Advanced Service Oriented Architecture (SOA) for the reuse of clinical data to enhance the collaboration between actors involved in the treatment of chronic and/or infectious diseases.

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Abstract

Nowadays, the necessity for an EHR to store all relevant healthcare information related to a person's lifetime to support treatment continuity, education and research is increasing. An efficient EHR system must be integrated within an architectural context designed to satisfy the needs of all actors involved in this information management by adding and integrating new functionalities to existing solutions, financed by previous investments. SOA provides a good approach to promote the easy integration and alignment of a new and existing solution into a cohesive architecture. The HL7-OMG HSSP program was formed to use the SOA approach to guarantee interoperability between applications and distributed and heterogeneous devices, by providing a set of standards to design and develop specific services. This paper describes the landscape architecture, based on an HSSP indication, which was proposed to support the collaboration between actors involved in the treatment of chronic and/or infectious diseases and in the surveillance of antibiotic multi-resistant micro-organisms; at present, this architectural solution is partially developed. In particular, the authors started the implementation of a Health Record Management Services and a Health Terminology Services which are already employed in two systems proposed within two different research projects: a tele-monitoring system to support the continuity of care of CHF patients and within a system to sustain the management of laboratory test results. The main advantage of the proposed architecture is its flexibility which allows it to be adapted over time and to be adopted in all health care scenarios.

Keywords: Electronic Health Record; Service Oriented Architecture; Clinical Data Reuse; Health Record Management Service; Health Terminology Services