



Standardized Gastroscopy Report model & CDS rule based on Collaboration with HL7 and openEHR

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Audience

SNOMED CT implementers and users, especially is interested in standards of Information model , Terminology and Clinical Document Support

Objectives

To describe some lessons learned in implementing SNOMED CT and the use of Archetypes of openEHR & HL7. Especially to evaluate the CDSS rule of the model.

Abstract

Background: In recent years, development of healthcare information systems has increased all over the world. As a result, interoperability between hospital systems for information exchange has become crucial, and necessitates standardization of system structure and terminology. However, with numerous standards used in the worldwide, it is necessary to develop an integrated standard. Recently openEHR has presented the LinkEHR Archetype methodology as a vehicle by which to integrate standards.

Objectives: In this study, we applied the international standards of information model and terminology to promote interoperability of gastroscopy reports, the results of which drove in this study the development of a standardized CDS(Clinical Decision Support) rule engine that can be used in clinical practice.

Method: We used LinkEHR methodology presented by openEHR to standardize the Korean gastroscopy report. The LinkEHR derives the components of HL7 CDA model and transforms them into Archetypes. And we modified MST 3.0 of Standard Terminology for gastroscopy, which is proposed by World Organization for Digestive Endoscopy(OMED) and bound to SNOMED CT. To enable express more detailed diagnostic classifications, we applied post-coordination rules of SNOMED CT. And we developed the Rockall Scoring System's CDS rule engine based on openEHR GDL (Guideline Definition Language), which is applying for measuring the risk of gastrointestinal recurrent hemorrhage.

Result: We developed in total 15 Endoscopy Report Archetypes (1 endoscopy template Archetype, 5 endoscopy subsets Archetypes, 9 classifications Archetypes) and 1 GDL rule engine for Rockall scoring system.

Conclusion: Korean Standard endoscopy reports based on international standard information model and terminology will make it possible to exchange information between organizations by leveraging Semantic Interoperability of endoscopy results. In addition, the computerized Rockall Scoring System will contribute to the prevention of recurrent hemorrhage of the gastrointestinal tract.