Clinical Building Block:

nl.nfu.OverdrachtGlasgowComaScale-v1.1

Final

Contents

1. nl.nfu.OverdrachtGlasgowComaScale-v1.1

DCM::CoderList	Ernst de Bel (e.debel@ic.umcn.nl)
DCM::ContactInformation.Address	*
DCM::ContactInformation.Name	*
DCM::ContactInformation.Telecom	*
DCM::ContentAuthorList	Lindsay Chang, Stevie Tan, Astrid van Ginneken, Eric de Kant, Tessa van Stijn
DCM::CreationDate	29-11-2012
DCM::DeprecatedDate	
DCM::DescriptionLanguage	nl
DCM::EndorsingAuthority.Address	
DCM::EndorsingAuthority.Name	NFU
DCM::EndorsingAuthority.Telecom	
DCM::Id	2.16.840.1.113883.2.4.3.11.60.40.3.12.8
DCM::KeywordList	*
DCM::LifecycleStatus	Final
DCM::ModelerList	Tessa van Stijn <stijn@nictiz.nl>, Ernst de Bel (e.debel@ic.umcn.nl)
DCM::Name	nl.nfu.OverdrachtScoreBewustzijn
DCM::PublicationDate	1-7-2013
DCM::PublicationStatus	Published
DCM::ReviewerList	Projectgroep generieke overdrachtsgegevens
DCM::RevisionDate	20-6-2013
DCM::Superseeds	
DCM::Version	1.1

1.1   Revision History

1.0 01-03-2013 First published version
1.1 01-07-2013 Minor modifications and bug fixes

1.2   Concept

A 15-point scale to describe a patient's level of consciousness.

