



# The HKMA Wuhan project and beyond

Dr. HO Chung Ping,  
HKMA  
20111031



It all started here....





# The Hong Kong Medical Association

- Found in 1920
- *Civium sanitatem servare"*
- As of 30.9.2011,
- Total membership 9,009







# HK doctors statistics

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- Total no of registered doctors: 12,818
  - Local: 11959
  - Overseas: 859
- 
- As of February 2011, the HA employed 5063 doctors





# Hospital authority and DH largest employers

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- >90% of inpatient care
- 20% primary care
- The HKMA membership include both the public and the private sectors
- Useful role in the ehealth project





# Medical Information Exchange

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- 2002 – HKMA Study Group on Medical Information Exchange
- Exchange of medical information in the medical profession
  - Improve communication ->improved patient care
  - Laboratory tests need not be repeated
  - Records integrity
  - Improve patient safety



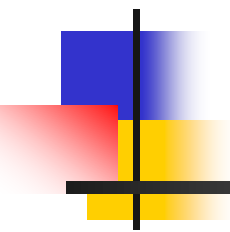


# Data communication requirements

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- Data needs to be computerized
- Data needs to be standardized
  - Eg Upper respiratory tract infection, flu, influenza, URI
  - Eg ibuprofen, brufen, uni-profen
- Efficient and **secure** means of communication
- Data can be re-used after transfer





# The TaoYuan Project -HKMA CMS 3.0 2007

Dr. HO Chung Ping, MH  
Chairman, TaoYuan Project Team  
Chairman, IT Committee

何仲平醫生  
桃園計劃工作小組主席





# The TaoYuan Project 桃園計劃

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- A project to develop an Open-Source, clinic management system
- HK\$999,580 Funding from the OGCIO
- Two years in development
- Free-of-charge to all doctors in HK



# TaoYuan Project 桃園結義

- 東漢末年，天下大亂引出了三位英雄。
- “男子漢大丈夫，不想爲國出力，在這裏嘆甚麼氣？”
- 兄弟三人齊心，果然作出了一番驚天動地的事業。











# Advantages of HKMA CMS 3.0

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- Open-Source system
- Standardized data format
- Multi-purpose platform
- Ability to connect to other medical information systems in future, e.g., HA, private hospitals, eHR and the ePR
- Free of charge to doctors of the world



# The HKMA CMS 3.0

Welcome to CMS 3.0!



- Patient Record
- Appointment
- Waiting Queue
- Cash Book

- Consultation
- Prescription
- Billing

- Dispensary
- Inventory
- Reporting





v3.0

# Clinic Management System

**Waiting Queue** **Appointment** **Consultation** **Dispensary**

Welcome to CMS 3.0!

LEE Alisa 陳枝盛 (M54y) | 100285

Encounter Type: Consultation

Medical Background

Blood Type: B

GGPD Status: Please select...

Smoking History: Normal Smoker

Drug Allergies:

Pitton

Remarks:

Problem List:

Di Desc Status

Ameliasis Active 0

**Patient Record - 100403**

HKID/Passport No.\*: 865-02-1320

ID Type\*: HKID

Surname\*: Johnston

Given Name\*: Jeremy

Surname (Chinese): 李

Given Name (Chinese): 傑明

Alias 1:

Alias 2:

DOB (Age): 1968-03-28 (40y) (Y-M-D)

Sex\*: ☒ Male ☐ Female ☐ Unknown

Drug Label Language: Please select...

**Contact No. & Address** **Next of Kin** **Referrer** **Medical Background** **Insurance** **Appointments** **Episodes** **Security** **Memo** **Linked Patient Records**

**Contact No.**

Mobile\*: 23625555 Home: Office:

Pager: Fax:

Email: Erich@Duis.edu

**Address**

Unit No.: B Unit Descriptor: Flat Floor: 23

Block: B Block Descriptor: Block

Building: Lee Man Building Phase:

Estate: Lee Fong Estate Village:

Street: Ma Wai Street Building No.:

Lot: Sub District:

