Medical Informatics in Taiwan

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Scale of Healthcare in Taiwan

- Population: 23 million
- Insurance: universal coverage, by National Health Insurance Bureau
- Outpatient visits: 300 million/year
- Inpatient stays: 28 million man-day/year
- Budget:
  - Public: 10 billion USD/year
  - Private: 10 billion USD/year
600 hospitals
- 70% computerized, 50% with some kind of clinical information system

9,000 primary care clinics
- 70% computerized and paperless
Outline

- Government effort
- A growing industry
- Academic
Government Effort
Major Projects from DOH

Health Smart Card
- A 120 million USD, 3-year project
- 23 million smart cards for everyone
- 2003 → store health insurance information
- 2004 → store vaccination hx, medication hx, ICD-9-CM codes, major medical examinations…etc.

Still debating
eHealth Services Project:

- A 40 million USD, 4-year project
- Medical Information Exchange
  - Inter-hospital exchange of patient information as well as providing personal health record to individuals
- Adoption of Electronic Patient Record
  - Encourage hospitals to go paperless
eHealth Services Project (cont.)
- Health Certificate Authority (HCA)
  - Issue certificates (using PKI) for all hospitals and health professionals
- National Guideline for Healthcare Information System functional requirement
- Consumer Health Information websites critiquing and certifying
- HIPAA related legislation
- Promotion of standards → HL7, DICOM, IHE
A Growing Industry
Medical Informatics Industry

- It is recognized by the Ministry of Economy as a high potential industry in Bio-tech
- It is estimated that the hospitals (not including the clinics) would spend up to 1 billion USD on IT outsourcing in the next 3 years
Medical Informatics Industry (cont.)

- Several big Taiwan-based companies are starting to invest on Medical Informatics projects
  - e.g. Acer, Teco electronics…etc.
- Invest on standards like IHE, HIS guideline in its early phases
Fast Academia Development
Universities

There are now more than ten formal degree granting departments from public and private universities offering degrees from undergraduate diploma to Ph.D.

Different Emphasis on

- Clinical Informatics
- Bioinformatics
- Health Informatics
- Nursing Informatics
Universities (cont.)

- Prominent examples
  - Taipei Medical University (Graduate Institute of Medical Informatics-GIMI)
    - 60 master and Ph.D. students
  - Yang-Ming University
    - 40 master and Ph.D. students
  - Tsu-Chi University
    - Enroll 50 bachelor students every year
Associations and Activities
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Taiwan Association of Medical Informatics (TAMI)

- established in 1991, now with 500+ voting members, all major hospitals and the department of health are current members
- Holds a major annual conference - MIST (Medical Informatics Symposium in Taiwan) every year with 300-500 attendees
- Act as a liaison in major issues like Health Smart Card and Electronic Patient Record between government agencies and other organizations
- Sits in the National Committee on the Development of Health and Medical Informatics
Associations and Activities (cont.)

- HL7 Taiwan
  - Established in 2001, member of HL7 international affiliate, now with 200+ voting members

- DICOM Taiwan
  - Established in 2001, member of DICOM committee
Future
Future Projects

- eHealth Services Project (2001~2005)
- National Health Information Infrastructure
- Patient Safety Informatics
- More integration with the Bioinformatics community