Research letter

Towards a terminologies support system in primary care

Dear Editor

We read with great interest your paper about SNOMED-CT in the November 2011 issue of *Informatics in Primary Care*.[1] We appreciate your comments were triggered by the adoption of SNOMED-CT as the central nomenclature for the NHS, aimed to be a comprehensive coding system, able to code any concept. However, we additionally need a broad terminology support system.

SNOMED-CT is an international collaborative effort, grown out of the clinical need for classification of the American pathologists since 1965, first known as SNOP. In 2001, a historical merge was accomplished with the UK Read Codes, ensuring the introduction of missing clinical concepts.[2] There are now more than 300 000 concepts represented in SNOMED-CT, with a fully specified identifier, located into an ontology, using since 2002 Description Logics as a formal representation framework but without textual definition.[3] This ontology bares the marks of the hybrid composition and the historical changes in classification approach, both in SNOMED and in the Read Codes.[4,5]

As pointed out in your paper there is a risk that this system becomes the only dominant tool for the registration of clinical terms. Other valuable approaches to medical registrations maybe more suited for use in primary care, such as the International Classification of Primary Care (ICPC) available in 30 languages.[6] If the e-Health system of a country only supports SNOMED-CT, functionalities in other classification may be lost: This situation would be reminiscent of Maslow's law of the instrument: 'If you only have a hammer, everything looks like a nail'.[7] Such an approach may also limit the scope for international collaboration with countries not using SNOMED and with knowledge bases that might be indexed differently.

Fortunately, there is cooperation between the parent organisations of SNOMED-CT (IHTSDO – International Health Terminology Standards Organisation) and ICPC (WONCA – World Organisation of Family Doctors) after the mapping project between ICPC Plus and SNOMED-CT.[8–10] There have also been mapping projects between SNOMED-CT and ICD (WHO) and other health care terminologies and between ICD and ICPC.[11] However, these mapping projects may not be a sufficient guarantee that the specific functionalities of ICPC will be maintained in future e-Health projects fostering semantic interoperability.

ICPC is widely used and categorises medical encounters and events into a relatively limited number of concepts. This limited set is sufficient to represent most, if not nearly all, clinical activity in primary care.[12] We are not sure whether ICPC with its bi-axial functionality will be exploitable in SNOMED-CT. As pointed out in de Lusignan *et al*'s leading article, SNOMED-CT offers more coding choice but it may be harder to find the right granularity of concept (and the corresponding code), to represent the sometimes fuzzy reality of primary care.[1]

What is really needed is a terminology support system. This terminology support system would allow:

- the judicious use of all existing nomenclatures and classifications and their legacy data
- bridges primary care and hospital care
- incorporates multilingualism in its core approach to semantic interoperability[13]
- permits use of linguistic resources for each language.

This terminology should support not only medical registration (clinical coding) activities, but also information retrieval (via MeSH – Medical Subject Heading and UMLS – Unified Medical Language System), quality assurance, and information creation through epidemiological research.[14,15]

Our multidisciplinary research group has proposed a structure for such a multilingual reference terminology for Europe or more widely internationally.[16] In this structure, the International Standards Organization (ISO) standards for multilingual terminologies are respected, and connections are foreseen to linguistic resources as well as nomenclatures, classifications and thesauri. If the specificity of the primary care approach is to survive in this brave new world of IT and e-Health, international and multidisciplinary

cooperation among primary care organisations is required as it is currently occurring in some European projects.[17]

Time to move towards a terminology support system.

Yours faithfully

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