District: Kowloon City Region: Kowloon

**Prescriptions**

Item	QT	Unit	TD	Days	Qty	Instruction	Advisory	Remark
Ameliasis	3	tablet	3	3	27	Before sleep	Do not stop	
Unasyn Tablets	3	tablet	3	3	27	Before sleep	Do not stop	

**Billings**

Item	Standard (\$)	Effect (\$)
Consultation	\$400.00	\$400.00
Blood Test	\$550.00	\$550.00
	\$0.00	\$0.00
Total (\$)		\$950.00

Complete Consultation Hold Consultation Save Print Preview Cancel

Previous Episodes

Update Cancel Letters and Attachments



# Press Conference and Launching Ceremony

- The HKMA CMS 3.0 launched on 28 August 2009
- IT professionals invited to take part in future development



- ◆ Over-subscribed
- ◆ Had to organize two more workshops



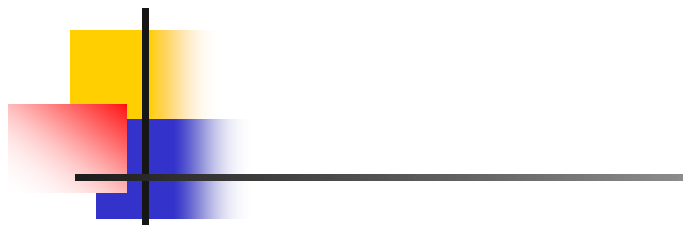



# Grand plan – To CONNECT


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- To provide a HOLISTIC Medical information exchange
- All use the same terminology, same data structure, same messaging standard
- A platform to facilitate info exchange between private and public doctors





**衛生防護中心**  
Center for Health Protection

**CENO On-line**  
Central Notification Office & E-notification

**Home**

**Welcome to CENO On-line!**

**CENO On-line user**

- Login
- **Report**
- **Resources**
- **Contact us**

**Login**

Login ID:

Password:

**Login**

**What to report?**

- (a) statutory notifiable diseases
- (b) Other communicable diseases of public health concern
- (c) Poisoning related to traditional Chinese medicine
- (d) suspected institutional outbreaks
- (e) Other communicable diseases

**Medical professionals have to register and login for authentication**

**Resources**

- [Case definition](#)
- [FAQ](#)
- [Notification forms](#)
- [Links](#)

**How to report?**

Notification channels	Remarks
CENO Online: <a href="http://www.hpa.gov.hk/ceno">www.hpa.gov.hk/ceno</a>	Available 24/7, 24 hours access.
Fax: 29 772 770	Notification the 2nd way.
Telephone: 29 772 770	CENO operates from 9am to 5pm, Monday to Friday, and 9am to 1pm on Saturday. After-office hours available.

**Encryption of data during internet transmission ensures security**





# Public health Schemes

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- Current public health schemes include eHealthcare Voucher Pilot and various Vaccination Subsidy Schemes
- Reimbursement by electronic means
- Doctors have to log on to web-based electronic platforms to do the submission



# eHealth System



## Service Provider

[Enrolment](#)[Enrolled Service Provider Login](#)

## Public

[List of Enrolled Healthcare Service Providers](#)[Voucher Balance Enquiry](#)  
*Health Care Voucher Scheme*[Online Pre-filling Consent Form](#)  
*Childhood Influenza Vaccination Subsidy Scheme*[FAQs](#)[Contact Us](#)

預防人類豬型流感  
Prevention of  
Human Swine  
Influenza



# Health System

Text Only Version 繁體

醫健  
ehealth  
香港特別行政區政府

 Login


 Login

 User Manual

 Useful Link

 FAQs

 Contact Us

 Easy Guide

 Download Area

 Release Notes

Account Type

☒ Service Provider ☐ Data Entry Account

Service Provider ID / Username

00297426

[Forgot "Password"](#)

Password

●●●●●●●●●●

Token Passcode

●●●●●●

Login



Token Passcode

預防人類豬型流感  
Prevention of  
Human Swine  
Influenza



hcv.gov.hk https://apps.hcv.gov.hk/HCSP/EHSClaim/EHSClaimV1.aspx

[Home](#)[Inbox](#)[Logout](#)

# Claim

>>>1. Search Account 2. Enter Details 3. Complete Claim

## Search Account

Practice

Dr Ho Chung Ping (1)

Scheme

Elderly Vaccination Subsidy Scheme

Pre-filled Consent No.

