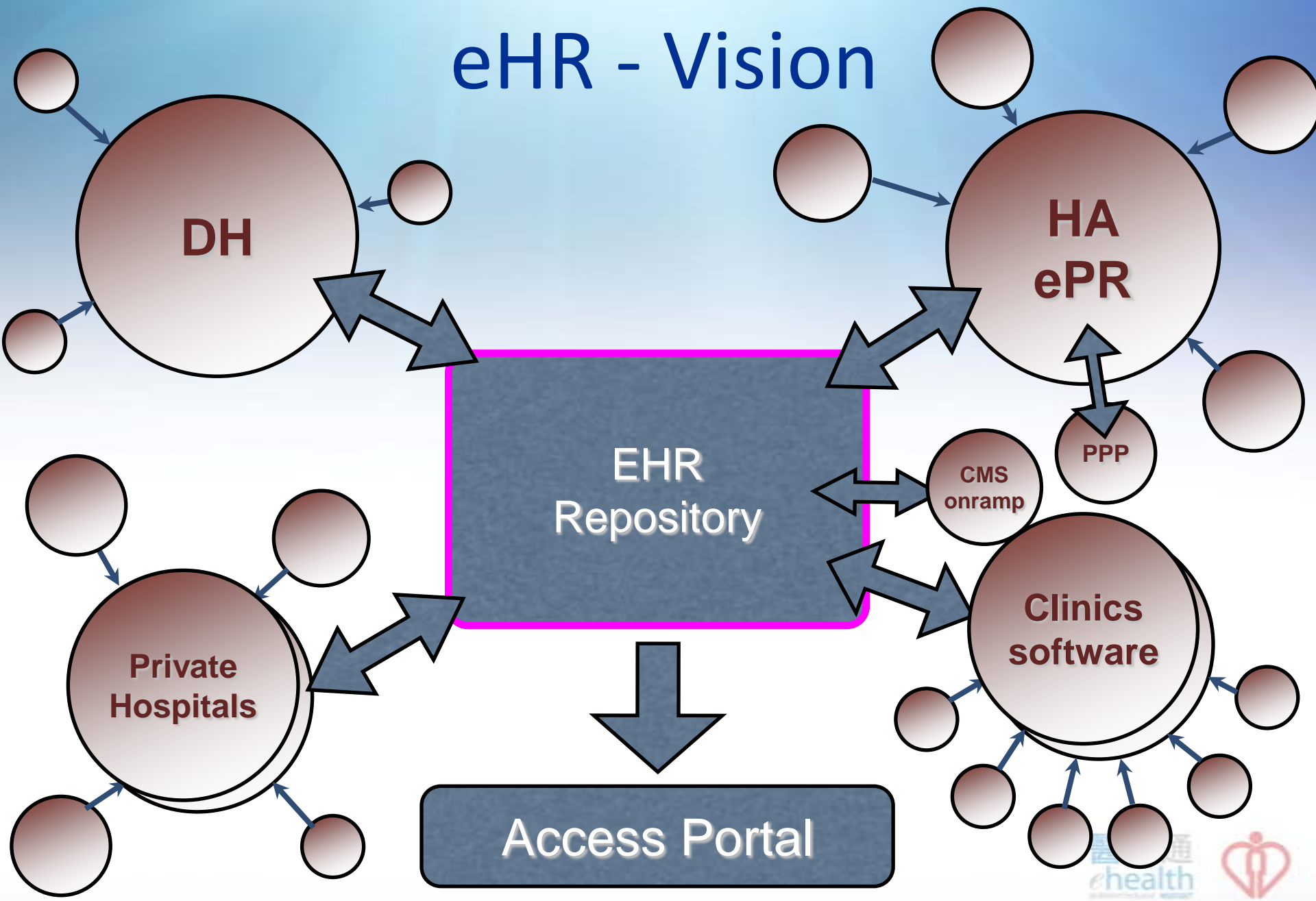


Update on eHR Development Programme

EEI Networking Session – 31 Oct 2011

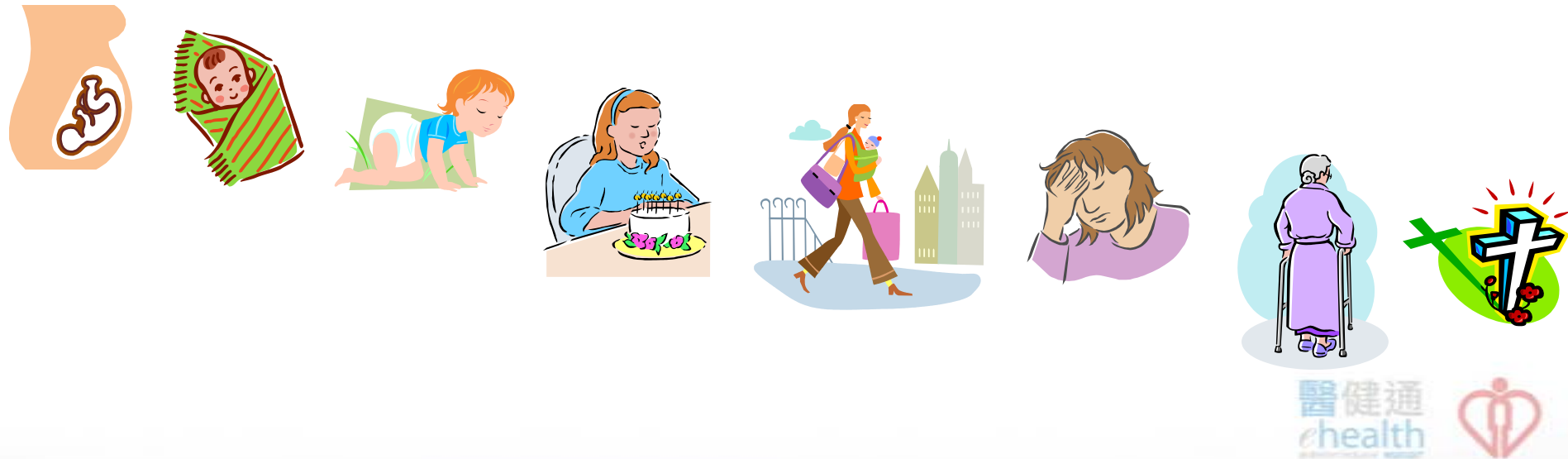
Vicky Fung
Senior Health Informatician
Hospital Authority

eHR - Vision



Electronic Health Record

- An electronic **womb-to-tomb** health record comprising of all important health data about a person which can be accessed at anytime, anywhere by the authorized person.



