | ReasonCorrect | 544 | Reasoning total correct: |
| Form 1 | ReasonTCC | 545 | Reasoning test completion code: |
| Form 2 | Reason01F | 7717 | Trial 1: |
| Form 2 | Reason02F | 7717 | Trial 2: |
| Form 2 | Reason03F | 7717 | Trial 3: |
| Form 2 | Reason04F | 7717 | Trial 4: |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | Reason05F | 7717 | Trial 5: |
| Form 2 | ReasonCorrectF | 749 | Reasoning total correct: |
| Form 2 | ReasonTCCF | 751 | Reasoning test completion code: |

**Codes**

**Code Group: 542**

| Code | Description |
|---|---|
| 0 | Incorrect |
| 1 | Correct |
| 66 | Variable Did Not Exist |
| 88 | Not Tested |

**Code Group: 544**

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 88 | Not Tested |
| 99 | Unknown |

**Code Group: 545**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |

| Code | Description |
|---|---|
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 12 | Test Not Attempted (Not Consented Within Window) |
| 13 | Test Not Attempted (Not Admitted to Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |

**Code Group: 7717**

| Code | Description |
|---|---|
| 0 | Incorrect |
| 1 | Correct |
| 66 | Variable Did Not Exist |
| 88 | Not Tested |

**Code Group: 749**

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 88 | Not Tested |
| 99 | Unknown |

**Code Group: 751**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 13 | Test Not Attempted (Not Admitted To Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |
| 888 | Not Applicable, No Data From Person with TBI |

## WORD RECALL

### Definition

Word Recall or Word List Recall is a sub-test of the BTACT

### 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)).

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | WordRecallCorrect | 564 | Word recall total correct: |
| Form 1 | WordRecallInt | 564 | Word recall number of intrusions: |
| Form 1 | WordRecallMiddle | 564 | Word recall middle correct: |
| Form 1 | WordRecallPrimacy | 564 | Word recall primacy correct: |
| Form 1 | WordRecallRecency | 564 | Word recall recency correct: |
| Form 1 | WordRecallRep | 564 | Word recall number of repetitions: |
| Form 1 | WordRecallTCC | 565 | Word recall test completion code: |
| Form 2 | WordRecallCorrectF | 788 | Word recall total correct: |
| Form 2 | WordRecallIntF | 788 | Word recall number of intrusions: |
| Form 2 | WordRecallMiddleF | 788 | Word recall middle correct: |
| Form 2 | WordRecallPrimacyF | 788 | Word recall primacy correct: |
| Form 2 | WordRecallRecencyF | 788 | Word recall recency correct: |
| Form 2 | WordRecallRepF | 788 | Word recall number of repetitions: |
| Form 2 | WordRecallTCCF | 791 | Word recall test completion code: |

**Codes**

**Code Group: 564**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Tested |
| 999 | Unknown |

**Code Group: 565**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 12 | Test Not Attempted (Not Consented Within Window) |
| 13 | Test Not Attempted (Not Admitted to Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |

**Code Group: 788**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 888 | Not Tested |
| 999 | Unknown |

**Code Group: 791**

| Code | Description |
|---|---|
| 1 | Test Administered in full- results valid |

| Code | Description |
|---|---|
| 2 | Test Attempted BUT Not Completed (Due to Cognitive/Neurological Reasons) |
| 3 | Test Attempted BUT Not Completed (Due to non-neurological Physical reasons) |
| 4 | Test Attempted BUT Not Completed (Refusal to continue) |
| 5 | Test Attempted BUT Not Completed (Non-English Speaking Patient) |
| 6 | Test Attempted BUT Not Completed (Logistical Reasons, Other Reasons – site-specific) |
| 7 | Test Not Attempted (Due to the severity of Cognitive/Neurological deficits) |
| 8 | Test Not Attempted (Due to non-neurologic/ Physical reasons) |
| 9 | Test Not Attempted (Refusal) |
| 10 | Test Not Attempted (Non-English Speaking Patient) |
| 11 | Test Not Attempted (Logistical Reasons, Other Reasons – site-specific) |
| 13 | Test Not Attempted (Not Admitted to Rehab Within Window At Form I) |
| 14 | Suspect That a Participant is Writing Down Answers |
| 16 | Other |
| 666 | Variable Did Not Exist |
| 888 | Not Applicable, No Data From Person with TBI |

# NHANES (NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY)

## 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

## Form

[X] Form 1
[X] Form 2

## Source

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

## 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)

## 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.

## 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.

## CHOLESTEROL

### 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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | HighBloodCholesterol | 9699 | 5. High blood cholesterol? |
| Form 1 | HighBloodCholesterolTBIOnset | 9712 | 5a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | HighBloodCholesterolF | 7104 | 5. High blood cholesterol? |
| Form 2 | HighBloodCholesterolTBIOnsetF | 7103 | 5a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