PXXXXX-

GO

### Document Type

☒ Hong Kong Identity Card☐ Hong Kong Birth Certificate (Established)☐ Non-Hong Kong Travel Documents☐ Certificate of Exemption☐ Hong Kong Re-entry Permit☐ Certificate issued by the Births and Deaths Registry for adopted children☐ Document of Identity☐ Permit to Re-enter Hong Kong

Please input the information for eHealth Account Search

[Help](#)

HKIC No.

00752787

Date of Birth

1918

Search





# eHealth System

HO, CHUNG PING

Home

Inbox

Logout



## Claim

>>>1. Search Account 2. Enter Details 3. Complete Claim

>>>1a. Get Consent 1b. Enter Details 1c. Complete Creation

### Temporary eHealth Account Creation

☒ Search Information

Document Type Hong Kong Identity Card

HKIC No. C075278(7)

DOB 1918

There is no record of this account. Please obtain consent from the applicant to provide personal information to create a temporary account.

Cancel

Create Account



# Claim

>>>1. Search Account 2. Enter Details 3. Complete Claim

1a. Get Consent >>> 1b. Enter Details 1c. Complete Creation

## Enter Details

Current Practice

Dr Ho Chung Ping (1)

Please enter the account information shown on Hong Kong Identity Card.

Help



香港永久性居民身份證  
HONG KONG PERMANENT IDENTITY CARD  
樣本 SAMPLE

TANG, [REDACTED]

6772 [REDACTED] Chinese Name

出生日期 Date of Birth  
1918 ☒ Female ☐ Male

\*\*\*AZ  
簽發日期 Date of Issue  
(01-79)  
06-2010 0075278(7)

Cancel X

Next >



# Claim

>>>1. Search Account 2. Enter Details 3. Complete Claim

1a. Get Consent >>> 1b. Enter Details 1c. Complete Creation

## Enter Details

Current Practice Dr Ho Chung Ping (1)

Please enter the account information shown on Hong Kong Identity Card.

Help

### Choose Chinese Name

Please select Chinese Name

鄧		

Click [here](#) to check the installed Character Set.

Cancel

Confirm

HONG KONG

TANG , KAM S

1918

Female Male

\*\*\*AZ

簽發日期 Date of Issue

(01-79)

06-2010

0075278(7)

Cancel

Next



HO, CHUNG PING

Home

Inbox

Logout



## Claim

>>> 1. Search Account 2. Enter Details 3. Complete Claim

1a. Get Consent 1b. Enter Details >>> 1c. Complete Creation



**Temporary eHealth Account has been created!**

### Account Information

Reference No.	C10603-85049-0
eHealth Account Creation Time	03 Jun 2010 17:55
Document Type	Hong Kong Identity Card
Name	[REDACTED]
DOB	1918
Gender	Female
Date of Issue	20-10-06
HKIC No.	[REDACTED]

Proceed to Claim



Next Creation







1. Search Account &gt;&gt;&gt; 2. Enter Details 3. Complete Claim

## Enter Details

## ● Account Information

Document Type **Hong Kong Identity Card**

Name



HKIC No.

Date of Birth / Gender **1918 / Female**Date of Issue **20-10-06**

## ● Claim Information

Practice **Dr Ho Chung Ping (1)**Scheme **Elderly Vaccination Subsidy Scheme**Service Date **03-06-2010**

Subsidy ⓘ	Dose	Amount	Remarks
<b>23vPPV</b>	<b>N/A</b>	\$190	Vaccine Cost: \$140, Injection Cost: \$50
Total Amount		<b>\$190</b>	

Cancel ✕

Claim ▶



hcv.gov.hk https://apps.hcv.gov.hk/HCSP/EHSClaim/EHSClaimV1.aspx

Name



Date of Birth / Gender 1918 / Female

HKIC No.

