

Session 4

Conclusions & Recommendations

Gunnar Klein, M.D., Ph.D.

CEN/TC 251 chairman, ISO/TC 215/WG 4 convenor
SIS – Swedish Standards Institute and
Karolinska Institute, Stockholm, Sweden

Standardization in E-health



Presentations in Session 4

- **Models of electronic data interchange in e-health; Mr M Reynolds**
- **Technical advantages of using ASN.1. for Telemedicine/E-Health, Mr J Larmouth, UK**
- **Towards Standards for Management and Transmission of Medical Data in Web Technology; Mr F. Sicurello, Italian Telemedicine Association, President**

Standardization in E-health



Highlights from Presentation 1: “Models of electronic data interchange in e-health”

■ Medical records and medical data:

models of electronic data interchange:

- ◆ Text, and rarely with supplementary complex information
- ◆ As messages or documents
- ◆ Need to understand how to do information management and technology:

what, why and how?

by whom, and when?

Standardization in E-health



Highlights from Presentation 2

“Technical advantages of using ASN.1. for Telemedicine/E-Health”

- It is a notation for defining the content – the abstract syntax of documents
 - ◆ supported by compact binary encoding rules
- All message formats defined using ASN.1 can have both an XML format and a binary format
- Tools are available to map message formats between compact binary and XML formats for such messages (in both directions)
- Ongoing work: The application of ASN.1 to SOAP and web services, mapping UML to ASN.1

Standardization in E-health



Highlights from Presentation 3

“Towards Standards for Management and Transmission of Medical Data in Web Technology”

Phases of medical record standardization process:

1. structure analysis of medical records;
2. random retrieval and review of records of cases;
3. comparison of the results among the different records;
4. recording of data from new cases using a common record format.

Standardization in E-health



Highlights from European E H R standards work

EHR

The electronic health record
for one person

Folders

High-level organisation of the EHR
e.g. per episode, per clinical speciality

Composition

Set of entries committed at one date/time
e.g. progress note, report, letter, test result

Sections

Clinical headings reflecting the workflow
and consultation/reasoning process

Entries

Clinical “statements” about Observations,
Evaluations, and Instructions

Clusters

Compound entries
e.g. blood pressure, full blood count

Elements

Element entries
e.g. reason for encounter, body weight

Data values

e.g. Coded terms from term sets,
measurements with units

Standardization in E-health



Overview of issues in the session

- Different health care organizations need to be able to communicate structured health records electronically.
- The major requirement is for a store and forward service with standard e-mail techniques, today mainly SMTP but still X400 MHS is used in several European countries for health messages.
- The lack of implemented standard structures for electronic health record is a major difficulty. There are promising standardization activities going on in CEN and ISO that should be given strong support particularly with implementation and national and specialty customization.

Standardization in E-health



Overview of issues in the session

- Structured health records should in some cases be able to contain multimedia representation with different possibilities for changing the rendering of the primary captured image objects.
- A major issue for interoperability of health records even if the new basic structure standards are used is to have available templates for different uses and large international reference terminologies for different purposes, lists of findings, diagnoses, procedures etc.
- International co-operation and governmental steering may be required.

Standardization in E-health



Recommendations for an Action plan

- **Joint forum for planning co-ordination**
 - ◆ A planning group with representatives of major organizations involved in eHealth standardization shall be formed which also includes representatives of some international health related stakeholders.
- The following organizations will start this group: ITU-T, ISO, CEN, DICOM, IEEE, WHO
- The task is to increase information about ongoing standards activities in the respective organizations, avoid duplication and enhance co-operation where appropriate.

Standardization in E-health



Recommendations for an Action plan

- **An action for international information about standards for eHealth**
- An activity should be started within ITU-D with the assistance of the above-mentioned planning group to disseminate information about available standards for eHealth and ongoing activities of different organizations. This activity may involve the web, conferences and special seminars and courses in different countries. There will be an emphasis on the needs of the developing countries.
- This will also include dissemination of information on relevant intersector standards for eHealth.

Standardization in E-health



Recommendations for an Action plan

- **Pilot project demonstrations**
- ITU-D shall in its further work with pilot projects in developing countries make a special effort of ensuring that standards are used and demonstrated

Standardization in E-health

