



Detailed Clinical Models NIWP 13972 status

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ISO 20 oktober 2009



Thanks for

- Looking into the proposal
 - Taking time to study and comment
 - Engage in discussion
 - Participating in making this work!
-
- (dear friends, thanks for coaching)



Content DCM

- Problem to be solved
- Disposition comments
- Scope clarification
- Details of DCM
- Request for examples DCM to illustrate scope
 - Apgar
 - Blood pressure
- Wiki page
- How is it going to be used?
- Proposed Actions

Problem and solution



- Data specifications are often legacy and proprietary
- Rendering semantic interoperability difficult
- Several solutions exist, including semantic messaging and two level modeling and terminologies use,
- However,

Problem of the solutions



- XML GPICS Snomed CT ICNP NANDA
UML ADL 1.2 HL7 v3 CDA LOINC ICD
10 R-MIM archetypes CMETS Omaha
RIM templates ADL 1.4 HDF XMI style
sheets ICF zorginformatiemodellen
CCM

DCM use cases



- Allow legacy systems to update their data sets / entry to meet current user needs
- Offer a migration route to new approach
- Harmonize between archetype and HL7 template and other approaches
- Offer a means to start fresh, decide on technology in later stage: user driven development



ISO 13972 draft

- Detailed Clinical Models are small items of clinical, preventive and care information that are well defined and for which knowledge, data definition, vocabulary binding, and information model for use in information and communication technology are standardized and reusable over domains, purposes, standards and implementations.



DCM organize:

- Clinical content
- Quality issues:
 - Vocabulary binding
 - Metadata
 - etc
- Modeling
- Repository
- See DCM workshop report distributed by ISO, and the summary in proceedings

NWIP ballot + accompanying draft WD



- Voting: 27 P members voted
 - 15 in favour
 - 1 against
 - 7 abstentions
- Result: Approved
- Comments:
 - AU 24
 - CA 39
 - DE 1
 - SK 4
 - UK 1
 - IHTSDO 2
- Experts from AU, CA, DE, NL, SE, UK, US
- Draft Disposition & revision circulated > month ago



Experts appointed

- Australia*: Richard Dixon Hughes , Evelyn Hovenga, Heather Leslie
- Canada: Derek Ritz
- Germany: Thomas Norgall & Bernd Blobel
- Netherlands: William Goossen
- Sweden: Helen Broberg
- UK: Dipak Kalra
- US: Robert Owens

- *Voted negatively on the ballot, however indicated a willingness to participate in the development of the project.

Conference call / discussions



- Decided to remove any comments on legal, copyright and licensing issues
- Process or Content creation guidelines: both
- Agree on UML not normative, but useful method for DCM
- Agree on maintenance / governance itself not being part of ISO 13972, but criteria for it can be
- Agree on practical focus of frequently occurring instances of DCM use
- Existing systems might need migration path
- Granular information core, complex not DCM?

Types of comments 1



- Status IS challenged by AU (2)
- Scope (4)
- Formal stage of WD (1)
- Normative in only one solution or multiple (6)
- Misuse of English (4+)
- Content (41)
- Provide examples / documents (6)
- International approach for instance creation (2)
- Comparing with archotyping (14) dev. elsewhere (1)
- Ask input other WG (1)
- Move to JIC (1)
- Area's to cover: UK: include 5th area: patient safety (1)
- IHTSDO: Terminology use (2)

Types of comments 2



- Status IS challenged by AU (2) => established
- Scope (4) => precise & narrow, no instances
- Formal stage of WD (1) => CD yet to start
- Normative in only one solution or multiple (6) (=> UML?)
- Misuse of English (4+) => double Dutch will be edited
- Content (41) => mostly to be handled in the work
- Provide examples / documents (6) (=> done)
- International approach for instance creation (2) => how?
- Comparing with archotyping (14) dev. elsewhere (1): => consensus!
- Ask input other WG (1) e.g. => categorical structures WG3
- Move to JIC (1) => see plan
- Area's to cover: UK: include 5th area: patient safety (1) => yes
- IHTSDO: Terminology use (2) => correct

No discussion due to settled



- Resolved that ISO/TC215 approves the WG 1 recommendation that the ISO/TC215 Secretariat circulates the NWIP ballot of Quality requirements and methodologies for detailed clinical models for approval as a new work item targeting as an International Standard via the Vienna Agreement with ISO lead, as a JIC identified work item, and that the Form 4 and a draft document arrives at the TC Secretariat no later than April 1, 2009 to be placed on the ISO/TC web site no later than April 15, 2009.
- However, for complex matters, e.g. combining several DCM into larger groupings or clusters an additional TR might be relevant and can be considered.
- Focus on requirements for modeling clinical content.

No discussion due to settled



- Move to JIC:
 - HL7 project 320 accepted: ballot Top 10 in preparation
 - Confusion all over
 - New project scope statement decided
 - Project update fall 09
 - ISO / CEN 13972 disposition: at hand
 - Project needs to move further
 - Combine with existing interest from CDISC and IHTSDO into a JIC proposal that ensures consistency with JIC member's needs and standards.



Scope issues

- Clarification: yes atomic and molecular structures, not full organ systems
- No instances, no repository, no transformation tools, but just setting criteria and illustrating DCM content with UML

Points for discussion and wider input



- What is mandatory of data – elements:
 - Meta data, e.g. author, id, indexing key words
 - Knowledge representation (concept, goal, evidence, data elements, application, interpretation, care process)
 - Concept description of each single data – item / variable data element
 - Relationships between data – elements
 - Full expression of data types ISO 21090
 - Defining the meaning of the concept
 - Code slot binding, e.g. to Snomed CT, ICNP, LOINC etc. = multiple allowable
 - Valueset binding

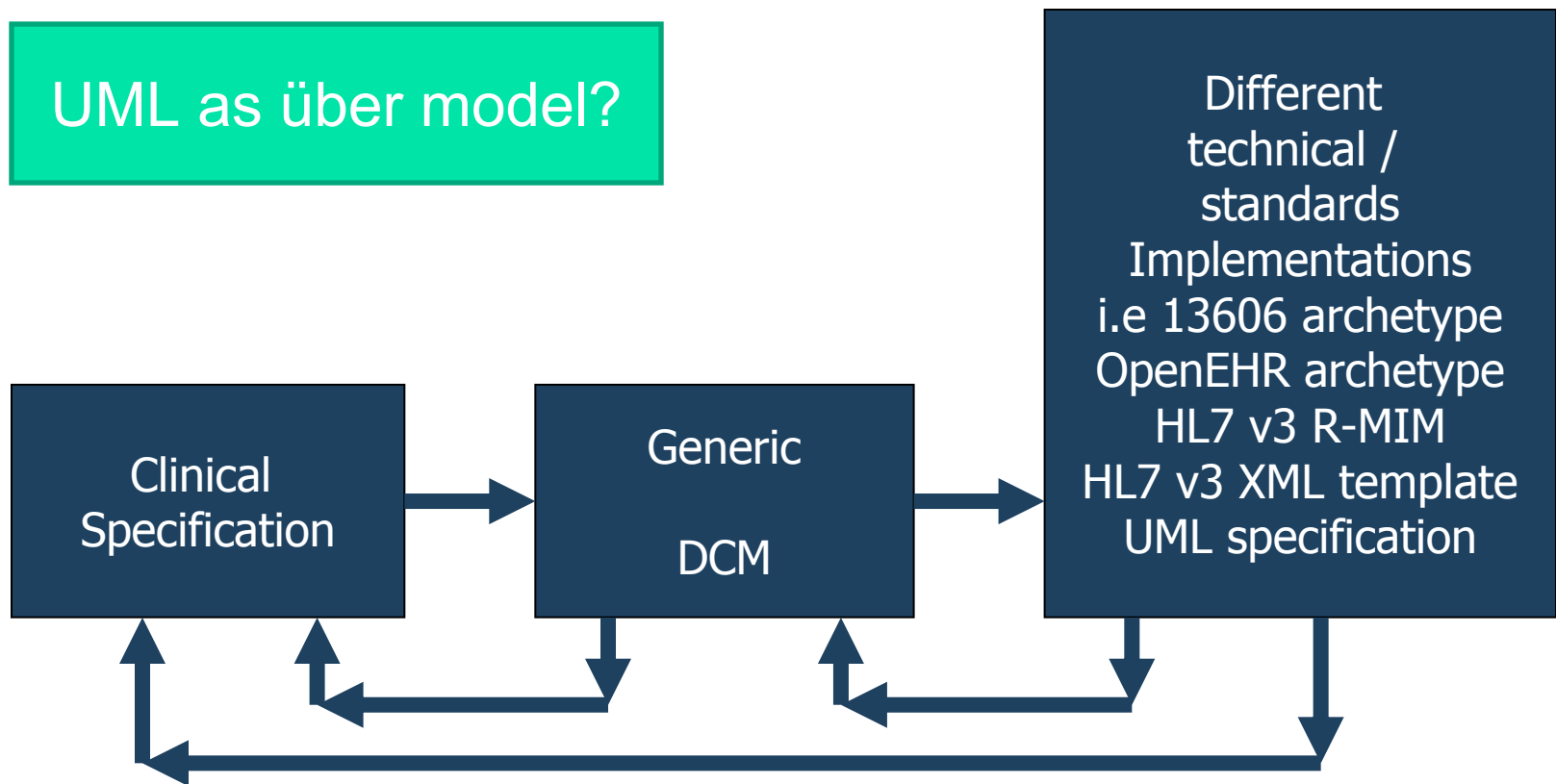
Points for discussion and wider input



- Normative in only one solution or multiple (1) WTO: deemed to comply OK? Or transforms? Latter currently considered following UML model.
- UML to represent in standard, allowing transformations to 13606 archetype 1.2, to OpenEHR archetype 1.4, to HL7 template
- Sample sufficient to test transforms? No tooling!
- Several different approaches exist to represent the knowledge for the clinical structural content of an electronic health record, clinical trials record, clinical document, permits the knowledge to be captured faithfully and efficiently, and then expressed and exploited through any or all of these representations.
- Über Model?



3 phases in DCM





Content

- Modeling UML mandatory or not:
 - Suggestion to use UML for examples to express the modeling, but use text for normative statements