## CONGESTIVE HEART FAILURE

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | CongestiveHeartFailure | 9699 | 2. Congestive heart failure? |
| Form 1 | CongestiveHeartFailureTBIOnset | 9712 | 2a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | CongestiveHeartFailureF | 7114 | 2. Congestive heart failure? |
| Form 2 | CongestiveHeartFailureTBIOnsetF | 7113 | 2a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |

| Code | Description |
|---|---|
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |

| Code | Description |
|---|---|
| 99 | Unknown |

## DEMENTIA

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Dementia | 9699 | 10. Dementia of some kind, like Alzheimer's? |
| Form 1 | DementiaTBIOnset | 9712 | 10a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | DementiaF | 714 | 10. Dementia of some kind, like Alzheimer's? |
| Form 2 | DementiaTBIOnsetF | 713 | 10a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |

| Code | Description |
|---|---|
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |

| Code | Description |
|---|---|
| 99 | Unknown |

## DIABETES

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DiabetesHighBloodSugar | 9699 | 6. Diabetes, high blood sugar, or sugar in the urine? |
| Form 1 | DiabetesHighBloodSugarTBIOnset | 9712 | 6a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | DiabetesHighBloodSugarF | 7314 | 6. Diabetes, high blood sugar, or sugar in the urine? |
| Form 2 | DiabetesHighBloodSugarTBIOnsetF | 7313 | 6a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |

| Code | Description |
|---|---|
| 88 | N/A |
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |

| Code | Description |
|---|---|
| 88 | N/A |
| 99 | Unknown |

## HYPERTENSION

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Hypertension | 9699 | 1. Hypertension or high blood pressure? |
| Form 1 | HypertensionTBIOnset | 9741 | 1a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | HypertensionF | 714 | 1. Hypertension or high blood pressure? |
| Form 2 | HypertensionTBIOnsetF | 7163 | 1a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

#### Code Group: 9699

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |

| Code | Description |
|---|---|
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |

| Code | Description |
|---|---|
| 99 | Unknown |

## LIVER DISEASE

### 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | LiverDisease | 9699 | 7. Liver disease (such as hepatitis)? |
| Form 1 | LiverDiseaseTBIOnset | 9712 | 7a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | LiverDiseaseF | 714 | 7. Liver disease (such as hepatitis)? |
| Form 2 | LiverDiseaseTBIOnsetF | 713 | 7a. If yes, was that before, after or about the same time as your TBI? |

### Codes

#### Code Group: 9699

| Code | Description |
|---|---|
| 0 | No |

| Code | Description |
|---|---|
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |

| Code | Description |
|---|---|
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

## MOVEMENT DISORDER

### Definition

**Movement Disorder like Parkinson's**- Chronic progressive neurologic disease that can include tremor, slowness of movement, rigidity or stiffness, and problems with balance

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | MovementDisorder | 9699 | 11. Parkinson's disease? |
| Form 1 | MovementDisorderTBIOnset | 9732 | 11a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | MovementDisorderF | 714 | 11. Parkinson's disease? |
| Form 2 | MovementDisorderTBIOnsetF | 7133 | 11a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

#### Code Group: 9699

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |

| Code | Description |
|---|---|
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |

| Code | Description |
|---|---|
| 99 | Unknown |

## MYOCARDIAL INFARCTION

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | HeartAttack | 9699 | 3. A myocardial infarction or heart attack? |
| Form 1 | HeartAttackTBIOnset | 9712 | 3a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | HeartAttackF | 714 | 3. A myocardial infarction or heart attack? |
| Form 2 | HeartAttackTBIOnsetF | 715 | 3a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

## OSTEOARTHRITIS

### Definition

**Osteoarthritis** - When the protective cartilage on the ends of bones wears down; sometimes called “old age” or “wear and tear” arthritis

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Osteoarthritis | 9699 | 9. Osteoarthritis? |
| Form 1 | OsteoarthritisTBIOnset | 9712 | 9a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | OsteoarthritisF | 714 | 9. Osteoarthritis? |
| Form 2 | OsteoarthritisTBIOnsetF | 7138 | 9a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |

| Code | Description |
|---|---|
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

## PANIC ATTACKS

### 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

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PanicAttacks | 9699 | 12. Panic attacks? |
| Form 1 | PanicAttacksTBIOnset | 9712 | 12a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | PanicAttacksF | 714 | 12. Panic attacks? |
| Form 2 | PanicAttacksTBIOnsetF | 7138 | 12a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

## PTSD

### Definition

**Post-traumatic stress disorder (PTSD)** - Mental health condition triggered by a terrifying event; symptoms may include flashbacks, nightmares, and severe anxiety

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PTSDHlth | 9699 | 13. PTSD (Post-traumatic stress disorder)? |
| Form 1 | PTSDTBIOnset | 9712 | 13a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | PTSDHlthF | 714 | 13. PTSD (Post-traumatic stress disorder)? |
| Form 2 | PTSDTBIOnsetF | 713 | 13a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |

| Code | Description |
|---|---|
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

## RHEUMATOID ARTHRITIS

### Definition

**Rheumatoid arthritis** - An autoimmune disease characterized by chronic inflammation of joints

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | RheumatoidArthriti | 9699 | 8. Rheumatoid arthritis? |
| Form 1 | RheumatoidArthriti | 9712 | 8a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | RheumatoidArthriti | 3F4 | 8. Rheumatoid arthritis? |
| Form 2 | RheumatoidArthriti | 3TBIOnsetF | 8a. If yes, was that before, after or about the same time as your TBI? |

### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |

| Code | Description |
|---|---|
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

