

Electronic Patient Record –A Review

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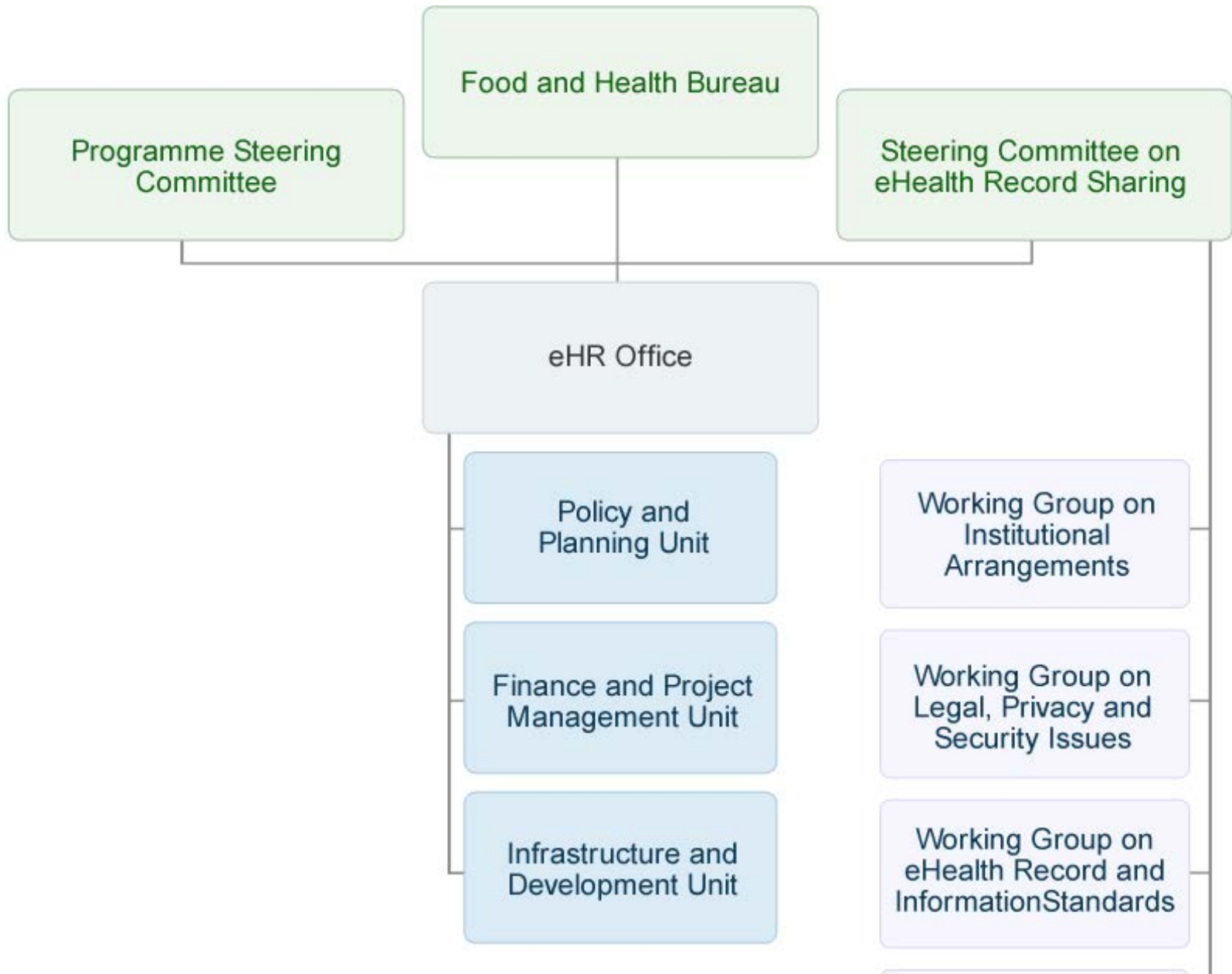
Electronic Patient Record

- A Record in **electronic format**
- **Health-related** data (not limited to illness & treatment)
- Stored and retrieved by **healthcare providers professionals.**
- For **healthcare-related purpose**

Medical Information Exchange

- 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

HKSAR eHR Office



Five Guiding Principles of eHR Sharing System

- eHR development should be **government-led** and should leverage HA's systems and know-how.
- Data **privacy** and system **security** of the eHR Sharing System should be accorded paramount importance and given legal protection.
- Participation in eHR sharing should be **compelling but not compulsory** for both patients and healthcare providers.
- eHR Sharing System should be based on **open, pre-defined and common** technical **standards** and operational **protocols**.
- Development of eHR Sharing System should be based on a building block approach, involving **partnership** with the private sector.

