

氏名	黄 勇
授与した学位	博 士
専攻分野の名称	医 学
学位授与番号	博甲第 3563 号
学位授与の日付	平成20年3月25日
学位授与の要件	医歯学総合研究科社会環境生命科学専攻 (学位規則第4条第1項該当)
学位論文題目	A Prototype Model Using Clinical Document Architecture (CDA) with a Japanese Local Standard - Designing and Implementing a Referral Letter System (CDAと日本の標準規格を用いた患者診療情報提供書システムの試作)
論文審査委員	教授 土居 弘幸 教授 荻野 景規 准教授 草野 研吾

学位論文内容の要旨

Since CDA became an American National Standards Institute (ANSI) -approved HL7 Standard, lots of countries began to do their efforts to make local standards conform to CDA. In order to make CDA compatible with kinds of local standards existing in different countries, we designed a prototype model using HL7 CDA R2 with Medical Markup Language (MML), a Japanese medical data exchange standard. Furthermore, a referral letter system based on this model was developed.

CDA is used world wide and is content-neutral in the sense that it only defines the structure in which that content must be formatted and coded for exchange, and it does not prescribe the clinical contents of a document. On the other hand, MML is actively used in a limited area and specifies more restrictions on the structure and content of a document. We tried to make these two standards work together to provide world wide standard to meet local clinical needs.

The development of this prototype model was performed by the following steps: 1) Generation of basic HL7 CDA library. 2) Development of archetypes and interface library. 3) Implementation of interface library. 4) Development of custom control library. 5) Development of a web-based system.

The Basic HL7 CDA Library was designed to simplify the process of retrieving or populating data with CDA XML document using object oriented techniques. Archetype library were used to express medical concepts in a formal format and make two different standards work collaboratively. The interface library and its implementation were proposed to lower the initial hurdle of using HL7 CDA. Custom control library was used to express a more specific concept in one control.

As CDA was conceived to represent any type of medical document, all the libraries can be distributed, re-used in different scenarios other than referral letter. These libraries were intended to ease the implementation of HL7 CDA and thereby to shorten development cycles and increase adaptation to end-users' needs. The research on using CDA with local standards is just beginning, there is much more work to be done, such as the extension of the document types scope more than referral letter and the combination with local standards other than MML.

論文審査結果の要旨

本研究は、電子カルテを活用し、医療機関相互の連携や他の医療機関における診療データのデータベース化を可能にする革新的システムを開発したものである。一般的な調査研究とは異なり、医療情報の効率的・合目的な活用を可能ならしめるソフトウェアを研究者本人が実際に開発し、Web上で内容と技術を公開している。普通であれば、ソフト会社と共同で特許を取り商品として売り出すことが可能な研究成果であるが、その内容を公開することにより、多数の研究者が同様なシステムを自由に改良することが可能となり、医療情報システムの開発そのものが大きく進展することが期待される。

よって、本研究者は、博士（医学）の学位を得る資格があると認める。