## STROKE

### Definition

**Stroke** - Happens when the blood flow to the brain is interrupted due to narrowing of the blood vessels, clots, or bleeding.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Stroke | 9699 | 4. A stroke? |
| Form 1 | StrokeTBIOnset | 9712 | 4a. If yes, was that before, after or about the same time as your TBI? |
| Form 2 | StrokeF | 714 | 4. A stroke? |
| Form 2 | StrokeTBIOnsetF | 713 | 4a. If yes, was that before, after or about the same time as your TBI? |

#### Codes

**Code Group: 9699**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 9712**

| Code | Description |
|---|---|
| 1 | Before TBI |

| Code | Description |
|---|---|
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 714**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

**Code Group: 713**

| Code | Description |
|---|---|
| 1 | Before TBI |
| 2 | Same Time As TBI |
| 3 | After TBI |
| 66 | Variable Did Not Exist |
| 88 | N/A |
| 99 | Unknown |

# PART-O (PARTICIPATION ASSESSMENT WITH RECOMBINED TOOLS - OBJECTIVE)

## 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

## Form

[X] Form 1
[X] Form 2

## Details

See PART-O Manual link below for full administration and scoring guidelines.

## Source

Interview, Mail-out (participant or proxy)

## Links

PART-O Manual
PART-O Rasch Scoring_Malec et al 2016

### 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.

### Training

Data Collectors should be familiar with the PART Training Manual (see Links) prior to administering the PART.

## ACTIVITIES

### 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?

### Characteristics

Productivity items were added to Form 1 data collection on 4/1/2023

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PRTHome | 8068 | in a typical week, how many hours did you spend in active homemaking, including cleaning, cooking and raising children? |
| 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? |
| Form 1 | PRTWork | 8068 | in a typical week, how many hours did you spend working for money, whether in a job or self-employed? |
| Form 2 | PRTHomeF | 737 | In a typical week, how many hours do you spend in active homemaking, including cleaning, cooking and raising children? |
| 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? |
| Form 2 | PRTWorkF | 737 | In a typical week, how many hours do you spend working for money, whether in a job or self-employed? |

**Codes**

**Code Group: 8068**

| Code | Description |
|---|---|
| 0 | None |
| 1 | 1 - 4 Hours |
| 2 | 5 - 9 Hours |
| 3 | 10 - 19 Hours |
| 4 | 20 - 34 Hours |
| 5 | 35 or More Hours |

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 737**

| Code | Description |
|---|---|
| 0 | None |
| 1 | 1 - 4 Hours |
| 2 | 5 - 9 Hours |
| 3 | 10 - 19 Hours |
| 4 | 20 - 34 Hours |
| 5 | 35 or More Hours |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

## COMMUNITY

### 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.

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PRTVol | 8780 | in a typical month, how many times did you do volunteer work? |
| Form 2 | PRTEatOutF | 736 | In a typical month, how many times do you eat in a restaurant? |
| Form 2 | PRTMovieF | 3997 | In a typical month, how many times do you go to the movies? |
| 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. |
| 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. |
| 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. |
| Form 2 | PRTVolF | 3997 | In a typical month, how many times do you do volunteer work? |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | PRTWtchSportF | 3997 | In a typical month, how many times do you attend sports events in person, as a spectator? |

**Codes**

**Code Group: 8780**

| Code | Description |
|---|---|
| 0 | None |
| 1 | One Time |
| 2 | Two Times |
| 3 | Three Times |
| 4 | Four Times |
| 5 | Five or More Times |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 736**

| Code | Description |
|---|---|
| 0 | None |
| 1 | 1 - 4 Times |
| 2 | 5 - 9 Times |
| 3 | 10 - 19 Times |
| 4 | 20 - 34 Times |
| 5 | 35 or More Times |
| 66 | Variable Did Not Exist |
| 77 | Refused |

| Code | Description |
|---|---|
| 99 | Unknown |

**Code Group: 3997**

| Code | Description |
|---|---|
| 0 | None |
| 1 | One Time |
| 2 | Two Times |
| 3 | Three Times |
| 4 | Four Times |
| 5 | Five or More Times |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

## MOBILITY

### 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".

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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". |

### Codes

### Code Group: 738

| Code | Description |
|---|---|
| 0 | None |
| 1 | 1 - 2 Days |
| 2 | 3 - 4 Days |
| 3 | 5 - 6 Days |
| 4 | 7 Days |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

## PART-O - CALCULATED

### Definition

Calculated Variables

### Links

PART-O Rasch Scoring_Malec et al 2016

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | PARTOutAboutF | 3915 | Part OutAbout Subscale |
| Form 2 | PARTProductivityF | 3916 | Part Productivity Subscale |
| Form 2 | PARTSocialF | 3917 | Part Social Subscale |
| Form 2 | PARTSummaryF | 729 | Part Summary Statistic |
| Form 2 | PART_BalancedF | | Weighted PART Score |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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 |

**Codes**

**Code Group: 3915**

| Code | Description |
|---|---|

**Code Group: 3916**

| Code | Description |
|---|---|

**Code Group: 3917**

| Code | Description |
|---|---|

**Code Group: 729**

| Code | Description |
|---|---|
| 999 | Unknown |

**Code Group: NA**

| Code | Description |
|---|---|

## RELATIONSHIP

### 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?

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | PRTFriendF | 740 | Not including your spouse or significant other, do you have a close friend in whom you confide? |
| Form 2 | PRTRelationF | 740 | Are you currently involved in an ongoing intimate, that is, romantic or sexual, relationship? |
| Form 2 | PRTSpouseF | 740 | Do you live with your spouse or significant other? |