XXXXXXXXXX

Date of Issue

20-10-06

**Claim Information**

Scheme

**Elderly Vaccination Subsidy Scheme**

Service Date

**03 Jun 2010**

Practice

**Dr Ho Chung Ping (1)**

Bank Account No.

**XXX-392-134XXXXX**

Service Type

**Registered Medical Practitioners**

Subsidy ⓘ	Dose	Amount	Remarks
<b>23vPPV</b>	<b>N/A</b>	<b>\$190</b>	<b>Vaccine Cost: \$140, Injection Co</b>
	Total Amount	<b>\$190</b>	



You are reminded to ask the recipient to sign the consent form for claim.



☒ I hereby confirm that I have rendered health care service to the service recipient and the service fee charged to the service recipient is reduced by the amount claimed accordingly. I also confirm that the service recipient has signed the required consent form and the information as shown is correct.

[Back](#)

[Confirm](#)





# Claim

1. Search Account 2. Enter Details >>> 3. Complete Claim



**Claim completed! Please record the Transaction No. to Consent Form.**

## Account Information

Document Type **Hong Kong Identity Card**

Name



Date of Birth / Gender **1918 / Female**

HKIC No.

Date of Issue **20-10-06**

## Claim Information

Transaction No. **TE10603-15889-8**

Transaction Time **03 Jun 2010 17:56**

Scheme **Elderly Vaccination Subsidy Scheme**

Service Date **03 Jun 2010**

Practice **Dr Ho Chung Ping (1)**

Bank Account No. **XXX-392-134XXXXX**

Service Type **Registered Medical Practitioners**

Subsidy 	Dose	Amount	Remarks
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## eHealth System

HO, CHUNG PING

Home

Inbox

Logout



## Claim

&gt;&gt;&gt; 1. Search Account 2. Enter Details 3. Complete Claim

! Validation Fail!

"HKIC No." is invalid. [990000-E-00002]

## Search Account

Practice

Dr Ho Chung Ping (1)

Scheme

Elderly Vaccination Subsidy Scheme

Pre-filled Consent No.

PXXXXX-


GO

Document Type

☒ Hong Kong Identity Card☐ Hong Kong Birth Certificate (Established)☐ Certificate of Exemption☐ Hong Kong Re-entry Permit☐ Document c☐ Permit to R☐ Certificate issued by the Births and Deaths



# eHealth System

 Login User Manual Useful Link FAQs Contact Us Easy Guide Login

## ! Validation Fail!

Multiple browsers are detected, please close all browsers and open a new browser.  
[990001-D-00015]

**Account Type**☒ Service Provider ☐ Data Entry Account**Service Provider ID / Username**

00297426

[Forgot](#)**Password****Token Passcode**

Login

Token



## eHealth System

HO, CHUNG PING

Home

Inbox

Logout



## Claim

1. Search Account&gt;&gt;&gt; 2. Enter Details 3. Complete Claim

## Validation Fail!

No available subsidy. The patient might have received vaccination at other Service Provider or Hospital with patient for his/her vaccination history. [990000-E-00255]

## Enter Details

Account Information

Vaccination Record

Document Type

Hong Kong Identity Card

Name

HKIC No.

P151XXX(X)

Date of Birth / Gender 15-08-1935 / Fe

Date of Issue 06-02-07

Confirmation

Claim Infor





# The new HKMA project

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- Data communication slow, ways to enhance the flow is needed
- Improve in efficiency
- Security needed to be maintained
- “When there is a divide, you build a bridge”





# Physical and cultural divide

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- HA CMS 2.0 achieved data standardization, advanced and reliable
- HA doctors younger
- Medical knowledge up to date
- Many private clinics not computerized, only 500 HKMA CMS 3.0 installed
- Private doctors older in average
- Private doctors more experienced (?)