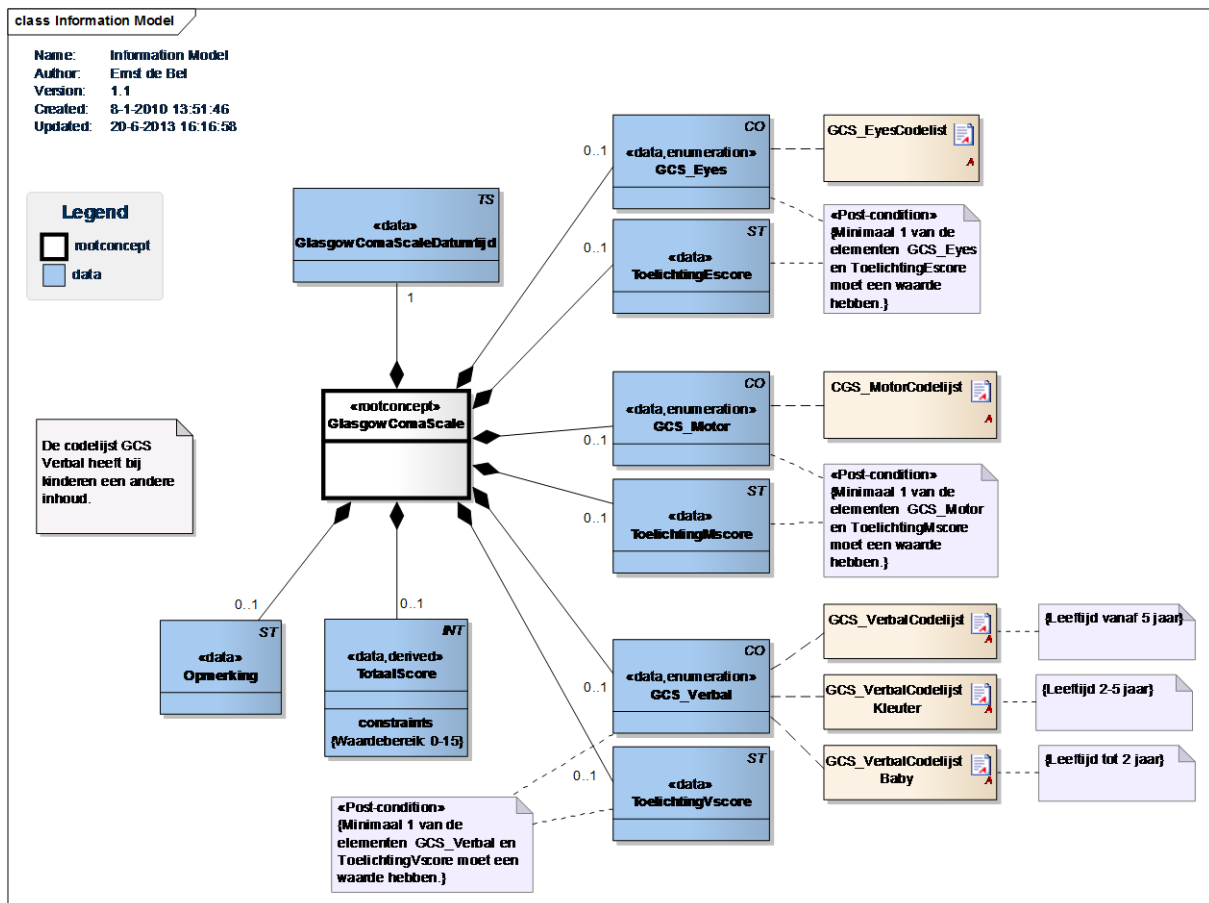## 1.3   Mindmap

1.4   Purpose

Offers the opportunity of communicating clinical observations on the patient's level of consciousness, using a validated instrument that makes use of the patient's reactions to stimuli.

1.5   Patient Population

1.6   Evidence Base

The development of this Clinical Building Block was based in the first instance on the specification of the CCR documentation (Continuity of Care Record, ASTM). For more information on CCR, see the References section (1.14).

1.7   Information Model

«rootconcept»	GlasgowComaScale	
Definition	Root concept of the vital sign of consciousness. This root concept contains all data elements of the vital sign of consciousness. The Glasgow coma score, or EMV (Eye-Motor-Verbal) score, is a measure of the degree of a patient's consciousness, based on their eye, verbal and movement reactions to specific, prescribed, audible and tangible stimuli.	
Datatype		
DCM::DefinitionCode	NL-CM:12.8.1	
DCM::DefinitionCode	SnomedCT:386554004 Glasgow coma scale (assessment scale)	
Options		

«data»	GlasgowComaScaleDatumtijd	
Definition	Time at which the EMV score was determined.	
Datatype	TS	
DCM::DefinitionCode	NL-CM:12.8.8	
Options		

«data»	Opmerking	
Definition	Remarks on the (context of the) measurement of the EMV score, such as possible problems or factors that might have an influence on interpretation.	
Datatype	ST	
DCM::DefinitionCode	NL-CM:12.8.9	
DCM::ExampleValue	Patient was direct voor intubatie volkomen helder; reageert nu minder maar is ook onderkoeld (temperatuur rectaal 35°C).	
Options		

«data»	TotaalScore	
Definition	The sum of the EMV scores, expressed as a figure in the range of 1 - 15. This value does not have to be communicated, because it can always be calculated on the basis of the part-scores, and because it is not general practice to communicate the total if a part-score could not be confidently determined.	
Datatype	INT	
DCM::DefinitionCode	NL-CM:12.8.10	
Options		
Constraint	Value range: 0 - 15	

«data»	GCS_Eyes	
Definition	Best eye response to a stimulus. This element is mandatory, but no unitary value has to be given. If no unitary value is provided, the reason for this must be given.	
Datatype	CO	
DCM::DefinitionCode	NL-CM:12.8.2	
DCM::DefinitionCode	SNOMED CT:281395000 Glasgow coma score eye opening subscore (observable entity)	
DCM::ExampleValue	E3	
DCM::ValueSet	GCS_EyesCodelist	OID : 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.1
Options		

«data»	ToelichtingEscore	
Definition	The reason that no eye response test could be performed. This is entered as free text. Abbreviation used: C (closed)	
Datatype	ST	
DCM::DefinitionCode	NL-CM:12.8.3	
Options		

«data»	GCS_Motor	
Definition	Best motor response to a stimulus. This element is mandatory, but no unitary value has to be given. If no unitary value is provided, the reason for this must be given.	
Datatype	CO	
DCM::DefinitionCode	NL-CM:12.8.4	
DCM::DefinitionCode	SnomedCT:281396004 Glasgow Coma Score motor response subscore	
DCM::ExampleValue	M4	
DCM::ValueSet	GCS_MotorCodelist	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.2
Options		

«data»	ToelichtingMscore	
Definition	The reason that no motor response test could be performed. This is entered as free text.	
Datatype	ST	
DCM::DefinitionCode	NL-CM:12.8.5	
DCM::ExampleValue	Normaal	
Options		

«data»	GCS_Verbal	
Definition	Best verbal response to a stimulus. This element is mandatory, but no unitary value has to be given. If no unitary value is provided, the reason for this must be given.	
Datatype	CO	
DCM::DefinitionCode	NL-CM:12.8.6	
DCM::DefinitionCode	SNOMEDCT: 281397008 Glasgow coma score verbal response subscore (observable entity)	
DCM::ExampleValue	V3; Vtube	
DCM::ValueSet	GCS_VerbalCodelijst	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.3
DCM::ValueSet	GCS_VerbalCodelijstKleuter	OID : 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.4
DCM::ValueSet	GCS_VerbalCodelijstBaby	OID : 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.5
Options		