Computerization in Primary Care

Problems in private sector

- software and hardware **inadequate**
- **No data standardization**
- Private doctors entered medical records **manually**
- A **good clinic management system** essential

Data communication requirements

- 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

Unique situation in Hong Kong in medical care delivery

- 90% of the hospital patients managed by the Hospital Authority
- 90% of the primary care service provided by the private doctors
- **Data information exchange** is essential for a successful electronic health care system

HKMA 3.0 survey

Combined survey results for all 18 districts

	Clinical Management System in Place						Not in Place		Calls Made
	Clinic Solution	CMS 3.0/3.x	Medicsys	WinMed	excel	Other CMS	No CMS in Clinic	No Computer	
Doctors in Group	47	5	43	13	0	77			185
Doctors in Solo	621	91	0	71	45	228	397	236	1689
Total	668	96	43	84	45	305	397	236	1874
	1241 (66.2%)						633 (33.8%)		1874
Success Rate: 64.7%							Refuse to answer		585
Updated on 23 October 2013							Wrong number / no answer		436
							Total Calls Made		2895

DH - Existing Public health Schemes

- Current public health schemes include **eHealthcare Voucher** (醫療券) 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



Text Only Version 繁體 English



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

[Forgot "Password"](#)

Password

Token Passcode



Token Passcode

Login ▶

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

Overview of PPI-ePR



9 June 2015

How It Operates

- Each registered patient is assigned a **personal identification number**
- With the patient's **consent**, private healthcare provider registered in the project can view the patient's **HA clinical information** online, which includes:
 - Discharge summaries, diagnosis, procedure, laboratory/radiology results, medication orders, allergies and future appointments

Security and Confidentiality

- Sensitive data and important identifiers are **encrypted** using Triple DES encryption algorithm and protected by **firewall** at the same time
- A two-factor authentication process is used to ensure that access to the clinical records is provided to the authorized person only
- Enrolled healthcare professionals are given two factors of identification
 - **Log-in ID and password**
 - **Security token**
- Security token provided a more reliable user authentication than passwords, with changing number displayed on the token generated by the server at one minute intervals

Security and Confidentiality

- The patient would also be required to produce his or her own **password**
- Whenever the records are being accessed, a **SMS message** will be sent immediately to the patient's or the applicant's mobile phone alerting him / her as such

epr (electronic patient record)

Public Private Interface - Electronic Patient Record Sharing Pilot Project 公私營醫療合作 - 醫療病歷互聯試驗計劃



醫院管理局
HOSPITAL
AUTHORITY

醫健通
ehealth
MULTI-ORGANIZATION HEALTH

Identity Authentication

Password:

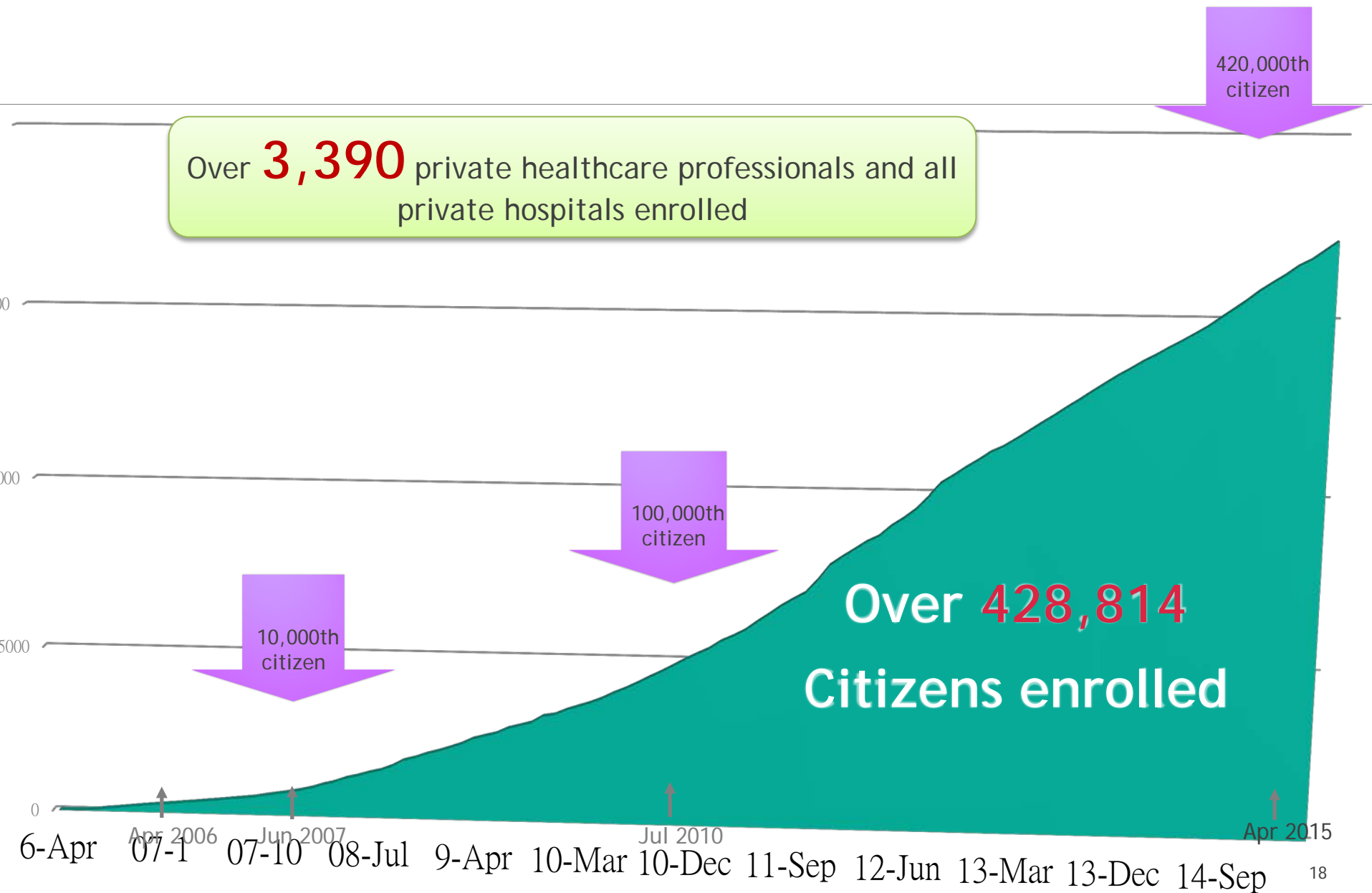
Security Code:

Log in to access this protected resource. If you don't remember your login information, contact your help desk or administrator.

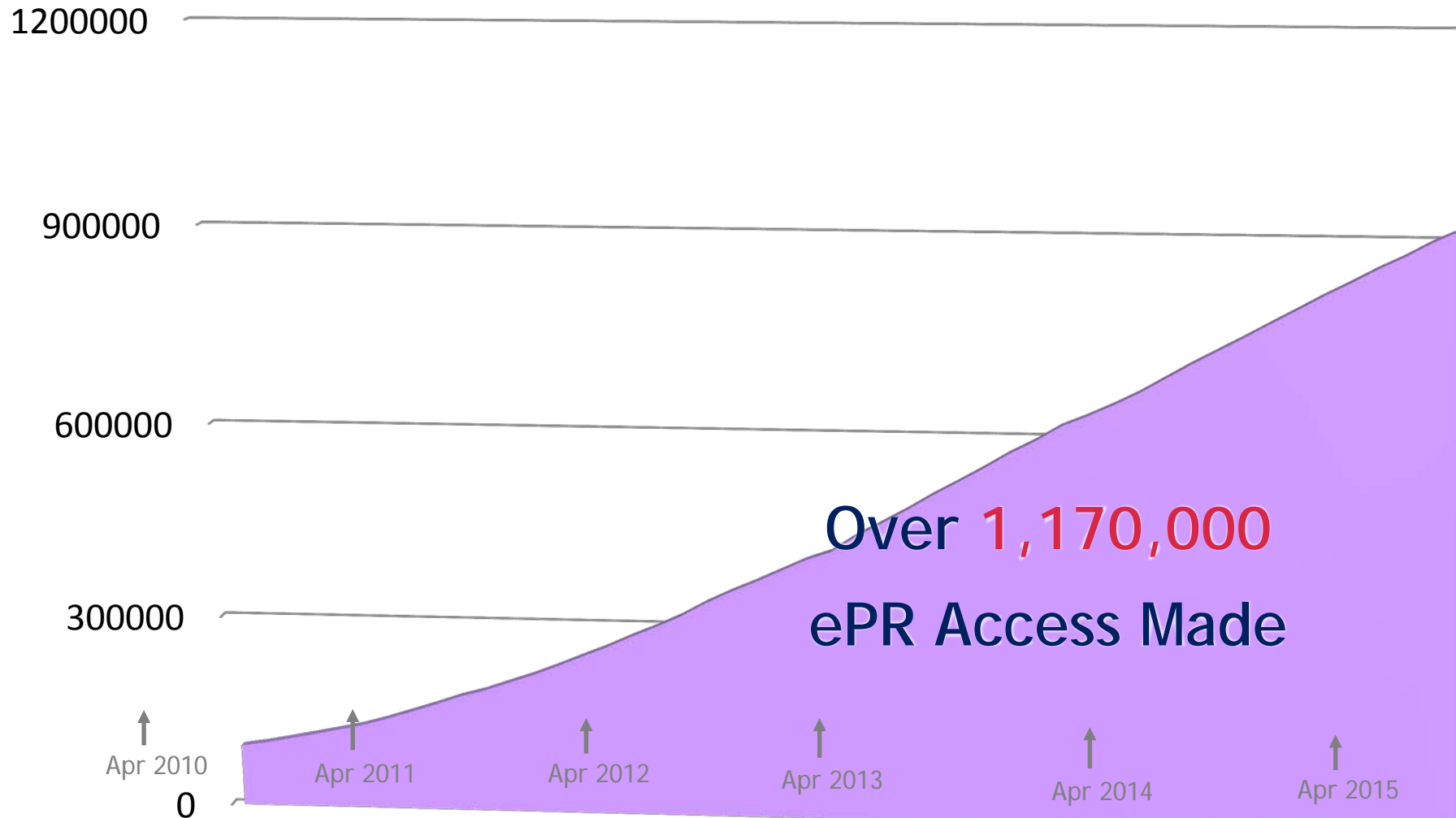
Hong Kong Hospital Authority
147B Argyle Street, Kowloon, Hong Kong Special Administrative Region, PRC.