Guiding Principles of eHR Development

Government-led model for development

Compelling but not compulsory record sharing

Data privacy and security of paramount importance

Open technical standards for private participation

Building block approach

eHR Programme

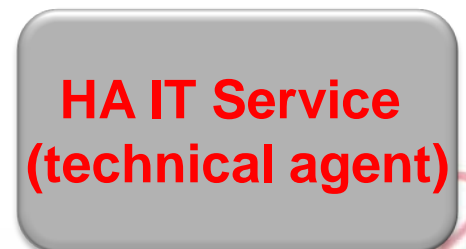
Set up dedicated eHR office to co-ordinate development, leveraging HA's expertise and experience

Voluntary participation by both providers and patients, promoting and incentivising eHR sharing

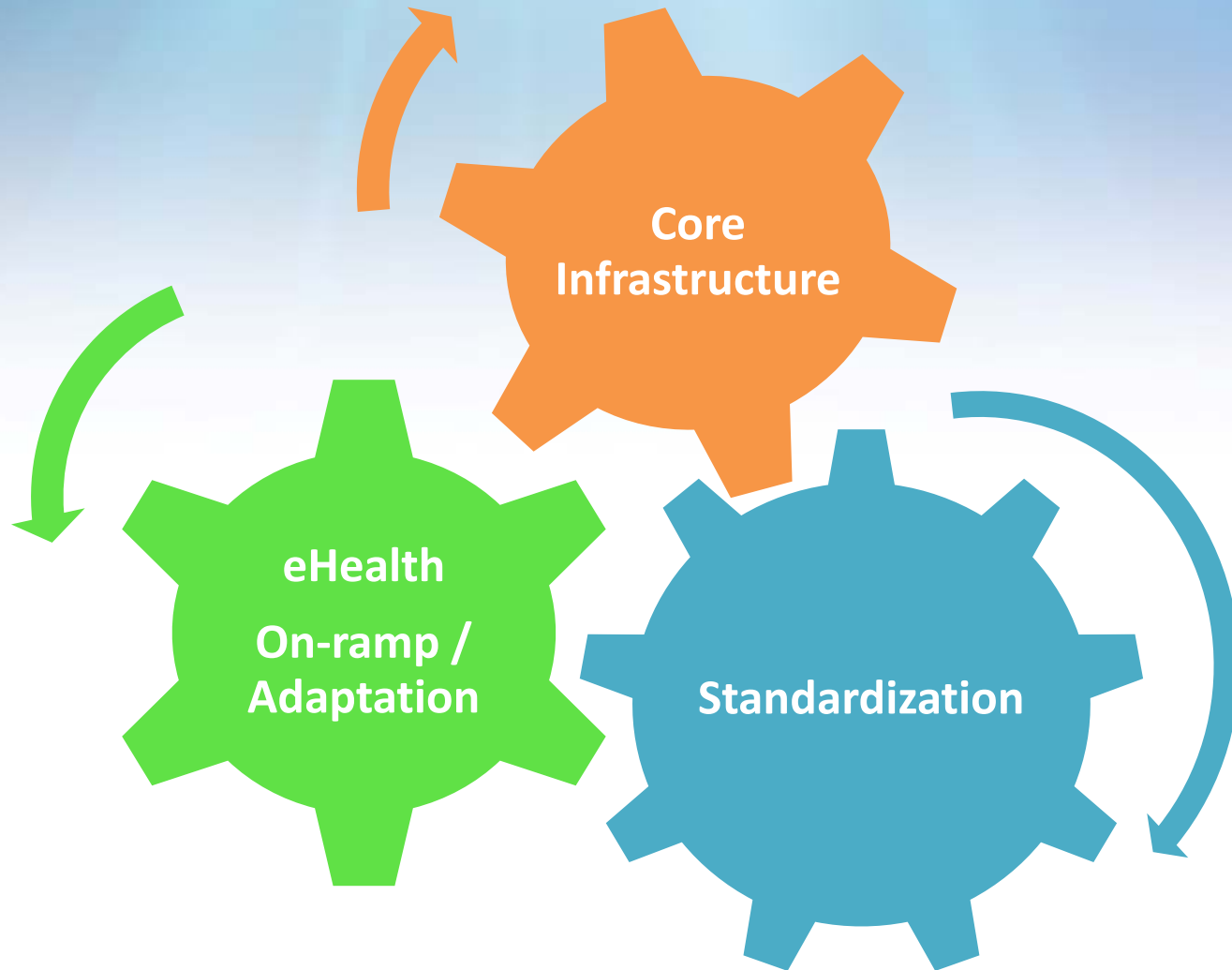
Develop legal framework and incorporate eHR privacy and security throughout development

Engage private healthcare and IT sectors in development of eHR standards and solutions

Develop individual eHR components through pilots and partnerships with private sector



