

# HL7 Hong Kong FHIR® Connectathon Series 2025

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SEVENTH CONNECTATHON

7 JUL 2025

CLASSROOM 121, 1/F, HKPC BUILDING, 78 TAT CHEE AVENUE, KOWLOON, HONG KONG

# Welcoming remarks

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By

Mr. Alan Young (Chair, HL7 Hong Kong)

# Welcoming remarks

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## Topics: PMI and Chinese Medicine

Programme	Speaker
<b>Update on eHealth+</b>	<b>Louise Wong</b> Health Informatics Analyst I, HA
<b>PMI Matching Rule for eHealth</b>	<b>Mavis Pow</b> Health Informatics Analyst I, HA
<b>Dataset briefing for Chinese Medicine</b>	<b>Jack Lee</b> Manager (Chinese Medicine Informatics), HA
<b>FHIR mapping for Chinese Medicine and FHIR services for PMI</b>	<b>Michael Cheung</b> Systems Manager, HA
<b>Open discussion</b>	

- Fully supported by Electronic Health Record Office

# Update on eHealth+

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By

Ms Louise Wong (Health Informatics Analyst I, Hospital Authority)

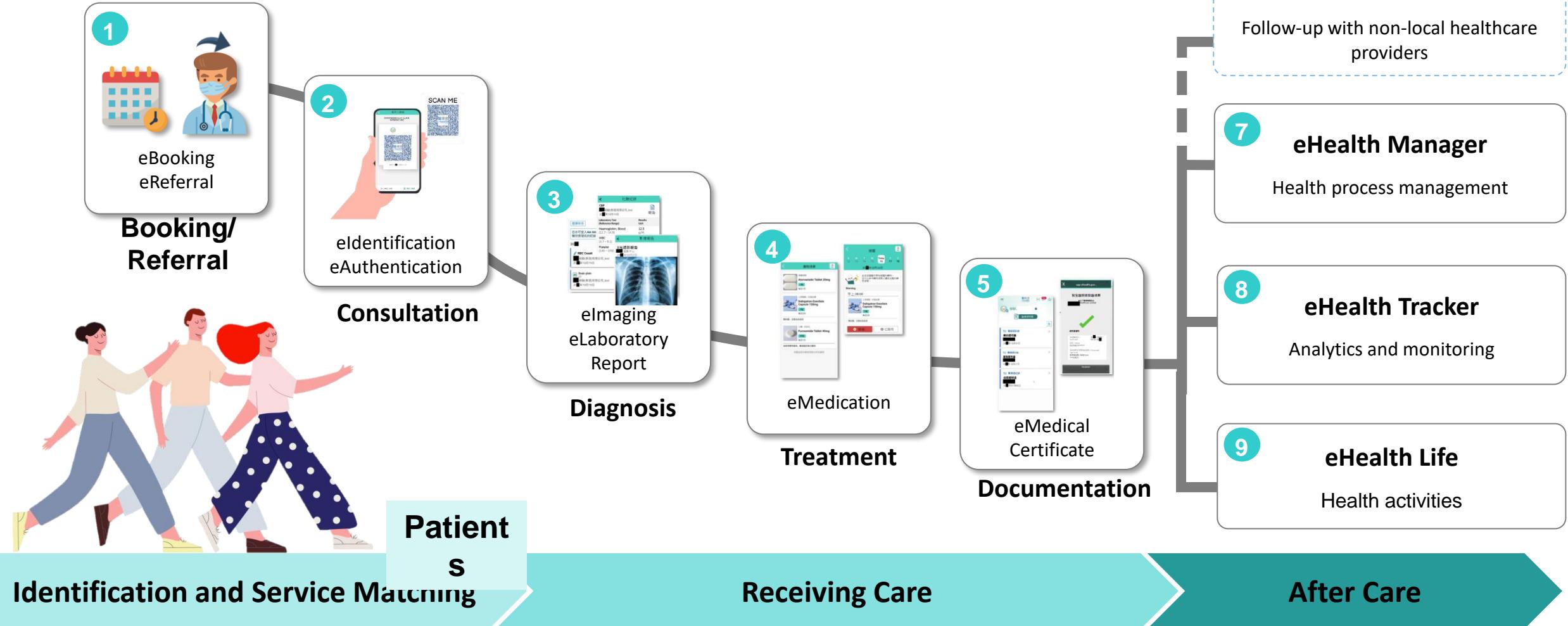
# Update on eHealth+ Development





# eHealth+ Development Plan and Progress

# 7 Nine Core Functions



# One Health Record



## Boost registration

1. Increase registration outlets, e.g. post offices, GBA institutions
2. Special school registration programme
3. Mandatory eHealth registration for subsis' prog



## Technical support



1. Simplify compliance procedures
2. Self-service testing platform



1. User group engagements
  - Medical Group
  - Vendor Solution
  - Dental
  - Radi

## Industry partnerships

跨境健康紀錄



申請跨境健康紀錄成功後，  
您可以將紀錄與指定醫療機構分享。

醫療機構名稱  
香港大學深圳醫院

是次申請將包括過去三年的醫療紀錄  
一般需時72小時處理申請  
申請紀錄及健康紀錄檔案將保留270天

了解更多跨境健康紀錄 >

返回 下一步

三 醫健通 eHealth 14 家

你好, 常茉莉 >

個人資料夾

您需主動要求醫護人員查閱您上載的醫療紀錄以助他們更了解您的健康情況。紀錄上載後, 請繼續妥善保存您的醫療紀錄和文件。

+ 新增紀錄



立即新增紀錄 了解更多

**Personal Folder**

Cross-boundary Health Record

# One Care Journey

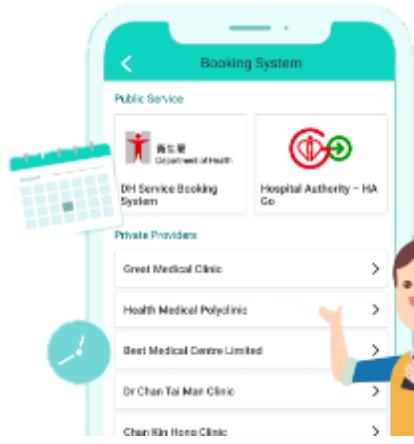
**One centralised platform to support primary healthcare services and programmes**



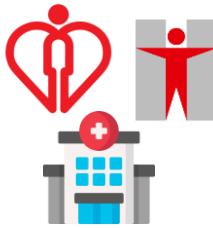
香港特別行政區政府 HKSAR Government



# One Digital Front-door to Empowering Tools



eBooking



eLaboratory Report



e+Life Health Challenge Platform



Upcoming....

# One Health Record

## Encourage citizen's participation

1. Newborns and minors registration on eHealth App
  - Minor Registration Campaign
2. Extend mandatory registration to subsidised programmes
3. Collaboration with HCP to boost up eHealth registration
4. Promotion on sharing consent make easy

## Encourage data deposit by HCPs

3. WM and CM connectivity / pilot scheme
4. eHealth Accreditation scheme
5. Ongoing technical support for HCPs, e.g. CM Hospital, laboratories



# One Care Journey



Facilitate sharing of **medication records** in different healthcare settings, e.g. RCHs



Expand and enhance **cross boundary functions**



基層醫療指南  
Primary Care Directory



疫苗接種計劃  
Vaccination Schemes



醫療券

Health Care Voucher  
The Government of the Hong Kong Special Administrative Region



大醫院  
計劃



門診協作  
General Outpatient Clinic  
Public-Private  
Partnership Programme

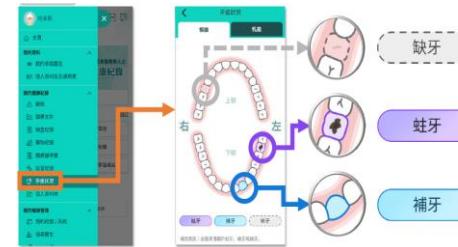
Develop Strategic Health Service Operation Platform to support all government subsidised programmes



# One Digital Front-door to Empowering Tools



eReports and elmaging



Access to dental records



eMedical certificate (DH and HA)

