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week

**11 - 13 MAY 2015**  
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Ministry of Health  
Republic of Latvia

**meHEALTH**  
by health professionals



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**WHIT**  
Conference & Exhibition  
2015, London

# **BUILDING A NATIONAL ELECTRONIC MEDICAL RECORD EXCHANGE SYSTEM-- EXPERIENCES IN TAIWAN**

**Min-Huei (Marc) Hsu, Ministry of Health and Welfare, Taiwan**

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# Where is Taiwan?





# Taiwan -2014

- Land area : 36,192 sq Km (13,975 sq mile)
- Population : 23 million
- Age over 65 : 11.0%
- GDP : US\$ 20,925 per capita
- National Health Expenditure : US\$ 1,087 per capita
- NHE in GDP : **6.6 %**
- Life expectancy : **79.51**, 76.2 (M), 83.0 (W)

# Major Features of NHI in Taiwan

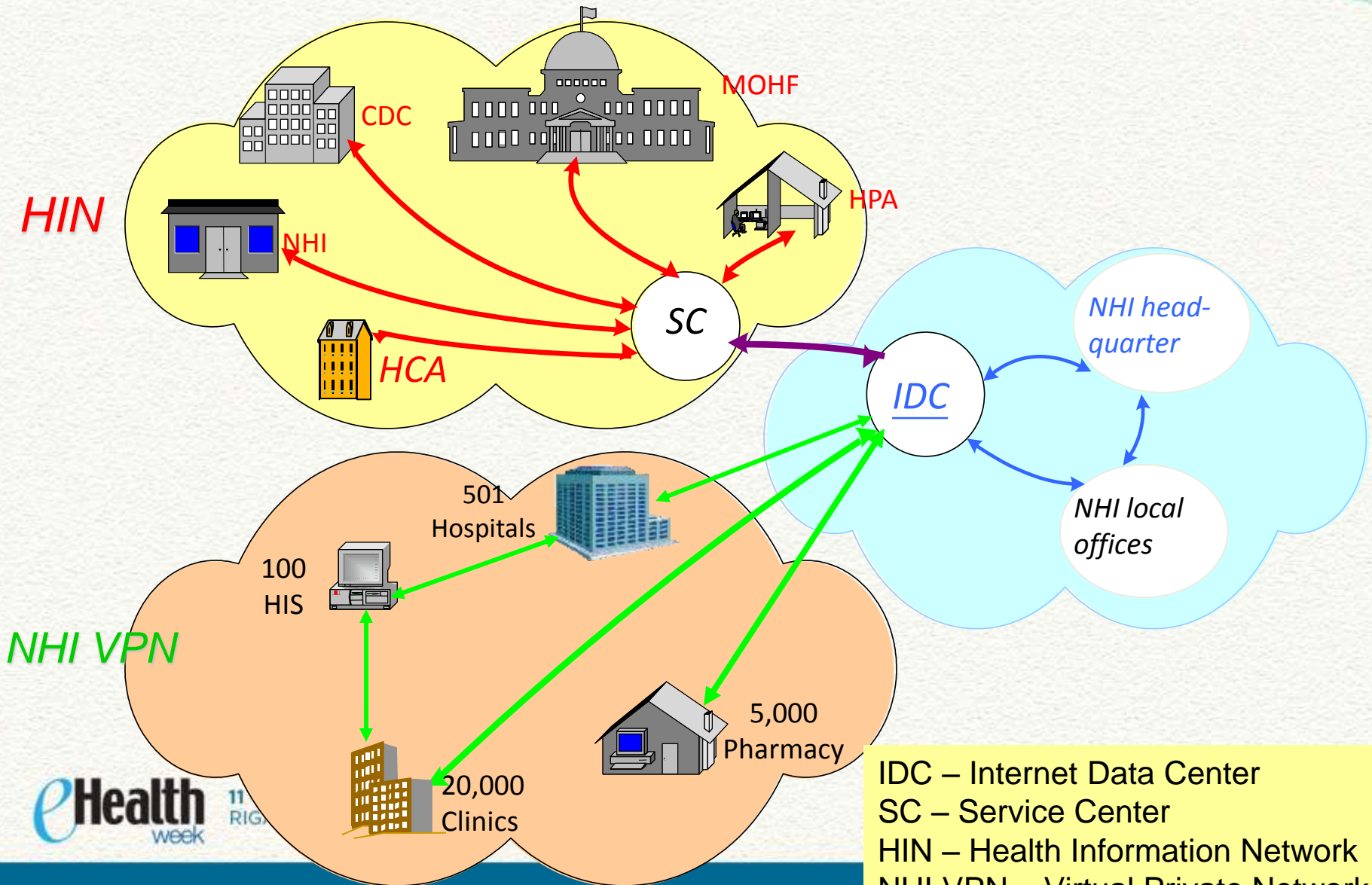
- Single Payer
- Universal coverage
- Comprehensive and uniform benefits
- Unlimited freedom of choice (No gatekeeper)
- Easy access and timely service
- Acceptable quality of care
- Affordable cost
- High public satisfaction
- Health IT adoption