### Codes

#### Code Group: 740

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

# SOCIAL

## 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.?

## Form

[ ] Form 1
[X] Form 2

## Source

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

## 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.”

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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? |
| 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. |
| Form 2 | PRTSocFamF | 739 | In a typical week, how many times do you socialize with family and relatives, in person or by phone? |
| 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. |

**Codes**

**Code Group: 739**

| Code | Description |
|---|---|
| 0 | None |
| 1 | 1 - 4 Times |
| 2 | 5 - 9 Times |
| 3 | 10 - 19 Times |
| 4 | 20 - 34 Times |
| 5 | 35 or More Times |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

# PATHWAYS

## Definition

Includes date of injury, admission and discharge dates from acute and rehabilitation stays, and dates of any leave of absence (short-term interruption)

## ACUTE

### Definition

**AcuteAdm:** Date of admission to the emergency room
**AcuteDis:** Date of discharge from acute facility

### Form

[X] Form 1
[ ] Form 2

### Source

Form 1 - Abstraction (acute record)

### 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.

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | AcuteAdm | 388 | Date of model system ER admit: |
| Form 1 | AcuteDis | 388 | Date of acute care discharge: |

#### Codes

#### Code Group: 388

| Code | Description |
|---|---|
| 08/08/8888 | Not Applicable |
| 09/09/9999 | Unknown |

## ACUTE - CALCULATED

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DAYStoACUTEadm | 433 | Days From Injury to Acute Admit |
| Form 1 | DAYStoACUTEdc | 434 | Days From Injury to Acute Discharge |
| Form 1 | LOSAcute | 521 | Days From Acute Admit to Acute Discharge |

#### Codes

**Code Group: 433**

| Code | Description |
|---|---|
| 8888 | Not applicable |
| 9999 | Unknown |

**Code Group: 434**

| Code | Description |
|---|---|
| 8888 | Not applicable |
| 9999 | Unknown |

**Code Group: 521**

| Code | Description |
|---|---|
| 888 | Not Applicable |
| 999 | Unknown |

## INJURY

### Definition

Date of Injury

### Form

[X] Form 1
[ ] Form 2

### Source

Form 1 - Abstraction (acute record, rehab record)

### 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.

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Injury | 514 | Date of injury: |

#### Codes

**Code Group: 514**

| Code | Description |
|---|---|
| 09/09/9999 | Unknown |

## INJURY - CALCULATED

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | INJYEAR | 3479 | Year of Injury |

#### Codes

**Code Group: 3479**

| Code | Description |
|---|---|

# REHABILITATION

## 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.

## Form

[X] Form 1
[ ] Form 2

## Source

Form 1 - Abstraction (rehab record)

## 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.

### 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.

### 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.

### 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.

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | LOA1End | 520 | First interruption end date: |
| Form 1 | LOA1Start | 520 | First interruption start date: |
| Form 1 | LOA2End | 520 | Second interruption end date: |
| Form 1 | LOA2Start | 520 | Second interruption start date: |
| Form 1 | RehabAdm | 546 | Date of rehab admit: |
| Form 1 | RehabDis | 546 | Date of rehab discharge: |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|

**Codes**

**Code Group: 520**

| Code | Description |
|---|---|
| 08/08/8888 | Not Applicable |
| 09/09/9999 | Unknown |

**Code Group: 546**

| Code | Description |
|---|---|
| 08/08/8888 | Not Applicable |
| 09/09/9999 | Unknown |

## REHABILITATION - CALCULATED

### 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.

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DAYSToREHABadm | 435 | Days From Injury to Rehab Admit |
| Form 1 | DAYStoREHABdc | 436 | Days From Injury to Rehab Discharge |
| Form 1 | LOSRehab | 522 | Days Spent in Rehab |
| Form 1 | LOSRehabNoInt | 523 | Days From Rehab Admit to Rehab Discharge not Including Interuptions |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | LOSTot | 524 | Days From Acute Admit to Rehab Dis (Excluding LOS) |

**Codes**

**Code Group: 435**

| Code | Description |
|---|---|
| 8888 | Not Applicable |
| 9999 | Unknown |

**Code Group: 436**

| Code | Description |
|---|---|
| 8888 | Not Applicable |
| 9999 | Unknown |

**Code Group: 522**

| Code | Description |
|---|---|
| 888 | Not Applicable |
| 999 | Unknown |

**Code Group: 523**

| Code | Description |
|---|---|
| 888 | Not Applicable |
| 999 | Unknown |

**Code Group: 524**

| Code | Description |
|---|---|
| 888 | Not Applicable |
| 999 | Unknown |

# PAYOR SOURCE

## 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

## Form

[X] Form 1
[ ] Form 2

## Source

Form 1 - Abstraction (acute record, rehab record)

## 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’.

## 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”

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | AcutePay1 | 8072 | Primary acute payor: |
| Form 1 | AcutePay2 | 390 | Secondary acute payor: |
| Form 1 | RehabPay1 | 8073 | Primary rehabilitation payor: |
| Form 1 | RehabPay2 | 547 | Secondary rehabilitation payor: |

