From Euphoria to Pragmatism:
The experience and potentials of eHealth in Asia

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- "eHealth is the cost-effective and secure use of information and communications technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research". -

WHO

- Can eHealth have a positive effect on health care delivery in developing countries?

- Can eHealth help ultimately reduce the global burden of disease?
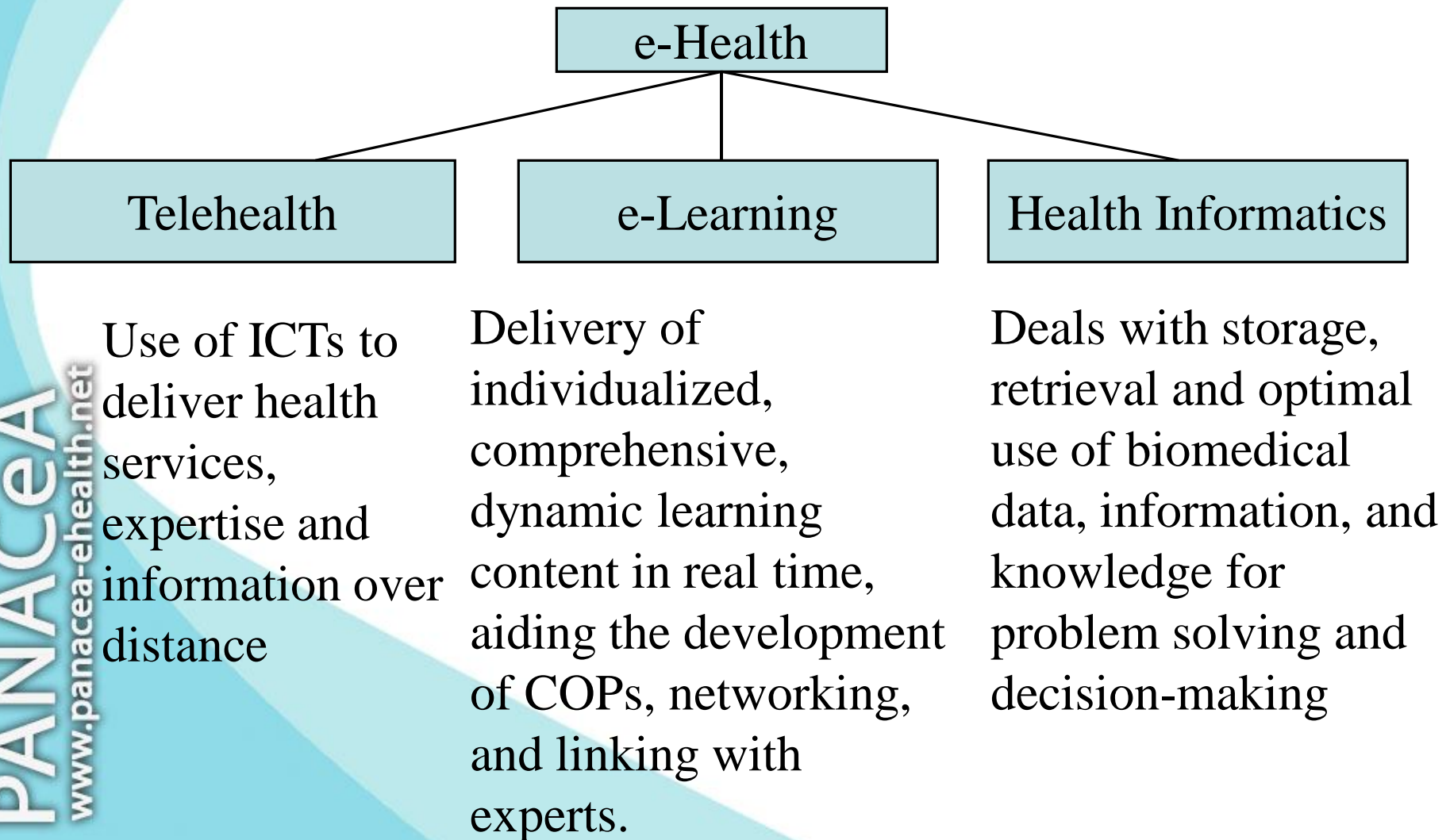
eHealth can be good for...

- Eliminating the impact of distance
- Reducing impact of "time"
- Increasing access (information, education, services)
- Standardizing processes (consistency, quality)
- Increasing equity

Why do we go for eHealth?