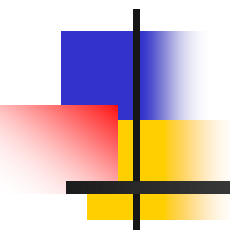


# The Wuhan Bridge

- 1949 – People's Republic of China (led by Chairman Mao)
- 1955 – the first bridge built across the Yangtse
- 一桥飞架南北，天堑变通途







# The HKMA Wuhan project 2009 武漢 計劃

Dr. HO Chung Ping, MH  
Chairman,  
Chairman, IT Committee

何仲平醫生  
資訊科技委員會主席





# HKMA Wuhan Project

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- HK\$2,956,000 Project funded by eHealth Office
- Integration with e-voucher and other services
- Integration hub for medical information exchange
- Training Program for doctors using the HKMA CMS 3.0





電子健康記錄互通系統  
Electronic Health Record (eHR) Interop System

醫健通  
ehealth

食物及衛生局  
電子健康記錄系統處  
eHealth Record Office  
Food and Health Bureau

公私營醫健記錄互通計劃



香港醫學會  
The Hong Kong Medical Association

醫健通  
ehealth

香港特別行政區政府 HKSAR GOVT  
食物及衛生局 電子健康記錄系統處  
eHealth Record Office, Food and Health Bureau



The Hong Kong Medical Association

CMS v3.0  
Clinical Management System  
香港醫學會臨床管理3.0軟件





# Integration with Public health Schemes

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- By integrating various services with the HKMA CMS 3.0, doctors can log on with the CMS
- the necessary information for the schemes can be captured and reported automatically
- Workload of the doctors can be reduced significantly





# Authentication

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- IH stores a list of authenticated clinics which are using CMS.
- Authenticated CMS system can gain access to the services provided by IH.
- 3rd party systems can simplify their authentication framework by trusting and using the authentication framework provided by IH.