Points for discussion and wider input



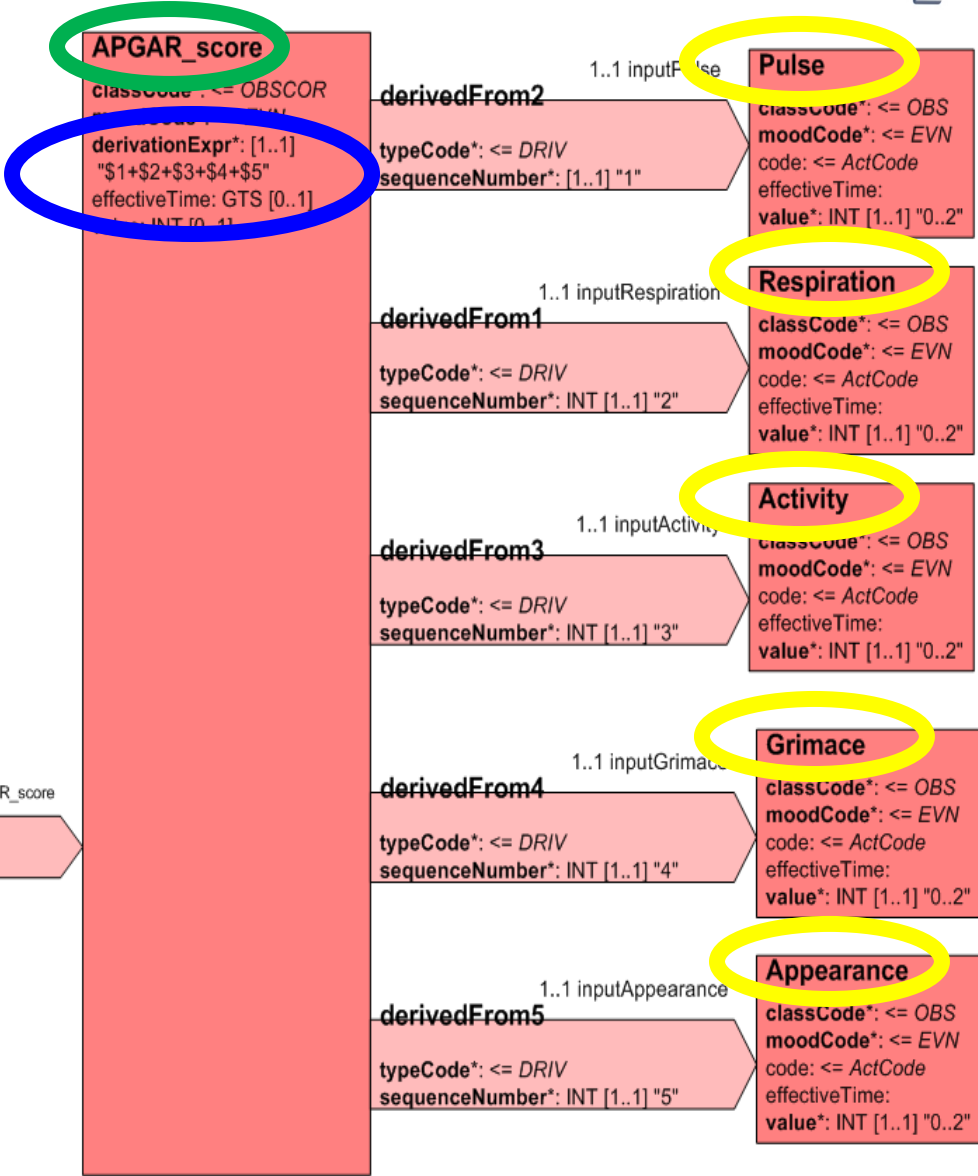
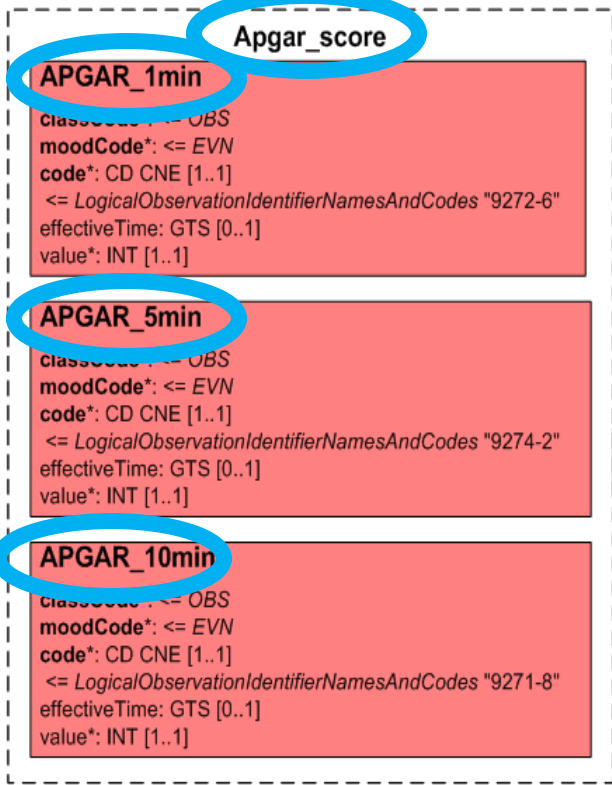
- Maintenance and governance
- Repository: no creation of a repository, but identifying criteria for the development and use
- Versioning in development, currently not possible with archetypes, how to handle, is a very important criterion, versioning of established DCM, different or same?