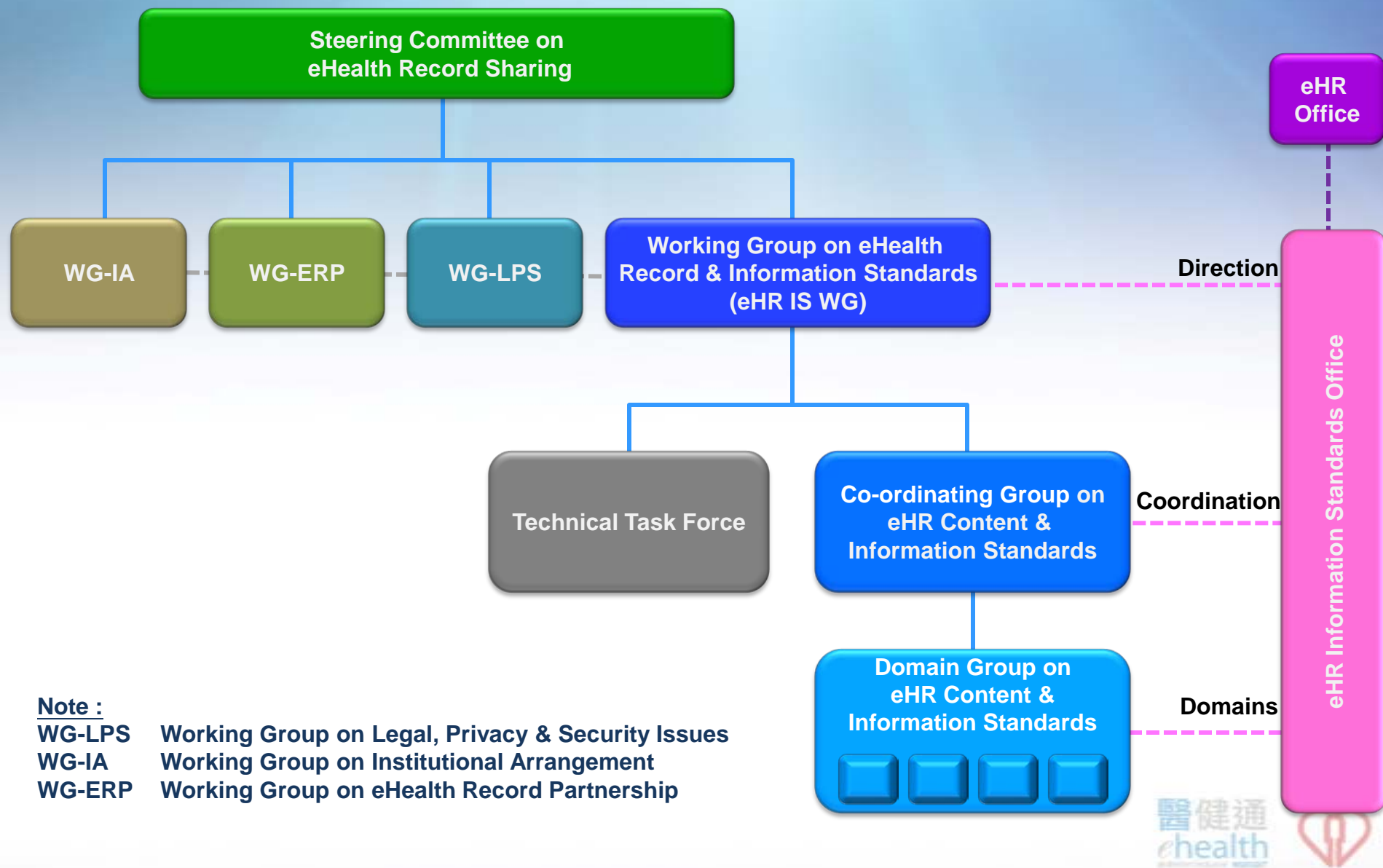
3 Components



Standardisation for eHR

- Ensure accurate interpretation of health data by all parties
- Support reuse of data
- Reduce duplicated efforts in data entry
- Facilitate interoperability of systems for data captured at different platforms
- Improve efficiency of healthcare services
- Assist in protection of public health

Organisation Structure for eHR Information Standards



Standards for eHR

- Integrate international and local standards
- Registries
 - HKID, professional boards, address data infrastructure
- eHR content
 - ASTM, Hospital Authority, Department of Health
- Terminology
 - SNOMED CT, LOINC, ICD 10, ICPC2
 - Compendium of Registered Pharmaceutical Products
- Message
 - HL7

eHR Registries

- Types

- Participant Master Index (PMI)
- Provider Registry
 - Healthcare Provider
 - Healthcare Staff

- Aims

- Identify eHR participants / HCP / HCStaff accurately and uniquely
- As part of security framework for accessing eHR
- Participant Registry
 - Foundation to build a womb-to-tomb eHR