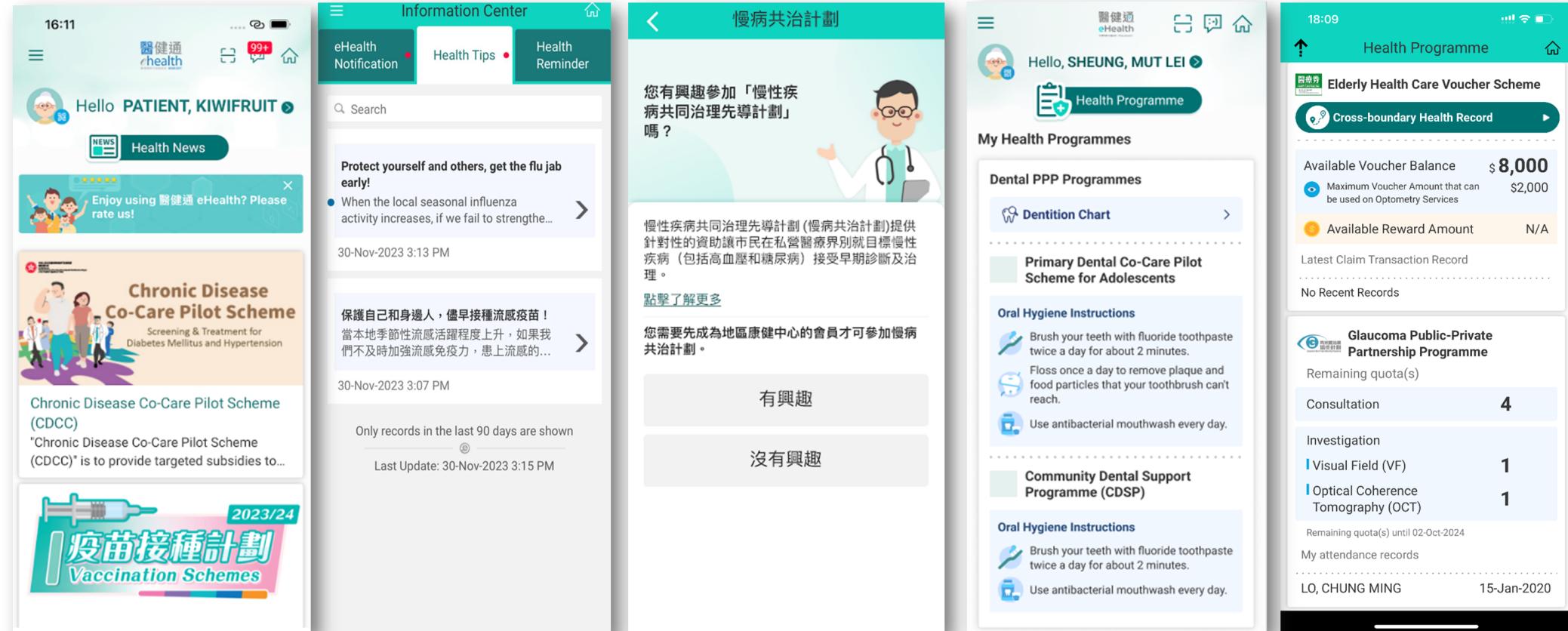


Access to CM records



Enhanced eBooking

# One Digital Front-door to Empowering Tools



Active Patient Engagement

Timely Programme Promotion

Streamlined Enrolment

Seamless Access to Care

Tailored Health Management

# Promotion Website



You can now view radiology reports under the "Investigations" feature

April 2025



One-stop registration of eHealth for your children under 16 through the "My Family" feature

February 2025



Register your children under 1 with eHealth and add them as family members to redeem a Newborn Gift Box

February 2025



[“e+ Go to Park” Time-limited Offer]

Capture characters and gadgets  
Earn 50 Times Health Coins!

April 2025



Participate in health challenges on e+Life, earn health coins and redeem exquisite gifts

February 2025



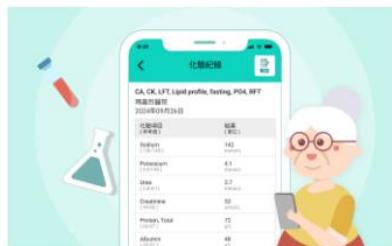
Participate in “e+ Go to Park” health challenge, search and “capture” characters and gadgets at designated parks and earn health coins

September 2024



Register your children under 16 with eHealth and add them as family members to earn health coins (Ended)

February 2025



You can now view laboratory records of general routine check-ups under the “Investigations” feature

January 2025

# Thank You



# PMI Matching Rule for eHealth

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By

Ms Mavis Pow (Health Informatics Analyst I, Hospital Authority)

# Information Standards + eHRSS Healthcare Recipient Index (HRI)

2025



香港特別行政區政府 HKSARGOV



HL7 Hong Kong Connectathon Series 2025

# Purposes

- To identify preparation required for Healthcare Provider (HCP) to support the eHR implementation related to eHR Healthcare Recipient (HCR) index management



# Agenda

- 1. eHR data standards: Management of Healthcare Recipient Index (HRI)**
- 2. Healthcare Recipient (HCR) identification**
- 3. eHR HRI data**
- 4. Healthcare Provider (HCP) preparations**
- 5. Problem record in Healthcare Provider (HCP)**



# Management of Healthcare Recipient Index (HRI)



香港特別行政區政府 HKSARGOV

## Management of Healthcare Recipient Index

[G55]

Version 1.5

May 2024

The Government of the Hong Kong Special Administrative Region

### MANAGEMENT OF HEALTHCARE RECIPIENT INDEX

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# Access to the Management of Healthcare Recipient Index

<https://www.ehealth.gov.hk/en/healthcare-provider-and-professional/resources/information-standards/index-management.html>

The screenshot shows the eHealth website's "Index Management" page. The top navigation bar includes links for "What's eHealth", "You and your family", "Healthcare provider and professional" (which is underlined), "What's new", and "Contact us". A "Text Size" button is in the top right. Below the navigation is a sub-navigation bar with "Overview", "How to register", "Technical requirements", "eHealth Pro", "Resources" (which is highlighted), and "Support". The main content area has a breadcrumb trail: Home > Healthcare provider and professional > Resources > Information standards > Information standards document > Index Management. It features a large thumbnail of the "Management of Healthcare Recipient Index" document, which is described as a list of personal identification and demographic data for all healthcare recipients. Below the thumbnail is a paragraph about the HRI and its purpose. Further down, there's a section for HCPs encouraging them to adopt standard practices for local patient registration. At the bottom left, there's a link to the document with a red "Updated" badge and a yellow arrow pointing to it. On the right, there's a sidebar titled "Resources" with links to "Training and seminars", "Starter guide for Healthcare professionals", "Cyber security", "Code of Practice", "Information standards" (with a back arrow), "Clinical management system", and "Self-service eHealth data sharing".

# Healthcare Recipient (HCR) identification

# Importance of HCR identification

- For building a womb-to-tomb eHR
- Support authenticating eHRSS data access and sharing
- Link data of HCR accurately and uniquely
- Strengthen public health protection
  - Support disease surveillance & contact tracing



# HCR Identification

## eHR vs HCP



eHR

# Healthcare Recipient Index (HRI)

# Persons registered to eHRSS

Permanent listing of (1) Major Keys Identifiers and (2) other demographic data

HCP

## Patient Master Index (PMI)

# Patients received care in HCP



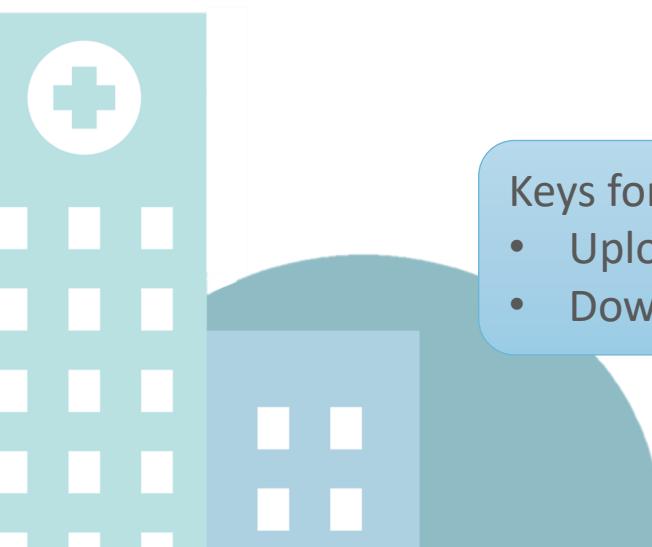
# Major Keys

# Keys for eHR-HCP data sharing

- Upload health data
  - Download health data

# Keys for eHR-HCP communication

- Sharing consent
  - PMI message, e.g. major keys change



# (1) HRI - Major Keys Identifiers

# Major keys Identifiers

Input according to HCR's identity document

eHR number

HKIC number

For HKIC/ HKBC/ CD holder only

Identity document  
Type & number

For non HKIC/ HKBC/ CD holder only

English  
Surname

English  
Given name

Sex

Date of  
Birth

## Major keys matched

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eHealth  
香港特別行政區政府 HKSARGOV

Data sharing



醫健通  
eHealth  
香港特別行政區政府 HKSARGOV

# Exemption Certificate

- Input as far as possible:

- [HKIC no.]
- [Doc type] = EC
- [Doc no.]



