 **Analyzing terms of a narrative family medicine guidelines using ICPC, ICD, SNOMED-CT and UMLS.**

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Introduction: GP, pharmacologist, linguist, IT specialist and knowledge engineer are involved in the Belgian MERITERM research group which traces its way from legacy nomenclatures, terminologies, classifications, lexicons, ontologies, to a well-organized role distribution between them in the era of the semantic web. The present work focuses on the analyses of the semantic content of a Belgian guideline about Heart Failure recently edited in Belgium by two associations of general practitioners.

Methods: identification in the text of the concepts dealing with heart failure clinical domain and study of those concepts using ICPC, ICD, SNOMED-CT & UMLS through freely available sources : ICPC-2e-v.4. / Browser - 1-ICPC-2e (en) v4.2beta / ICD online browser / SNOMED CT Browser of the UMLS Terminology Services /Metathesaurus Browser of the UMLS Terminology Services .
The French term, translated in plain English have been mapped to ICPC and ICD. Their correspondences to SNOMED-CT and UMLS, found in SNOMED-CT browser on the UMLS website were reported manually in an Excel spread sheet for comparative analysis

Results: 173 concepts were identified and their correspondences compared in each tools. Exact match where looking for in UMLS and SNOMED-CT. UMLS performs better than SNOMED-CT for terms finding (missing 1,2% versus 4%) while ICPC performs better than ICD for categorization (missing 8,7% versus 19,7%). General mismatch has been shown between the various semantic contents of the four tools. An exploration of the available literature in the field of guidelines and infonomics helped the elaboration of the methodology.

Conclusions: We show that the semantic content of the guideline is very marked by the guidelines authors' world of reference that uses consensual but imprecise concepts from terminological point of view. Such narrative style used for the recommendation is not easily transcript to a formal writing required for interaction with the EMR. International classifications and terminologies used in the analysis differ considerably in their interpretation and vision of the medical reality, reflecting the non-neutral and the historicity of their content.