eHR Participant

- Enrollment
- Withdrawal
- Change major keys
-

Healthcare Provider

- Enrollment
- Termination
- Merge of healthcare providers
-

Workflow

Management of eHR Data

- Consent management
- Rejected data
- Merge of eHR records
-

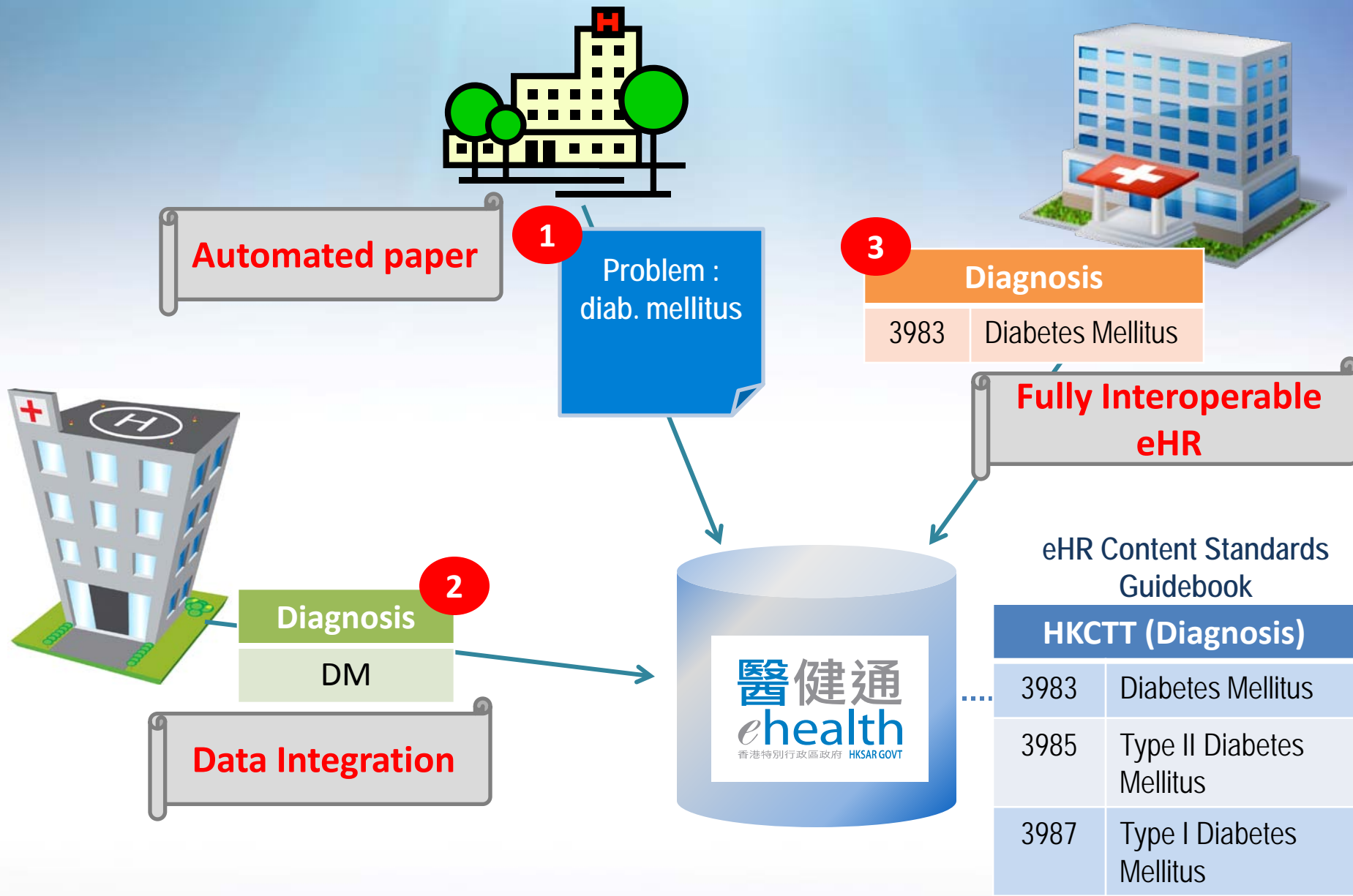
Access to eHR

- By healthcare staff
- Under emergency
- By Indirect service provider
-

Standard Operation Guide on eHR PMI

- PMI principles
- PMI data
 - Major keys
 - Other PMI data
- Newborns and children under 11 years old
- Dispute management
- Impact of healthcare providers' PMI to eHR
- Monitoring

Standards Compliance



eHR Sharable Data

eHR Content	Level 1	Level 2	Level 3
Person			
Healthcare practitioner			
Encounters			
Referral			
Episode summary			
Adverse reactions / allergies			
Problems			
Procedures			
Assessment / physical exam			
Social history			
Past medical history			
Family history			
Medication			
Immunization			
Clinical requests			
Diagnostic test results			
Care & treatment plan			

Key :