# Health IT Adoption in Taiwan

- Health Information Network (HIN)
  - Initiated in 1988
  - Three regional network centers across Taiwan connected with frame-relay to DOH
  - Only major public hospitals were connected
  - Was not fully functional
- Health Information Network 2.0 (HIN 2.0)
  - Since 1998
  - Three regional network centers across Taiwan connected with ATM to DOH
  - Most of the public hospitals and more than 300 local health offices connected to HIN 2.0 using 64K ~ T1 connections
  - Supports electronic claim submission and other health administration functions
- National Health Informatics Project (NHIP)
  - Since 2008
- Taiwan Health Cloud
  - Since 2013

# The NHI VPN





# Health Smart Card



RSA Card issues from HCA  
to health professionals

non-RSA Card for all citizens



# Dual-card System



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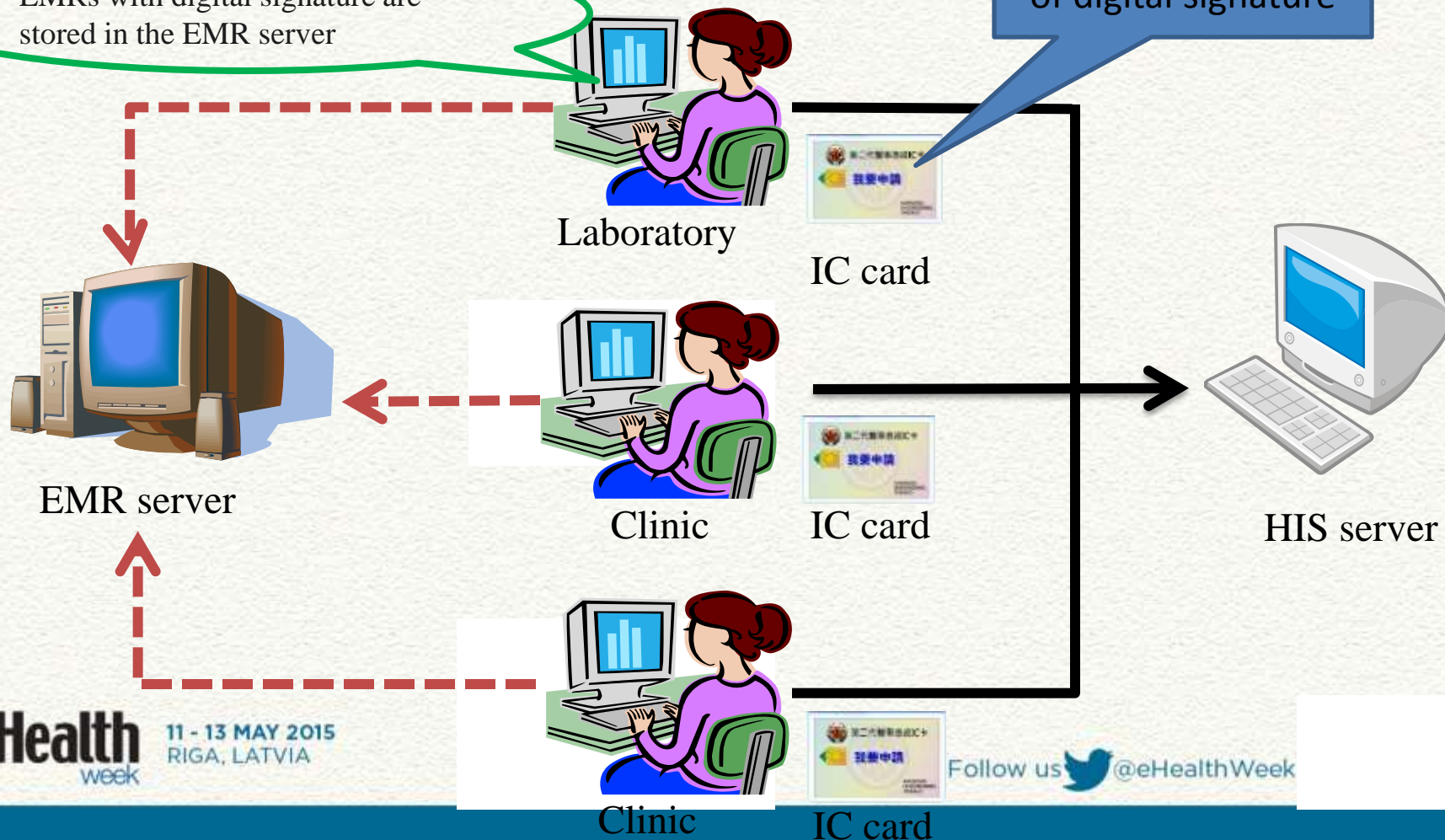
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# Electronic Medical Record with Digital Signature