**Exemption Certification**

Serial no.: XXXXXX

Reference: XXXXXXXXXX

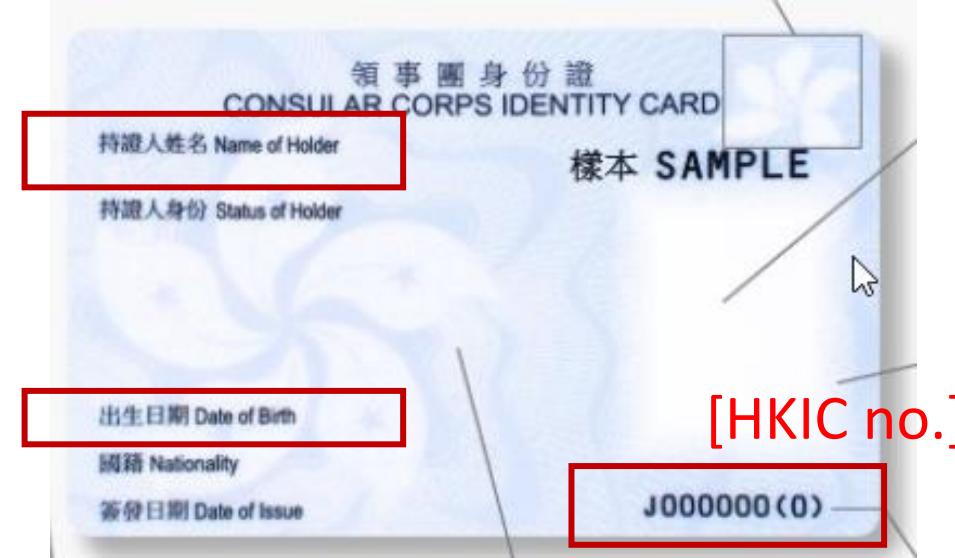
Date of registration for Hong Kong  
Identity Card No. XXXXXX(X): 3 Feb 1992

# Consular Corps Identity Card



- Newly added in 2021
- [Doc type]: CD
- [HKIC no.]

[Name]



[DOB]

[HKIC no.]

# Single name

- HCR declares of single name only
  - Enter [Name] accordingly to HCR's indication
  - [Single name indicator] – mark 'Yes'



\* English Name:

Surname	Given Name	<input type="checkbox"/> Single Name Ind
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

# Newborn baby

## Not yet obtained HK Birth Certificate



- Identity document type & number
  - Document type = eHR Document (ED)
  - Document no. = eHR number
- Name
  - Baby name format: B/O mother's name

	Surname (English)	Given name (English)	中文姓名
Single	B/O Chan	Sau Mui	陳秀梅之女/子
Twin	B/O Chan	Sau Mui Twn $n = 1 \text{ or } 2$	陳秀梅之 X 女/子 X = 大或二
Triplet	B/O Chan	Sau Mui Trn $n = 1, 2 \text{ or } 3$	陳秀梅之 X 女/子 X = 大,二或三
Quadruplet	B/O Chan	Sau Mui Qdn $n = 1, 2, 3 \text{ or } 4$	陳秀梅之 X 女/子 X = 大,二,三或四
> 4 babies	B/O Chan	Sau Mui Otn $n = 1, 2, 3, 4, 5$	陳秀梅之 X 女/子 X = 大,二,三,四,五...