Phase 1

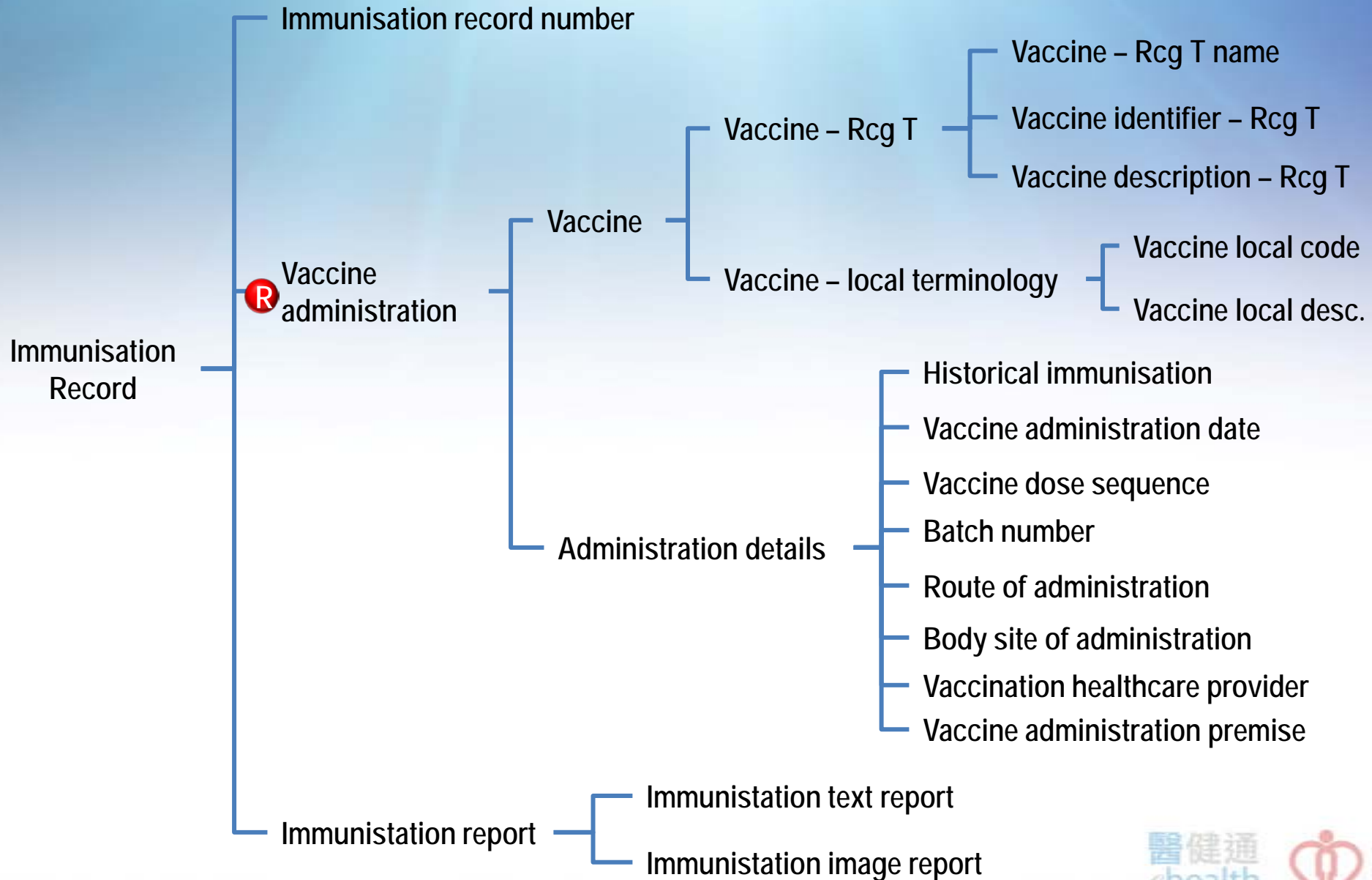
Phase 2

Phase 3

Phase 4

Phase 5

Immunisation Record



Immunisation Record – Dataset

Category Level 1	Category Level 2	Category Level 3	EntityID	Proposed Name	Definition	Data Type (code) - HL7 2.5	Data Type (description) - HL7 2.5	Repeated Data	Code Table	Mandatory (Level 1)	Mandatory (Level 2)	Mandatory (Level 3)	Example (Level 1)	Example (Level 2)	Example (Level 3)
Vaccine record			1001804	Immunisation record no.	A unique identifier for each vaccine administration record	ST	String data			M	M	M	5805 0000 XXXX	5805	
Vaccine administration	Vaccine	Vaccine local terminology	1001806	Vaccine local code	A unique identifier issued to the vaccine by individual	ST	String data								
Vaccine administration	Vaccine	Vaccine local terminology	1001807	Vaccine local description	The description of the vaccine										
Vaccine administration	Vaccine	Vaccine recognised terminology	1001808	Vaccine - recognised terminology source	Terminology classification recognised by the Information Office										
Vaccine administration	Vaccine	Vaccine recognised terminology	1001809	Vaccine ID - recognised terminology	Unique identifier for the vaccine "recognised set"										
Vaccine administration	Vaccine	Vaccine recognised terminology	1001810	Vaccine name - recognised terminology	Name of the vaccine "recognised set"										
Vaccine administration	Administration details		1001814	Historical Immunisation	Immunisation administered by other health professionals, historical data sets, the immunisation document, health professionals who give the vaccine to the individual										
Vaccine administration	Administration details		1001805	Vaccine administration date	The date of vaccine administration										
Vaccine administration	Administration details		1001812	Vaccine dose sequence	Immunisation series										
Vaccine administration	Administration details		1001811	Batch number	Batch production number of the drug										
Vaccine administration	Administration details		1001816	Route of administration	The path of drug administration taken										
Vaccine administration	Administration details		1001817	Site of administration	The location where the drug is given										
Vaccine administration	Administration details		1001813	Vaccination provider	The health professional who gives the vaccine										
Vaccine administration	Administration details		1001815	Vaccine administration premises	Name of the premises where the vaccine is administered	TX									
Immunisation Report			1001818	Immunisation report	Report of the immunisation record in encapsulated data format	ED	Encapsulated data								

Record hierarchy

EntityID

Description

Definition

Data type

Repeated data

Code table

Mandatory field for level 1, 2, 3

Examples

Data to eHR

Includes :

- Code tables as defined in individual eHR content dataset
- Recognised terminologies

Declared Standard Level	Unstructured data	Local structured data		Recognised structured data		
	PDF, Free Text	Local Code	Local Description	Recognised Terminology	Recognised Code	Recognised Description
1	Mandatory	NA	NA	NA	NA	NA
2	Optional	Optional	Mandatory	NA	NA	NA
3	Optional	Optional	Mandatory	Mandatory	Mandatory	Optional

