Standardized terminology using SNOMED CT

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Abstract

The needs for communicating clinical data between different health care practitioners are increasing, within as well as across national borders. To secure patient safety it is important that the context and content are not lost in the communication process. To explore the possibilities of SNOMED CT as a reference terminology for the Swedish health care system we compared the concepts and terms in a standard care plan for revision of hip replacement with concepts and terms in SNOMED CT. 82 % of the concepts of the standard care plan had a complete match in SNOMED CT. This study has shown that the use of SNOMED CT could be helpful for the retrieval and reuse of clinical data across organizational boundaries.

Keywords:

Terminology, SNOMED CT, Mapping, Standard care plans

Introduction

The clinical terminology SNOMED CT[1] is being translated into Swedish, for use in electronic health records together with classifications and other healthcare terminologies. So far few examples of mappings between Swedish terminologies and SNOMED CT have been accomplished. The aim of this study was to examine to what degree SNOMED CT covers the national needs for clinical terminology. For this purpose we mapped the concepts and terms in a standard care plan for revision of hip replacement to SNOMED CT.

Methods

The terms used in the standard care plan were identified and compared to the terms in SNOMED CT through semantic mapping. When no direct correspondence was found, a correspondence through post-coordination was sought, combining two or more SNOMED CT concepts according to the regulations described in SNOMED CT User Guide[2].

Results

89 (74 %) of the 119 terms in the standard care plan had a complete pre-coordinated match in SNOMED CT. 9 terms (8 %) could be found in SNOMED CT using post-coordination. The total of pre- and post-coordinated concepts gave a result of 98 concepts (82 %). 21 terms (18 %) didn't have any corresponding terms in SNOMED CT. The terms in the standard care plan contained a high level of health care lingo with ambiguous terms, acronyms and abbreviations. The choice of term in the translation of SNOMED CT is based upon established linguistic guidelines. Therefore the terms in the Swedish translation of SNOMED CT were more precise and consistent than the terms of the care plan. The standard care plans would be more uniform if the terminology was based on SNOMED CT terms.

Conclusion

Our results showed that the concepts and terms in the standard care plan to a great extent are represented in SNOMED CT. Concepts missing could be modeled and added to the Swedish extension or the international release of SNOMED CT.

The mapping process showed that SNOMED CT includes duplicate concepts and complex terms that might not be very useful in the standard medical health record. Our opinion is that the terminology would gain from a thorough review. The subset mechanism of SNOMED CT might be very helpful in building a reference terminology for a special purpose.

For future projects including mapping from national terminologies to SNOMED CT there is a great need for guidelines concerning mapping and post-coordination. Mappers need to have a deep understanding of terminological principles and of SNOMED CT.

This study has brought an insight into the use of lingo in the structured clinical documentation. If data are to be retrieved and reused across organizational boundaries, it is important that the special language of health care is clear, concise and non-ambiguous. The study has shown that SNOMED CT could be a helpful resource for this purpose.

[1] Systematized Nomenclature of Medicine, Clinical Terms

[2] International Health Terminology Standards Development Organisation (IHTSDO) (2008) SNOMED Clinical Terms® User Guide – July 2008 International Release