## **(2) HRI - Other demographic data**

# Patient Identity



Codex



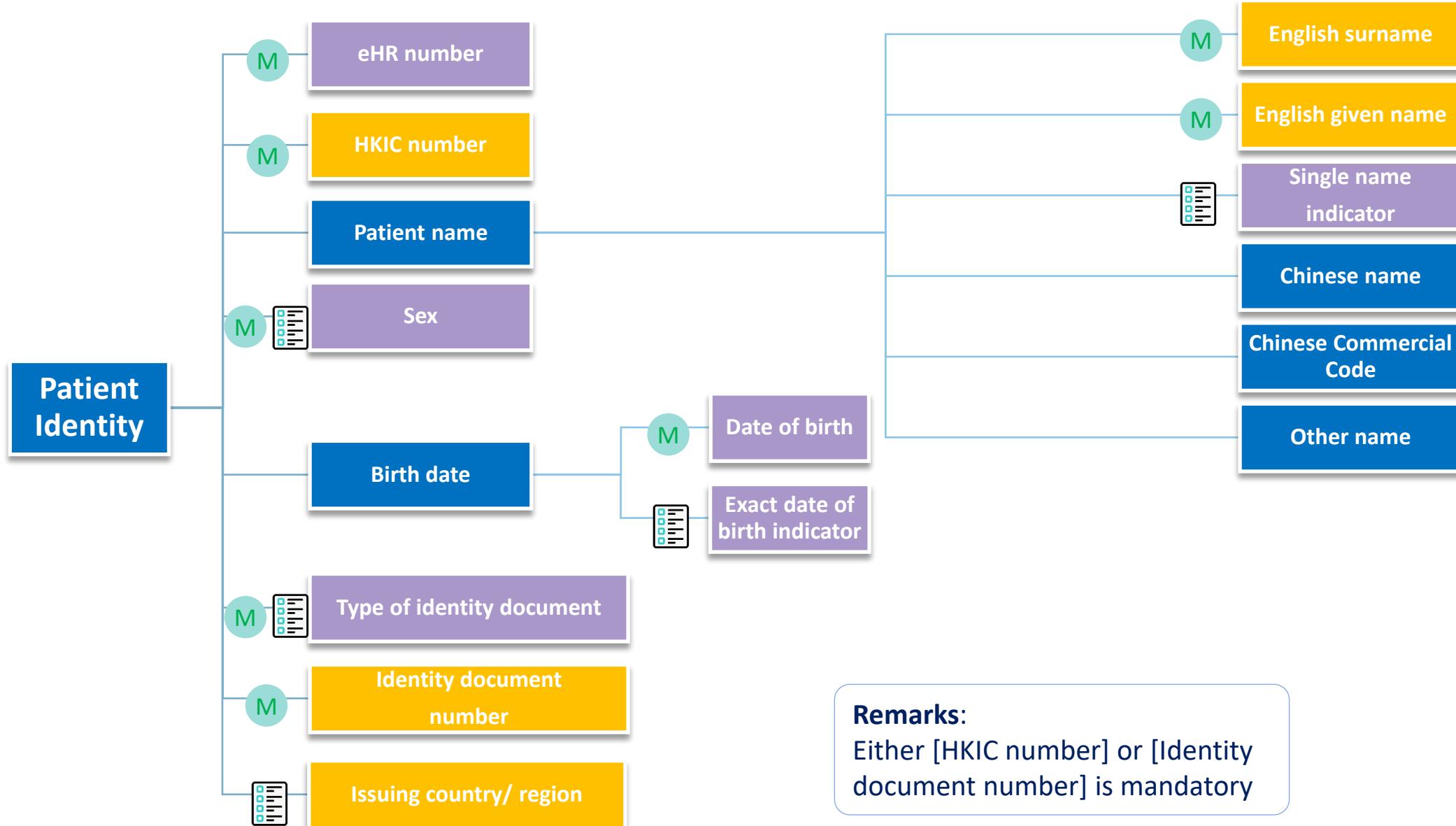
Mandatory



Conditional mandatory



Major Keys Identifiers



## Remarks:

Either [HKIC number] or [Identity document number] is mandatory

# Contact – Address



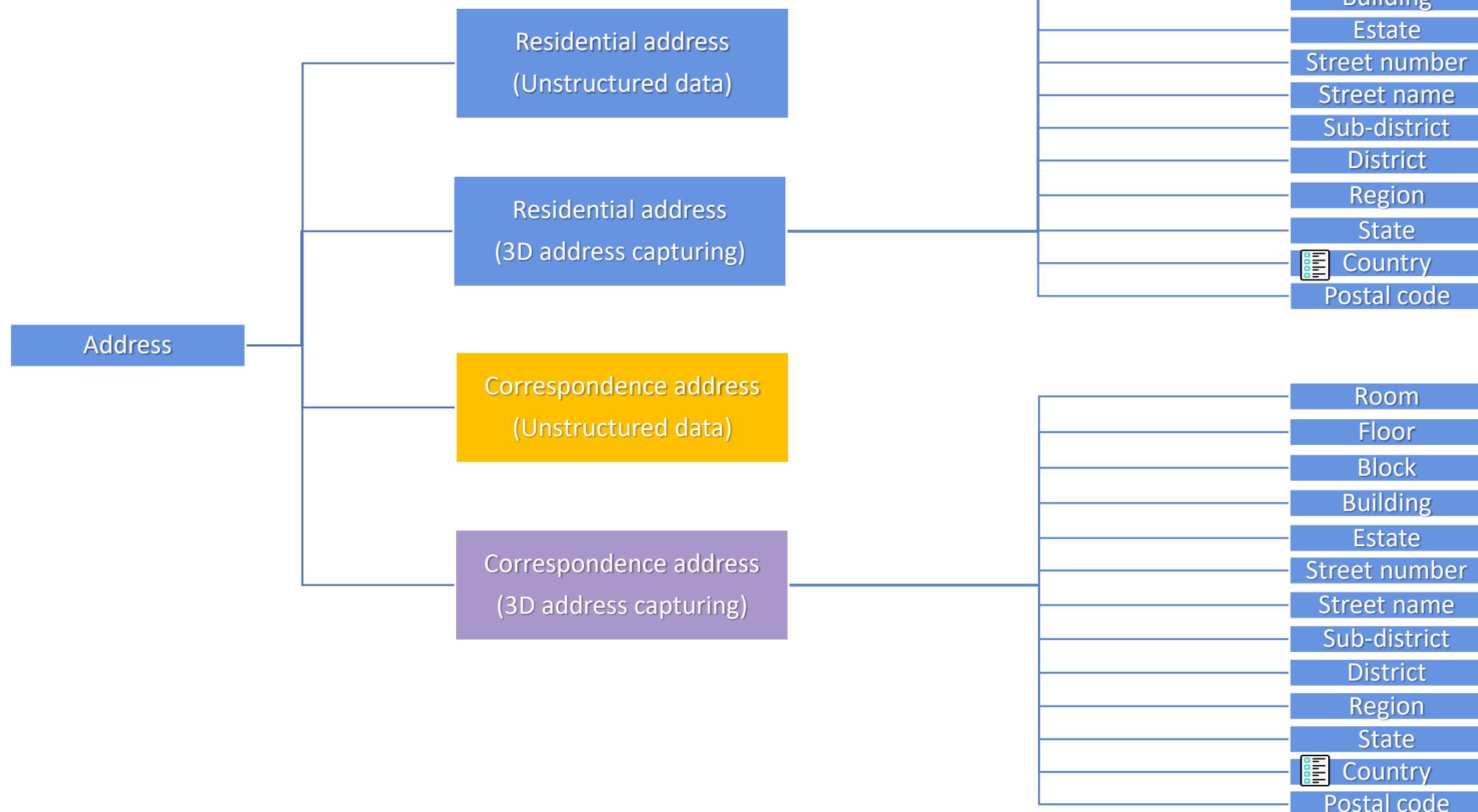
Codex



Mandatory

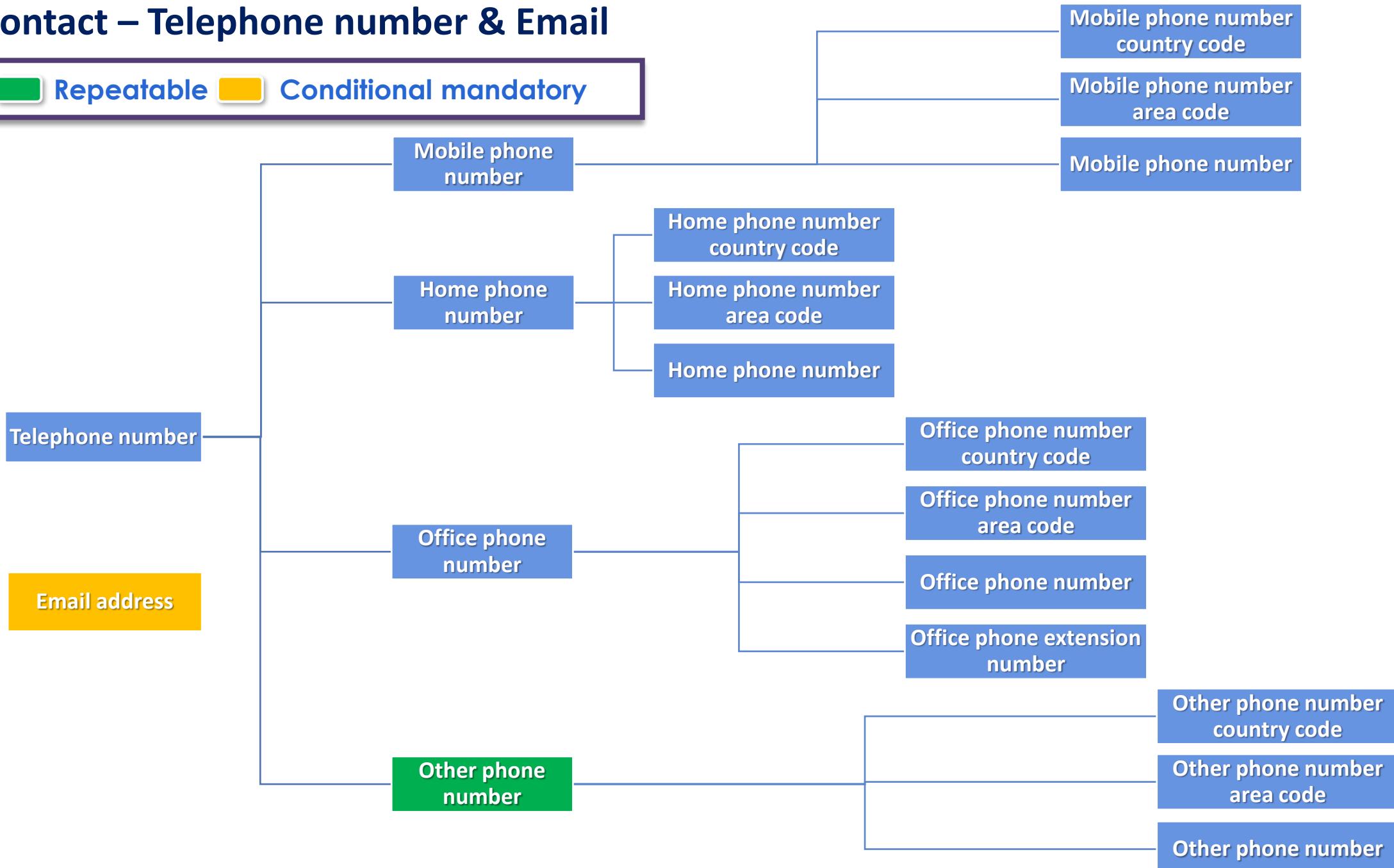


Conditional mandatory



# Contact – Telephone number & Email

  Repeatable   Conditional mandatory

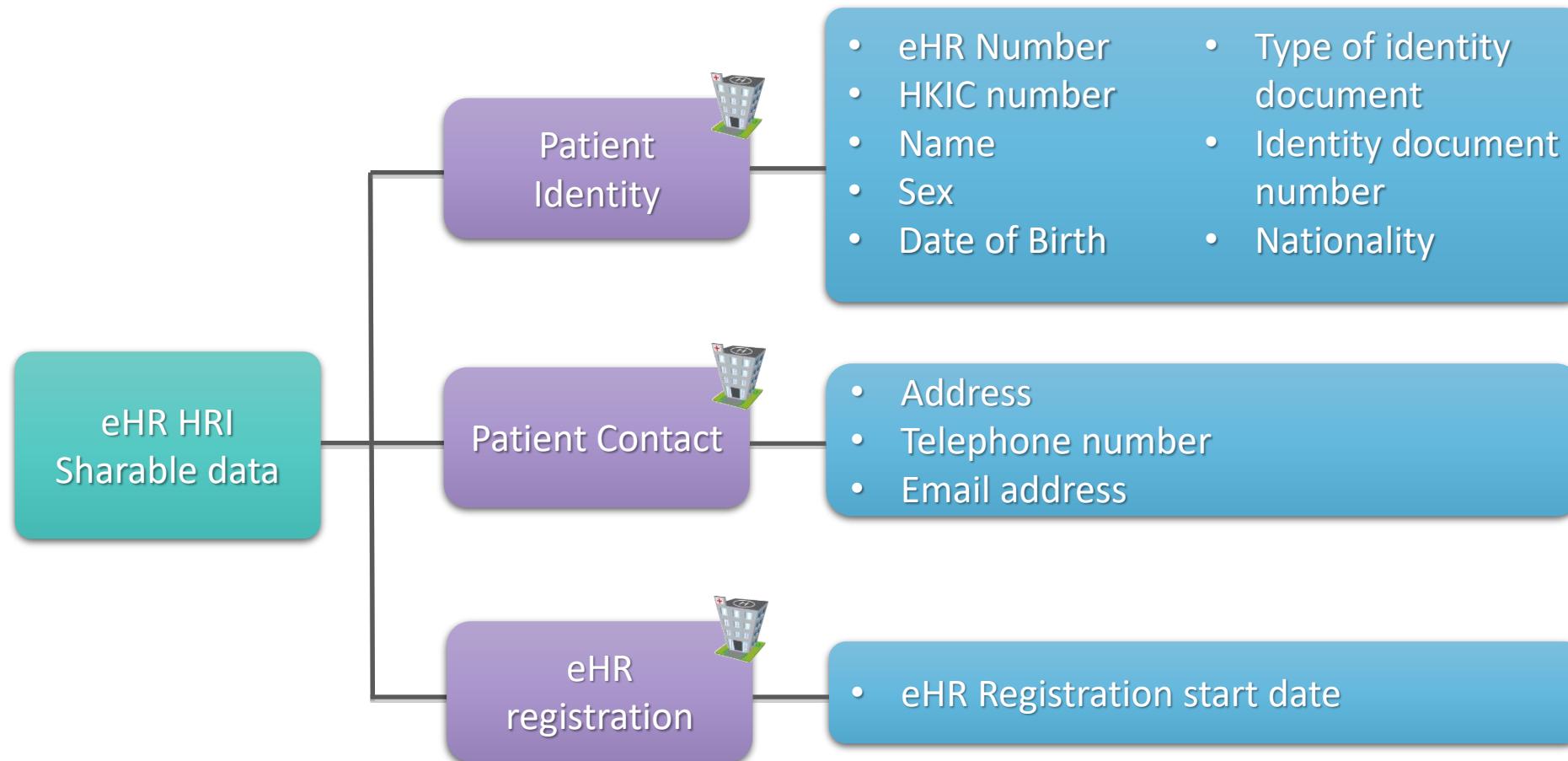


# eHR Registration

Repeatable  Conditional mandatory  Mandatory



# eHR HRI Sharable Data



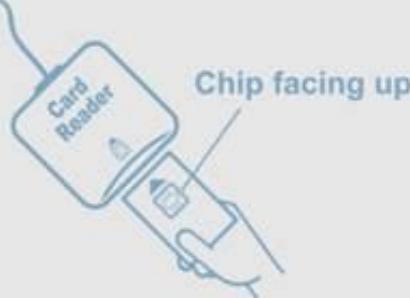
## eHR 'Sharable data' on Healthcare Recipient

- A pre-defined set of HRI data that will be subject to sharing in the eHR Sharing System
- Able to be downloaded by Healthcare Provider

# eHR Registration Service – Screen layout

eHR Registration System  
HCR Management • Record Info Update • Sharing Consent Management • PPI/SCHSA Stage • Reporting • Utilities • Patient Portal (Mobile App) • Attendance Taking for Travel History Enquiry (version 1.5.56 built on 10-Mar-2020)  
All in One - Registration / Activation / Sharing Consent

**Smart ID**

Step 1 Insert HCR's HKID Card  


Step 2 Select version  
New  


Step 3 Select sex and open the Smart ID Card Reader file as instructed  


**Manual Input**

Fill in the information  


ID No.	Q012334 (6)
ID Doc Type	HKID Card (香港身份證)
Document No.	
Name	CHAN TAI MAN
Date of Birth	31-Dec-1980
Gender	Male

**Next**

# eHR Registration Service – Screen layout

eHR Registration System

HCR Management • Record Info Update • Sharing Consent Management • PPI/SCHSA Stage • Reporting • Utilities • Patient Portal (Mobile App) • Attendance Taking for Travel History Enquiry (version 1.5.56 built on 10-Mar-2020)

Registration >

Start Registration > Fill in the Form > Confirm Details > Sign Consent Form > Completed

HKIC No.: Q01234(6) ID Doc No.: \* English Name: CHAN, TAI MAN  
ID Doc Type: HKID Card  
Issuing Country / Region: Hong Kong Chinese Name:  
Date of Birth: 31-Dec-1980 Exact DOB: EDMY  
Sex: Male Age: 39 years  
Registration Form Type:  In person  Not in person

Contact Info.