HL7 v3 Apgar score, 2005



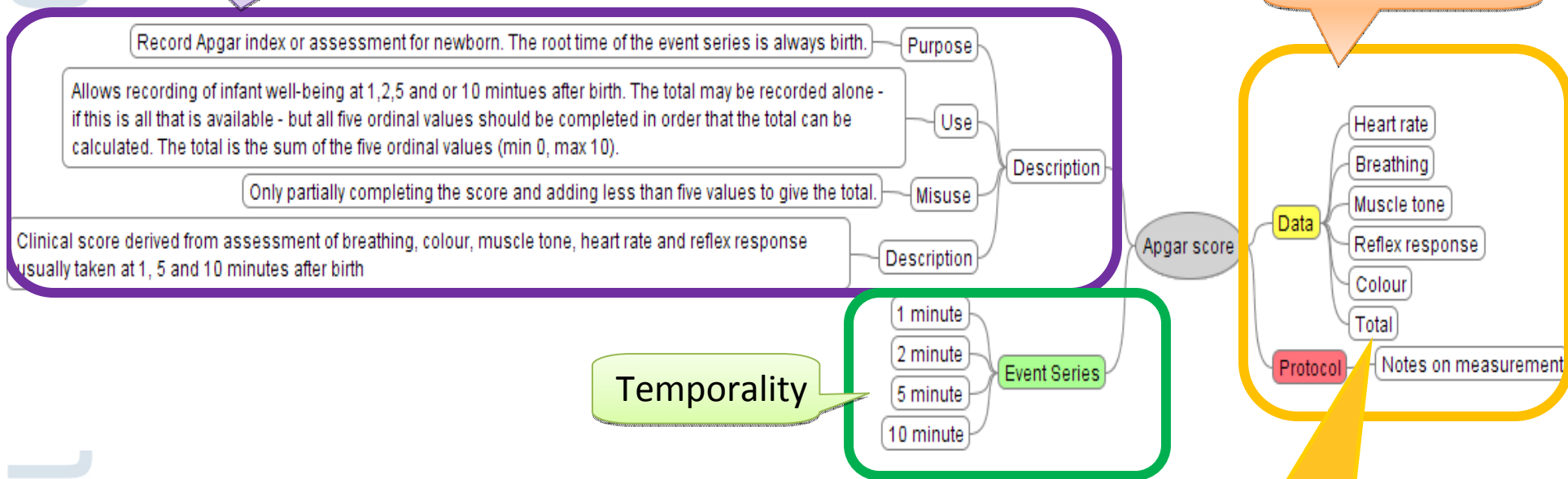
(VIZI_RM992000)
Apgar revised v04 2005





OpenEHR APGAR Archetype

Header : archetype metadata :
purpose, use, authors (free text)