### Codes

### Code Group: 8072

| Code | Description |
|---|---|
| 1 | Medicare |
| 2 | Medicaid |
| 3 | Workers Compensation |
| 4 | Private Insurance ( Employee Insurance, Privately Purchased Policies such as BCBS, HMO, PPO, TR |
| 7 | Self or Private Pay |
| 8 | State or County ( State Crippled Children, Department Of Rehab, etc. ) |
| 10 | Auto Insurance |

| Code | Description |
|---|---|
| 14 | Charity ( Hospital Provided Free Care ) |
| 15 | Other |
| 55 | Payor Source Pending |
| 999 | Unknown |

**Code Group: 390**

| Code | Description |
|---|---|
| 1 | Medicare |
| 2 | Medicaid |
| 3 | Workers Compensation |
| 4 | Private Insurance ( Employee Insurance, Privately Purchased Policies such as BCBS, HMO, PPO, TR |
| 7 | Self or Private Pay |
| 8 | State or County ( State Crippled Children, Department Of Rehab, etc. ) |
| 10 | Auto Insurance |
| 14 | Charity ( Hospital Provided Free Care ) |
| 15 | Other |
| 55 | Payor Source Pending |
| 888 | Not Applicable: No secondary payor |
| 999 | Unknown |

**Code Group: 8073**

| Code | Description |
|---|---|
| 1 | Medicare |
| 2 | Medicaid |
| 3 | Workers Compensation |
| 4 | Private Insurance ( Employee Insurance, Privately Purchased Policies such as BCBS, HMO, PPO, TR |

| Code | Description |
|---|---|
| 7 | Self or Private Pay |
| 8 | State or County ( State Crippled Children, Department Of Rehab, etc. ) |
| 10 | Auto Insurance |
| 14 | Charity ( Hospital Provided Free Care ) |
| 15 | Other |
| 55 | Payor Source Pending |
| 999 | Unknown |

**Code Group: 547**

| Code | Description |
|---|---|
| 1 | Medicare |
| 2 | Medicaid |
| 3 | Workers Compensation |
| 4 | Private Insurance ( Employee Insurance, Privately Purchased Policies such as BCBS, HMO, PPO, TR |
| 7 | Self or Private Pay |
| 8 | State or County ( State Crippled Children, Department Of Rehab, etc. ) |
| 10 | Auto Insurance |
| 14 | Charity ( Hospital Provided Free Care ) |
| 15 | Other |
| 55 | Payor Source Pending |
| 888 | Not Applicable: No secondary payor |
| 999 | Unknown |

## PRE-INJURY CONDITIONS

**See subdomain notes**

## PRE-INJURY CONDITIONS

### 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.

### Form

[X] Form 1
[ ] Form 2

### Source

Pre-Injury History (participant or proxy)

### 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'.

## 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”.

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PreconBlind | 533 | Blindness or a severe vision impairment: |
| Form 1 | PreconDeaf | 533 | Deafness or a severe hearing impairment: |
| Form 1 | PreconPhys | 533 | A condition that substantially limited one or more basic physical activities such as walking, climbing stairs, reaching, lifting or carrying: |

### Codes

#### Code Group: 533

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

## PRE-INJURY LIMITATIONS

### 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

### Form

[X] Form 1
[ ] Form 2

### Source

Pre-Injury History (participant or proxy)

### 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”.

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PrelimDress | 534 | Dressing, bathing, or getting around inside the home: |
| Form 1 | PrelimLearn | 534 | Learning, remembering, or concentrating: |
| Form 1 | PrelimOuthm | 534 | Going outside the home alone to shop or visit a doctor’s office: |
| Form 1 | PrelimWork | 534 | Working at a job or business: |

### Codes

#### Code Group: 534

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 99 | Unknown |

# REHOSPITALIZATION

## REHOSPITALIZATION

### Definition

The reason for each rehospitalization since inpatient rehabilitation discharge or in the past year (whichever is shorter), using Level 2 HCUP coding.

### Form

[ ] Form 1
[X] Form 2

### Source

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

### 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

### Links

Rehospitalization Codes - All Levels
Rehospitalization Codes - Procedures

### 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

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | Rehosp1lv2F | 755 | Rehospitalization 1: |
| Form 2 | Rehosp2lv2F | 755 | Rehospitalization 2: |
| Form 2 | Rehosp3lv2F | 755 | Rehospitalization 3: |
| Form 2 | Rehosp4lv2F | 755 | Rehospitalization 4: |
| Form 2 | Rehosp5lv2F | 755 | Rehospitalization 5: |

**Codes**

**Code Group: 755**

| Code | Description |
|---|---|
| 666.00 | Variable did not exist |
| 888.00 | N/A |
| 991.00 | Participant Hospitalized, Reason Unknown |
| 992.00 | Unknown whether participant was hospitalized |

## REHOSPITALIZATION - CALCULATED

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | REHOSPF | 752 | Rehospitalized in Past Year |

**Codes**

**Code Group: 752**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 99 | Unknown |
| 88 | Not Applicable |

# SEVERITY

## Definition

Injury severity measures

## 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.

# COMMAND FOLLOWING

## 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.

## Form

[X] Form 1
[ ] Form 2

## Source

Form 1 - Abstraction (acute or rehab record)

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | FollowComm | 499 | Date able to follow commands: |

**Codes**

**Code Group: 499**

| Code | Description |
|---|---|
| 08/08/8888 | Patient Never Able to Follow Simple Motor Commands |
| 09/09/9999 | Unknown |

## COMMAND FOLLOWING - CALCULATED

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | TFCDays | 559 | Days From Injury to Follow Commands |

**Codes**

**Code Group: 559**

| Code | Description |
|---|---|
| 7777 | Patient Never Able to Follow Simple Motor Commands |
| 9999 | Unknown |

## GCS (GLASGOW COMA SCALE)

### Definition

Glasgow Coma Scale scores on admission to emergency department.