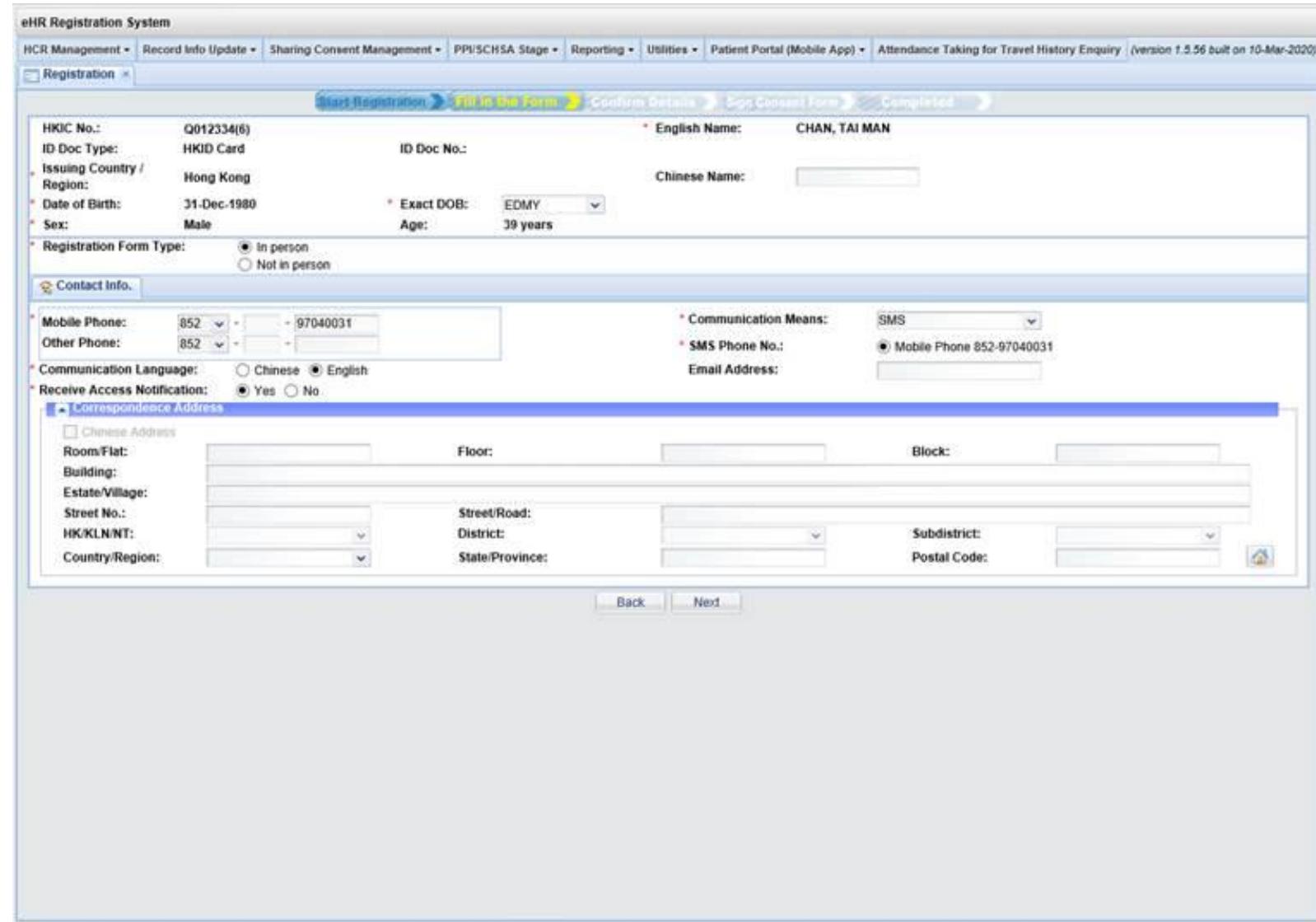
Mobile Phone: 852 - 97040031 Communication Means: SMS  
Other Phone: 852 -  SMS Phone No.:  Mobile Phone 852-97040031  
Communication Language:  Chinese  English Email Address:  
Receive Access Notification:  Yes  No

Correspondence Address

Chinese Address

Room/Flat:  Floor:  Block:   
Building:   
Estate/Village:   
Street No.:  Street/Road:   
HK/KLN/NT:  District:   
Country/Region:  State/Province:  Subdistrict:   
Postal Code:

Back Next



# eHR viewer – Screen layout

醫健通  
eHealth

Clinical Administration Information

陳小明 CHAN, SIU MING

HKIC : Q001000(2) DOB : 01-May-2012 Age : 13 months Sex : M Details ►

MODEC4 DR MODEC4 DR (Logout)

Close Record Select Patient

醫健通 eHealth 香港特別行政區政府 HKSARGOV

All Local Non-Local Legend

Home Clinical Note & Summary Birth Record Encounter Problem / Diagnosis Procedure Prescribing History Dispensing History Chemical Pathology Microbiology & Virology Toxicology General & Other General Radiology Ultrasound Immunisation Record

Encounter Record

View: Active

Start Date	End Date	Specialty	Institution	Type	Status
17-Jul-2013		Paediatrics and Adolescent Medicine	UCH	Specialist outpatient consultation	
25-Jun-2013		MRI / Plain MRI Brain, IV contrast enhanced MRI Brain	UCH	Specialist outpatient consultation	
24-Jun-2013		Other / Unclassified	UCH	Specialist outpatient consultation	
27-Mar-2013		Paediatrics and Adolescent Medicine	UCH	Specialist outpatient consultation	Attended
02-Jan-2013		Paediatrics and Adolescent Medicine	UCH	Specialist outpatient consultation	Attended
03-Oct-2012		Paediatrics and Adolescent Medicine	UCH	Specialist outpatient consultation	Attended
08-Aug-2012		Paediatrics and Adolescent Medicine	UCH	Specialist outpatient consultation	Attended
13-Jun-2012		Paediatrics and Adolescent Medicine	UCH	Specialist outpatient consultation	Attended
05-Jun-2012		US / Infant Brain	UCH	Specialist outpatient consultation	Attended
05-Jun-2012		Other / Unclassified	UCH	Specialist outpatient consultation	Cancelled
16-May-2012		Paediatrics and Adolescent Medicine	UCH	Specialist outpatient consultation	Attended
02-Apr-2012	09-May-2012	Neonatology / Special Care Baby Unit	UCH	Inpatient	Attended

