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Development of Evaluation Metrics for DCM

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Background

- Solid growth in the development of DCM: CEM, openEHR Archetype, HL7, NHS Clinical Template, CIM, CCM, etc.
- Use of DCM to capture clinical contents
- Current Quality Requirements: too broad and abstract for application in practice
- Need concrete measures (qualitative and/or quantitative) to evaluate DCMs

Objectives

- Development of evaluation metrics for DCM
- Application of the metrics to DCM

Methods

- Comparison and analysis of current quality requirements documents
 - Archetype Quality Criteria (chosen)
- Concretize Archetype Quality Criteria into measurable and explicit evaluation metrics
- (future work): Improvement of the metrics thru. testing and use of Delphi panel for finalization

Archetype Quality Criteria

(Dipak Kalra et al, 2008)

- Business requirements
- Clinical requirements
- Technical requirements
- Information governance requirements
- Archetype repository requirements

Example Metrics

- *An archetype shall include or reference one or more concepts from an **internationally registered terminology system** to which it corresponds most closely, in order to permit its clinical scope to be widely understood, and compared with other archetypes*(Clinical domain coverage 1, Clinical Requirements in Archetype Quality Criteria)
 - 1) An archetype/DCM shall include or reference one or more concepts from (an) Internationally registered terminology system(s)
 - 2) An archetype/DCM shall include OID of internationally registered terminology systems
 - 3) An archetype/DCM shall include or reference Version(s) of Internationally registered terminology systems
 - 4) Concept(s) or data element of an archetype/DCM shall include or reference ID(CUI)(s) of Internationally registered terminology systems
 - 5) In case of the absence of proper concept(term)s in any international standard terminology system, the archetype/DCM should provide for ways to process exceptions
 - 6) There should be a review process in place in case of cross-terminology mapping of concepts
 - 7) A committee should be in place to enforce proper mapping
 - 8) There should be a feedback mechanism(i.e. wiki) in place In case of dispute in mapping instances.

Thank You

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