- Trends
- Needs-based
  - Addressing existing issues and gaps
  - Opening new avenues
- New demands on healthcare
- Managing costs
- Continuum of care
- Public Health
- Monitoring & Evaluation

eHealth & Components

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                    │   e-Health  │
                    └─────────────┘
           ┌───────────────┼───────────────┐
    ┌─────────────┐ ┌─────────────┐ ┌──────────────────┐
    │  Telehealth │ │  e-Learning │ │ Health Informatics│
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Telehealth	e-Learning	Health Informatics
Use of ICTs to deliver health services, expertise and information over distance	Delivery of individualized, comprehensive, dynamic learning content in real time, aiding the development of COPs, networking, and linking with experts.	Deals with storage, retrieval and optimal use of biomedical data, information, and knowledge for problem solving and decision-making

Telehealth

- Remote consultation
- Referral systems
- Remote surgery
- Home, consumer-led telehealth

eLearning

- Access to Sources of Knowledge
- Borderless Sharing of Resources
- Web-based Resources and Courses
- Video-conferences
  - ➤ Meetings
  - ➤ On-job trainings

Health Informatics

- HIS
- e-Surveillance + Rapid Disease-Detection Systems
- Electronic Health Records
- Picture Archiving and Communication System (PACS)
- Knowledge management

Applications

- Store and forward
  - EHR
  - e-mail consultations + Telemonitoring
  - e-Learning
- Live
  - videoconferencing
  - Tele-consultations (Clinics)
  - e-Learning
  - Supervisions
- Combination

Applications in Medicine

- Radiology
- Pathology
- Dermatology
- Obs & Gyn
- Surgery
- Medicine
- Psychiatry
- Community and Family Medicine
- Infectious Diseases

But there are still barriers!

- Organizational (culture, work flow)

- Human (lack of appropriate, skilled staff, resistance to change)

- Medico-legal, ethical

Continuing "Digital Divide" in Asia

- Cost of hardware and software
- Limited availability of fast broadband and mobile networks
- Slow development of software in languages other than English

Issues

- Sustainability
- Cost
- Turf issues
- Lack of interoperability
- Competing standards
- Cross-border issues
- Socio-cultural (i.e. gender, status)
- Ethical
- Resistance to change, perceptions
- Policy, governance gaps
- Expertise (ICT vs. health/medicine, brain drain)

Status of eHealth research in Asia

Countries invovled in telehealth studies

- Systematic review (Durrani, et. al., 2008)
- Few papers done in Asia
- 109 papers from 1997- 2008

