■ INTERNATIONAL HEALTH TERMINOLOGY
STANDARDS DEVELOPMENT ORGANISATION

Clinical Modeling and Description Logics, A Collaboration Between Oxford and Kaiser Permanente

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Audience

Users of SNOMED CT who are using or interested in using the Description Logics of SNOMED CT in clinical applications

Objectives

To present our efforts to date in using RDFox, an experimental hybrid platform that allows description logic queries on large data sets, in this case with clinical data to create quality and outcomes reports.

Abstract

SNOMED CT is based on Description Logics which can be used to make inferences on clinical data bound to SNOMED CT. Web Ontology Language is also based on Description Logics (DL) and inferences can likewise be made often with the same reasoners that work with SNOMED CT. Traditionally the clinical data in an E.H.R. is kept in databases and no reasoning is possible. If both the clinical data, as well as the terminology, SNOMED CT, is represented in one format such as Resource Description Framework (RDF) the inferences could be made over both the clinical data and SNOMED CT. This has not been practical in the past because of scaling issues with current DL reasoners. The Department of Computer Science at Oxford University UK is developing a new hybrid platform that addresses the issue of reasoning over very large sets of data. Kaiser Permanente is collaborating with Oxford in an attempt to demonstrate this new platform (RDFox) with clinical data in order to automate clinical quality measures.

References

1. RDFox: http://www.cs.ox.ac.uk/isg/tools/RDFox/
2. Department of Computer Science Oxford University: http://www.cs.ox.ac.uk/