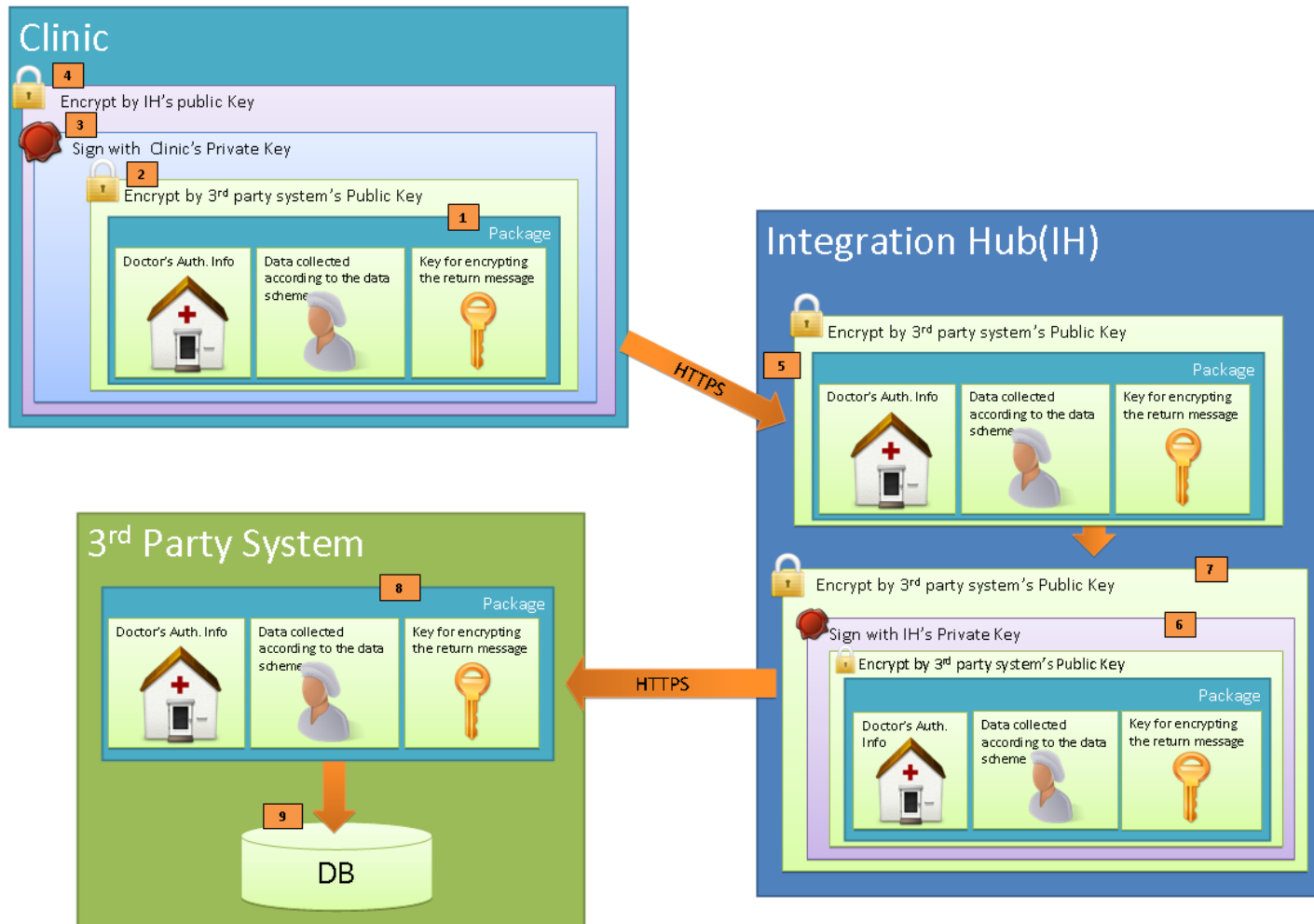
# Data Security

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- Multi-level point-to-point encryption using public-private keys.
  - CMS, IH and 3rd party systems will each see specific information intended for its consumption.
- Data from CMS to 3rd party systems can be encrypted for 3rd party systems consumption only, such that IH cannot look into the data.
- Return data can be optionally encrypted.