«data»	ToelichtingVscore
Definition	The reason that no verbal response test could be performed. This is entered as free text. It is usual to give the indication 'tube' for an intubated patient.
Datatype	ST
DCM::DefinitionCode	NL-CM:12.8.7	
DCM::ExampleValue	Vtube	
Options	

«document»	GCS_EyesCodelist
Definition	Code list for the E (best eye reaction) score of the EMV score
Datatype	
Options	

GCS_EyesCodelist				OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.1	
Concept Name	Value	Concept Code	Coding Syst. Name	Coding System OID	Description
Spontaneous	4	E4	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Spontaneous [patient opens eyes spontaneously]
To verbal stimuli, command, speech	3	E3	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	In response to voice [patient opens eyes only after being spoken to]
To pain only	2	E2	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	In response to pain [patient opens eyes only after a painful stimulus]
No response	1	E1	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	No reaction [patient does not open eyes]

«document»	CGS_MotorCodelijst
Definition	Code list for the M (best motor reaction) score of the EMV score
Datatype	
Options	

GCS_MotorCodelist				OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.2	
Concept Name	Value	Concept Code	Coding Syst. Name	Coding System OID	Description
Obeys	6	M6	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Obeys commands [patient carries out a simple command]
Localises pain	5	M5	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Localizes pain [patient can localize the pain]
Withdrawal response	4	M4	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Withdrawal to pain [patient able to make a gesture of avoidance or withdrawal to a pain stimulus]
Flexor response	3	M3	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Flexion to pain [arms and hands tightly folded; legs generally

					outstretched]
Extensor response	2	M2	NL-CM-CS	2.16.840.1.11388 3.2.4.3.11.60.40.4	Extension to pain [arms and hands lightly folded, with hands turned outwards. Possibly all body muscles are tensed]
No response	1	M1	NL-CM-CS	2.16.840.1.11388 3.2.4.3.11.60.40.4	No reaction to pain [no body reaction whatsoever to pain stimulus]

«document»	GCS_VerbalCodelijst
Definition	Code list for the V (best verbal reaction) score of the EMV score, used for patients of 5 years or older.
Datatype	
Options	

GCS_VerbalCodelist vanaf 5 jaar oud		OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.3			
Concept Name	**Value**	**Concept Code**	**Coding Syst. Name**	**Coding System OID**	**Description**
Oriented	5	V5	NL-CM-CS	2.16.840.1.113883.2. 4.3.11.60.40.4	Oriented [patient is lucid and clearly aware of the situation]
Confused	4	V4	NL-CM-CS	2.16.840.1.113883.2. 4.3.11.60.40.4	Confused [patient responds to questions, but there is some disorientation and confusion]
Inappropriate speech	3	V3	NL-CM-CS	2.16.840.1.113883.2. 4.3.11.60.40.4	Incompetent [patient's speech is articulated but forms no sentences]
Incomprehensib le sounds	2	V2	NL-CM-CS	2.16.840.1.113883.2. 4.3.11.60.40.4	Incomprehensible [patient's speech is unintelligible]
No response	1	V1	NL-CM-CS	2.16.840.1.113883.2. 4.3.11.60.40.4	No reaction [no verbal response from patient whatsoever]

«document»	GCS_VerbalCodelijst Kleuter
Definition	Code list for the V (best verbal reaction) score of the EMV score, for use with children aged 2 - 5 years.
Datatype	
Options	

GCS_VerbalCodelistKleuter		OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.4			
Concept Name	**Value**	**Concept Code**	**Coding Syst. Name**	**Coding System OID**	**Description**
Oriented	5	V5	NL-CM-CS	2.16.840.1.113883.2. 4.3.11.60.40.4	Competent words and sentences [patient can use words or short sentences in the context of the situation]

Concept Name	Value	Concept Code	Coding Syst. Name	Coding System OID	Description
Confused	4	V4	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Incorrect words [patient uses confused words]
Inappropriate speech	3	V3	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Crying [persistent crying or shrieking]
Incomprehensible sounds	2	V2	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Moaning [patient only moans]
No response	1	V1	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	No reaction [patient shows no verbal response whatsoever]