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PPI-ePR (Citizens & Healthcare Professionals Buy-In) Update as at end Apr 2015



Accumulation number of ePR access (Update as at end Apr 2015)





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
資訊科技委員會主席

The TaoYuan Project 桃園計劃

- 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



CMS

v3.0

Clinic Management System

The screenshot displays the CMS v3.0 interface with several overlapping windows:

- Appointment Window:** Shows a calendar view for February 2009. The 10th is highlighted, indicating an appointment for 'LEE Alisa 陳枝盈 (M54y) | 100285'.
- Consultation Window:** Displays patient information for 'LEE Alisa 陳枝盈 (M54y) | 100285'. It includes a 'Medical Background' section with fields for Blood Type (B), GPPD Status, Smoking History (Normal Smoker), and Drug Allergies (Pitron). It also shows a chest X-ray image.
- Prescription Window:** Lists prescribed items:

Item	QT	Unit	TD	Day	Qty	Instruction	Advisory	Remark
Paracetamol	3	Tablet	3	3	27	Before sleep	Do not stop	
Anolfin Capsules	3	Tablet	3	3	27	Before sleep	Do not stop	
Unasyn Tablets	3	Tablet	3	3	27	Before sleep	Do not stop	
- Billings Window:** Shows a summary of charges:

Item	Standard (\$)	Billed (\$)
Consultation	\$400.00	\$400.00
Blood Test	\$550.00	\$550.00
Total (\$)	\$0.00	\$950.00
- Patient Record - 100403 Window:** A detailed form for patient 'Jeremy' (Surname: Johnston, Chinese: 李). It includes fields for HKID/Passport No. (865-02-1320), ID Type (HKID), Given Name (Jeremy), Surname (Chinese: 李), Alias 1, DOB (1968-03-28, 40y), Sex (Male), and Drug Label Language. The 'Contact No. & Address' section is also visible, showing contact details and a full address in Kowloon City.

Advantages of HKMA CMS 3.0

- **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

CMS 'On-ramp' - from HA

- A system developed by the HA on behalf of the e_HR office
- Ability to check for drug sensitivity
- Ability to view the electronic health record and (optional) upload data

CMS On-ramp

Update Allergy / Alert profile

Body Temp: 38.0 C 100.0 F

Weight: 150.0 kg 330.7 lb

Height: 170.0 cm 5'7"

Sex: M

Age: 65

Medical Record No.: 123456789

Navigation: Home | My Profile | My Alerts | My Allergies | My Medications | My Lab Results | My Imaging | My Referrals | My Appointments | My Billing | My Account | My Settings | My Help

Form fields include: Allergy Name, Allergy Type, Onset Date, Severity, and various checkboxes for symptoms and reactions.

