

Neurology: Traumatic Brain Injury (TBI) Documentation Template

Documentation Tem- plate: Conceptual Structure

Contract: VA118-16-D-1008, Task Order (TO): VA-118-16-F-1008-0007, CLIN0005AF

Department of Veterans Affairs (VA)



**Knowledge Based Systems (KBS)
Office of Informatics and Information Governance (OIIG)
Clinical Decision Support (CDS)**

Publication date 05/25/2018

Version: 1.0

Neurology: Traumatic Brain Injury (TBI) Documentation Template: Documentation Template: Conceptual Structure

by Knowledge Based Systems (KBS), Office of Informatics and Information Governance (OIIG), and Clinical Decision Support (CDS)

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Preface

Table 1. Revision History

Date	Life Cycle Event
May 25, 2018	Created
May 25, 2018	Reviewed
April 3, 2018	Created
April 3, 2018	Pre-published

Table 2. Clinical White Paper Contributors

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Table 3. Artifact Identifier

Domain	Artifact ID	Name
urn:va.gov:kbs:knart:artifact:rl	80b3f7ad-54c5-565a-8a50-097a702f72f5	B41

Artifact Applicability

Table 4. Applicability Foci, Description and Codes

Focus	Description	Code System	Code	Value Set	Value Set Version
TargetUser	Primary Care	SNOMED CT	453231000124104 Primary care provider (occupation)	N/A	N/A
ClinicalFocus	Adult patients with suspected Traumatic Brain Injury			N/A	N/A
ClinicalVenue	Outpatient	SNOMED CT	33022008 Hospital-based outpatient department (environment)	N/A	N/A
PatientAgeGroup	Adult patients	SNOMED CT	133936004 Adult (person)	N/A	N/A
PatientGender	All			N/A	N/A
WorkflowTask	Request Neurology Consultation			N/A	N/A

Models

Table 5. Model References

Referenced Model	Description
urn:solor.io:anf-model:1.0	VA Analysis Normal Form Model

Chapter 1. External Data Definitions

No externalData expression definitions and no trigger definitions are present.

Chapter 2. Expression Definitions

No expression definitions are present.

Chapter 3. Consults and Referrals

Referral Request: Polytrauma Rehabilitation Clinic

☐ prompt: Reason for Referral: Evaluate and Manage Rehabilitation needs for Mild Traumatic Brain Injury with Current Symptomatology

response: Boolean (Single)

☐ **Condition:**elm:Property

☐ prompt: Consult priority

response: EntityName (Single)

response range: EnumerationConstraint (List)

item: Emergency(25876001 |Emergency (qualifier value)|)

item: High Priority(394849002 |High priority (qualifier value)|)

item: Routine Priority(50811001 |Routine (qualifier value)|)

Referral Request: Physical Therapy

☐ prompt: Reason for Referral: Evaluate and Manage Mobility Issues Related to Mild Traumatic Brain Injury with Current Symptomatology

response: Boolean (Single)

☐ **Condition:**elm:Property

☐ prompt: Consult priority

response: EntityName (Single)

response range: EnumerationConstraint (List)

item: Emergency(25876001 |Emergency (qualifier value)|)

item: High Priority(394849002 |High priority (qualifier value)|)

item: Routine Priority(50811001 |Routine (qualifier value)|)

Referral Request: Occupational Therapy

☐ prompt: Reason for Referral: Evaluate and Manage Activities of Daily Living Issues Related to Mild Traumatic Brain Injury with Current Symptomatology

response: Boolean (Single)

☐ **Condition:**elm:Property

☐ prompt: Consult priority

response: EntityName (Single)

response range: EnumerationConstraint (List)

item: Emergency(25876001 |Emergency (qualifier value)|)

item: High Priority(394849002 |High priority (qualifier value)|)

item: Routine Priority(50811001 |Routine (qualifier value)|)

Referral Request: Speech-Language Pathology

☐ prompt: Reason for Referral: Evaluate and Manage Speech, Language, and Cognitive Issues Related to Mild Traumatic Brain Injury with Current Symptomatology

response: Boolean (Single)

