Standards for telemedicine, infrastructure and financing

Saptarshi Purkayastha
Consultant, WHO SEARO
Research Fellow, Norwegian University of Science & Technology
Contextual challenges (1)

• Inequity in health-care providers between rural and urban areas
Contextual challenges (2)

• Balancing resources (public health planning)
  – Health care providers
  – Facilities
  – Finance
  – Drugs

• Wishful thinking

• Non-evidence based
Telemedicine (eHealth?)

- **Telemedicine** can be broadly defined as the use of ICT to provide medical information and services (Perednia & Allen, 1995)

- **eHealth** is a new term needed to describe the combined use of ICT in the health sector... the use in the health sector of digital data - transmitted, stored and retrieved electronically - for clinical, educational and administrative purposes, both at the local site and at distance (Mitchell, 1999)

- What is e-Health (2): The death of telemedicine? (Mea, 2001)

- Lets get more specific – teleconsultations?
  - Provider to Specialist Provider
  - Patient to Provider
  - Patient to Patient (OR) Provider to Provider (CBPP?)
Standards of Practice

• Adopting standards (like adopting a baby? or making a baby?)

• Standards of Telemedicine practices
  – Should you overload the already busy healthcare provider?
  – Motivations for specialist/providers to take up “extra” work
  – Synchronous or Asynchronous consultations
  – Emergency or chronic cases

• Sharing patient records
  – Should we talk of Patient privacy or Patient ownership
  – Laws for privacy, accountability (QA), theft
Technology Standards

• Global technical standards very different from local needs
  – Unaffordable equipments (tele-surgery, X-ray digitizers etc.)
  – High-bandwidth standards (DICOM, Live video calls etc.)
  – Automatic face-blurring, abstract identifiers etc. standards, not part of global standards, but rather laws or acts (local)

• Using open-source (FOSS) to freely modify (and map) global standards into local needs. OpenMRS is a FOSS EMR based on concept dictionary
  – Local concepts mapped to ICD-10
  – Derived terms from drug ordering (RxTerms based on RxNorm)
  – Logical Observation Identifiers Names and Codes (LOINC) and using the RELMA program to map local codes to LOINC terms

• Creating sharable patient records (HL7) from teleconsulation encounters. Allow Continuity of Care Record (CCR) or similar document (CDA) to be shared between providers
Technology Standards (2)

- FOSS tools for Management Information Systems enable to create sustainable platforms to integrate health programs.

- DHIS 2 is the largest and free platform with open metamodel that can be used to manage health programs, including facilities lists, metadata, indicators, drug availability.

- A federated data warehouse approach to manage Big Data. Understanding that organizational capabilities add to “bigness” of data.

- Expand low infrastructure through cloud services to manage Big Data. Tools like DHIS 2 provide Analytics-as-a-Service (AaaS), when hosted in cloud infrastructure (IaaS).
Socio-technical futures

• Using existing installed bases
  – Ensuring ownership through use of biometric transfer of patient records (UID in India)
  – Social networks like Facebook™ (closed groups), Google+™ (hangouts for multi-user video conferencing), Twitter™ (epidemic alerts). Instead of considering them as “enemies of the state”, how to “mashup” sharable information, ensuring QA and enable peer consultations
  – Creating medical curriculum based on teleconsultation cases and “incentivizing” research on these services

• Facilitating “Universal Health Coverage” through teleconsultation by patient empowerment. So patient chooses “User-driven healthcare”
Thank you

Email:

saptarsp@idi.ntnu.no
sunbiz@gmail.com