Bridging Epoch: Mapping Two Clinical Trial Ontologies

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Abstract

The Biomedical Research Integrated Domain Group (BRIDG) model is a model of protocol-driven research developed collaboratively by the National Cancer Institute (NCI) in the US, the Clinical Data Interchange Standards Consortium (CDISC), and Health Level Seven, a healthcare standard-setting organization. Several projects in the NCIâ€™s cancer Biomedical Informatics Grid (caBIG), have used BRIDG as the domain analysis model that drives the creation of interoperable applications The Epoch knowledge-based system is a suite of ontologies and software designed by Immune Tolerance Network to facilitate the management of protocol data, participants, and specimens. For clinical trials encoded in Epoch to leverage the applications developed based on BRIDG, we used semantic web technology to developed methods for specifying the preconditions of the mapping from Epoch to BRIDG and for overcoming the representational mismatch between Epoch and BRIDG. We contrast our approach with other ontology matching algorithms and discuss its strengths and limitations.