☐ **Condition:**elm:Property

☐ prompt: Consult priority

	<p>response: EntityName (Single)</p> <p>response range: EnumerationConstraint (List)</p> <p>item: Emergency(25876001 Emergency (qualifier value))</p> <p>item: High Priority(394849002 High priority (qualifier value))</p> <p>item: Routine Priority(50811001 Routine (qualifier value))</p>
Referral Request: Neurology	
<p><input type="checkbox"/> prompt: Reason for Referral: Evaluate for Mild Traumatic Brain Injury with Current Symptomatology</p> <p>response: Boolean (Single)</p> <p><input type="checkbox"/> Condition:elm:Property</p>	<p><input type="checkbox"/> prompt: Consult priority</p> <p>response: EntityName (Single)</p> <p>response range: EnumerationConstraint (List)</p> <p>item: Emergency(25876001 Emergency (qualifier value))</p> <p>item: High Priority(394849002 High priority (qualifier value))</p> <p>item: Routine Priority(25876001 Emergency (qualifier value))</p>
Referral Request: Mental Health	
<p><input type="checkbox"/> prompt: Reason for Referral: Evaluate and Manage Mental Health Issues Related to Mild Traumatic Brain Injury with Current Symptomatology</p> <p>response: Boolean (Single)</p> <p><input type="checkbox"/> Condition:elm:Property</p>	<p><input type="checkbox"/> prompt: Consult priority</p> <p>response: EntityName (Single)</p> <p>response range: EnumerationConstraint (List)</p> <p>item: Emergency(25876001 Emergency (qualifier value))</p> <p>item: High Priority(394849002 High priority (qualifier value))</p> <p>item: Routine Priority(50811001 Routine (qualifier value))</p>
Consult Request: Social Services	
<p><input type="checkbox"/> prompt: Reason for Consult: Evaluate Need for Social Services Related to Mild Traumatic Brain Injury with Current Symptomatology</p> <p>response: Boolean (Single)</p> <p><input type="checkbox"/> Condition:elm:Property</p>	<p><input type="checkbox"/> prompt: Consult priority</p> <p>response: EntityName (Single)</p> <p>response range: EnumerationConstraint (List)</p> <p>item: Emergency(25876001 Emergency (qualifier value))</p> <p>item: High Priority(394849002 High priority (qualifier value))</p> <p>item: Routine Priority(50811001 Routine (qualifier value))</p>
Consult Request: Integrative Health	
<p><input type="checkbox"/> prompt: Reason for Consult: Evaluate Wellness Needs Related to Mild Traumatic Brain Injury with Current Symptomatology</p>	

response: Boolean (Single)

☐ **Condition:**elm:Property

☐ prompt: Consult priority

response: EntityName (Single)

response range: EnumerationConstraint (List)

item: Emergency(25876001 |Emergency (qualifier value)|)

item: High Priority(394849002 |High priority (qualifier value)|)

item: Routine Priority(50811001 |Routine (qualifier value)|)

Referring Physician Information

☐ prompt: Physician Name

response: String (Single)

☐ prompt: Physician Office Address

response: String (Single)

☐ prompt: Physician Phone Number 1

response: String (Single)

☐ prompt: Physician Phone Number 2

response: String (Single)

Chapter 4. Tabular List

Terminology Service Request (TSR) Mappings

Table 4.1. Terminology Versions

Name	Identifier	Version
SNOMED CT	2.16.840.1.113883.6.96	United States Edition 20180301

Table 4.2. Terminology References

System	Code	Display Text ^a	References ^b
SNOMED CT	133936004 Adult (person)	Adult patients	1
SNOMED CT	25876001 Emergency (qualifier value)	Emergency	9
SNOMED CT	33022008 Hospital-based outpatient department (environment)	Outpatient	1
SNOMED CT	394849002 High priority (qualifier value)	High Priority	8
SNOMED CT	453231000124104 Primary care provider (occupation)	Primary Care	1
SNOMED CT	50811001 Routine (qualifier value)	Routine Priority	7

^aIf a code is used multiple times in the KNART, only the display text of the first instance is shown.

^bCount of the number of times the given code system and code pair is used in the KNART.

