Abstract

Title: Clinical Content Harmonisation of Electronic Health Record

Author: Mgr. Miroslav Nagy

Department: Department of Medical Informatics, Institute of Computer Science v.v.i., Academy of Sciences of the Czech Republic

Supervisor: RNDr. Antonín Říha, CSc.

Supervisor's e-mail: riha@euromise.cz

This PhD thesis deals with the possibilities of clinical content harmonisation in electronic health records (EHR). In the first sections, the current state of the art in the field of EHR and other related fields is summarised, as well as that of the tools supported by current software technologies and the results of research in the field of medical informatics. The work is focused on analysis of obstacles in sharing medical data and on proposals of steps for overcoming these obstacles. Next, the utilized tools, modelling approaches, standards and coding systems used during the research are summed up. In the following sections the methods pointing to achieving harmonized clinical models are elaborated on and resulting clinical concepts mappings, supporting tools, developed EHR systems and semantic interoperability platforms are presented. In the conclusion these results are discussed and some future work is proposed.

Keywords: electronic health record, semantic interoperability, clinical content, harmonisation, HL7, archetypes