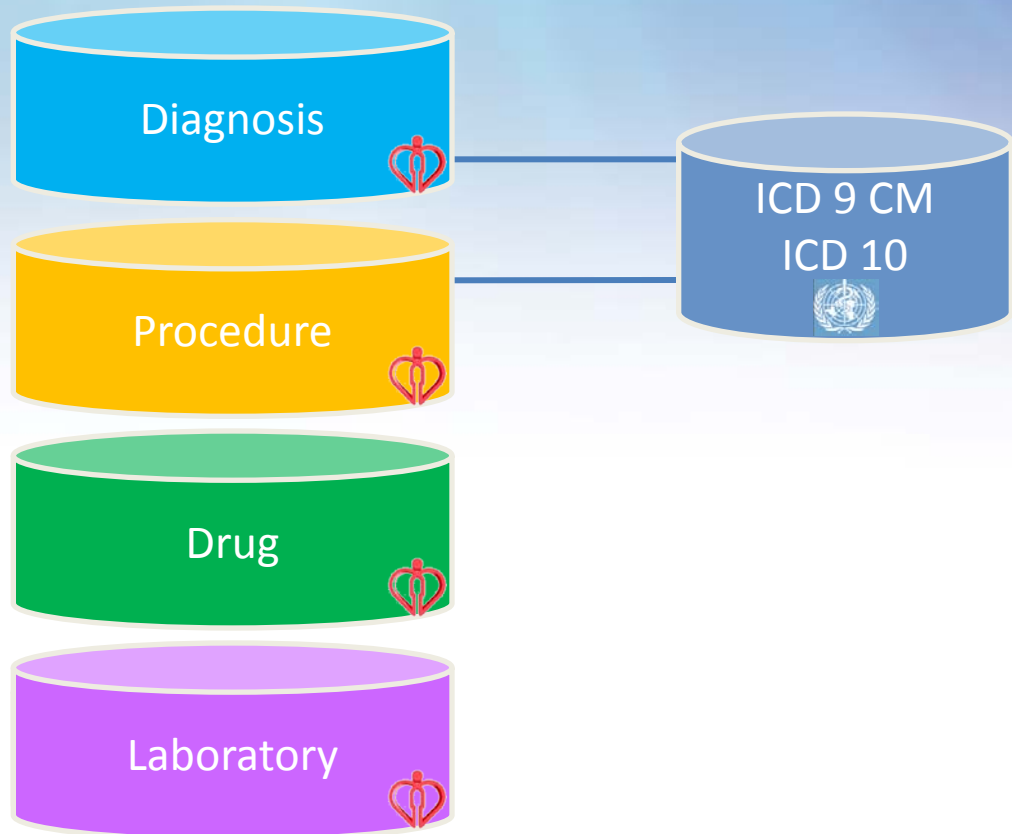
- Local term if map local table to standard
- Standard term if use adopt recognised terminology directly

Recognised Terminologies

- Compendium of Registered Pharmaceutical Products (HK Drug Compendium)
- Hong Kong Clinical Terminology Table (HKCTT)
- Logical Observations, Identifiers Names and Codes (LOINC)
- Systematized Nomenclature of Medicine, Clinical Terms (SNOMED CT)
- International Classification of Diseases, 10th Revision (ICD 10)
- International Classification for Primary Care v.2 (ICPC2)