## Form

[X] Form 1
[ ] Form 2

## Source

Form 1 - Abstraction (acute record)

## 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.

## Links

GCS - PubMed:Teasdale et al(1976)

## Reference

Teasdale G, Jennett B (1976) Assessment and Prognosis of Coma After Head Injury, Acta Neurochir 34, 45-55.

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | GCSEye | 502 | GCS Eye opening: |
| Form 1 | GCSMot | 503 | GCS Motor: |
| Form 1 | GCSTot | 504 | GCS Total: |
| Form 1 | GCSVer | 505 | GCS Verbal: |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|

**Codes**

**Code Group: 502**

| Code | Description |
|---|---|
| 1 | None |
| 2 | To Pain |
| 3 | To Voice |
| 4 | Spontaneous |
| 7 | Chemically Paralyzed or Sedated |
| 99 | Unknown |

**Code Group: 503**

| Code | Description |
|---|---|
| 1 | None |
| 2 | Extension to Pain |
| 3 | Flexion to Pain |
| 4 | Withdraws from Pain |
| 5 | Localizes Pain |
| 6 | Obeys Commands |
| 7 | Chemically Paralyzed or Sedated |
| 99 | Unknown |

**Code Group: 504**

| Code | Description |
|---|---|
| 77 | Chemically Paralyzed or Sedated |
| 88 | Intubated |
| 999 | Unknown |

**Code Group: 505**

| Code | Description |
|---|---|
| 1 | None |
| 2 | Incomprehensible Sounds |
| 3 | Inappropriate Speech |
| 4 | Confused |
| 5 | Oriented |
| 7 | Chemically Paralyzed or Sedated |
| 8 | Intubated |
| 99 | Unknown |

## GCS (GLASGOW COMA SCALE) - CALCULATED

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | GCS | 500 | GCS Total on Admission |
| Form 1 | GCSCat | 501 | GCS Category |

**Codes**

**Code Group: 500**

| Code | Description |
|---|---|
| 77 | Patient Chemically Paralyzed or in Chemically-Induced Coma for Treatment Purposes: Sedated |
| 88 | Intubated |
| 999 | Unknown Total GCS Score |

**Code Group: 501**

| Code | Description |
|---|---|
| 1 | Severe |
| 2 | Moderate |
| 3 | Mild |
| 77 | Intubated |
| 999 | Missing |

## PTA

### 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.

## Form

[X] Form 1
[ ] Form 2

## Source

Form 1 - Abstraction (acute record only) or measured by direct O-Log or GOAT testing (rehab record)

## 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”.

## 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

## 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

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PTADate | 538 | Date emerged from PTA: |
| Form 1 | PTAMethod | 540 | Method of PTA determination: |

### Codes

#### Code Group: 538

| Code | Description |
|---|---|
| 08/08/8888 | Not Applicable: Still in PTA at discharge |
| 09/09/9999 | Unknown |

#### Code Group: 540

| Code | Description |
|---|---|
| 1 | Acute Chart Review |
| 2 | GOAT |
| 3 | GOAT-R |
| 4 | O-Log |
| 5 | Clinical judgement: GOAT/O-Log not possible due to language functioning |
| 6 | Non-Verbal Version of the O-Log |

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 88 | Not Applicable: PTA has not been tracked |

## PTA - CALCULATED

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PTADays | 539 | Days From Injury to Date Out of PTA |

### Codes

### Code Group: 539

| Code | Description |
|---|---|
| 8888 | Person Still in PTA at time of Rehab Discharge |
| 9999 | Unknown |

## RTS

### 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.

### Form

[X] Form 1
[ ] Form 2

### Source

Form 1 - Abstraction (acute record)

### 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | RTSBP | 550 | Systolic blood pressure at admission to ED: |
| Form 1 | RTSResp | 551 | Respiratory rate at admission to ED: |

### Codes

#### Code Group: 550

| Code | Description |
|---|---|
| 6666 | Variable Did Not Exist |
| 8888 | Unmeasurable |
| 9999 | Unknown |

**Code Group: 551**

| Code | Description |
|---|---|
| 6666 | Variable Did Not Exist |
| 8888 | Unmeasurable: Bagged or on mechanical ventilation |
| 9999 | Unknown |

# SUBSTANCE USE

### Definition

Drug, tobacco and alcohol use prior to injury and at follow-up

## ALCOHOL

### 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.

### Form

[X] Form 1
[X] Form 2

## Source

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

## 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.

## Links

Standard Drink Chart
Substance use - Probelmatic Substance Use Identified in the TBIMS National Dataset