Mixed countries
6%

Japan
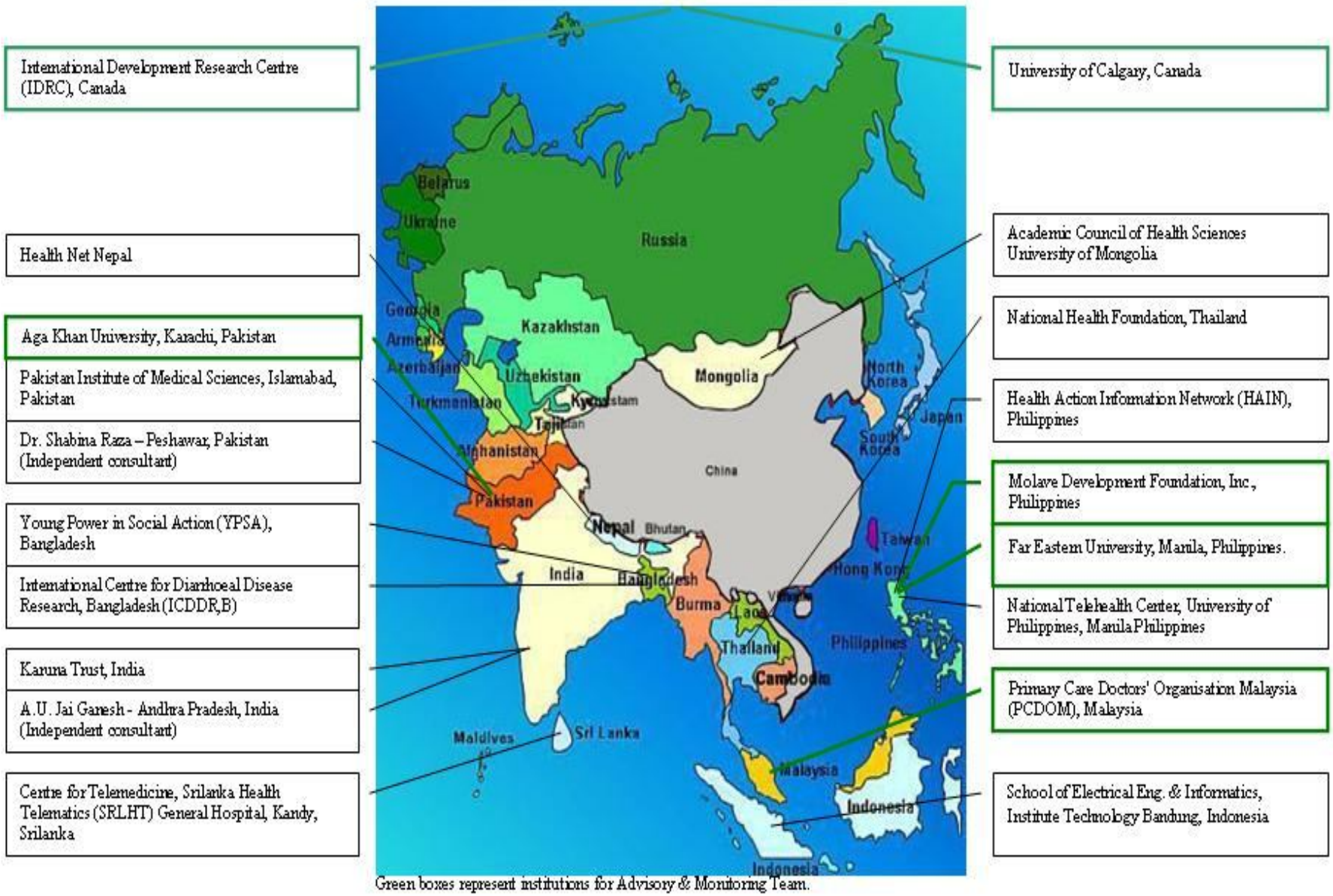35%

Others
29%

Israel
6%

South Korea
7%

Hong kong
8%

India
9%
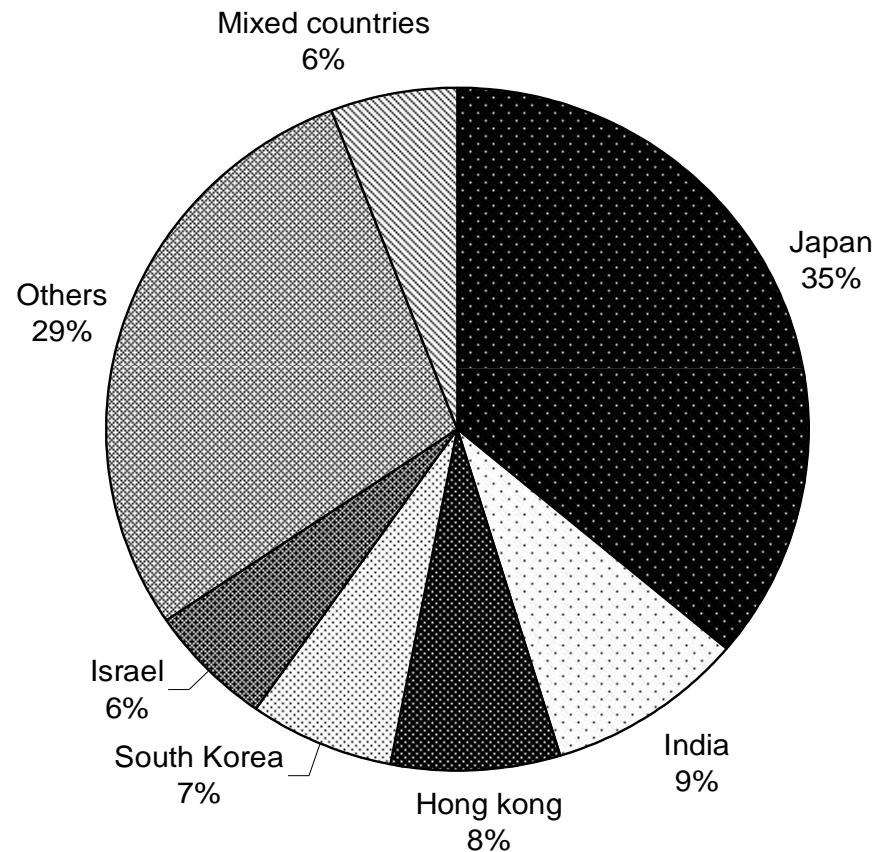
Research Types and Quality

Level Of Evidence	Type of Study	Number of studies	Strength of Evidence
Level I	Meta Analyses of RCTs	-	Good
Level II	Large Sample RCTs	4	
Level III	Small Sample RCTs	4	Good to Fair
Level IV	Prospective Studies	10	
Level V	Retrospective Studies	4	
Level VI	Cohort	-	
Level VII	Case Control	4	
Level VIII	Descriptive studies, NCCS	44	Poor
Level IX	Case reports or Anecdotes	39	