醫健通  
eHealth

香港特別行政區政府 HKSARGOV

# HCP preparations

# HCP preparations to support data sharing to eHR

- 1. To comply with eHR HRI standards for eHR-HCP data interoperability**
  - adopt major keys principle
  - adopt the format for capturing single name
  - adopt English name format for newborn baby
- 2. To keep eHR major keys in HCP eMR/ePR for data upload and download**

# Suggestions to HCP on patient registration

## 3. Adopting the eHR registration standards for HCP patient registration

- consistent registration practice
  - according to valid identity document
  - major keys handling
  - newborn registration
- same standards for data interoperability

## **Problem record: Error in patient identity at HCP**

## Problem record

### Error in patient identity in HCP



- Problem record

- PMI of 2 , or more different patients under a HCP are mixed up

One PMI record contains different patients' data



HCR 1



Episode 1



Episode 2

# Problem record

## Action by HCP



- **Principle**
  - **HCP** to verify patient identity & rectify data in local PMI
  - **eHR** data should be cleaned before further access to eHRSS is allowed
- **Send notification to eHRSS when error in patient identity**
  - is found
  - is settled
- **Rectify HCR's health data**
  - in local eMR / ePR system as appropriate
- **Re-upload the rectified HCR's readily sharable health data to eHRSS (after eHRSS informed 'data deletion' in eHRSS is completed)**



# **Data Management**

## **Impact to Data Upload and Data access to eHR**



# eHR data access summary – HCR status

	eHR Scenario	Data viewing	Data upload	Data download <sup>1</sup>
Registration status	eHR registration (for HA / DH only)	Support	Accept	Provide
	HCR account suspension	Not support	Accept	Not provide
	Death of HCR	Not support	Reject	Not provide
	Withdrawal from eHRSS	Not support	Reject	Not provide
	Emergency access	Support	Reject	Not provide
Status of sharing consent	Sharing consent to HCP	Support	Accept	Provide
	Revoke consent to HCP	Not support	Reject	Not provide
	Expiry of sharing consent to HCP	Not support	Reject	Not provide

Remarks:

<sup>1</sup>For HCP with push mode: data download is allowed if major keys are matched with eHRSS upon / after the HCP replying eHRSS on HCR giving sharing consent. For HCP with pull mode: data download is allowed if major keys are matched with eHR HRI or eHR HRI history upon HCP's every single request of data download from eHRSS.



# eHR data access summary – eHR workflow scenarios

	eHR Scenario	Data viewing	Data upload	Data download
Major keys change	 eHR major key change & un-match with HCP	Support (pop-up message in eHR viewer)	Accept	Provide
	 HCP major key change & un-match with eHRSS	Support (pop-up message in eHR viewer)	Reject	Push mode <sup>1</sup> – Continue Pull mode <sup>2</sup> – Depend

## Remarks:

<sup>1</sup>For HCP with push mode: eHRSS will start pushing the allergy / ADR data to HCP's eMR / ePR system once the HCP replied eHRSS the major keys are matched upon / after sharing consent. Any subsequent major keys change in HCP will not affect the data download.

<sup>2</sup>For HCP with pull mode: if the major keys provided by HCP are matched with those in eHRSS (e.g. the HCP requests for data download by eHR major keys), eHRSS will provide the allergy / ADR data; if the major keys provided by HCP are not matched with those in eHRSS (e.g. the HCP requests for data download by HCP major keys, which subsequently changed and not matched with those eHR HRI or eHR HRI change history), eHRSS will not provide the allergy / ADR data and reply HCP with a reason.



# eHR data access summary – eHR workflow scenarios

eHR Scenario		Data viewing	Data upload	Data download <sup>1</sup>
Problem record in eHRSS (Interim)		Not support	Accept	Not provide
Problem record in eHRSS (Long term)	🚩	Before data deletion	Not support	Concerned HCP - Reject Other HCPs - Accept
Problem record in eHRSS (Long term)	🚩	After data deletion	Support (pop-up message)	Concerned HCP - Reject Other HCPs – Accept
Problem record in eHRSS (Long term) - Rectified	🚩	Before data deletion	Not support	Accept
Problem record in eHRSS (Interim and Long term) - Rectified	🚩	After data deletion	Support	Accept

Remarks:

<sup>1</sup>For HCP with push mode: data download is allowed if major keys are matched with eHRSS upon / after the HCP replying eHRSS on HCR giving sharing consent. For HCP with pull mode: data download is allowed if major keys are matched with eHR HRI or eHR HRI history upon HCP's every single request of data download from eHRSS.

# Identity document list

<https://www.ehealth.gov.hk/en/you-and-your-family/support/supporting-documents.html>

The screenshot shows the 'eHealth' website interface. At the top, there's a navigation bar with links for 'What's eHealth', 'You and your family' (which is underlined), 'Healthcare provider and professional', 'What's new', and 'Contact us'. Below this is a blue header bar with links for 'Overview', 'How to register', 'Identity verification', 'Sharing consent', 'eHealth App', and 'Support'. To the right of the header are 'Share' and 'Print' buttons. The main content area has a title 'Identity document' followed by a bulleted list of acceptable documents. A sidebar on the right is titled 'Support' and lists various help topics. At the bottom, there are two footnotes.

醫健通  
eHealth

Electronic Health Record Sharing System

Text Si

What's eHealth You and your family Healthcare provider and professional What's new Contact us

Overview How to register Identity verification Sharing consent 醫健通eHealth App Support

Share Print

Identity document

- Hong Kong identity card (HKIC)\*
- Adoption Certificate
- Birth Certificate – HK
- Certificate of Exemption
- Travel Documents (such as documents issued by the People's Republic of China or other countries/ regions)
- One-way Permit
- Two-way Permit
- Recognizance
- Macao identity card
- Re-entry Permit\*\*
- Document of Identity for Visa Purposes\*\*
- Consular Corps Identity Card

Support

- Update information
- Use access key
- Correct an eHR
- Get a copy of eHR
- Search participating healthcare providers
- Public-Private Partnership Programmes
- Download forms
- Withdrawal
- FAQ

\* Holders of HKIC cannot use other documents such as passports for the Electronic Health Record Sharing System (eHealth) registration.

\*\* For children aged below 12 who do not have HKICs or Hong Kong birth certificates only.



醫健通  
eHealth

香港特別行政區政府 HKSARGOV

*Thank you*



# Dataset briefing for Chinese Medicine

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By

Mr. Jack Lee, Manager (Chinese Medicine Informatics), Hospital Authority



# Dataset briefing for Chinese Medicine

July 2025



# Agenda

- Chinese Medicine Data Standard
  1. Chinese Medicine Problem 中醫診斷
  2. Chinese Medicine Procedure 中醫療法
  3. Chinese Medicines Prescribing Record 中藥處方紀錄
  4. Chinese Medicines Dispensing Record 中藥配發紀錄
  5. Allergy (Chinese Medicine System) 敏感 (中醫系統)
  6. Adverse Drug Reaction (Chinese Medicine System) 藥物不良反應 (中醫系統)
- Hong Kong Clinical Terminology Table (HKCTT)