EMRs with digital signature are stored in the EMR server

A core component of digital signature

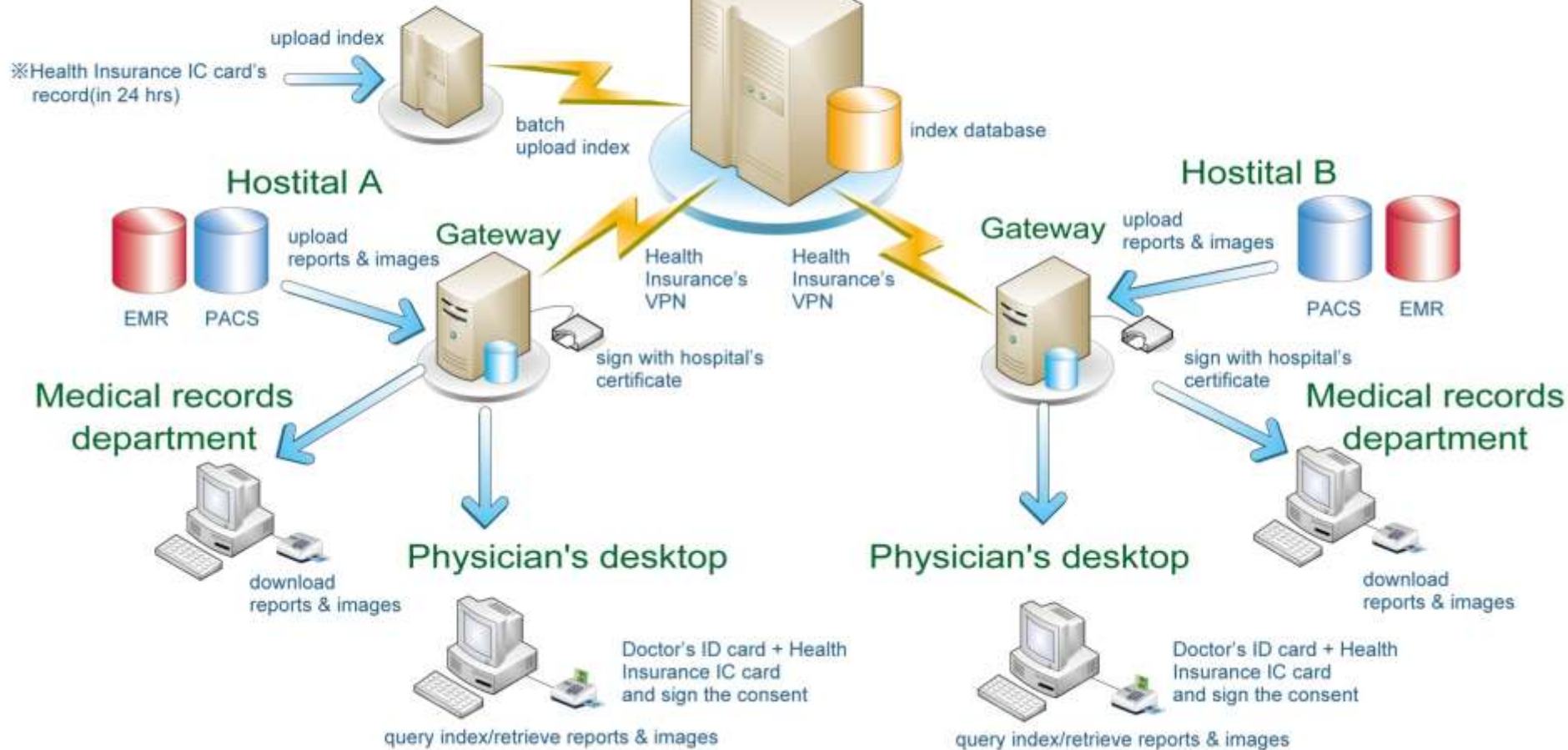




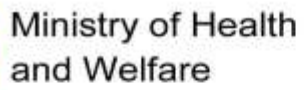
# Ministry of Health and Welfare

## National EMR Exchange Center (EEC)

### National Health Insurance Administration

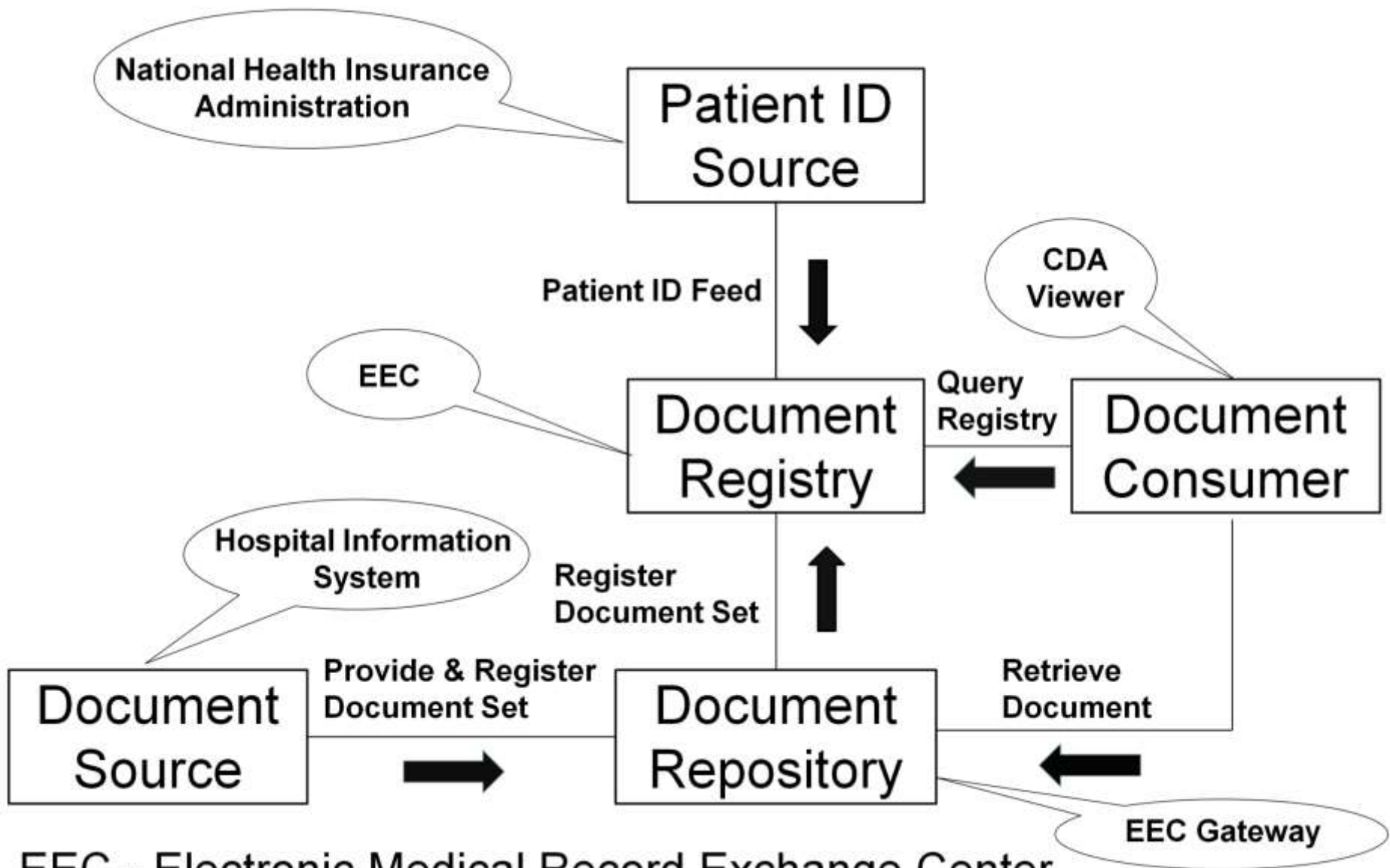






## Inter-hospital Exchange through National EMR Exchange Center





EEC - Electronic Medical Record Exchange Center





ELSEVIER

journal homepage: [www.intl.elsevierhealth.com/journals/cmpb](http://www.intl.elsevierhealth.com/journals/cmpb)



## Building a National Electronic Medical Record Exchange System – Experiences in Taiwan

Q1 Yu-Chuan (Jack) Li<sup>a</sup>, Ju-Chuan Yen<sup>a</sup>, Wen-Ta Chiu<sup>b</sup>, Wen-Shan Jian<sup>c</sup>,  
Shabbir Syed-Abdul<sup>a</sup>, Min-Huei Hsu<sup>a,\*</sup>

<sup>a</sup> Graduate Institute of Biomedical Informatics, College of Medical Science and Technology, Taipei Medical University, Taipei, Taiwan

<sup>b</sup> Graduate Institute of Injury Prevention and Control, College of Public Health and Nutrition, Taipei Medical University, Taipei, Taiwan

<sup>c</sup> School of Health Care Administration, Taipei Medical University, Taipei, Taiwan

# National Taiwan University Hospital



508 m



# Mobile Clinics







# Healthcare Innovation 2014



**NHIA**

*NHI IC Card*

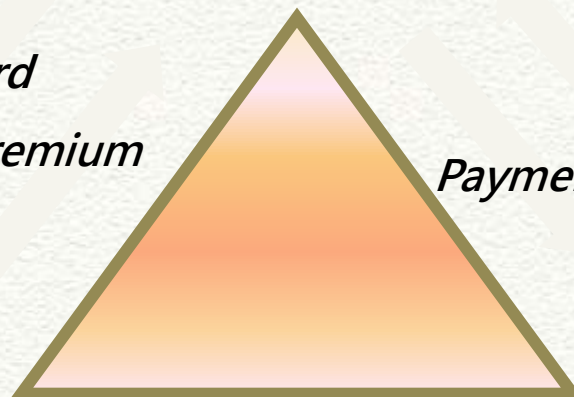
**My Health Bank**

*Premium*

*Claim Data*

*Payments*

**NHI PharmaCloud**



*Healthcare Services*

*Copayment*



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# Telemonitoring of blood pressure/blood sugar with integration of CPOE









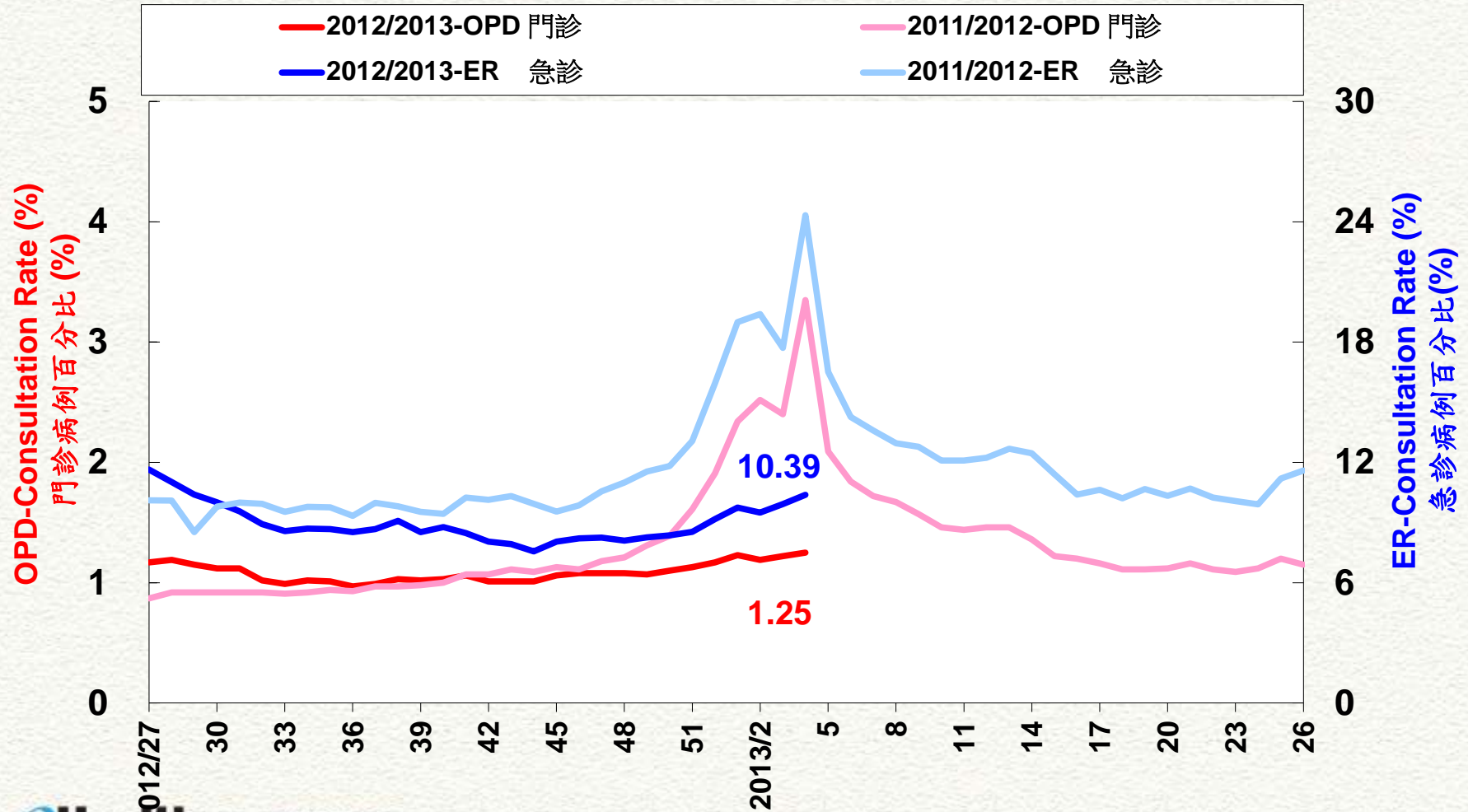


**Big data is like teenage sex:**  
everyone talks about it,  
nobody really knows how to do it,  
everyone thinks everyone else is  
doing it, so everyone claims they  
are doing it...

(Dan Ariely)

# Real-time Outbreak and Disease Surveillance, RODS

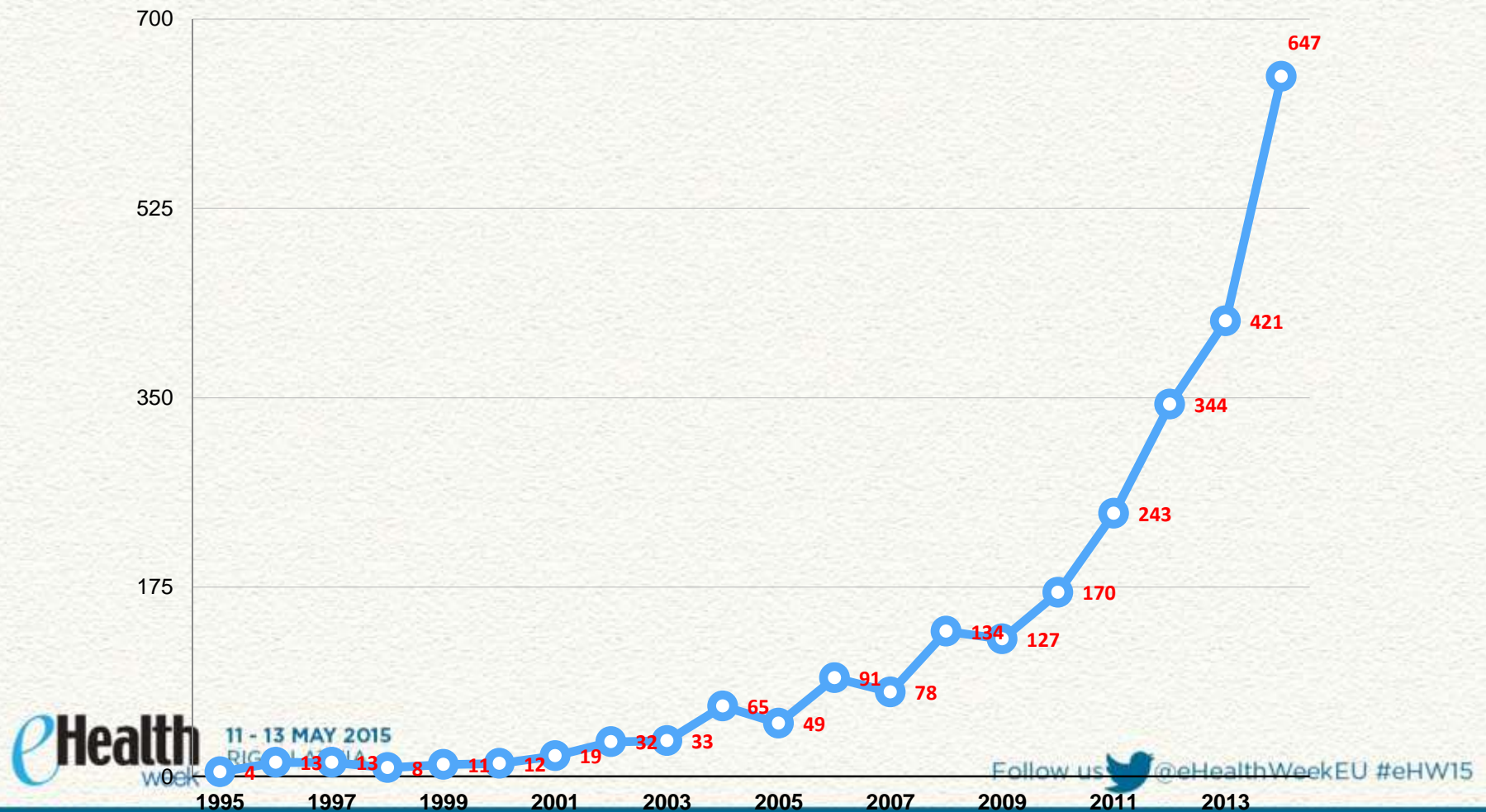
Updated: 2013/01/29



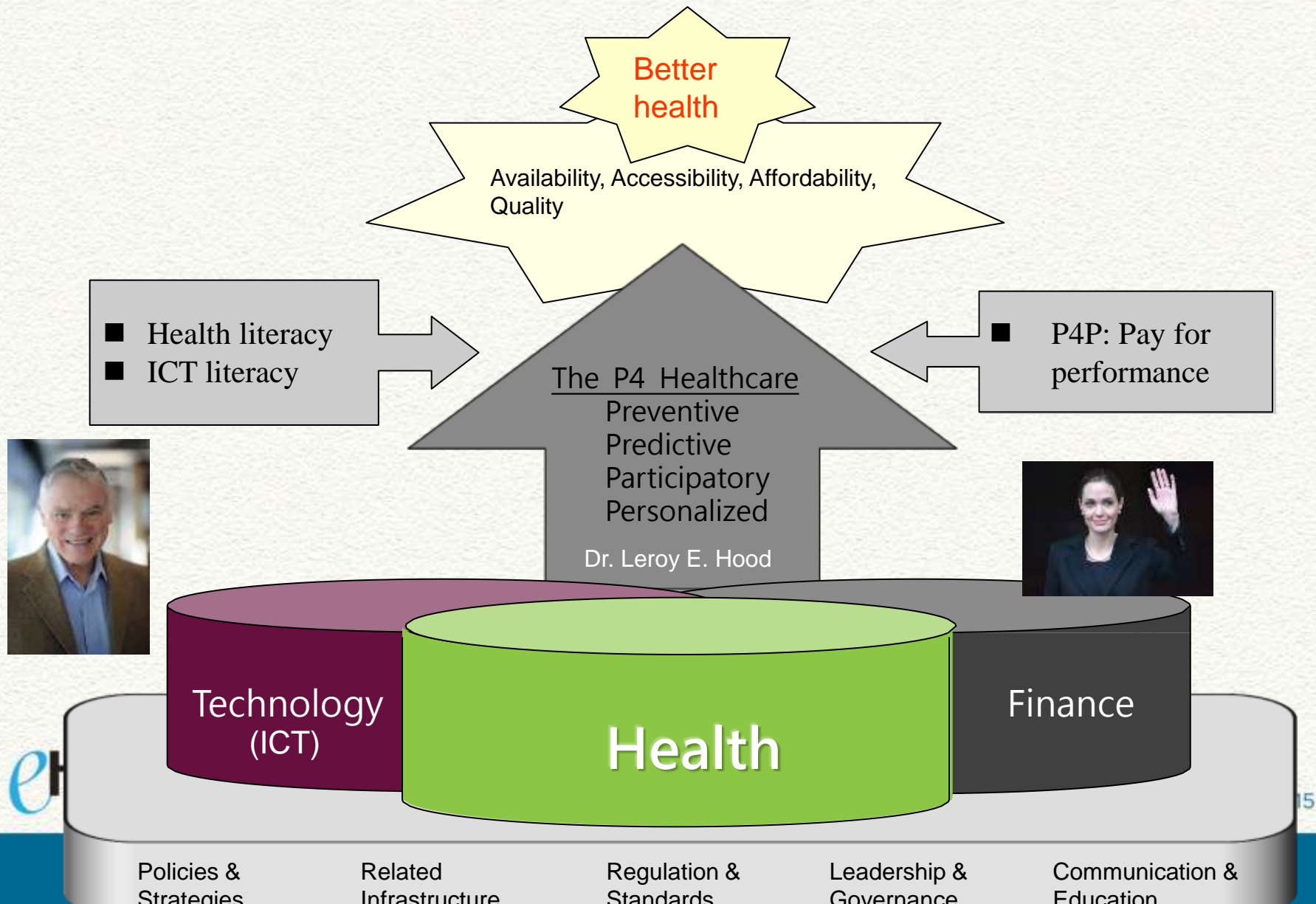


# Papers Published and indexed by PubMed

“Taiwan National Health Insurance Database”



# P4 Healthcare and ICT







# THANK YOU



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Ministry of Health  
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Min-Huei (Marc) Hsu

Director of Medical Informatics  
Center

701056@gmail.com

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