Chapter 5. Behavior Symbols

Table 5.1. Group Organizational Behavior

Sym- bol	Name	Definition
▶	Sentence Group	A group of related alternative actions is a sentence group if the item referenced by the action is the same in all the actions, and each action simply constitutes a different variation on how to specify the details for that item. For example, two actions that could be in a SentenceGroup are "aspirin, 500 mg, 2 times per day" and "aspirin, 300 mg, 3 times per day". In both cases, aspirin is the item referenced by the action, and the two actions represent two different options for how aspirin might be ordered for the patient. Note that a SentenceGroup would almost always have an associated selection behavior of "AtMostOne", unless it's a required action, in which case, it would be "ExactlyOne".
▷	Logical Group	A group with this behavior logically groups its sub-elements, and may be shown as a visual group to the end user, but it is not required to do so.
➤	Visual Group	Any group marked with this behavior should be displayed as a visual group to the end user.

Table 5.2. Group Selection Behavior

Sym- bol	Name	Definition
□	Any	Any number of the items in the group may be chosen, from zero to all.
⦿	All	All the items in the group must be selected as a single unit.
⦿	AllOrNone	All the items in the group are meant to be chosen as a single unit: either all must be selected by the end user, or none may be selected.
○	ExactlyOne	The end user must choose one and only one of the selectable items in the group. The user may not choose none of the items in the group.
⬠	AtMostOne	The end user may choose zero or at most one of the items in the group.
⦿	OneOrMore	The end user must choose a minimum of one, and as many additional as desired.

Table 5.3. Required Behavior

Sym- bol	Name	Definition
◆	Must	An action with this behavior must be included in the actions processed by the end user; the end user may not choose not to include this action.

Sym- bol	Name	Definition
◇	Could	An action with this behavior may be included in the set of actions processed by the end user.
➤	MustUnlessDocumented	An action with this behavior must be included in the set of actions processed by the end user, unless the end user provides documentation as to why the action was not included.

Table 5.4. Precheck Behavior

Sym- bol	Name	Definition
▲	Yes	An action with this behavior is one of the most frequent actions that is, or should be, included by an end user, for the particular context in which the action occurs. The system displaying the action to the end user should consider "pre-checking" such an action as a convenience for the user.
▽	No	An action with this behavior is one of the less frequent actions included by the end user, for the particular context in which the action occurs. The system displaying the actions to the end user would typically not "pre-check" such an action.

Table 5.5. Cardinality Behavior

Sym- bol	Name	Definition
◆	Single	An action with this behavior may only be completed once.
❖	Multiple	An action with this behavior may be repeated multiple times.

Table 5.6. Item Flags

Sym- bol	Name	Definition
☞	fillIn	This item, in a list entry, allows the user to enter a fill in value that is not present in the set of presented choices.

Table 5.7. Read Only Behavior

Sym- bol	Name	Definition
☆	true	For a particular action or action group, specifies whether the elements are read only.

Appendix A. References

This appendix contains the list of related resources and supporting documents used in creating this KNART.

List of References

Related Resources

[CCWP] *Neurology: Traumatic Brain Injury Screening Clinical Content White Paper*

[CSD] *Neurology: Traumatic Brain Injury (TBI) Documentation Template Conceptual Structure Document*

[KVRpt] *Neurology: Traumatic Brain Injury (TBI) Documentation Template KNART Validation Report*

Supporting Evidence

[MildTBIRehabToolkit] *Mild Traumatic Brain Injury Rehabilitation Toolkit. Army Medical Department Center and School (AMEDDC&S), U.S. Army Health Readiness Center of Excellence (HRCOE) website. Accessed August 28, 2017 (link [https://doi.org/10.1111/j.1745-7599.2011.00658.x])*

[VA/DoD] *Management of Concussion-mild Traumatic Brain Injury (mTBI), Version 2.0 – 2016. VA/DoD Clinical Practice Guidelines website. Management of Concussion/mTBI Working Group. Published February 2016 (link [https://www.healthquality.va.gov/guidelines/Rehab/mtbi/mTBICPGFullCPG50821816.pdf])*