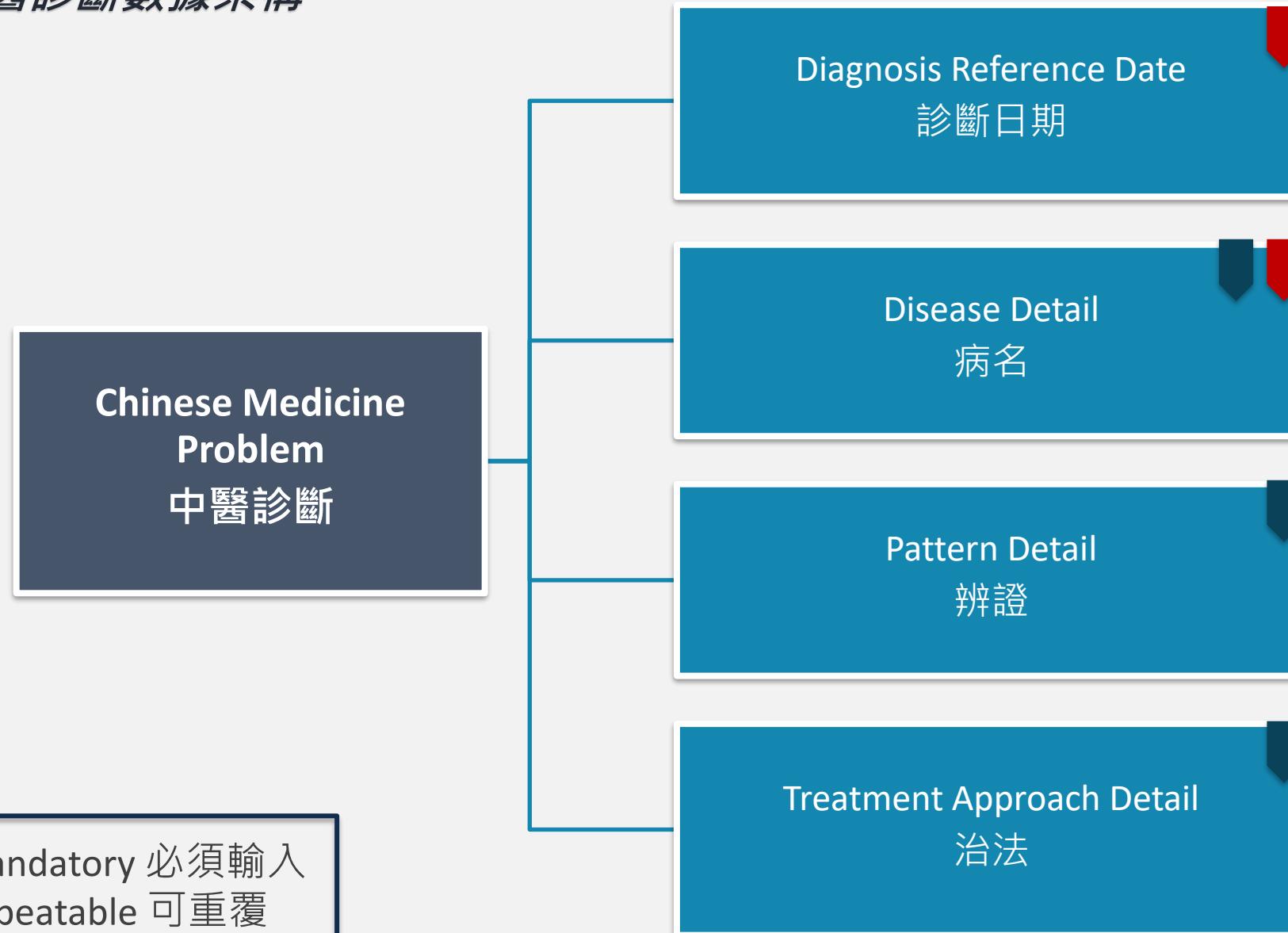
# *CM Problem Data Standards*

## 中醫診斷信息標準



# *CM Problem Dataset*

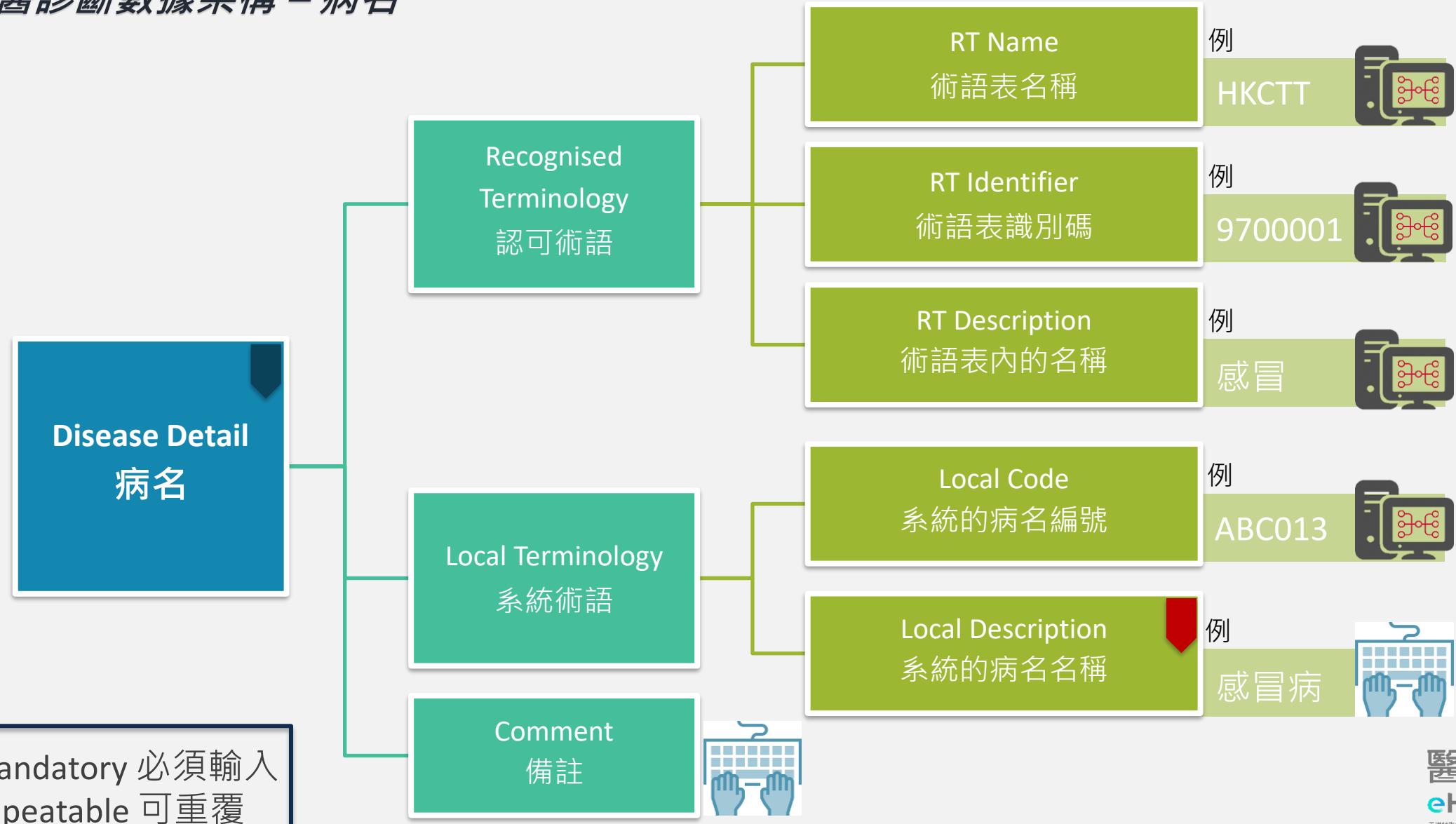
## 中醫診斷數據架構



 Mandatory 必須輸入  
 Repeatable 可重覆

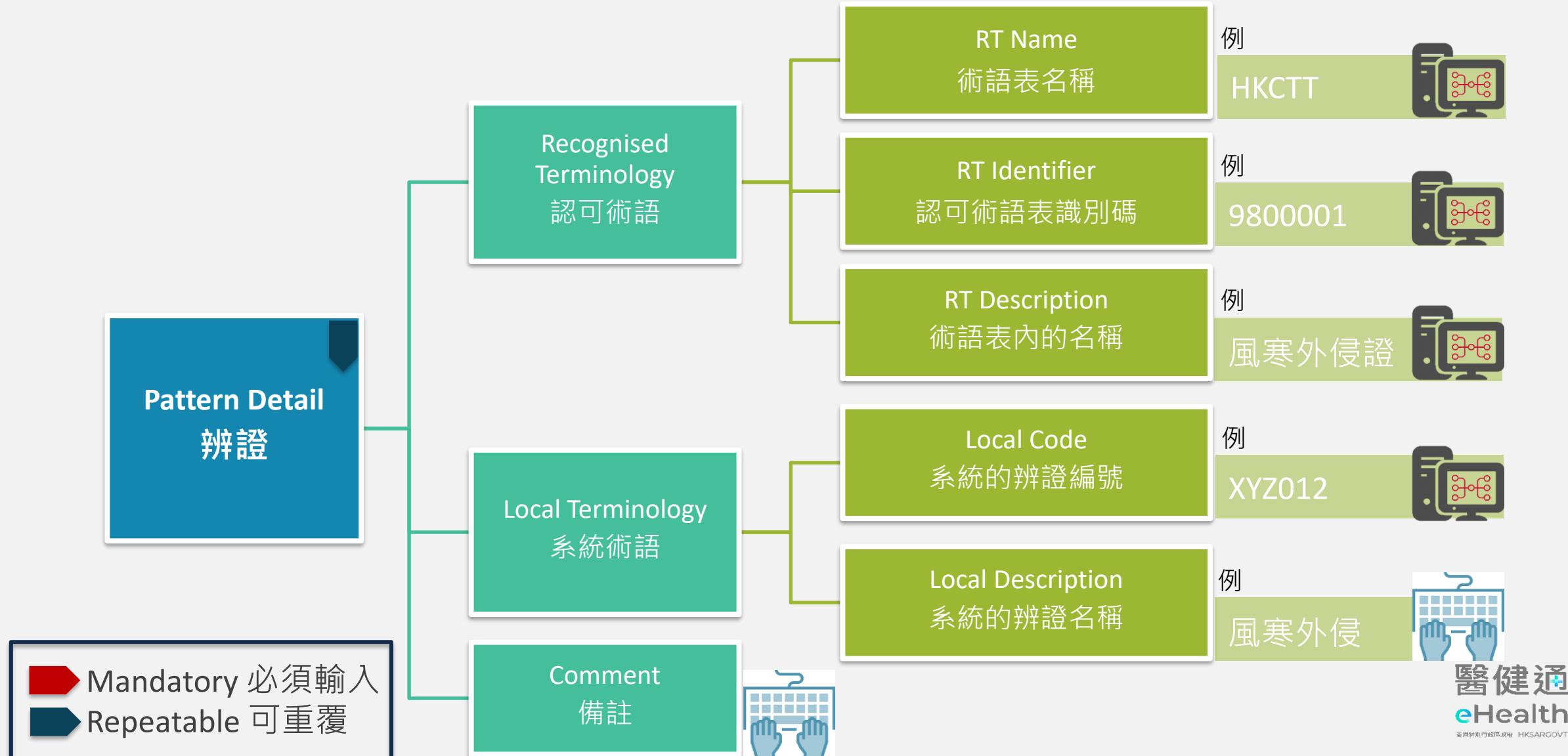
