A pragmatic approach to facilitate co-existence of concept systems using SNOMED CT as reference terminology

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Audience

Professionals who want to know more about approaches for allowing co-existence of different concept systems.

Objectives

To present how co-existence of concept systems can be obtained by applying SNOMED CT as the common reference terminology. Attendances will gain insight into a pragmatic approach for co-existence that has its point of origin in an ongoing Danish research project

Abstract

The need for co-existence of different concept systems is evident because of the number of legacy code systems in use and the different professionals that utilize each of them. In particular, co-existence is essential to handle in a current Danish project where municipality care is the clinical scope. Municipality care apply ICD- codes from hospital referrals, ICPC codes from family doctors, ICF codes that home care professionals use and a newly developed SNOMED CT subset for home nurses, all of which has to be handled in home care systems. Ongoing and previous work on cross-maps between SNOMED CT and other concept systems (such as ICD-10 and LOINC) enable that these can be used interchangeably. However, for many terminologies, especially local ones, these cross-maps do not exist, and typically resources are not available to develop and maintain these. On the other hand, not integrating concept systems makes information retrieval and analysis difficult. Consequently, there is a need for a pragmatic framework that allows integration between different types of concept systems without requiring full cross-maps. We have explored the idea of partial cross-maps where implemented concepts within a given classification are mapped to supertype concepts in SNOMED CT. To accomplish this, we introduce a SNOMED CT *stem* that function as a binding component facilitating integration and data analytics/retrieval. The SNOMED CT *stem* is defined as a supertype of the implemented code using a SNOMED CT concept identifier. It should be noted that the stem is never a post coordinated expression, which makes data retrieval based on the stem simple, but does not necessarily allow specialized querying. One example of the use of a mapping stem for partial cross-map is that the ICF code b280 Sensation of pain and its 17 subtypes which could all be related to the same SNOMED CT stem 276435006 |Pain / sensation finding|. The partial cross-map can move toward a full cross-map gradually by specializing the SNOMED CT stem. Specialization in the pain example would mean that subtypes in ICF were linked to more specific SNOMED CT concepts e.g. b28011 Pain in chest could have the new SNOMED CT stem 29857009 | Chest pain (finding)|. Introducing the stem allows SNOMED CT to be used for retrieval purposes because a query for pain/sensation findings would retrieve the relevant information regardless of whether it was registered using SNOMED CT or ICF. It is evident that the full mappings provide the best foundation for utilizing SNOMED CT for retrieval and analytics purposes, but the partial map is an effective and pragmatic approach that does not avert future, incremental development.