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CMS on-ramp

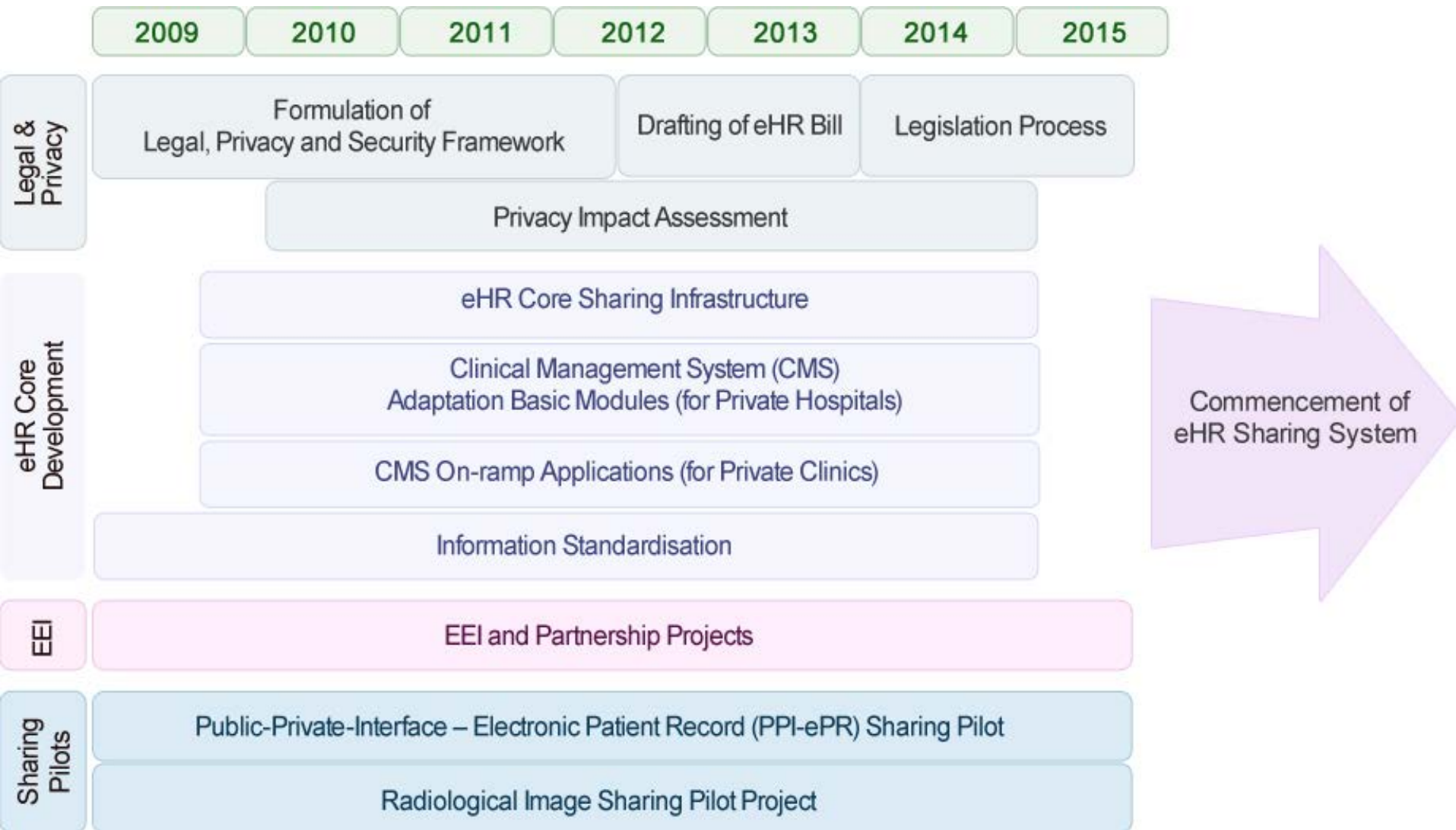
- Some doctors are more familiar with the HA CMS system
- Drug allergy check, immunization check
- Ability to send and receive data to the future eHR system
- **Advanced** system
- **No special catering for private doctors**

HKMA CMS 4.0 (Nuwa)

- Combine the HA ‘CMS on-ramp’ and the HKMA CMS
- HKMA Nuwa system
- Roll out at the end of 2015

Roadmap of HKMA CMS development

- Taoyuan Project: Develop CMS 3.0
- Yinzheng Project: Test of concept mission between private hospital (Cannosa) and private clinics
- Wuhan Project: Test of concept mission to develop an integrated hub between CMS 3.0 and ehealth services (vaccination & Healthcare voucher)
- Wenchang Project: To develop connectivity between CMS 3.0 & ehealth records. Products will be CMS Yuanmong and CMS Nuwa



Grand plan

- The grand plan is HOLISTIC
Medical information exchange
- All use the same terminology,
same data structure, same
messaging standard
- Exchange between private and
public doctors essential
- Merging with existing public
health schemes and eHR

Acknowledgement

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