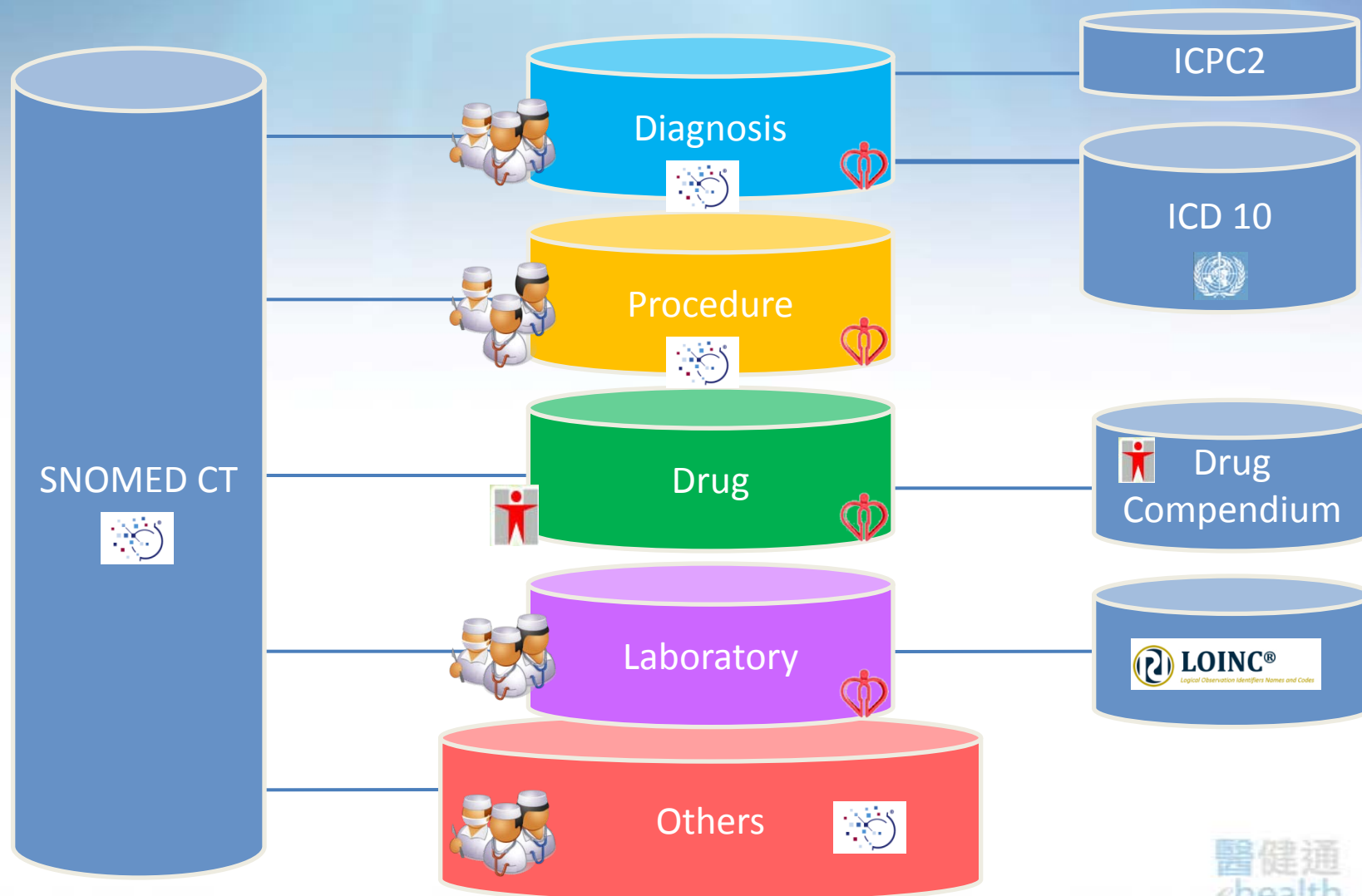


Hospital Authority Clinical Vocabulary Table

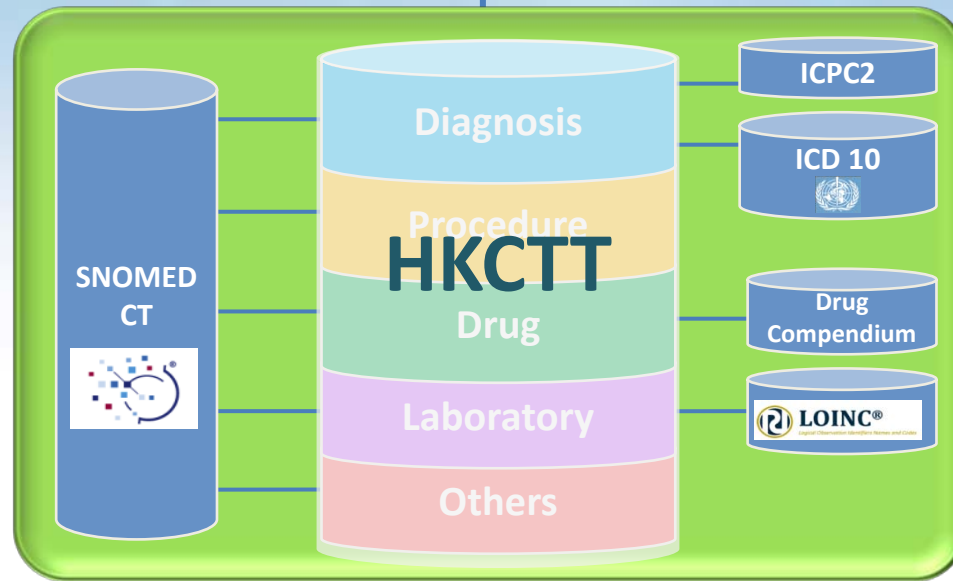


Building the HKCTT

2012

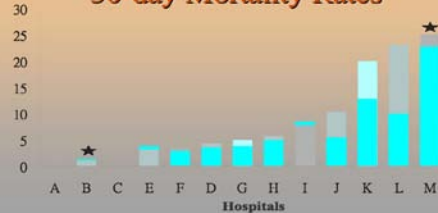


HKCTT



Secondary Use

Whipple's Operation
30-day Mortality Rates

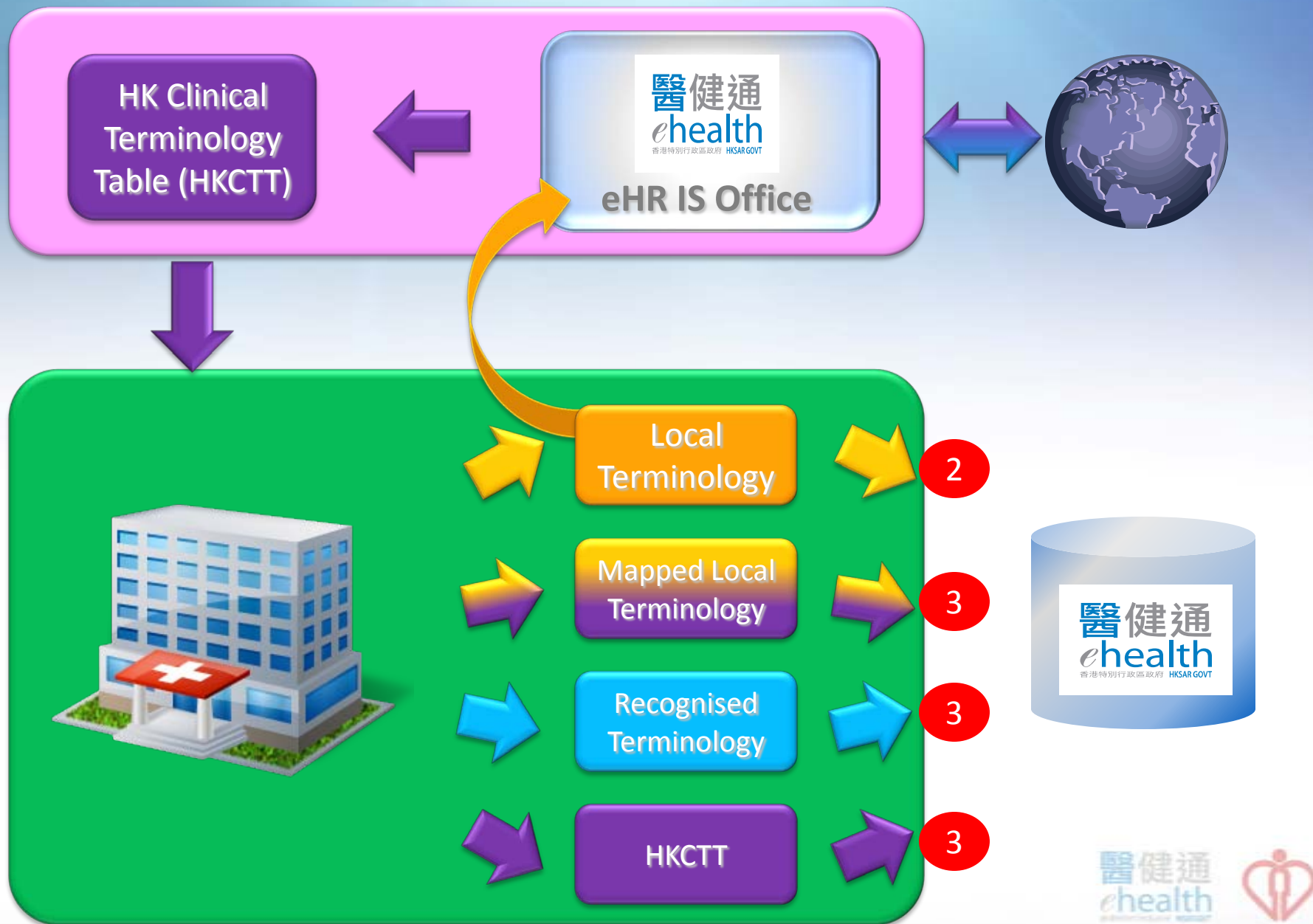


Clinical Data
Repository

eHR



Adoption of Health Information Standard



Type 1 Diabetes Mellitus in eHR

Date	Provider	Description	Code	System
3 Jan 2004	Hospital A	Insulin-dependent diabetes mellitus without complications	E10.9	ICD10
4 Feb 2001	Dr Chan	Diabetes mellitus type 1	46635009	SCT
3 Mar 1999	Hospital B	Type 1 diabetes mellitus	3987	HKCTT
5 May 2003	Hospital C	Pneumonia	8471	HKCTT
6 Dec 2002	Dr Wong	Pneumonia, unspecified	J18.8	ICD 10
9 Sep 2002	Dr Ho	Insulin-dependent diabetes mellitus	DM1	Ho's List



Message Standard for Immunisation Record

Vaccine Data	
Immunisation record no.	IMM-2010-001
Vaccine administration date	2009-11-11 00:00:00.000
Vaccine local code	HEPA-001
Vaccine local description	Vaccine local description - Hepatitis
Recognised vaccine set	HKCTT
Vaccine ID – Recognised set	12354223
Batch number	09-123456
Vaccine dose sequence	1st dose
Vaccine provider	DH
Historical immunisation	Y
Vaccine administration premise	Sai Wan Ho
Route of administration	IM
Site of administration	RA
Record creation datetime	2010-06-08
Record last update datetime	2010-06-08
Record key	RECKEY000
File indicator	1
Immunisation report filename	10445.M06



```

<immu_record_no>IMM-2010-001</immu_record_no>
<vaccine_adm>
  <vaccine_adm_date>2009-11-11 00:00:00.000</vaccine_adm_date>
  <vaccine_lt_id>HEPA-001</vaccine_lt_id>
  <vaccine_lt_desc>
    Vaccine local description - Hepatitis
  </vaccine_lt_desc>
  <vaccine_rt_name>HKCTT</vaccine_rt_name>
  <vaccine_rt_id>12354223</vaccine_rt_id>
  <batch_no>09-123456-000001</batch_no>
  <vaccine_dose_sequence>1st dose</vaccine_dose_sequence>
  <vaccination_provider>DH</vaccination_provider>
