mobility  autonomy  interoperability

paradigms of an efficient empowered healthcare system

Christian Lovis

Service of Medical Informatics
Unit of Clinical Informatics

Geneva University Hospitals
Switzerland
bio to socio – an integrated network
Made of wood and brass, this is one of the original stethoscopes belonging to the French physician Rene Theophile Laennec (1781-1826) who devised the first stethoscope in 1816. It consists of a single hollow tube. The familiar binaural stethoscope, with rubber tubing going to both ears, was not developed until the 1850s. Regarded as the father of chest medicine, Laennec demonstrated the importance of the instrument in diagnosing diseases of the lungs, heart and vascular systems. Ironically, he died of tuberculosis.
citizen and patient centered paradigm

past  
- documentation
- population health
  - the analysis and processing of consolidated events on a population basis allowing a finer understanding of health and disease determinants
- patient history
  - the patient history is the sum of all events linked to the patient's file, including all events coming from the health system related to him
- continuum of care
  - the patient's history include all action's actions in his own history

present  
- decisions and acts
- real-time whiteboards
  - whiteboards can deliver real-time information, such as lab lead on hospital activity and improve the work of care providers and the efficiency of managers
- actual care planning
  - clear view of all present actions allows efficient care and better understanding of the case, eases decision taking
- patient agenda
  - a consolidated patient agenda summarizes all events to come and helps care providers to manage time, care and organize ward's work; it is a precious patient's empowerment tool

future  
- scheduling and planning
- preventive medicine
  - the ability to generate future events, such as check-ups, immunizations, and careful imaging large populations-based actions and follow-ups
- clinical pathways
  - care organized in clinical pathways that are planned and scheduled coherently according to patient and health system resources
- order sets, decision support
  - well-organized order sets compliant with electronic support leverage care providers' efficiency and improves quality of care

workflow
global challenges

- health and wellness
- mobility and autonomy
- patient empowerment
- healthcare system efficiency

role and characteristics of a new player

mobile health
health and wellness

- boundaries are soften
- continuum from wellness, health to disease
- need to bridge the gap
- mobility is increasing,
supported by policies: insurance card, patient record
healthcare efficiency

- paradigm shift towards ambulatory care and « home hospitalisation »

- early discharge from acute care facilities

- avoidance of inappropriate hospitalization

- lowering transfert from long term to acute care facilities
local framework - legal, ethical

• legal constraints (CST-13, LPD, OLPD)
  • data belong to patient
  • usage must be done as expressed during acquisition
  • acquisition must be « proportioned » to needs
  • traceability must be ensured

• institutional background
  • head of medical services are responsible
  • billing, fee for services
  • access policy management

• technical context
  • patient identification
  • data interoperability
  • semantic identification
cycle of knowledge

ideal world

information, knowledge

just in time

at the point of care

data, signals

integration, interpretation

decisions, actions

real world
conclusion

• a vision
• a need
• a market
• a culture to be changed
• the need for convincing experiences
• must be integrated in existing systems
• cognitive collaborative space
Confusion of goals and perfection of means seems, in my opinion, to characterize our age

_A. Einstein_