«document»	GCS_VerbalCodelijst Baby				
Definition	Code list for the V (best verbal reaction) score of the EMV score, for use in babies younger than 2 years.				
Datatype					
Options					
GCS_VerbalCodelistBaby	OID: 2.16.840.1.113883.2.4.3.11.60.40.2.12.8.5				
Concept Name	**Value**	**Concept Code**	**Coding Syst. Name**	**Coding System OID**	**Description**
Oriented	5	V5	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Laughing and crying [patient laughs or cries softly]
Confused	4	V4	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Crying [patient cries and is nauseous]
Inappropriate speech	3	V3	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Incompetent crying [persistent crying or shrieking]
Incomprehensible sounds	2	V2	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	Moaning [patient moans and is restless]
No response	1	V1	NL-CM-CS	2.16.840.1.113883.2.4.3.11.60.40.4	No reaction [no verbal response from patient whatsoever]

1.8   Example Instances

1.9   Instructions

Is used to determine the level of patient consciousness by reference to 3 components that together form the EMV score, with a modified scale for babies (0 - 2 years) and another for small children (2 - 5 years).
The three response values are considered separately and as a total. The minimum total score is 3 and the maximum possible score is 15.

The EMV score can be shown as a composition of each of the part-scores; e.g. E3M2V4 (opens eyes when spoken to, has an extensor reaction to pain, and produces incomprehensible sounds).
If one of the EMV components cannot be assessed - e.g. if the subject is intubated and unable to react verbally, or is paralyzed/weakened and unable to give a motor response, then the part-score is included (score 1), but given supplementary clarification.
An intubated patient is indicated with e.g. V1T, where T = 'tube'.
Clinical decision-making should be based on each of the specific details of the eye, motor and verbal reactions and on the explicit clarification if no assessment is possible.

1.10 Interpretation

Normal values for the total score, depending on patient age:
0 - 6 months: 9 or higher
6 - 12 months: 11 or higher
1 - 2 years: 12 or higher
2 - 5 years: 13 or higher
> 5 years: 14 or higher

1.11 Care Process

1.12 Example of the Instrument

custom Examples of the Instrument

Datum	EMV	Totaal	Opmerking
8-02-13 6:43	E2M4V5	11	Beste score voor intubatie, kleding stond in brand
7-02-13 11:34	E4M4VT		Lijkt adekwaat
7-02-13 8:00	E1M1V1	3	Zonder spierverslappers na 2 uur reanimatei

1.13 Constraints

This building block was developed for the use case of the generic medical transfer of patients between hospital specialists.

1.14 Issues

1.15 References

1. Standard Specification for Continuity of Care Record (CCR), E 2369 – 05, ASTM, 2010.

2. http://www.openehr.org/knowledge/, openEHR-EHR-OBSERVATION.glasgow_coma.v1 (English-language version)

3. http://www.tabellenboekje.nl/menselijk-lichaam-tabel-glasgow-coma-schaal.php#glasgow-coma-schaal-volwassen

1.16 Functional Model

1.17 Traceability to other Standards

This Clinical Building Block has a relationship with CCR (Continuity of Care Record, ASTM CCR E2369-05) and with CCD (Continuity of Care Document, HL7 Implementation Guide: CDA Release 2 – Continuity of Care Document (CCD)).
The first design of the building block documentation was based on the 'Detailed Clinical Models Guideline' (Parelsnoer initiatief, Nederland)
For adherence to earlier published standards: see the references.

1.18 Disclaimer

The Generic Data for Patient Transfer project devotes the greatest possible care to the reliability and accuracy of the data in this Clinical Building Block. However, errors and omissions may occur. The Generic Data for Patient Transfer project is not responsible for any damage resulting from inaccuracies or incompleteness in the information provided, and/or any damage ensuing from problems caused by, or inherent to, the dissemination of information via the internet, such as malfunctions or interruptions to, or errors or delays in, the provision of information or services by the project Generic Data for Patient Transfer or by the user to the Generic Data for Patient Transfer project via a Generic Data for Patient Transfer website, or via email, or by any other electronic means.

The Generic Data for Patient Transfer project also accepts no responsibility for any damage ensuing from the use of data, advice or ideas provided by, or on behalf of, the Generic Data for Patient Transfer project via these Clinical Building Blocks.

The Generic Data for Patient Transfer project also accepts no responsibility for the information content to which this Clinical Building Block may refer by means of a hyperlink or otherwise.
In the event of any inconsistency in the mentioned Clinical Building Block documents and files, priority will be given to the relevant documents in the most recent and highest version of the documented revision sequence. If information included in the electronic version of this Clinical Building Block has also been provided in writing, then in the event of a discrepancy the written version is definitive, provided the version number and date of both are identical. However, a definitive version has priority over a draft version. A revised version has priority over an earlier version.

1.19 Terms of Use

The user may employ the information in this Clinical Building Block in any way they wish. The copying, dissemination and transfer of the information in this Clinical Building Block is subject to the copyright stipulations in the section concerned.

1.20 Copyrights

The content is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 license. (see also http://creativecommons.org/licenses/by-nc-sa/3.0/nl/)