  <historical_immu>Y</historical_immu>
  <vaccine_adm_premise>Sai Wan Ho MCHC</vaccine_adm_premise>
  <route_of_adm>IM</route_of_adm>
  <site_of_adm>RA</site_of_adm>
  <immu_record_creation_dtm>2010-06-08 15:22:00.000</immu_record_creation_dtm>
  <immu_record_last_update_dtm>2010-06-08 15:22:00.000</immu_record_last_update_dtm>
  <immu_record_key>RECKEY0001</immu_record_key>
</vaccine_adm>
<immu_report>
  <immu_file_ind>1</immu_file_ind>
  <immu_file_name>10445.M06-4100020.pdf</immu_file_name>
</immu_report>
  
```

CDA Example



[CDA Sample](#)

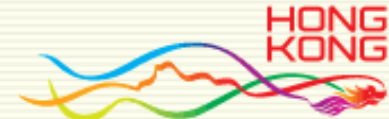
eHR Information Standards

http://www.ehealth.gov.hk/en/information_standards/information_standards_documents.html



eHealth Record Office

The Government of the Hong Kong Special Administrative Region



GovHK 香港政府一站通

TEXT ONLY 繁體版 简体版

SEARCH



SITE MAP



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font size:

eHR Information Standards Document

eHR Information Standards Document

Compiled for the pilot use of the eHealth information standard development, these documents will be revised from time to time. You are welcome to send your comment on these documents to us at eHR@fhb.gov.hk.

eHR Content Standards Guidebook [Download Document](#)

This document defines the content of, and the information standards set out for the Hong Kong eHR.

- [Appendix I – eHR Contents](#) **UPDATE**
- [Appendix II – eHR Codex](#) **UPDATE**

eHR Data Interoperability Standards [Download Document](#)

Keep
updating



Preparation for eHR

- Participate in various eHR communication forums
- Watch out for release/update of standard documents
- Analyse the gap between the local and eHR one
 - Scope of sharable data
 - Data structure and format
 - Validation rules
 - Operation practice, e.g. patient registration
- Identify a champion to act as eHR catalyst
- Adopt standards as far as possible
 - Operation practice
 - Upgrade system : consider incorporate eHR standards
- Communicate

Thank You