Findings

- **Studies** that have emerged on telehealth applications are useful but lack good quality studies and in some cases the **generalizability and scalability** is limited to specific settings

- **Gaps** are there in form of Lack of **evidence, readiness and policies**

- Many studies did not demonstrate potential to **scale up**, and be **sustainable**

PANACeA -PAN Asian Collaboration for evidence-based e-health Adoption and Application

International Development Research Centre (IDRC), Canada

University of Calgary, Canada

Health Net Nepal

Academic Council of Health Sciences University of Mongolia

National Health Foundation, Thailand

Aga Khan University, Karachi, Pakistan

Pakistan Institute of Medical Sciences, Islamabad, Pakistan

Dr. Shabina Raza – Peshawar, Pakistan (Independent consultant)

Health Action Information Network (HAIN), Philippines

Molave Development Foundation, Inc., Philippines

Young Power in Social Action (YPSA), Bangladesh

Far Eastern University, Manila, Philippines.

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

National Telehealth Center, University of Philippines, Manila Philippines

Karuna Trust, India

A.U. Jai Ganesh - Andhra Pradesh, India (Independent consultant)

Primary Care Doctors' Organisation Malaysia (PCDOM), Malaysia

Centre for Telemedicine, Srilanka Health Telematics (SRLHT) General Hospital, Kandy, Srilanka

School of Electrical Eng. & Informatics, Institute Technology Bandung, Indonesia

Green boxes represent institutions for Advisory & Monitoring Team.

Projects	Leading Country	Other partners
Cost Benefit Analysis of available Hospital Information management system data mining and data warehousing	Pakistan	Thailand Philippines India
Portable System for Telemedicine and Health Information in Rural and Remote Areas	Malaysia	Sri Lanka Bangladesh Philippines Nepal
Remote Consultation to Improve Health Services for Rural Mothers	Mongolia	Philippines
Mainstreaming e-health initiatives in primary care: an evidence-based approach	Philippines	Pakistan India
Real-time Biosurveillance	Sri Lanka	India Canada, USA
Online TB Diagnostic Committees for Clinically Suspect Sputum Negative Patients in the TB-DOTS Program	Philippines	Pakistan India Thailand
Disaster / Emergency Telemedicine System	Indonesia	Philippines, India
Use of Mobile Phone in Bridging the Gap for Referral of Pregnant Women	Philippines	Pakistan Indonesia

PANACeA Research Issues

- Applications with the most beneficial outcomes on people's health and health systems

- Reaching populations without adequate access to health services

- Potential of using new pervasive technologies (mobile phones, PDAs etc.) and open source softwares

- Applications best suited to help prepare for, or mitigate the effects of, pandemics such as SARS and the Avian Flu?

Research Questions

- Which e-health applications and practices have had the most beneficial outcomes?

- What are the best ways for ensuring that beneficial outcomes can reach the population?

- What is the potential of using new pervasive technologies such as mobile phones / PDAs?

- What types of technologies / applications are best suited to help prepare for, or mitigate the effects of, disasters, pandemics and emerging and re-emerging diseases?

Being pragmatic… lessons learned in the Philippines

- Start from where the people are.
- Identify appropriate, available, accessible and culturally-acceptable technologies.
- Embed the technology into the local fabric.

Final points

- Build capacity of health workers, students
- Integrate eHealth, Medical Informatics in the medical curriculum
- Talk with the ICT sector
- Be innovative
- Don't be tech crazy
- Go Free and Open Source!

PANACeA

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"The purpose of medicine is to prevent significant disease, to decrease pain and to postpone death... Technology has to support these goals-if not, it may even be counterproductive."

Dr. Joel J.Nobel

eHealth is anything you want it to be!

- Dr. Richard Scott

References

- Durrani, et. al. 2008. Does current evidence support use of telehealth in Asian countries? Results from Systematic Review. Canadian Society of Telehealth.

- Wootton, R., et.al. 2009. Telehealth in the Developing World. Royal Society of Medicine Press, London.

Thank You!

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