

GLOBAL HEALTH INFORMATION TECHNOLOGY STANDARDS FOR INTEROPERABLE EHR

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AGENDA

- New Paradigm
- International Standards
- List of Relevant Standards
- Conclusion

WHAT IS STANDARD ?

ISO definition

“document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context”

WHY STANDARDS ?

- Need of interoperable functionality among different health information systems and medical devices and host computer(s) for :
 - EHRS
 - Easy development and deployment of interfaces
 - Reduction of costs

INTEROPERABILITY

- Interoperability : ability of two or more system or components to **exchange information** and to **use the information** that has been exchanged.

[source : IEEE Standard Computer Dictionary : A Compilation of IEEE Standard Computer Glossaries, IEEE, 1990]

Functional interoperability - Message format and content

Semantic interoperability - Terms (SNOMED-CT, LOINC), units

Service (Business) Interoperability – SOA, HISA

Vision : Plug and play (PnP)

EU DEFINITION OF INTEROPERABILITY

- *Interoperability*: in the context of eHealth, interoperability is the way in which reliable data is provided and communicated in a secure, accurate and efficient way. It has to surmount barriers of national policies, culture, language, and systems of medical knowledge representation and use of ICTs.

NEW PARADIGM OF HEALTH INFORMATION TECHNOLOGY

“Connect and Integrate & Patient Safety”

- **LHR- Longitudinal Health Record**
- **PHR – Personal Health Record**
- **EHR – Electronic Health Record**
- **EMR – Electronic Medical Record**

GLOBAL INTEROPERABLE EHR'S DEVELOPMENT

“Examples”

- **“Health-connect” in Australia**
- **“Infoway” in Canada**
- **“Connect for Health; NPfIT” in UK**
- **“NHIN” in USA**
- **“National EHR” in Japan**
- **“e-Health and EHR” in Korea**
- **“e-Health” in Malaysia**
- **NHII” in Taiwan**

GLOBAL SDOs

ISO (International Organization for Standardization) – Health informatics and other technical committees

IEC (International Electrical Commission) – Computer

ISO/IEC JTC1- All Information Technology except health

ITU (International Telecommunication Union) – Telecom.

HL7 (Health Level Seven) – EHR, Messaging & Communication

UN/EDIFACT (UN/EDI Finance, Administration, Commerce and Transportation) – EDI

UN/CEFACT(UN/Center for Electronic FACT) and OASIS – XML and ebXML

GLOBAL SDOs (2)

DICOM (Digitized Image Communication in Medicine) –
Medical image

IEEE (Institute of Electrical and Electronic Engineers) –
Network and Device Communication

CEN (Committee for European Normalisation) – as ISO

OMG (Object Management Group) – UML, CORBA

WHO – Classification of diseases (ICD), ICF

IHTSDO – SNOMED-CT

LOINC (Logical Object Identifiers Nomenclatures Codes)

STANDARDS CONFORMANCE TESTING ORGANIZATIONS

IHE (Integration of Healthcare Enterprise) –

“Connect-a-thon” demonstration of interoperability

“Interoperability Showcase” demonstration: XDS-
Radiology, Laboratory, Cardiology, Eyecare, Patient
Care Device, Patient Care Coordination, IT
Infrastructure

HIMSS (Health Information Management Systems
Society) – CCHIT Certification

CCHIT=Commission on Certification of Health
Information Technology

CURRENT PROBLEMS OF STANDARDS

- Conflicting standards
- Conflicting versions
- Conflicting implementations of same standard
- Lack of specific standards
- Duplication of standards
- A premature market for HIT standards
- Political barriers: different health systems and often low support for standardization

CURRENT PROBLEMS OF STANDARDS(2)

- SDO barriers: seeking returns from an expensive standardization process
- Company barriers: seeking returns from own standardization
- ICT user barriers: seeking to prevent costs of using standards
- Lack of certification

***HL7 AND CEN/TC251
STANDARDS IN
ISO/TC 215 TO BE
INTERNATIONAL STANDARDS***

***‘Single set of standard for
a single set of clinical business and
single test’***

ISO/CEN/HL7 Work Program Harmonization

• Integration Work Program Progress

- ISO –working with the form for integration
- CEN -example of requests from previous meeting
- HL7 – follow-up post Phoenix with WG co-chairs

• Awareness building

- Ideas / input / opportunities
- Distribution Lists / Notifications

International Agreements Used to increase ISO Standards Development

- The Vienna Agreement between ISO and CEN
- The Dresden Agreement between ISO and IEC
- ISO and HL7 Pilot agreement
- ISO and IEEE Partner SDO agreement
- ISO Liaisons (A-B-C-D)
 - Internal (between Technical Committees)
 - External with other organizations
- Harmonization Agreement between ISO/TC 215, HL7 and CEN/TC 251

The Future

- Developing countries should be included in standards work
- Technical Committee should have Multi-cultural representation
- Clinical users should be represented within the committee
 - Twinning, Funding, Technology transfer
- Negotiated idealism and realism
- Market relevance and timeliness
- Harmonization – HL7, CEN and others

Issues

- Global relevance of standards in healthcare
- Participating countries need to work with developing countries
- Standards reaching the marketplace in a timely manner
- Compliance testing
- Quality of service

How to Participate

- Provide comments on an ISO deliverable by becoming a member of the your Countries (National Member Body-NMB) Delegation
- Participate as an expert
- Provide feedback to appropriate organizations about ISO standards
- Participate in related organizations

ISO/TC Support

- Atsuko Saruhashi, ISO Technical Programme Manager
 - saruhashi@iso.org
- Audrey Dickerson, RN MS TC 215 Secretariat
 - adickerson@himss.org
- Mike Kroll, BA TC 215 Secretariat Support
 - mkroll@himss.org

WEBSITES

- ISO General Site
 - www.iso.ch
 - ISO/TC 215 SharePoint site for TC 215 Members:
 - <https://portal.himss.org/sites/ISOTC215/default.aspx>
 - For information on the TC 215 member site contact Mike Kroll at mkroll@himss.org or Audrey Dickerson, TC 215 Secretary at adickerson@himss.org
- Standards specific information
 - www.iso.ch/sdis

CONTACT INFORMATION

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