

Accepted Manuscript

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PII: S1532-0464(13)00147-0

DOI: <http://dx.doi.org/10.1016/j.jbi.2013.09.006>

Reference: YJBIN 2061

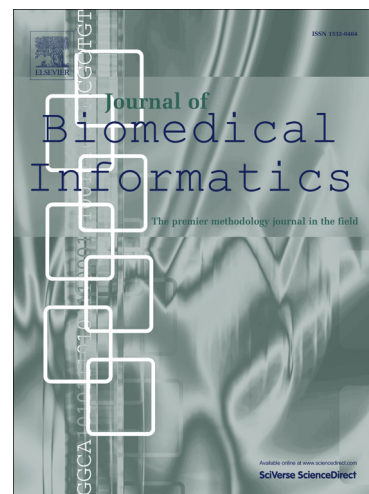
To appear in: *Journal of Biomedical Informatics*

Received Date: 3 May 2013

Accepted Date: 9 September 2013

Please cite this article as: Dos Reis, J.C., Pruski, C., Silveira, M.D., Reynaud-Delaître, C., Understanding Semantic Mapping Evolution by Observing Changes in Biomedical Ontologies, *Journal of Biomedical Informatics* (2013), doi: <http://dx.doi.org/10.1016/j.jbi.2013.09.006>

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Understanding Semantic Mapping Evolution by Observing Changes in Biomedical Ontologies

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Abstract

Knowledge Organization Systems (KOSs) are extensively used in the biomedical domain to support information sharing between software applications. KOSs are proposed covering different, but overlapping subjects, and mappings indicate the semantic relation between concepts from two KOSs. Over time, KOSs change as do the mappings between them. This can result from a new discovery or a revision of existing knowledge which includes corrections of concepts or mappings. Indeed, changes affecting KOS entities may force the underline mappings to be updated in order to ensure their reliability over time. To tackle this open research problem, we study how mappings are affected by KOS evolution. This article presents a detailed descriptive analysis of the impact that changes in KOS have on mappings. As a case study, we use the official mappings established between SNOMED CT and ICD-9-CM from 2009 to 2011. Results highlight factors according to

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