e−Health Workshop: Interoperability

Yun Sik Kwak
Dept Medical Informatics
Kyungpook Nat’l Univ Sch Med, Daegu, Korea
http://www.ihis.or.kr

July 16, 2003
Rationale

Life Saver

“Care Information anytime anywhere”
Background

• Economy
• Geriatric society
• Chronic Disease management
• Developing countries’ need
• Communication between patients and care providers
• ISO, ITU-T, WHO, Space Agencies, others push for e-Health Standardization

“Hot topic”
Internet and Multimedia based EHR

• Access to search engines
• Security
• Access to specific info sources with enhanced search
• Electronic mail
• Patient Education (wellness)
• Continuing Medical Education
• Internal Web servers for information distribution
• Remote access
• Tele Medicine
• Tele Radiology
• Electronic Patient Record
Multimedia based EMR

Functional Components of EMRs should include:

Electronic access to test results
Master member index
Clinical documentation
Physician order entry
Scanned paper documents
Clinical protocols
Clinical alerts
Diagnostic imagery
Clinical decision support
Video
Audio

Source: Center for Healthcare Information Management
e-Health Systems

- Business Models
- Communications and messaging
  Interoperability:
  - Functional
  - Semantic
  - Human
Interoperability

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


  Functional interoperability
  Semantic interoperability
  Human interoperability
Interoperability (2)

- Standards required
  - Vocabulary, terminology, coding
  - ICD 9 CM, ICD 10, ICD 03 (WHO)
  - SNOMED RT, SNOMED CT (CAP)
  - READ
  - LOINC (Logical Object Identifier Nomenclature and Code)
    (C. McDonald, Indiana Univ)
  - HL7 Vocabulary (Ed Hammond)
- Unique ID – patients, providers, health care organizations, employers, insurance co, place of birth, country, etc
ISO/OSI 7 Layers

- Focus is primarily on Level 7 interoperability
- Medical Device Communications covers all 7 layers.

ISO/OSI Levels:
- Level 7: Application
- Level 6: Presentation
- Level 5: Session
- Level 4: Transport
- Level 3: Network
- Level 2: Datalink
- Level 1: Physical
e-Health Workshop

- ISIS - Profs. S K Mun: managing DM CHF
  J Collmann: HIPAA
  HY Chung: OR 2020
- IHIS – Prof IK Kim: developing IHIS
  JW Choi: vEMR and CDA
- Demo on “Cross Strait Endoscopy Telehealth”
- IBM – Information Challenges in HC Industry
- SDS – U-Healthcare and IT
- Panel Discussion
- Closing remarks
Thank you

Life Saver
“Care Information anytime anywhere”

July 16, 2003
At ISIS