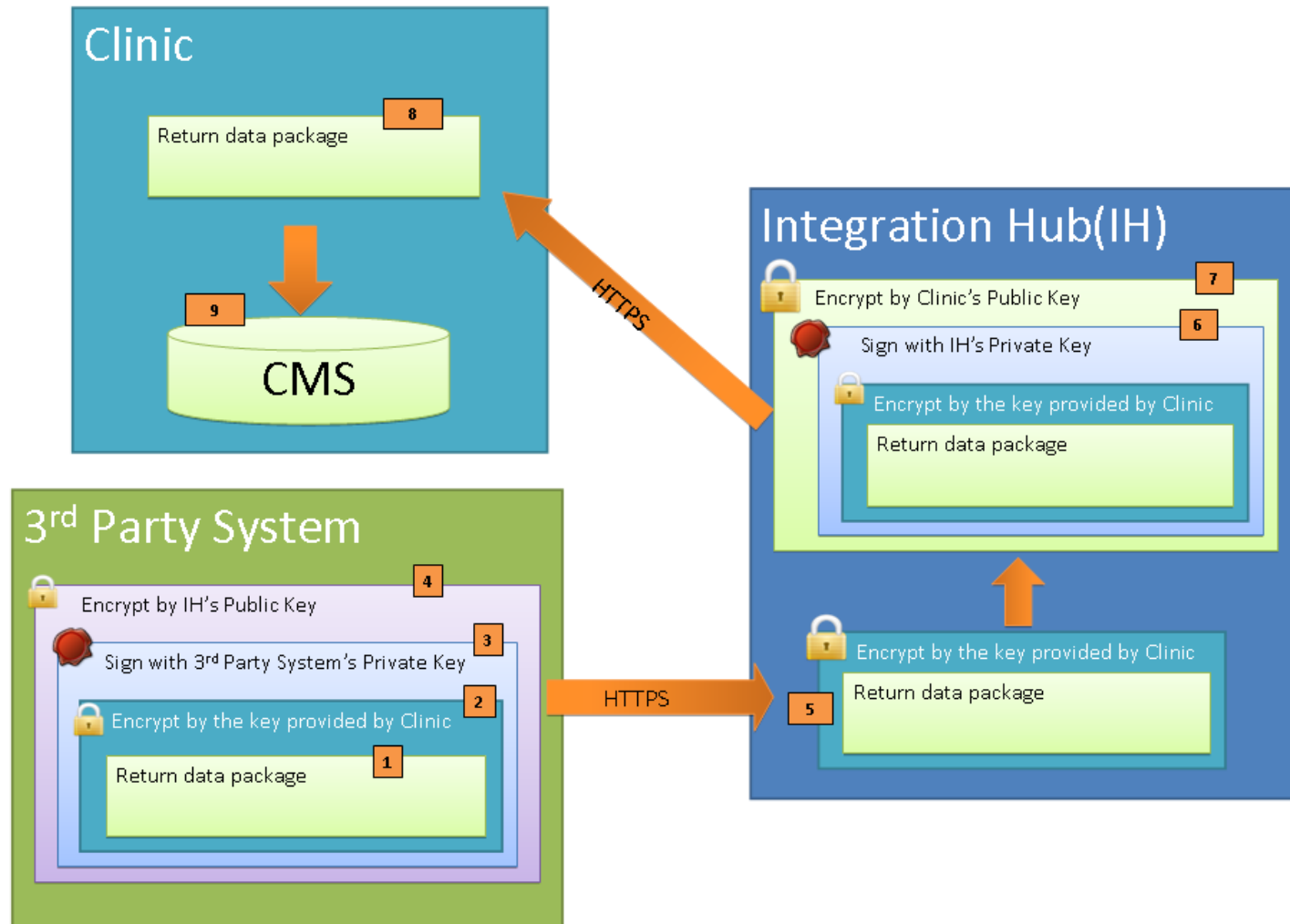


# Sample Exchange:





# Sample Exchange:





[Submit Claim](#)



Dispensary

NG S

Label language

Print Labels

Print Prescription Form

Item	Q/T	T/D	Days	Qty	Unit	Instruction	Advisory	Remark	Unit Pri	Amt	Rx			
Total(\$)											\$0.00			
Drug Allergy: <b>No Allergy Record</b>														

Print Invoice

Item	Standard (\$)	Billed (\$)	Remarks		
Total(\$)			\$0.00		

Print Receipt

Billed Amount:\$0.00

<input type="checkbox"/>	Payment Method	Remark	Amt	
<input checked="" type="checkbox"/>	eHealth System		\$250.00	
<input type="checkbox"/>			\$0.00	
Total Paid Amount(\$)			\$250.00	
Outstanding Amount(\$)			-\$250.00	



1

2

3

4

5

6

1

2

3

4

5

6

<



Thank you for your notification, the Notification Number **11002744** is assigned for this case; you may print a copy for record purpose. Should you have any questions, please contact us in office hours at 2477 2772. To report URGENT CASE after office hours, please also contact duty Medical Control Officer to facilitate prompt public health investigation and control actions.

### CENO Report Form 3

#### Patient's Information

Surname:  Other Name:  Name in Chinese:   
Sex: ☒ Male ☐ Female DOB:   
HKID:  Passport/Others:  Mobile:

#### Patient's Home Address

Flat:  Floor:  Block:   
Building:  Estate:   
Street No.:  Street:   
District:  Phone:

#### Patient's Work Address

Name of Work/School:  Job Title/Class attended:   
Flat:  Floor:  Block:   
Building:  Estate:   
Street No.:  Street:   
District:  Phone:

#### Hospital Information

Close

Print a Copy





# The Integration Hub 'Wuhan Bridge'

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- 1. An open standard for information exchange among healthcare service providers.
- 2. An infrastructure for allowing different healthcare providers to exchange electronic information conveniently and securely.
- 3. An infrastructure for reporting of notifiable diseases to the CENO of the Department of Health.



# Beyond Wuhan....

- To connect between private labs, private hospitals and the HA hospitals
- Ultimately to the rest of the country





# Acknowledgement

- eHealth Record Office, FHB
- The OGCIO
- HA IT teams
- The HKMA Wuhan Squad