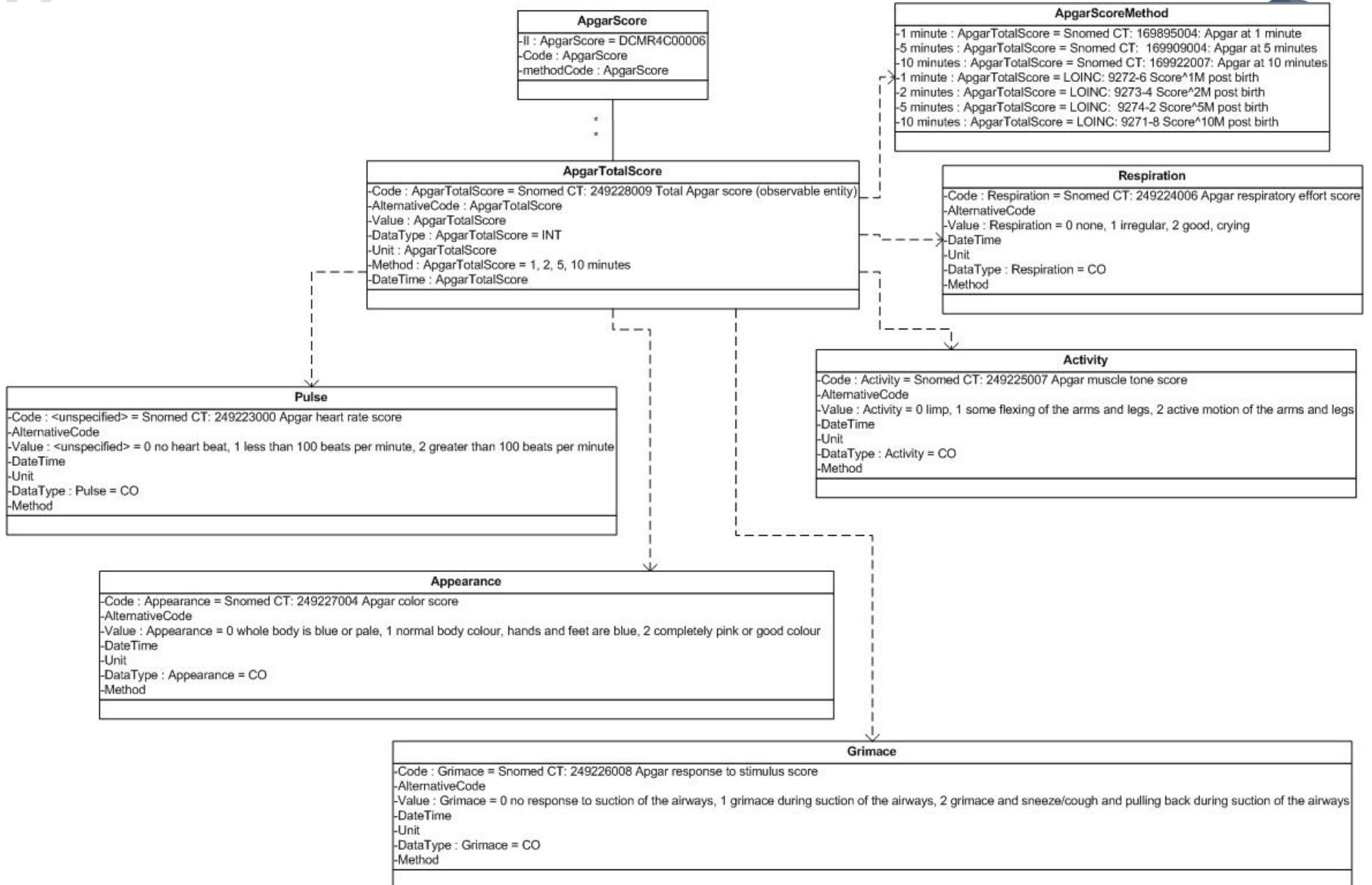
Data Definition

Temporality

No hierarchy between the data elements (e.g TOTAL)



DCM UML Apgar score





Wiki to work on DCM

- http://wiki.hl7.org/index.php?title=Patient_Care
- People can enter via HL7 membership, else contact me

DCM work in progress



- Suggestions to handle content in paragraphs:
 - Informative: explains what it is, what purpose is and how it will be handled
 - Explorative: explains best practices, taps in on examples, e.g. CKM, Clinical Templates, repositories
 - Normative: sets the criteria for 5 sections
 - Implementable: explains how it can be implemented, potentially how transforms can work.



Use Examples

- Veterans Affairs: UML tradition, => considering to participate in DCM creation
- Considering VA, Mayo, Intermountain Health and Kaiser Permanente joint effort



Use Examples

- CDISC: BRIDG model leaf nodes could be DCMs
- HL7 int PC: DCM used to specify content for Care Record / Clinical Statement, Assessment Scores
- IMIA-NI: work on archetypes, templates, DCM on international level
- Additional proposals underway



Use examples

- NL: ministry of health defines clinical concepts in guidelines in DCM
- Industry wants to have the specs to update existing systems
- Nictiz uses it as components in HL7 v3 implementation guides
- Hospitals create DCM derived archetypes that meet OpenEHR requirements

Proposed actions



- Motion to accept dispositions