## 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.

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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? |
| 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? |
| 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? |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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? |
| Form 1 | ALCWeek | 7853 | During the month before the injury, how many days per week did you drink any alcoholic beverages on the average? |
| 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? |
| 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? |
| 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? |
| 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? |
| Form 2 | ALCWeekF | 7854 | During the past month, how many days per week did you drink any alcoholic beverages on the average? |

**Codes**

**Code Group: 394**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 777 | Refused |

| Code | Description |
|---|---|
| 888 | Not Applicable |
| 999 | Unknown |

**Code Group: 395**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 7853**

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 88 | Not Applicable |
| 99 | Unknown |

**Code Group: 575**

| Code | Description |
|---|---|
| 666 | Variable Did Not Exist |
| 777 | Refused |
| 881 | Not Applicable |
| 882 | Not Applicable: Variable not due this year ( Code no longer used; data now collected in all follow-up ye |
| 999 | Unknown |

**Code Group: 576**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 81 | Not Applicable |
| 82 | Not Applicable: Variable not due this year ( Code no longer used; data now collected in all follow-up ye |
| 99 | Unknown |

**Code Group: 7854**

| Code | Description |
|---|---|
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 81 | Not Applicable |
| 82 | Not Applicable: Variable not due this year |
| 99 | Unknown |

## ALCOHOL - CALCULATED

### 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).

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | DRINKCat | 463 | Drinking Category |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | PROBLEMUse | 536 | Substance Problem Use |
| Form 2 | DRINKCatF | 642 | Calculated drinking category |
| Form 2 | PROBLEMUseF | 735 | Substance Problem Use |

**Codes**

**Code Group: 463**

| Code | Description |
|---|---|
| 0 | Abstaining |
| 1 | Light |
| 2 | Moderate |
| 3 | Heavy |
| 99 | Unknown |

**Code Group: 536**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 642**

| Code | Description |
|---|---|
| 0 | Abstaining |
| 1 | Light |
| 2 | Moderate |

| Code | Description |
|---|---|
| 3 | Heavy |
| 99 | Unknown |

**Code Group: 735**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 77 | Refused |
| 99 | Unknown |

## ILLICIT DRUG USE

### 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?’ ’

### Form

[X] Form 1
[X] Form 2

## Source

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

## 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.

## Links

Substance use - Problematic Substance Use Identified in the TBIMS National Dataset

## 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.’ ’

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | Drugs | 478 | During the year before the injury, did you use any illicit or non-prescription drugs? |
| Form 1 | MJPrescribe | 478 | Was marijuana prescribed to you? |
| Form 1 | MJUse | 478 | Did you use marijuana? |
| Form 2 | DrugsF | 664 | During the last 12 months did you use any illicit or non-prescription drugs? |
| Form 2 | MJPrescribeF | 664 | Was marijuana prescribed to you? |
| Form 2 | MJUseF | 664 | Did you use marijuana? |

**Codes**

**Code Group: 478**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 88 | Not applicable |
| 99 | Unknown |

**Code Group: 664**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist ( [Do Not Use] ) |
| 77 | Refused |
| 88 | Not applicable |
| 99 | Unknown |

## SMOKING CIGARETTES

### 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?

### Form

[X] Form 1
[X] Form 2

### Source

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

### 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.

## Reference

Cigarette Smoking
BRFSS 7.2 - national and state norms

## 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

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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? |
| Form 2 | SmkCigF | 769 | Do you currently smoke cigarettes every day, some days, or not at all? |

### Codes

**Code Group: 555**

| Code | Description |
|---|---|
| 1 | Not At All |
| 2 | Some Days |
| 3 | Everyday |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 769**

| Code | Description |
|---|---|
| 1 | Not At All |
| 2 | Some Days |
| 3 | Everyday |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

## SWLS (SATISFACTION WITH LIFE SCALE)

**See subdomain notes**

### SWLS

### 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

### Form

[ ] Form 1
[X] Form 2

### Source

Interview, Mail-Out (Participant only)

### 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.”

### Links

Introduction to the SWLS (COMBI)
SWLS Frequently Asked Questions/Tips (COMBI)
SWLS Spanish Translation

### 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.

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | SWLSCondF | 778 | The conditions of my life are excellent: |
| Form 2 | SWLSIdealF | 778 | In most ways my life is close to my ideal: |
| Form 2 | SWLSImprtF | 778 | So far I have gotten the important things I want in life: |
| Form 2 | SWLSSAtF | 778 | I am satisfied with my life: |

### Codes

#### Code Group: 778

| Code | Description |
|---|---|
| 1 | Strongly Disagree |
| 2 | Disagree |
| 3 | Slightly Disagree |
| 4 | Neither Agree nor Disagree |
| 5 | Slightly Agree |
| 6 | Agree |
| 7 | Strongly Agree |
| 66 | Variable Did Not Exist |

| Code | Description |
|---|---|
| 81 | Not Applicable: Variable not due this year ( Code no longer used; data now collected in all follow-up ye |
| 82 | Not Applicable: No data from person with TBI |
| 99 | Unknown |

### SWLS - CALCULATED

#### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | SWLSTOT4F | | Satisfaction with life total score using 4 items |
| Form 2 | SWLSTOTF | 779 | Satisfaction with Life Scale Total Score: |

