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Validation of the translation and mapping of standard procedure classifications from different health systems using the OHDSI Usagi tool

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Introduction

Procedure classifications like the Swiss procedure catalogue CHOP (1) or the German procedure catalogue OPS (2) often contain similar content, but differ on granular level and in hierarchical structure and format. Therefore, translation and / or mapping done either manually or automated is time-consuming and prone to errors. With data interoperability gaining importance in the provision of health care and in international research, supporting tools are essential. The Observational Health Data Sciences and Informatics (OHDSI) team offers the Usagi tool (3) to help in (auto-) mapping codes from a source system into standard terminologies. Source codes (English) are loaded into the Usagi and are connected to standard concepts.

The aim of the study was to test the Usagi term similarity approach as a validation for large datasets of translated and mapped procedure catalogues from different coding systems.

Methods

A representative sample of terms from the CHOP catalogue which had been translated and mapped to terms from the OPS catalogue was loaded into Usagi. The English translation of the Swiss and the corresponding German catalogue entries were automapped by Usagi to the Systematized Nomenclature of Medicine - Clinical Terms (SNOMED CT) (4) concepts as a standard terminology. The agreement of the SNOMED CT identifier pairs (semantic match) was compared and rated (narrower, broader, equivalent, exact).

Results

Rating of the Usagi automapping: 52 of 494 SNOMED CT concept pairs (10.5%) were rated as equal (identical SNOMED CT concept identifier) and 20 of 494 (4.1%) as semantically equivalent (different SNOMED CT concept identifier). 273 (55.3%) concept pairs in total were rated as equal, equivalent, narrower or wider.

User experience and efficiency: sufficient workflow support, efficient automapping and validation

Discussion/Conclusions

The Usagi tool provides the possibility to support content and workflow for automapping and efficient validation. However, with only 55.3% acceptable matches the translated catalogues from different national health systems cannot be sufficiently linked without manual correction.

References

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