- Invite experts to write the different criteria in the different sections
- HL7 ballot of Top 10 as DAM: participate & comment
- Apply UML modeling as agreed today
- Organize conference calls, wiki, doodle, task force meetings
- Plan to have Committee Draft ready well in advance for Rio meeting (< 6 weeks i.e. end March)
- Allocate task force time for Rio during WGM
- After Rio prepare CD for vote by countries



Conclusion

- IS DCM to stay
- TR in addition for more complex modeling?
- Content comments to be addressed
- Inviting other in progress
- JIC plan for early 2010
- Workplan to be carried into action and involve country experts and topic experts for sections
- 4 month period now.
- Motion to accept dispositions



Bedankt voor uw aandacht



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Status DCM October 2009



- HL7 (2008) project 320 DCM to develop Top 10: discussed with clinical groups CIC and EHR: ready for ballot
- A lot of discussion within HL7 members and groups
- ISO WG 1 lead project (Vienna A) CEN WG1, CDISC leadership, HL7 TSC approved NIWP on DCM is open for voting now. (No JIC status yet, but 4 of 5 JIC members formally supporting).
- HL7 template **registry plan** under discussion: simple storing and making available HL7 templates, UML, archetypes and DCM.
- ISO NIWP project team ready to run, William Goossen project lead
- NIWP 13972 DCM, positive votes, 1st stage can start