#### Codes

#### Code Group: NA

| Code | Description |
|---|---|

#### Code Group: 779

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

## TBI HISTORY

**See subdomain notes**

## OSU TBI-ID

### 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.

## Form

[X] Form 1
[X] Form 2

## Source

Interview (participant or proxy)

## 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”.

## Links

OSU TBI-ID
RHI Step 3 Classification

## Reference

Ohio State University

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| 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? |
| 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)? |
| 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? |
| 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)? |

### Codes

**Code Group: NA**

| Code | Description |
|---|---|

**Code Group: 8978**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 7649**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 88 | Not Applicable |
| 99 | Unknown |

**Code Group: 3755**

| Code | Description |
|---|---|

**Code Group: 3756**

| Code | Description |
|---|---|

**Code Group: 781**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 99 | Unknown |

**Code Group: 7654**

| Code | Description |
|---|---|
| 0 | No |
| 1 | Yes |
| 66 | Variable Did Not Exist |
| 77 | Refused |
| 88 | Not Applicable |
| 99 | Unknown |

## OSU TBI-ID - CALCULATED

**Variables**

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | MostSevere | 530 | Most severe injury reported (not including Index Injury) |
| Form 1 | TBI_IDAsked | 3557 | Was TBI ID asked? |
| Form 1 | YoungestAgeLOC | | Youngest age that a person recalled having a loss of consciousness |

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 1 | YoungestAgeTBI | 3577 | Age at earliest TBI reported: |
| Form 1 | cntAnyAfterIndex | 3361 | Number of TBI reported after Index |
| Form 1 | cntAnyBefore15yr | 3362 | Number of TBI reported before age 15 |
| Form 1 | cntAnyBeforeIndex | 3363 | Number of TBI prior to Index |
| Form 1 | cntAnyInjuries | 3364 | Number of TBI Reported |
| Form 1 | cntAnySameIndex | 3365 | Number of TBI reported same age as Index |
| Form 1 | cntLOCAfterIndex | 3366 | Number of TBI w/LOC reported after Index Injury |
| Form 1 | cntLOCBefore15yr | 3367 | Number of TBI w/LOC reported before age 15 |
| Form 1 | cntLOCBeforeIndex | 3368 | Number of TBI w/LOC reported before Index Injury |
| Form 1 | cntLOCInjuries | 3369 | Number of TBI reported with LOC: |
| Form 1 | cntLOCSameIndex | 3370 | Number of TBI w/LOC reported at same age as index TBI |
| Form 1 | cntModSevAfterIndex | 3371 | Number of TBI Mod/Sev reported after Index injury |
| Form 1 | cntModSevBefore15yr | 3372 | Number of TBI Mod/Sev reported before age 15 |
| Form 1 | cntModSevBeforeIndex | 3373 | Number of TBI Mod/Sev reported before index injury |
| Form 1 | cntModSevInjuries | 3374 | Number of reported TBI Moderate/ Severe |
| Form 1 | cntModSevSameIndex | 3375 | Number of TBI Mod/Sev reported same age as index injury |

**Codes**

**Code Group: 530**

| Code | Description |
|---|---|
| 1 | No LOC |
| 2 | Dazed |

| Code | Description |
|---|---|
| 3 | LOC Less than 30 min or unknown duration |
| 4 | LOC 30min to 24Hr |
| 5 | LOC more than 24Hr |

**Code Group: 3557**

| Code | Description |
|---|---|
| 1 | Yes |

**Code Group: NA**

| Code | Description |
|---|---|

**Code Group: 3577**

| Code | Description |
|---|---|

**Code Group: 3361**

| Code | Description |
|---|---|

**Code Group: 3362**

| Code | Description |
|---|---|

**Code Group: 3363**

| Code | Description |
|---|---|

**Code Group: 3364**

| Code | Description |
|---|---|

**Code Group: 3365**

| Code | Description |
|---|---|

**Code Group: 3366**

| Code | Description |
|---|---|

**Code Group: 3367**

| Code | Description |
|---|---|

**Code Group: 3368**

| Code | Description |
|---|---|

**Code Group: 3369**

| Code | Description |
|---|---|

**Code Group: 3370**

| Code | Description |
|---|---|

**Code Group: 3371**

| Code | Description |
|---|---|

**Code Group: 3372**

| Code | Description |
|---|---|

**Code Group: 3373**

| Code | Description |
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**Code Group: 3374**

| Code | Description |
|---|---|

**Code Group: 3375**

| Code | Description |
|---|---|

# TRANSPORTATION

## Definition

Indicates the primary mode of motorized vehicular transportation, according to the best source of information (person with brain injury unless unavailable or unreliable).

## Form

[ ] Form 1
[X] Form 2

## Source

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

## 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.

### Variables

| Module | VariableName | CodeGroupId | Question |
|---|---|---|---|
| Form 2 | TransModeF | 783 | What is your primary method of motorized transportation? |

### Codes

#### Code Group: 783

| Code | Description |
|---|---|
| 1 | Drives Vehicle |
| 2 | Rides with Someone Else |
| 3 | Public Transit |
| 4 | Special Bus or Van Service |
| 81 | Not Applicable: Variable not due this year ( Code no longer used; data now collected in all follow-up ye |
| 82 | Not Applicable: No motorized transportation |
| 99 | Unknown |