APPLICATION OF HL7 CDA R2 AND V3 MESSAGING FOR NATIONAL ePRESCRIPTION IN FINLAND

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Abstract: An overview of the national efforts on ePrescribing in Finland is described. The main focus is on the utilization of HL7 standards, an overview of main functional requirements, development and deployment plans are presented.

Oversight of the prescription and dispense process

Fig. 1 displays the most significant information flows of the prescription process. An agent (e.g. a doctor) writes a prescription in the eRx system, and sends it to the eRx service. The patient can ask for renewal in a healthcare facility or a pharmacy and receive the result of the renewal process via an SMS message. The patient can access the prescriptions securely on the web. Authentication is done with online banking passwords or by a PIN card.

Arbitrage and technology

The architecture is based on a centralized repository service for ePrescriptions and messages. The solution employs service-oriented programming and asynchronous web service interfaces to transfer HL7 V3 messages. In addition, services transport profile has been applied to transfer HL7 messages. All systems are connected through the same HL7 interface, which is a composition of HL7/SSL/TLS connections in their respective providers' metadata registries. This solution was developed using Java and Microsoft .NET which is a programming environment and a set of facilities that allow the development of applications in a Windows operating system environment. The system is available on the web, allowing the user to view the data securely on the web while taking the functional differences into account.

HL7 SOLUTION AND IMPLEMENTATION GUIDELINES

Background and rationale for selecting CDA R2 vs V3

Prescriptions need long-term preservation in eRx systems and are also exchanged with other systems. In 2007, HL7 Finland created a new implementation guideline for CDA R2 and V3. Systems can sign off with CDA R2 documents. The CDA R2 standard is a good choice for eRx systems as it allows for easy integration with legacy systems.

Patient Benefits of ePrescription

- no lost prescriptions
- less errors in prescription and dispense
- information on renewed prescriptions directly to mobile phone via SMS
- renewal requests can be made through pharmacists or service providers
- easy renewal of prescriptions based on citizen eAccess (in later phase)

Phase 1 Phase 2 Phase 3

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Table I gives an overview of the use cases that have been defined. In addition to this functionality, general supporting use cases have been added: authentication, logout and user rights management have been defined. Technical use cases include sending and receiving documents between eRx and other systems.

References: