NHSO
National Health Security Office

Thailand's Effort to achieve a people-centered health information system in universal health coverage scheme

- Ms.Siripan Muangsin
- Director, Bureau of Insurance Information Technology
- National Health Security Office, Thailand

- 19 September 2018

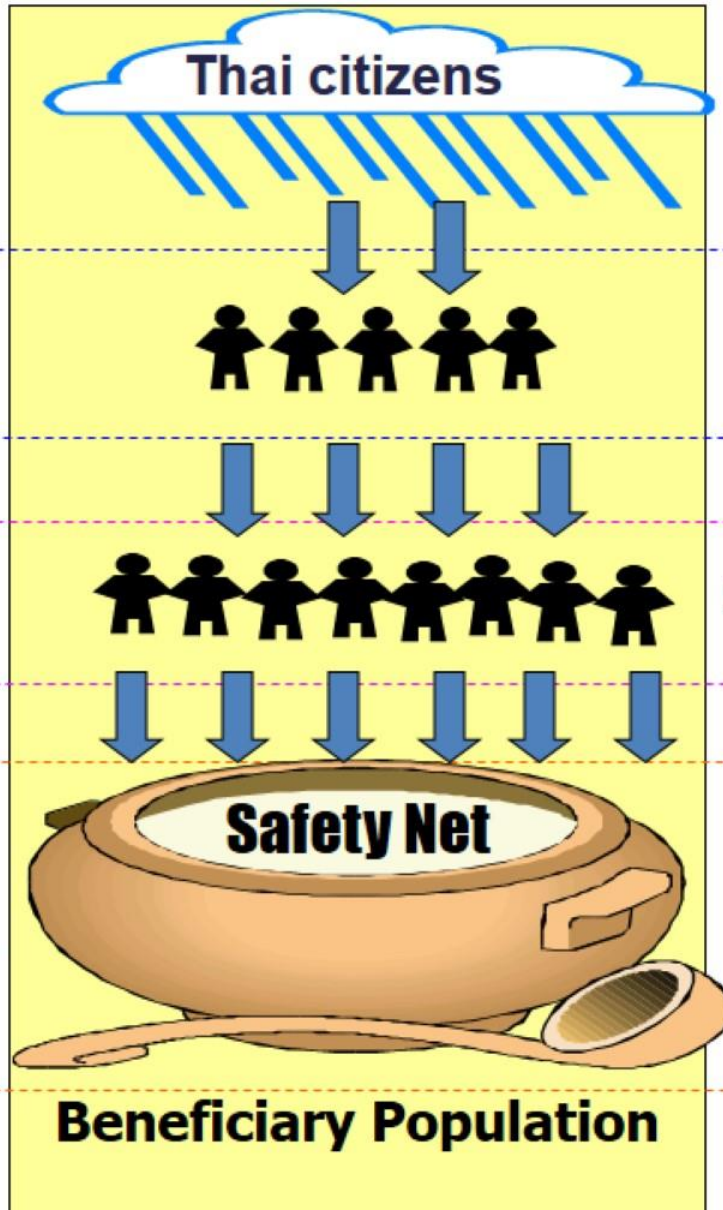
Acknowledgment

I would like to express my sincere thanks to my former Deputy secretary general, Mrs.Netnapis Suchonvanich for her invaluable settle and constant encouragement throughout this success.

NHSO IT system would not have achieved this far and would not have been completed without all the support that we have received from her.

Thank You

Main public health insurance schemes in Thailand >>
Inclusive policy and social safety-net



Civil Servant Medical Benefits Scheme (CSMBS): 7.6%

Government officers and dependents

Social Security Scheme (SSS):18.07%

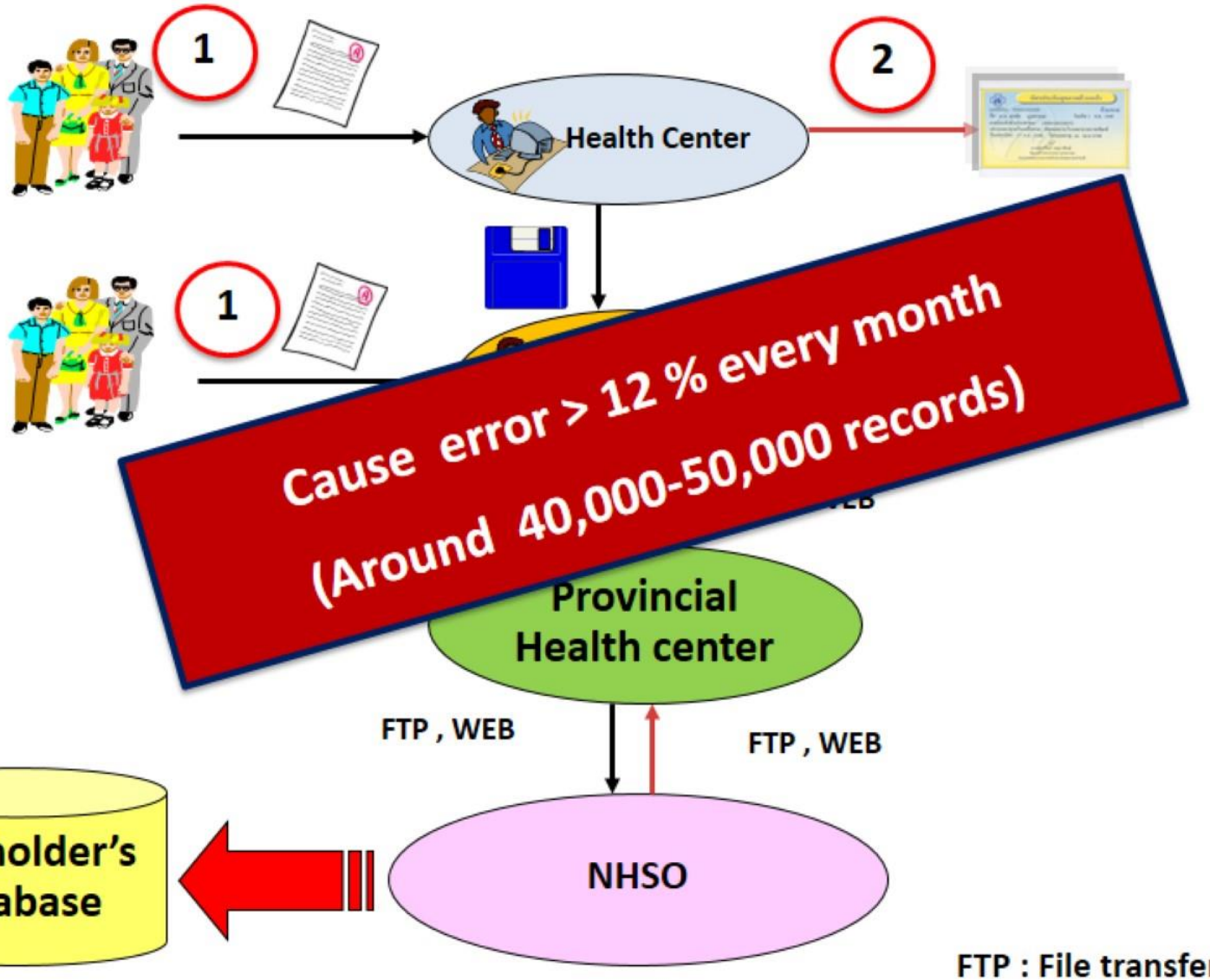
Private formal employees

Universal Coverage Scheme (UCS): 74.27%

The rest of Thai citizens

(not covered by other Public health insurance scheme)

UC enrollment system
(former system)



FTP : File transfer protocol

First effort :

using unique PID to develop data exchange with ministry of interior

Beneficiary enrollment System

Social Security Office

SSS member (every 2 weeks)

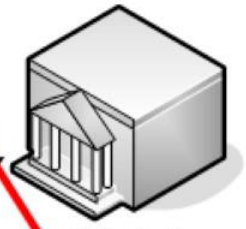
Birth – death data (every month)

Centralized database

Enterprise Application Integration (EAI)

Birth – death data (every day)

Health insurance data (every day)



Ministry of Interior

Civil Servant

CSMBS member (every 2 weeks)

Death data (every month)

NHSO

Enrollment data

Verified data

Internet

Registration Data from provincial Offices (Batch online)

People live in foreign countries

Members data

Verified data (real time)

Enrollment data

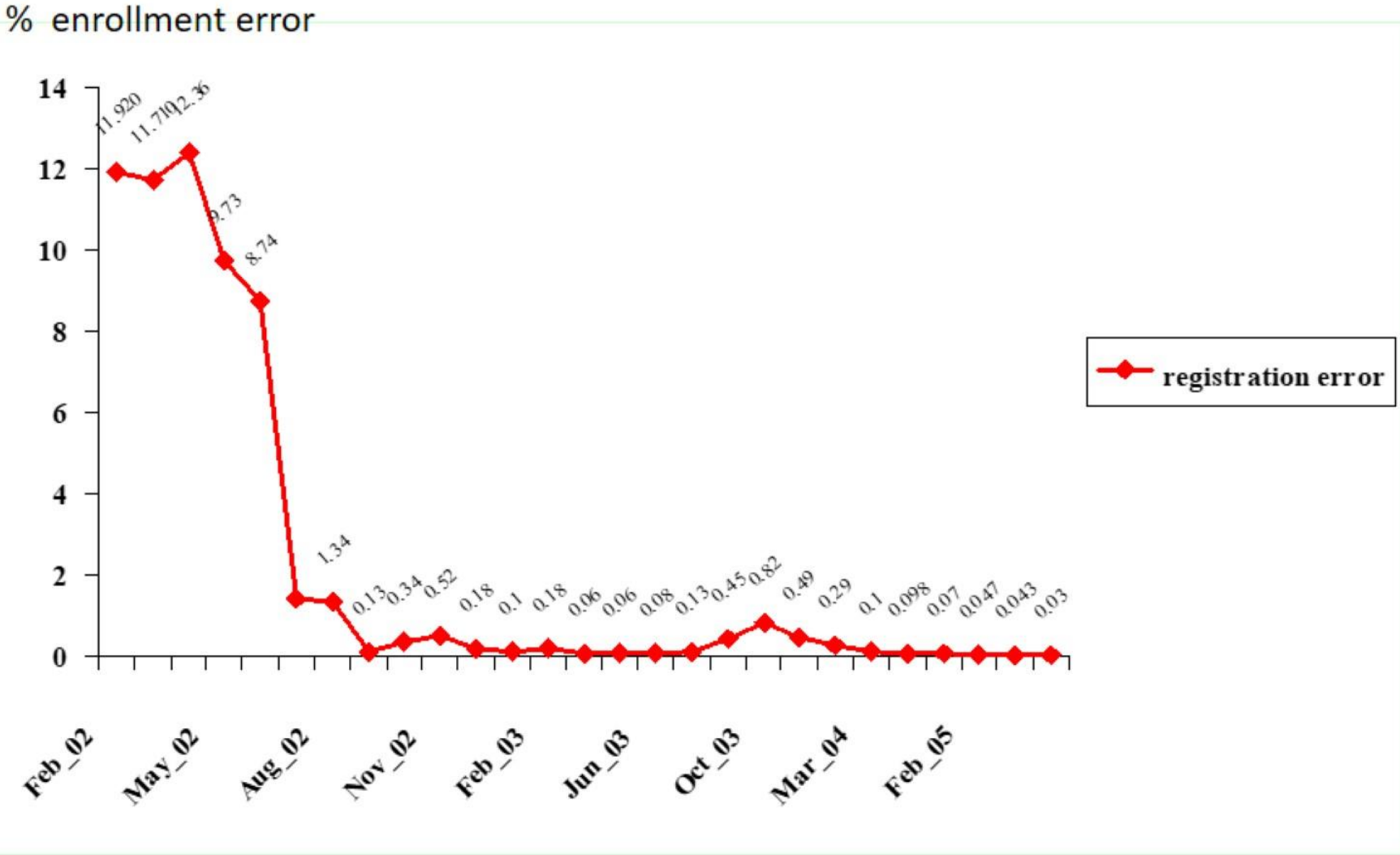
Internet

Registration Data from Other registration units (online)

Immigration Department

State enterprise,local administration

Decrease in beneficiary enrollment errors from 2002-2005



from UC card to National ID card

In 2008

Card ID , Purchase province

Eligibility primary care unit,

Referral hospital , start date,

Expiry date

Move forward to Birth registry project

in 2011

- With the collaboration among the Ministry of interior (MOI), UNICEF, MOPH and NHSO were taken place for establishing of birth registry by linking the birth data from hospital's delivery room to MOI's database. So, the preparation for generating the national ID and birth certificate for newborn can be processed and return the result back to the hospitals for UC enrollment system automatically.

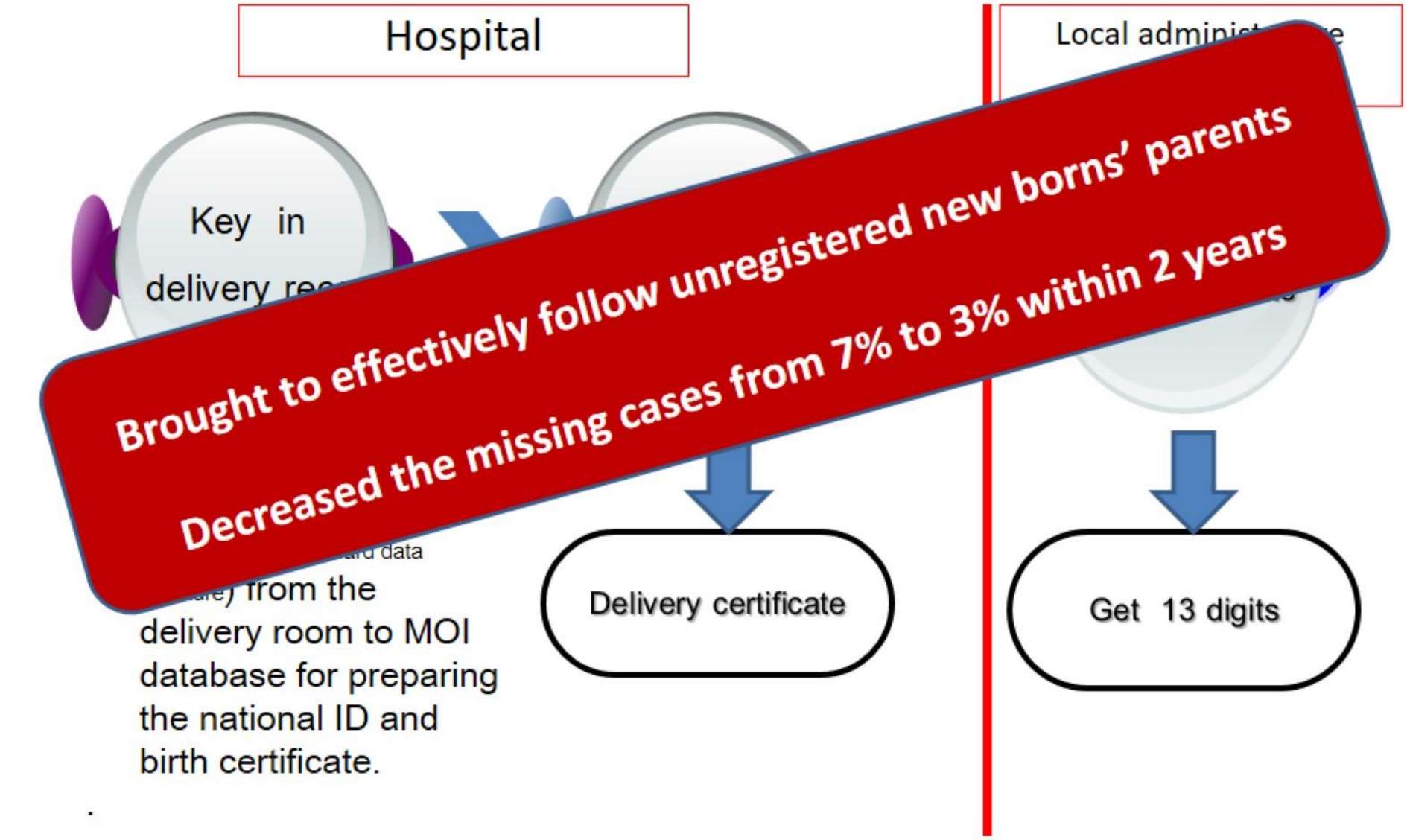
unicef

MOI

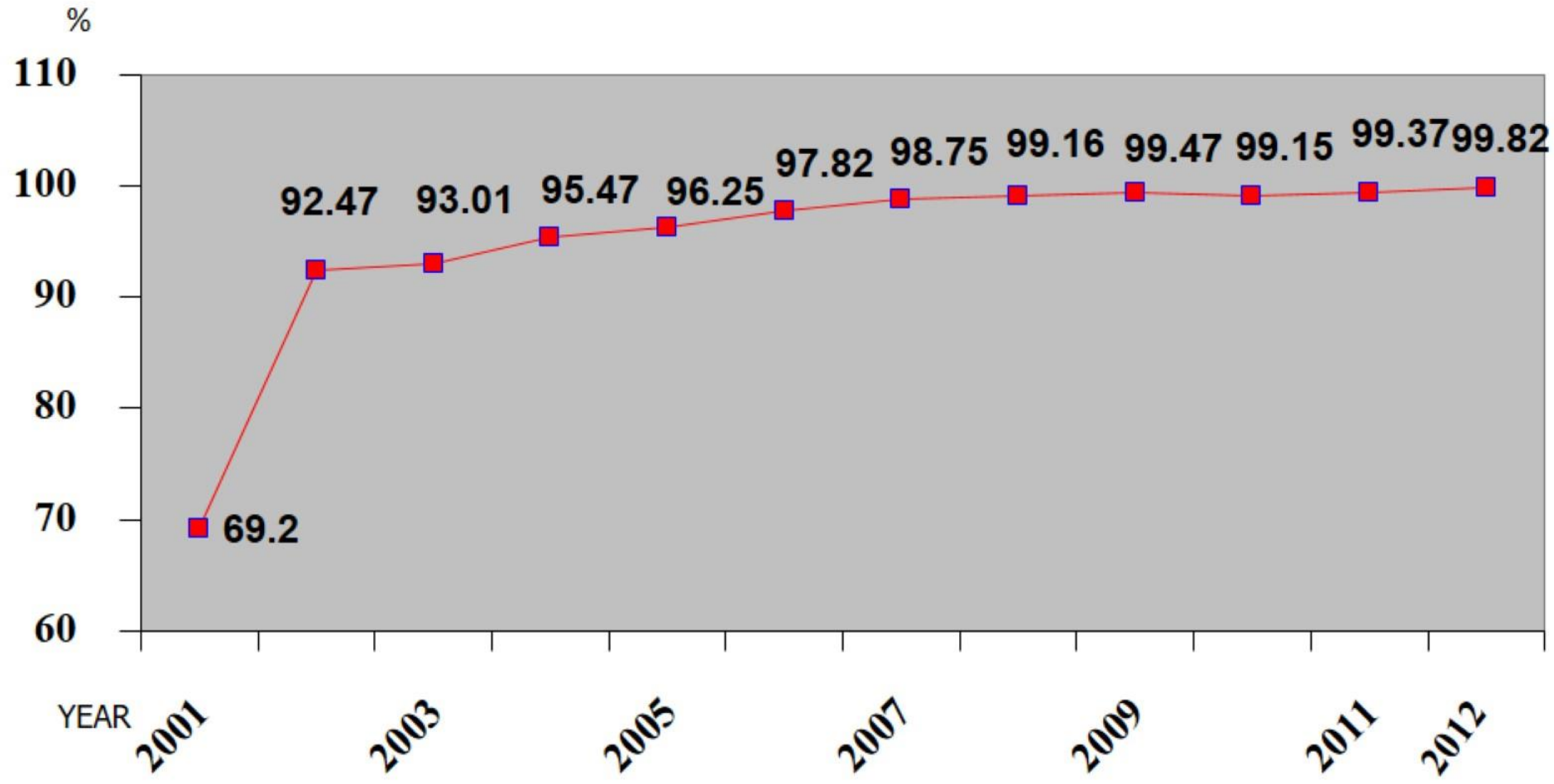
MOPH

NHSO
National Health Security Office

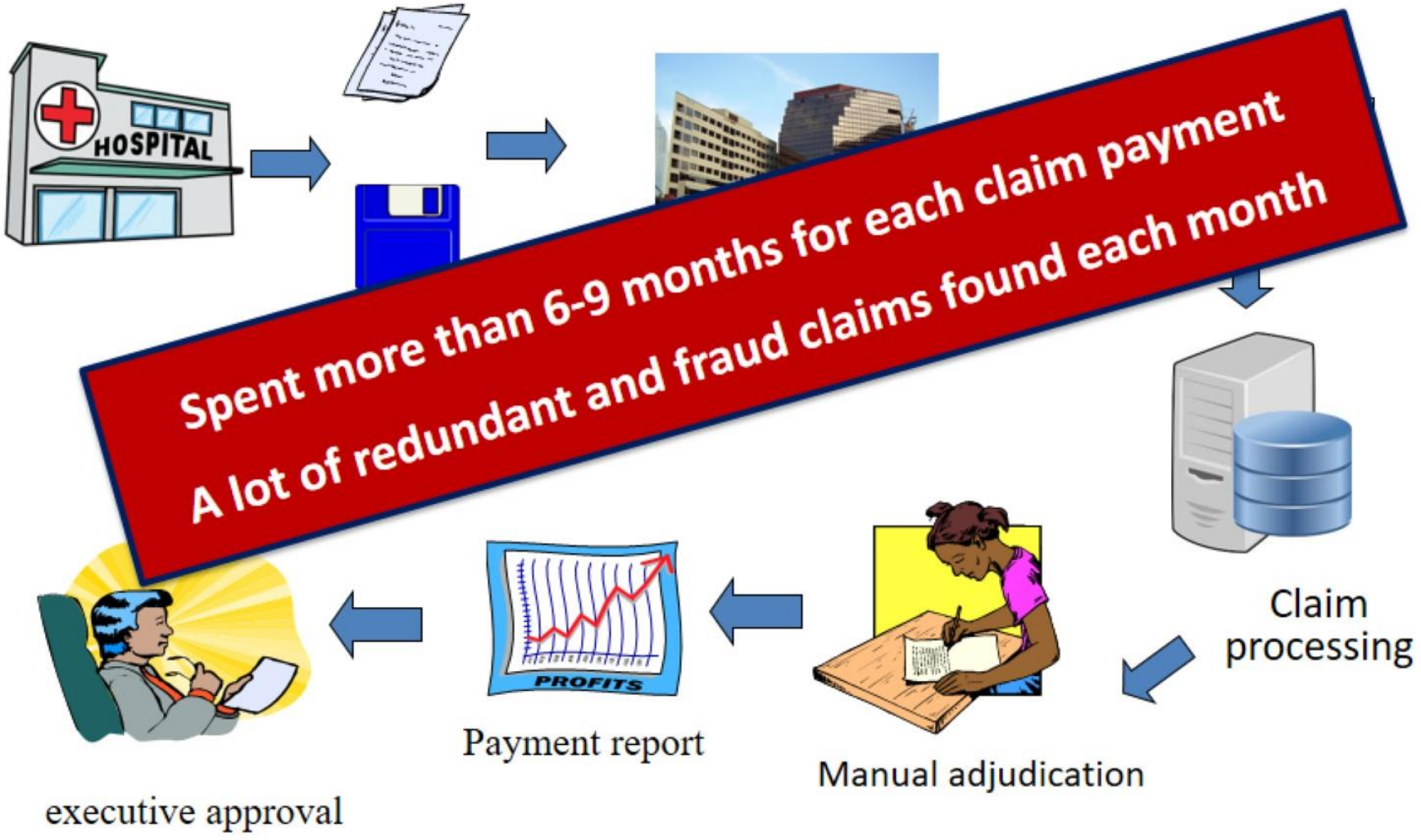
Process of online birth registry



The Development of UC Coverage



Claim system in 2002



Second effort :
Reform all paper claims to Electronic-Claims
in 2009

e-Claim System

All IP & OP(AE-HC)data

Health Service Provider

Data Validation

Encryption

Internet

NHSO

Decryption

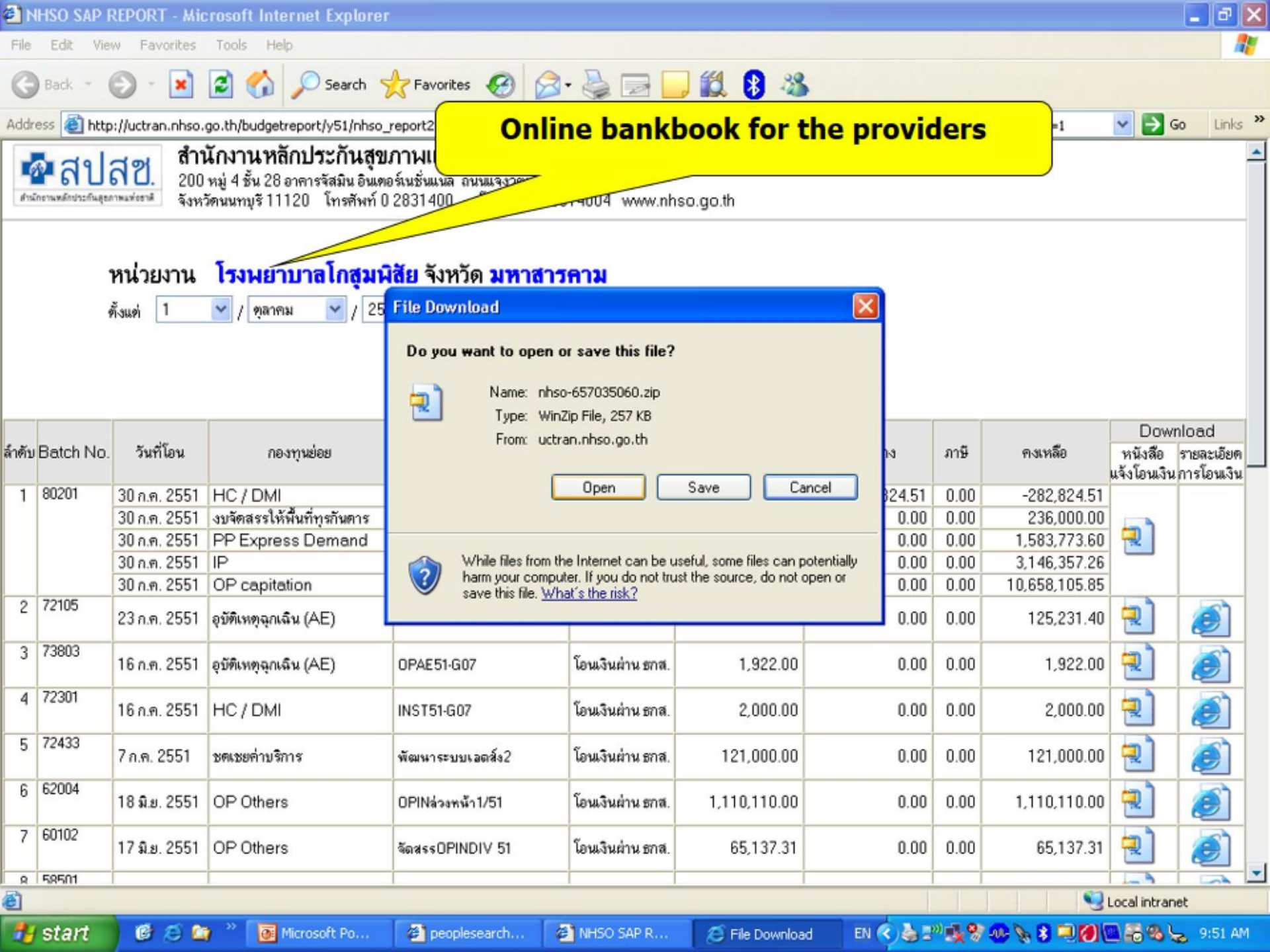
Medical Record Database
- Scheme Verification
- DRG Grouping, Data Validation
- Deny, Warning, Report

(approx. IP : 5,500,000 records/year
OP(HC,AE) : 600,000 records/year)

Relative weight (RW) or Points

Reimbursement Database
- Verification according to Payment Rules
- How much to reimburse ?
- Reports on website

Bank


NHSO SAP REPORT - Microsoft Internet Explorer
Online bankbook for the providers
สำนักงานหลักประกันสุขภาพแ
200 หมู่ 4 ชั้น 28 อาคารจัสมิน อินเตอร์เนชั่นแนล ถนนแจ้งวั
จังหวัดนนทบุรี 11120 โทรศัพท์ 0 2831400
www.nhso.go.th
หน่วยงาน โรงพยาบาลโกสุมพิสัย จังหวัด มหาสารคาม
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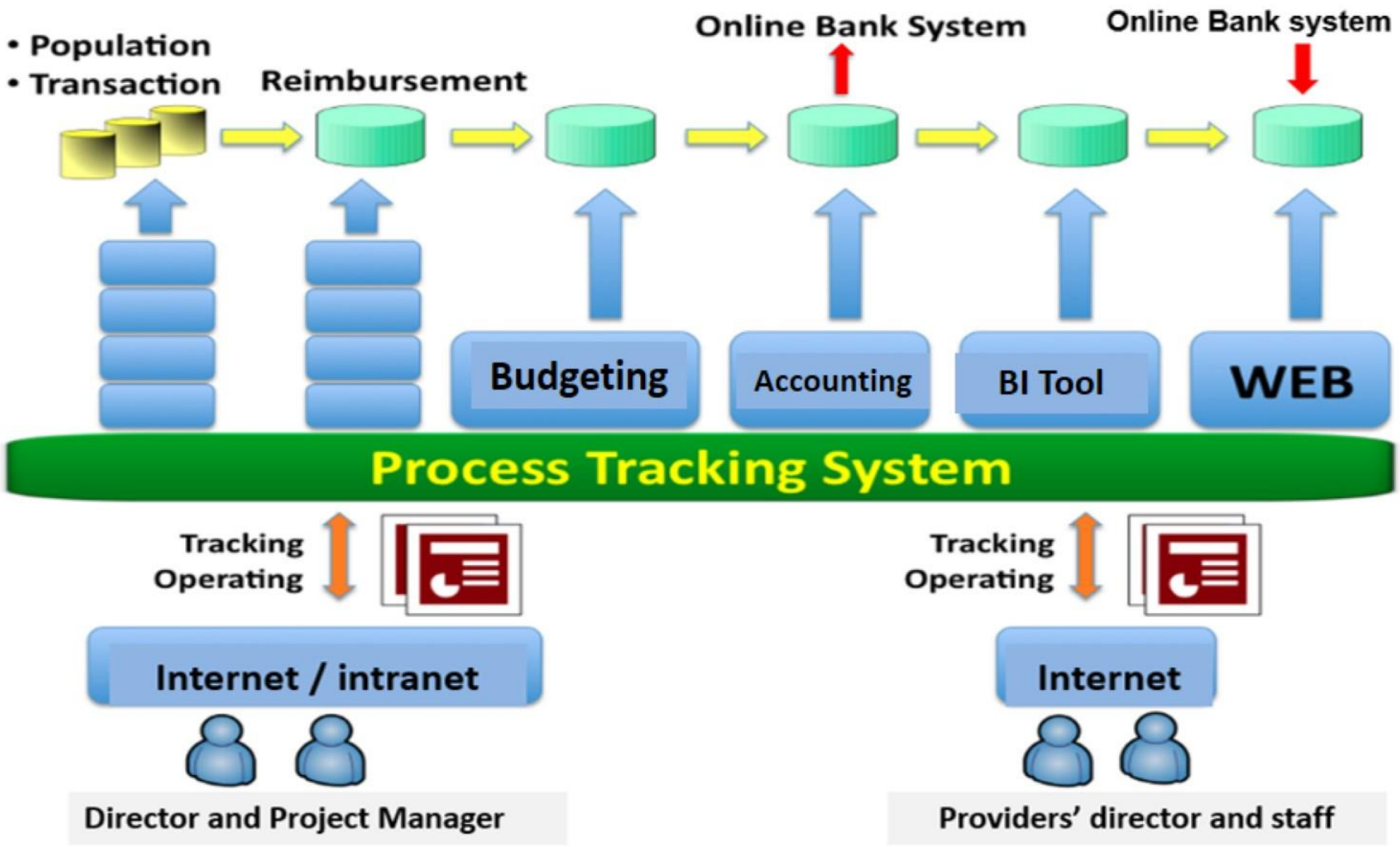
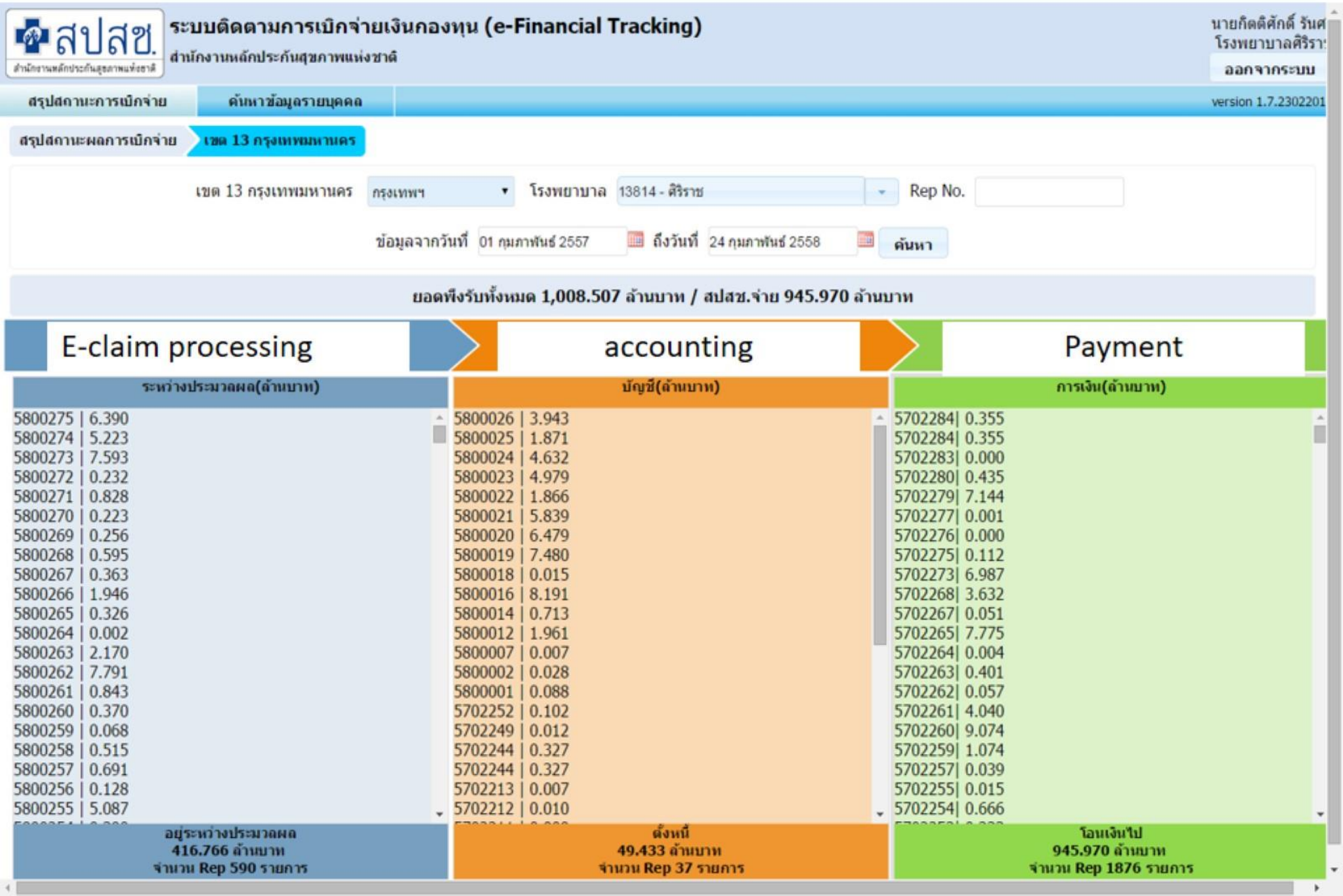
หนังสือแจ้งโอนเงิน
รายละเอียดการโอนเงิน
1 80201 30 ก.ค. 2551 HC / DMI -282,824.51
30 ก.ค. 2551 งบจัดสรรให้พื้นที่ทุรกันดาร 236,000.00
30 ก.ค. 2551 PP Express Demand 1,583,773.60
30 ก.ค. 2551 IP 3,146,357.26
30 ก.ค. 2551 OP capitation 10,658,105.85
2 72105 23 ก.ค. 2551 อุบัติเหตุฉุกเฉิน (AE) 125,231.40
3 73803 16 ก.ค. 2551 อุบัติเหตุฉุกเฉิน (AE) OPAE51-G07 โอนเงินผ่าน ธกส. 1,922.00 0.00 0.00 1,922.00
4 72301 16 ก.ค. 2551 HC / DMI INST51-G07 โอนเงินผ่าน ธกส. 2,000.00 0.00 0.00 2,000.00
5 72433 7 ก.ค. 2551 ชดเชยค่าบริการ พัฒนาระบบเลดสั่ง2 โอนเงินผ่าน ธกส. 121,000.00 0.00 0.00 121,000.00
6 62004 18 มิ.ย. 2551 OP Others OPINล่วงหน้า1/51 โอนเงินผ่าน ธกส. 1,110,110.00 0.00 0.00 1,110,110.00
7 60102 17 มิ.ย. 2551 OP Others จัดสรรOPINDIV 51 โอนเงินผ่าน ธกส. 65,137.31 0.00 0.00 65,137.31
Local intranet
start
Microsoft Po...
peoplesearch...
NHSO SAP R...
File Download
9:51 AM

Third effort :

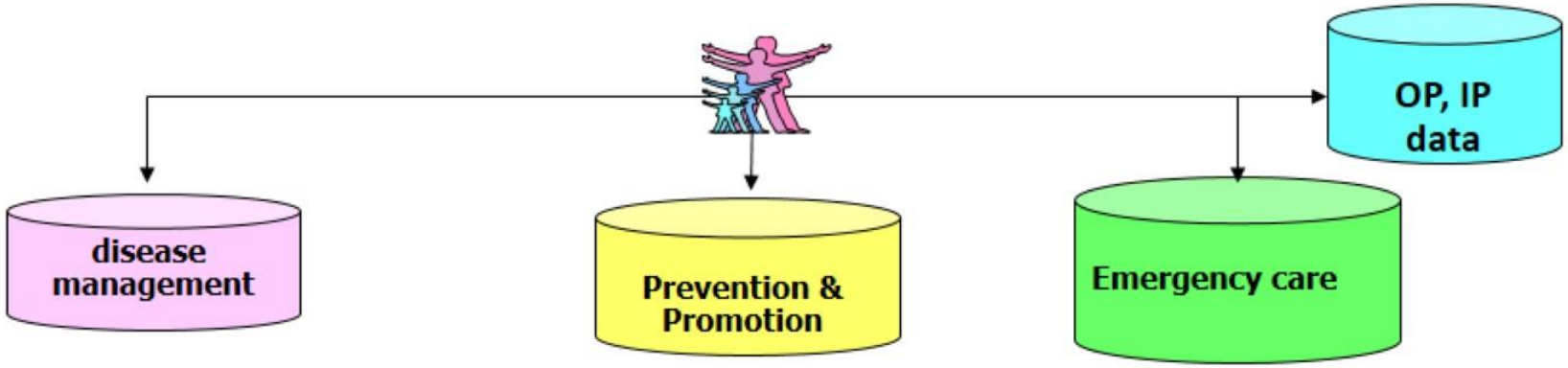
Payment reform by using Enterprise Architecture design and develop online-financial tracking in 2013



E- financial tracking



Individual records in NHSO



1. Leukemia & Lymphoma
2. Haemophilia
3. Heart surgery
4. Cataract
5. Cleft palate
6. HIV
7. DM, HT & dyslipidemia
8. TB
9. Stroke
10. PD first policy

1. Screening for metabolic disorders (sss, csmbs)
2. Screening for stroke
3. Thalassemia
4. Vaccine
5. Thyroid
6. Screening for CA cervix
7. Disabilities
8. Sealant
9. Denture in elderly

1. Pre-hospital care (EMS)
2. Trauma
3. Poisoning
4. Stroke

NHSO Call Center 1330 (24 hours service)

What's next ?

- Volume
- Variety
- Velocity
- Value
- Veracity
- Complexity

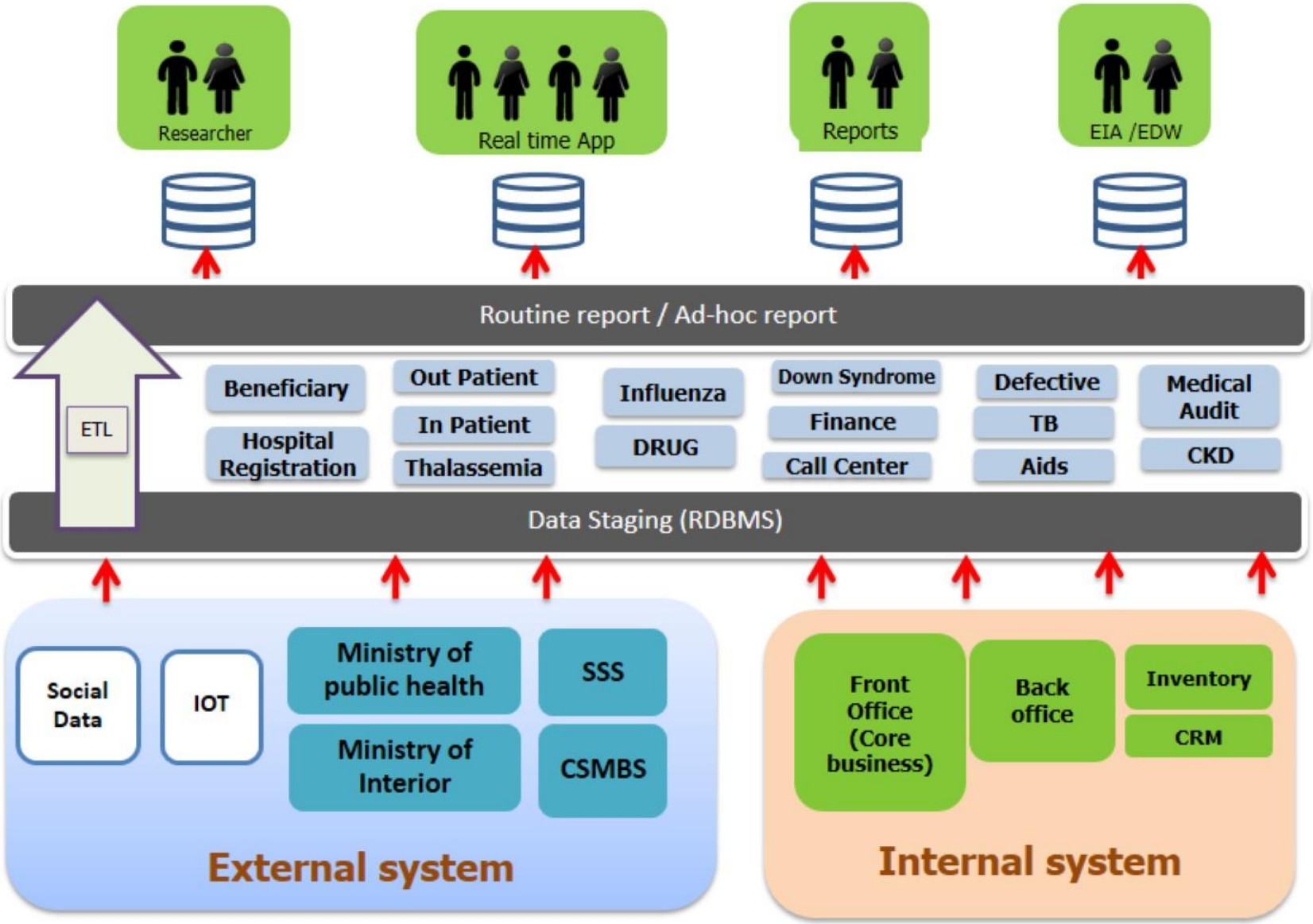
Move forward to

a people-centered health information system

using Big Data Technology in National Health Insurance

individual medical record

NHSO Current System

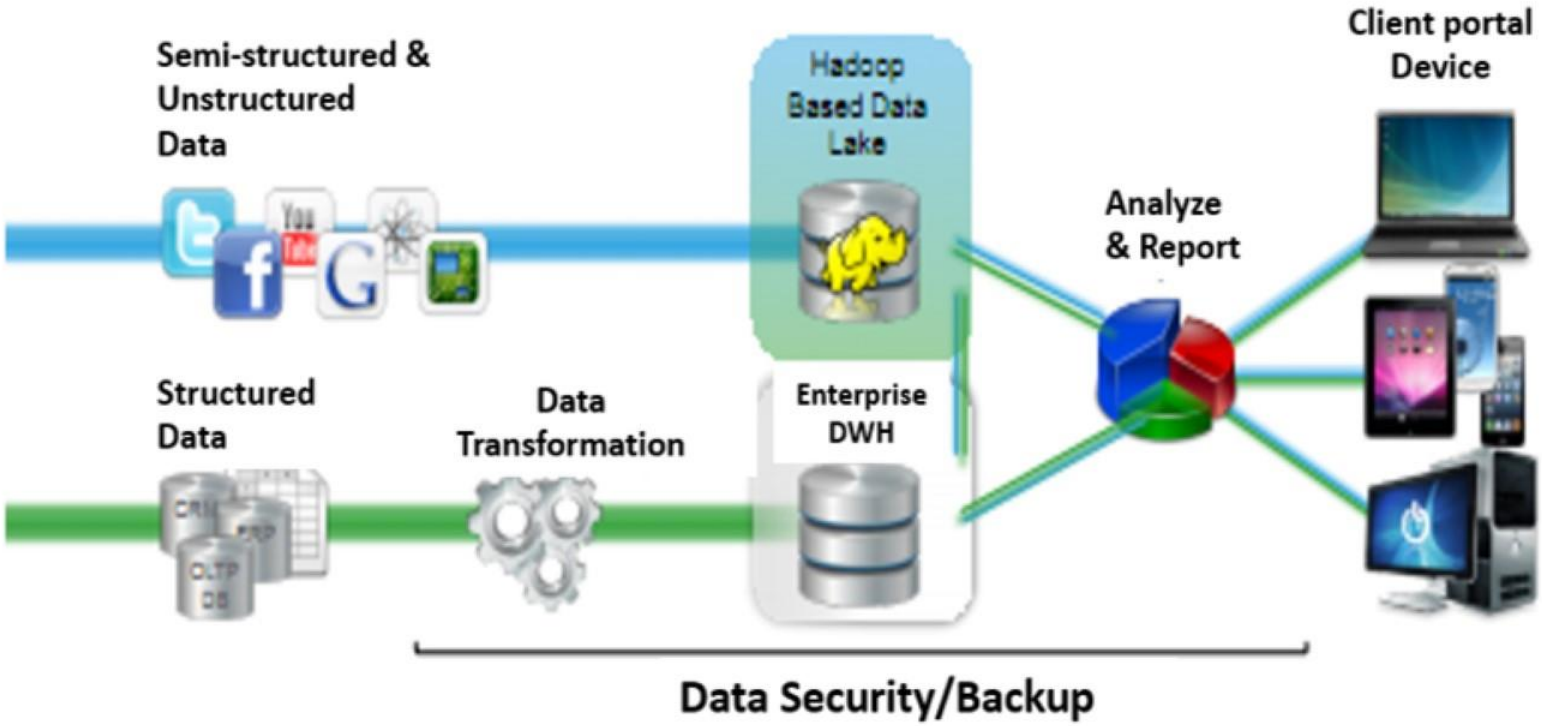


Key Differences Between the Data Lake and Data Warehouse

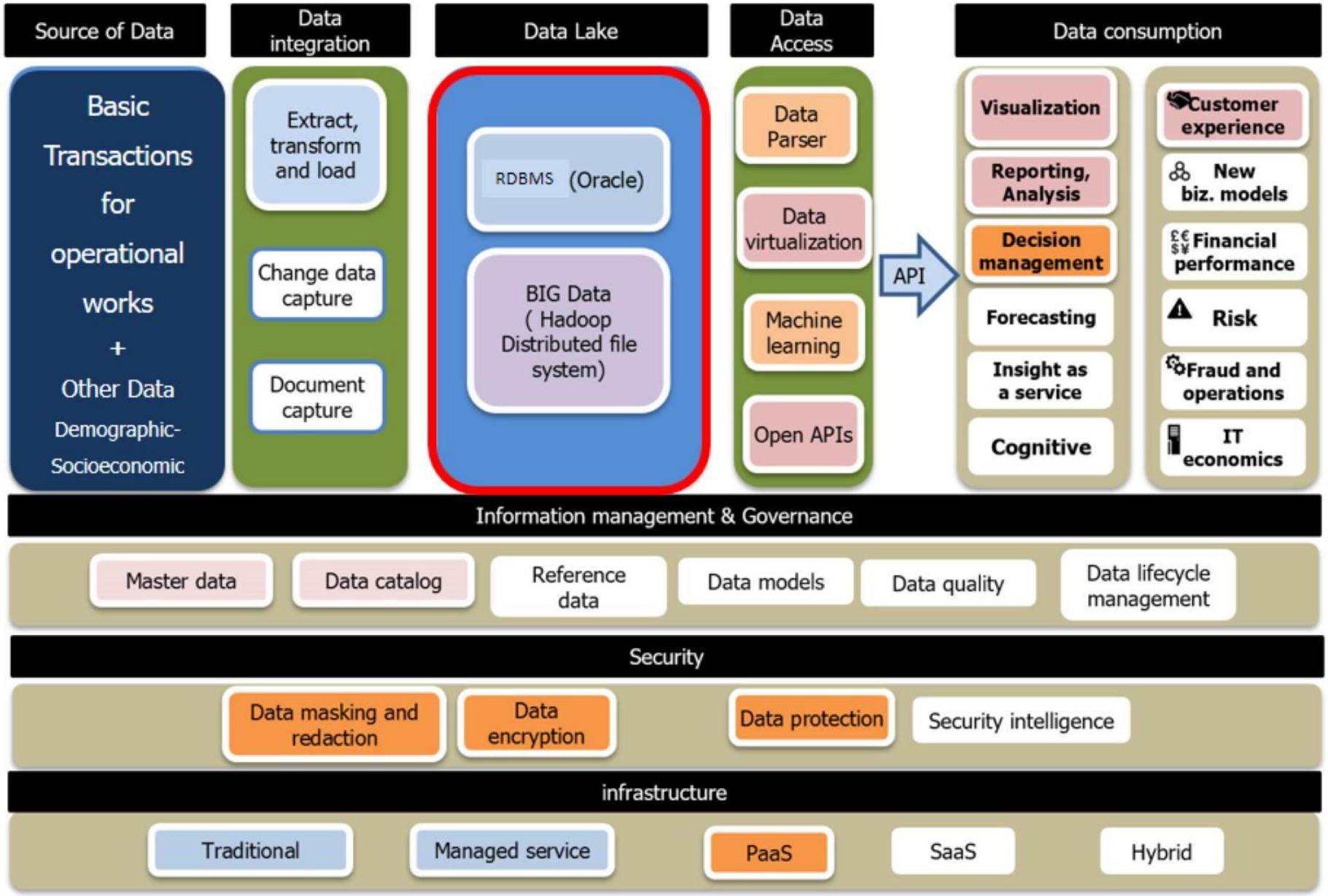
DATA WAREHOUSE	vs.	DATA LAKE
Structured, processed	DATA	Structured/semi-structured/unstructured/raw
Schema-on-write	PROCESSING	Schema-on-read
Expensive for large data volumes	STORAGE	Designed for low-cost storage
Less agile, fixed configuration	AGILITY	Highly agile, configure and reconfigure as needed
Mature	SECURITY	Maturing
Business pros	USERS	Data scientists et al.

Data Lakes model for success

Integration and collaboration between current and future state.



New design for people centered health information system

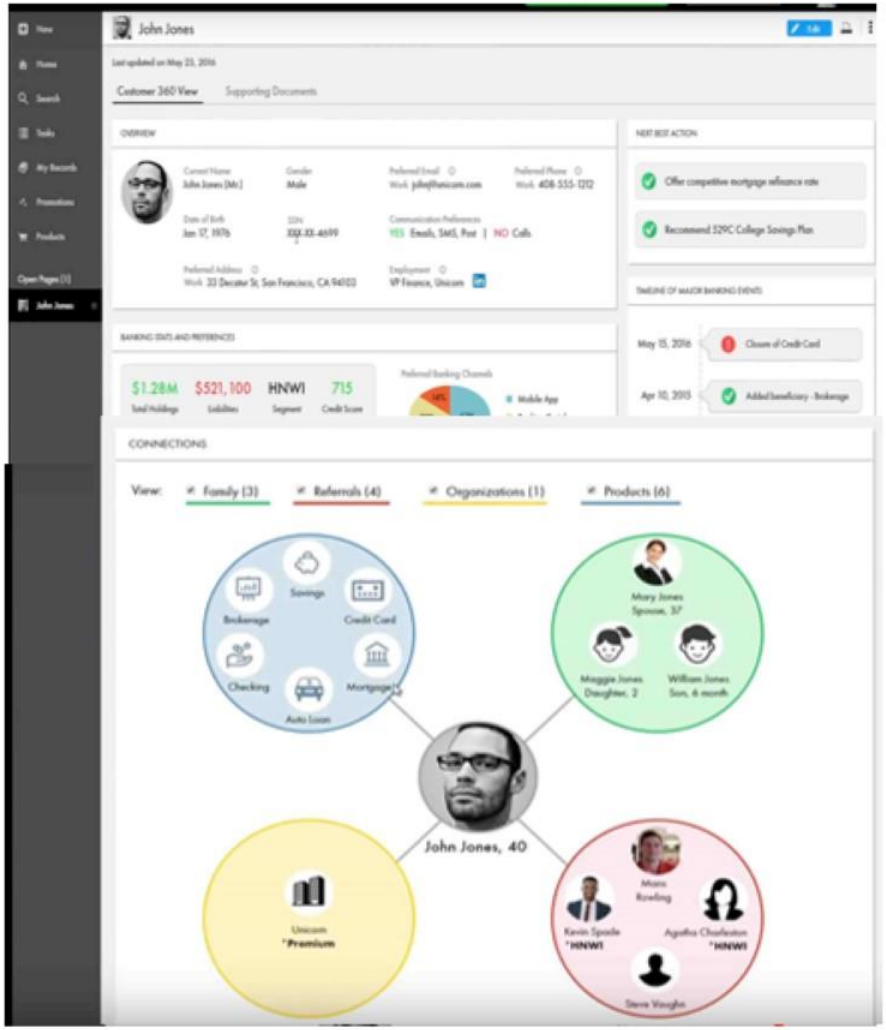


Basic Information (Name(s), Aliases, DOB, Gender)

Contact Information (eMail, Phone, Address)

Health History

Location



Chronic Disease

Family Members

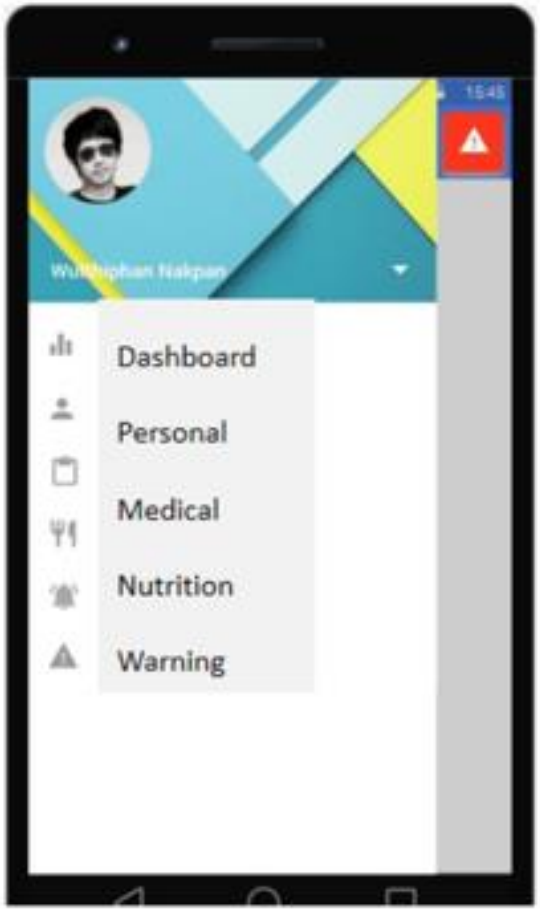
Education History

Occupation History

New design for people centered health information system

Move to self assessment and care by

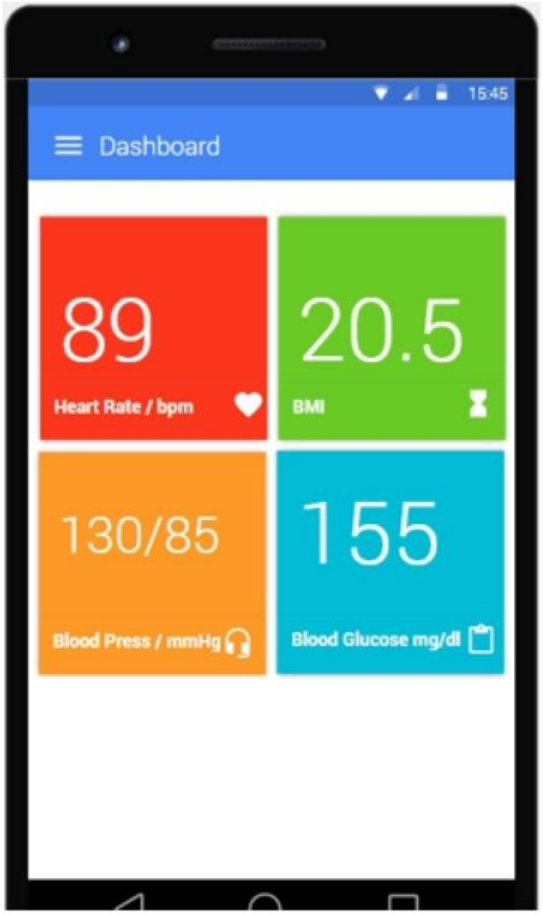
developing People centered health information system



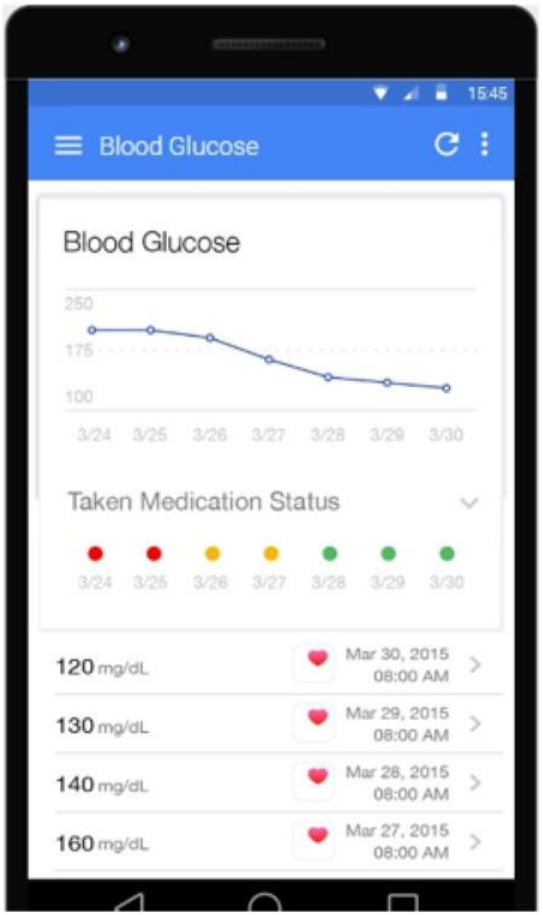
People centered health information system

Personal individual health profile

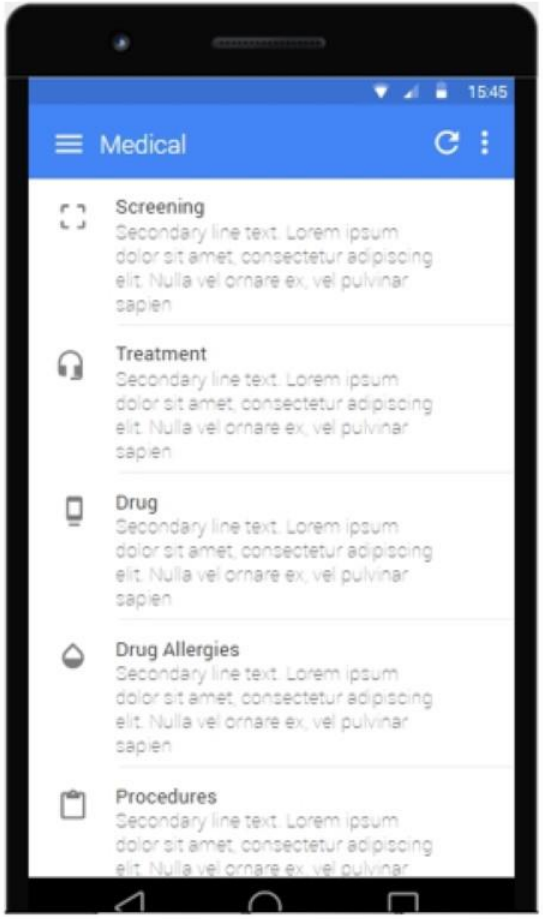
People centered health information system



Personal dashboard

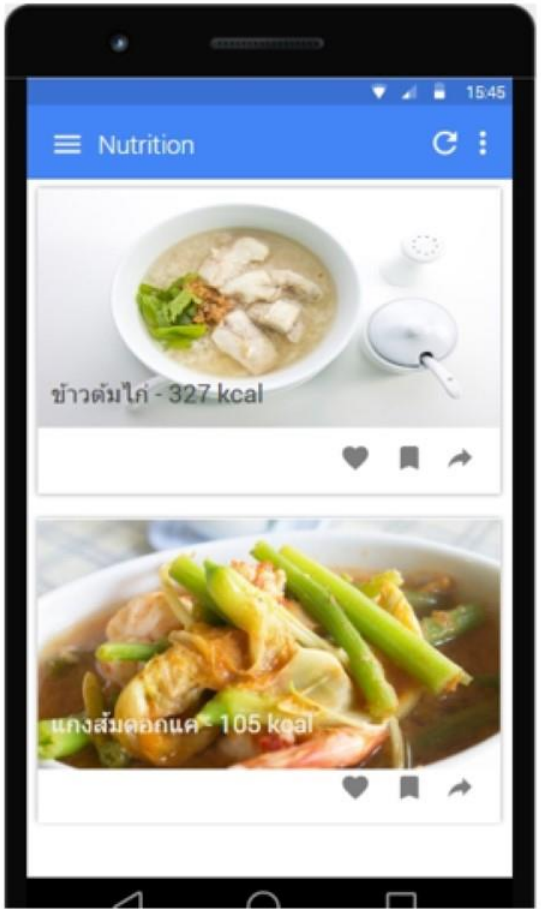


Blood glucose exam



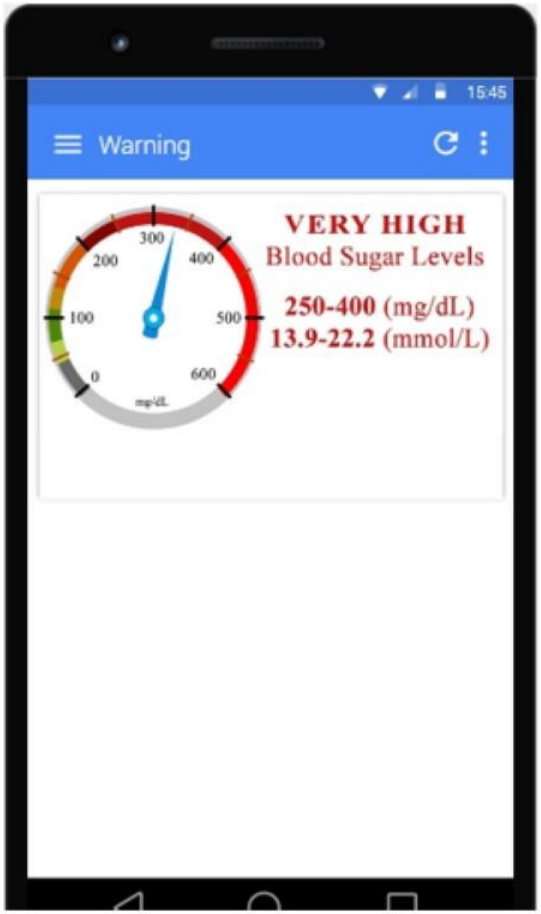
Medical records

People centered health information system



Nutrition recommendation

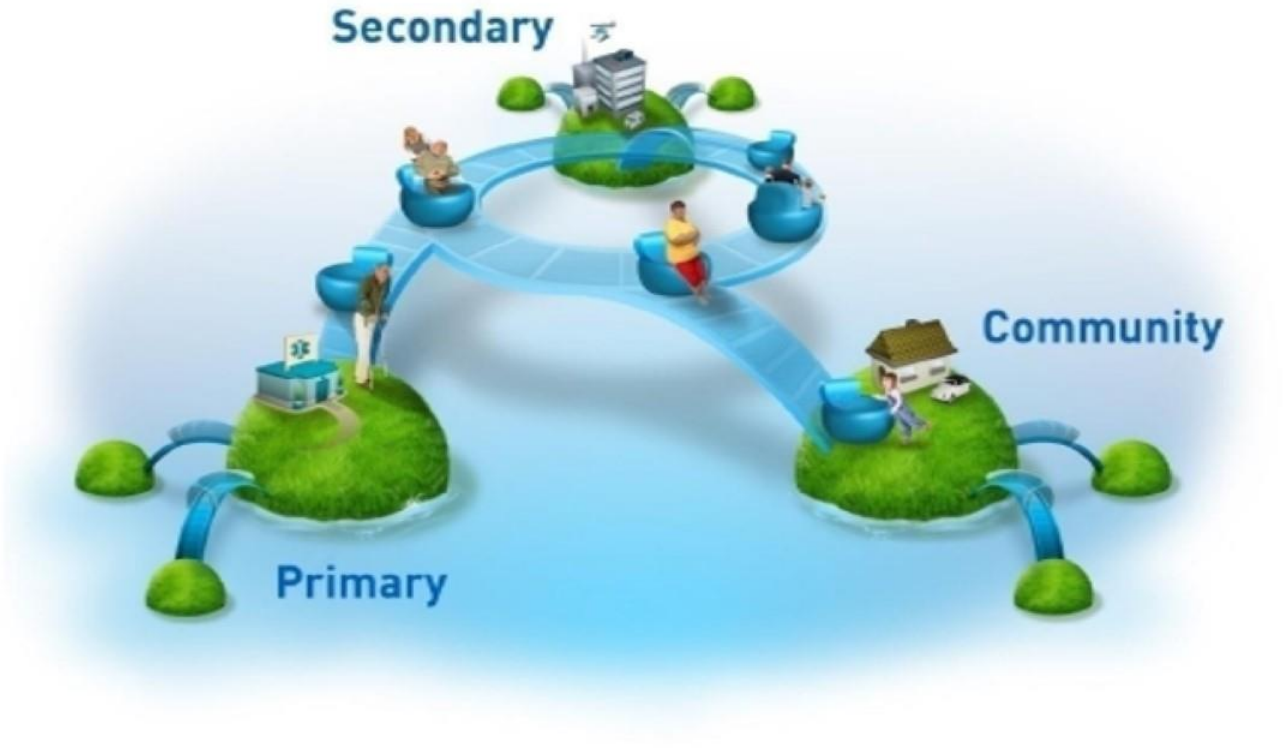
Appointment



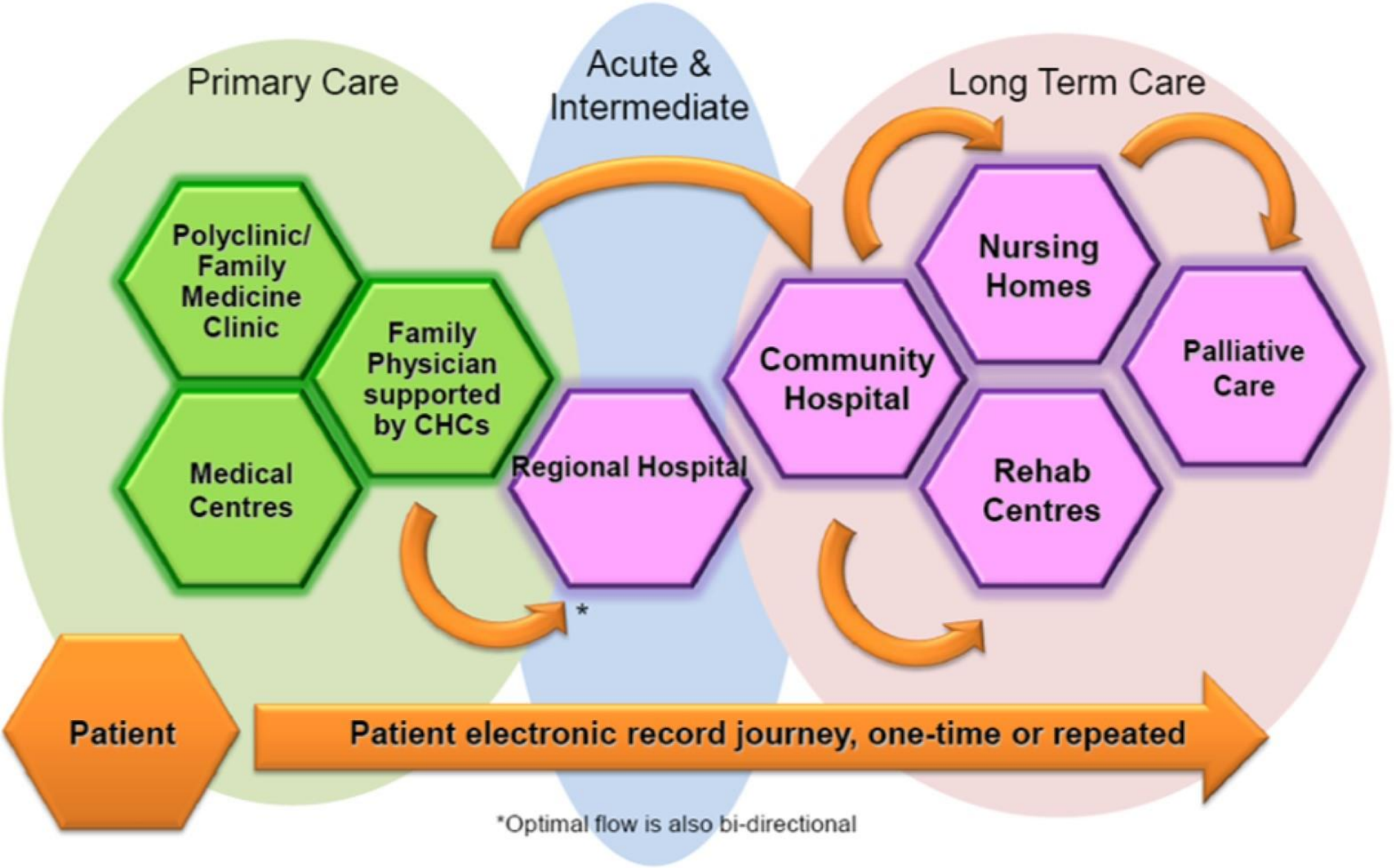
warning

INTEGRATION BY

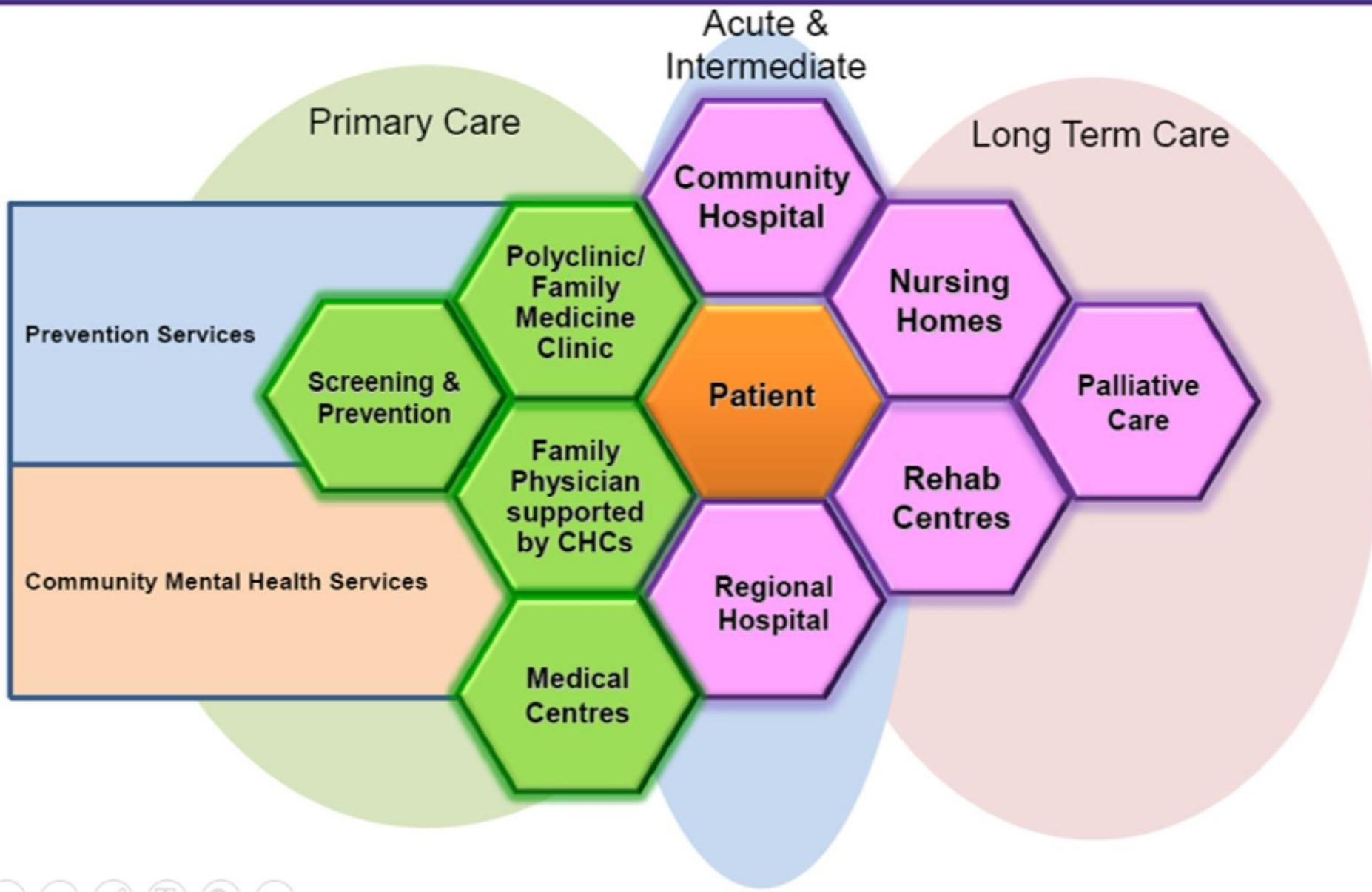
DIFFERENT LEVELS OF PROVIDERS



Optimal progressive information flow

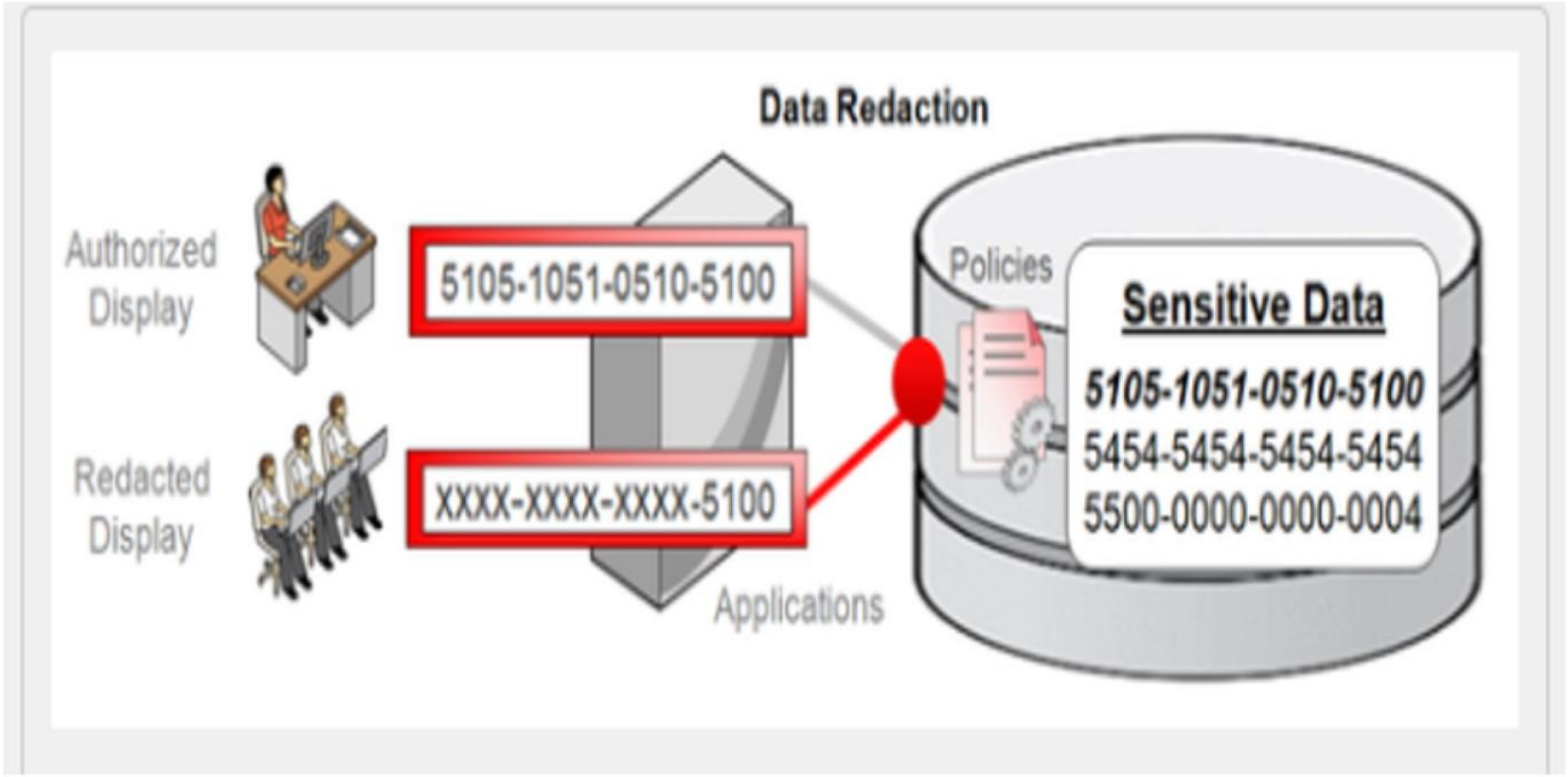


Optimal healthcare landscape

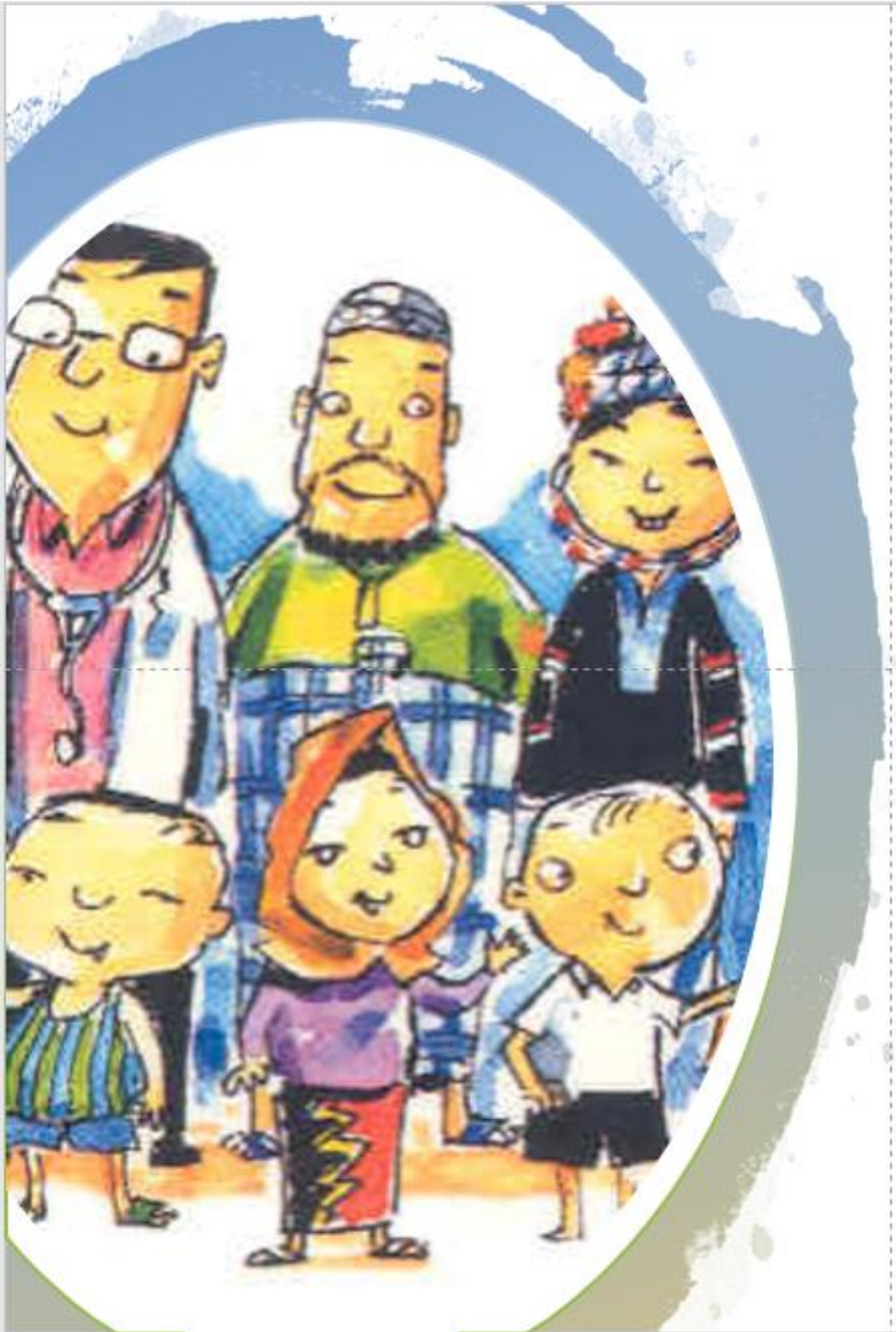


Don’t forget to concern for

Computer Security vs. privacy law in the country



Integration



Thank you for your attention

Leave no one behind

Special Thanks : Mrs.Netnapis Suchonvanich