MEDINFO 2007
HISA Ltd Australia
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Evolutions of the Brazilian Permanent Council of Health Standards

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Abstract

The Brazilian Permanent Council of Health Standards, COPISS in portuguese, consists of 21 stakeholders representing every part of health care system in Brazil: healthcare organizations and clinicians, patients, payers, government agencies and researchers. This council has been working on the evolution of the TISS standard, which establishes rules for data structure, terminology, communication and security policies between health plans organizations and health providers. The main evolution in TISS standard has been the design of web services to be adopted between their softwares to implement the electronic messages already defined. A reference implementation, called TISSNet, is a powerful JAVA solution for this. The COPISS results have been relevant in order to make achieve interoperability in private health care information systems.

Keywords:

medical informatics, standards

Introduction

Even though Brazil has achieved universal or near-universal cover through a national public health system, large population segments (25%), estimated as 180 million of people, are covered by private health plans. National Supplementary Health Agency, NSHA, (*"Agência Nacional de Saúde Suplementar"*) created in 2000, is responsible for regulating and assisting the private health plans organizations (HPOs), around 2000, and their integration with the health care providers (HPs).

The lack of health care data standards has led NSHA enact the federal normative resolution (RN no. 114), October 25, 2005, establishing the supplementary health information exchange standard (*"Troca de Informação em Saúde Suplementar", TISS*, in Portuguese*)*. Based on the structure of the American Health Insurance Portability and Accountability (HIPAA)[1], it establishes a set of standards for data exchange between HPOs and HPs, and also creates the Brazilian Permanent Council of Health Standards (*Comitê de Padronização de Informações em Saúde Suplementar*, COPISS, in Portuguese), which manages the implementation and evolution of TISS standard.

As a matter of fact, the COPISS has significantly contributed to achieve all stakeholders' consensus and even their recognition for the value of the interoperable data exchange. Through many debates and a collaborative methodology the stakeholders have considered the TISS standard the main project in the supplementary health market for the last years.

Methods

NSHA started the TISS standard development in 2002 as a research, sponsored by the Inter-American Development Bank (IDB). At the beginning it was a software development project based on any market health information standard. So NSHA decided to analyze some national and international standards and then developed a real national one. The software would be a reference implementation.

After disseminating the results of the research to all stakeholders through several seminars around the country, the market asked for a mandatory standard published in a resolution, which was finally enacted in October 2005. In fact, the TISS standard will be mandatory from May 2007, between HPOs and hospitals/laboratories; from November 2007 between HPOs and odontological clinics; and from November 2008 between HPOs and medical and dentist offices.

In order to improve the TISS standard, the resolution created the Brazilian Permanent Council of Health Standards, called COPISS, in Portuguese. This council has been working intensively since April 2006 and has accelerated the adoption of more standards in order to facilitate true interoperability on a national scale.

Results

Twenty-one organizations representing HPOs, HPs, federal agencies and academic and research institutions participate in COPISS. It has a coordinating committee and other four committees divided in the same way the normative resolution (RN no. 114) divides the TISS standard: data structure, terminology, communication and security.

The Data Structure Committee defines the data to be exchanged between HPOs and HPs either by paper forms

or electronic media and the terminology committee defines the semantic domains the data must adhere to.

The communication committee defines the possible transactions and protocols to be used; and the security standards define requirements to protect classified health information. The TISS communication committee is aimed at assuring interoperability between HPOs and HPs to the maximum possible extent.

It is important to mention that some significant results have been recently achieved mainly related to the communication standards. The communication committee has agreed upon a couple of rules defining a standard directory structure for batch file exchange, based on the inbox / outbox model, and a well defined set of web services in WSDL for on line transactions. NSHA has developed a reference implementation for the agreed and proposed communication standards, called TISSNet, available at the ANS web site: www.ans.gov.br, which implements each and every defined requisite. Developed entirely in JAVA 5, it can be used under Windows, Unix and MacIntosh unchanged, and is offered for free to the market, to be enhanced and improved by the players themselves. So far, it supports HTTPS, digital certification, zip compression, RIJNDAEL encryption and the JSR-181 (EJB-3.0) standard for web services, and can be wrapped into an ActiveX DLL to become a component for WINDOWS applications. Table 1 shows an example of the input / output TISS messages and web services between them.

Table 1 – TISS electronic messages and Web Services

Input Message	Web Service	Output Message
Claims/ encounter data	TISS-Claims/ encounter	Claims/encounter data response
Referrals and authorizations	TISS- Authorizations	Referrals and authorizations response
Claim status inquiry	TISS- Claim status	Claim status response
Eligibility inquiry	TISS- Eligibility	Eligibility response

Web services are a powerful tool to integrate disparate health care applications and will certainly bring many advantages to the Brazilian health care domain [2]. As can be seen, a set of web services will certainly address the functional interoperability, in other words, the ability of two or more system to exchange information. Even though it will be necessary to conform to the exact specification by calling Web Services with the names that have been specified, it may achieve a certain degree of semantic interoperability. So all information shared by systems will be understood by the receiving system. But authors consider that much has been done considering interoperability advances by COPISS. Soon NSHA intends to evaluate the use of the TISSNet software through a set of indicators and interviews and also the use of web services between the private health information systems.

Discussion

The creation of a council called COPISS has been fundamental to the evolution of health care standards in Brazil. Its members, both public and private, have been working all together in a collaborative way and have been disseminating the results for all health care organizations around the country. However, there are still relevant issues not discussed yet like vocabularies, unique drugs terminology, demographic services, reference model for data architecture, medical equipment, protocols for medical equipment and also standards for electronic prescribing and laboratory results. More studies should be done comparing the TISS standard and some international standards like ISO/ TC215, CEN/TC251 and HL7 [3], [4], [5].

Conclusion

COPISS is really a democratic forum, where standards are developed through an open-door consensus process and achieve their credibility by the participation of the stakeholders, often with contrasting or even opposing interests.

Only through this council, interoperability in health care systems will be achieved. The design of web services to change messages between HPOs and HPs is a good example. Another excellent example is the reference implementation, TISSNet, that will implement the proposed communication standards by all players since it is free and available on the web.

In such a huge market, as private health care is in Brazil, it is very important that government, HPOs and HPs work together.

References

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[2] Bicer V., Kilic O., Dogac A. Archetype-based semantic interoperability of web service messages in the Health Care Domain. 2005.
[3] International Organization for Standardization - ISO/TC 215 – http://www.iso.org
[4] European Standardization of Health Informatics. CEN/TC 251 - http://www.tc251wgiv.nhs.uk/pages/default.asp
[5] Health Level Seven. HL7 (ANSI) - http://www.hl7.org

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