# CM Problem Dataset – Disease Detail

## 中醫診斷數據架構 – 痘名



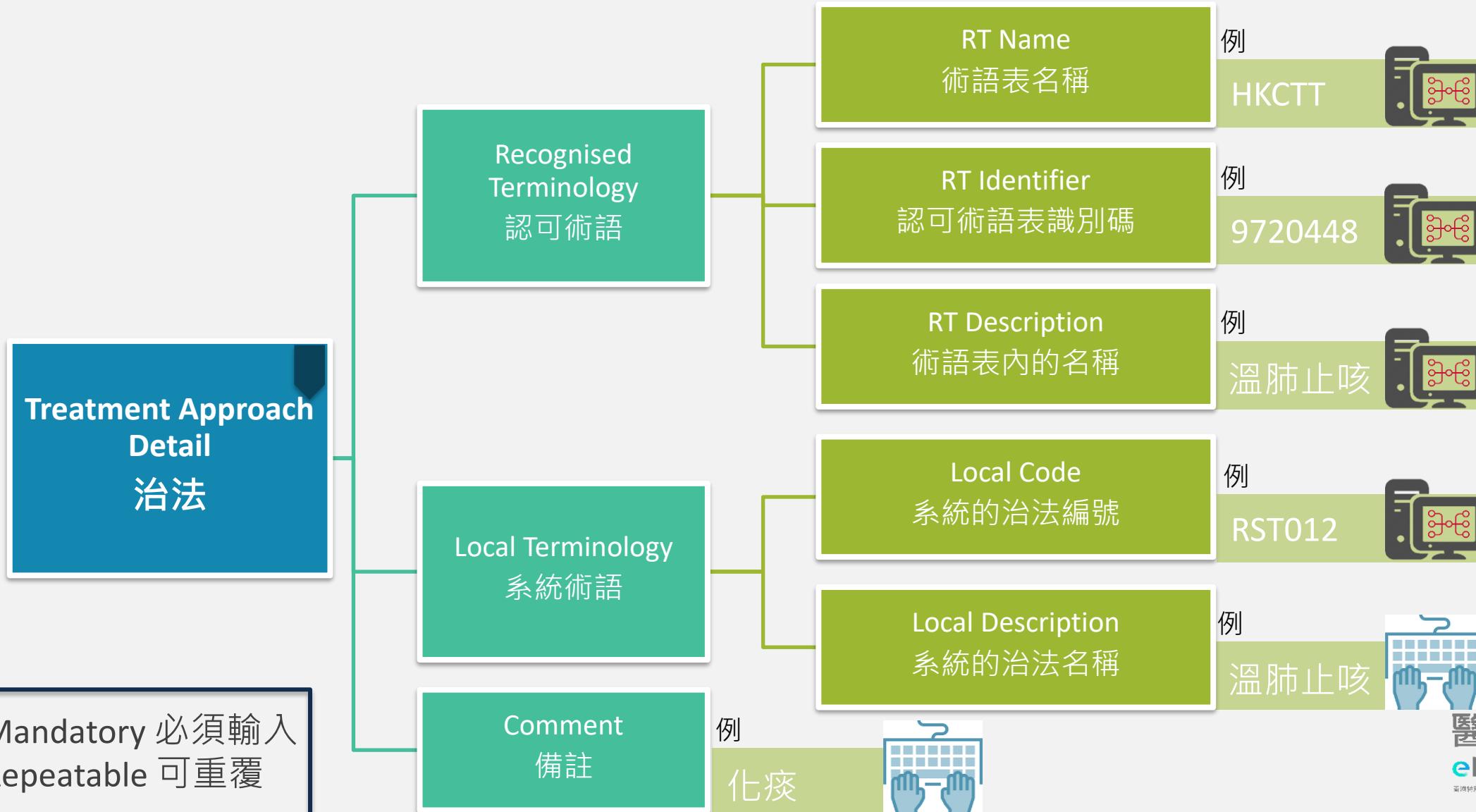
# CM Problem Dataset – Pattern Detail

## 中醫診斷數據架構 – 辨證



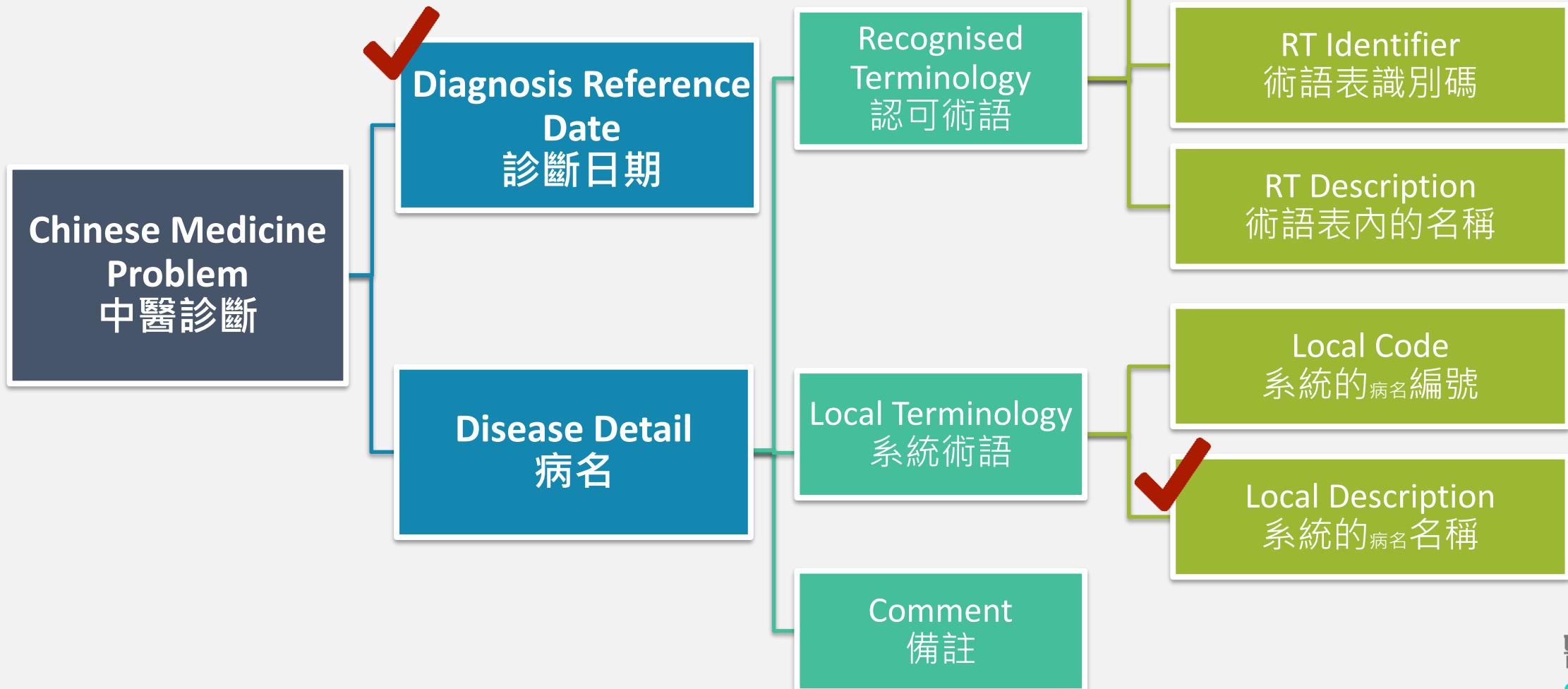
# CM Problem Dataset – Treatment Approach Detail

## 中醫診斷數據架構 – 治法



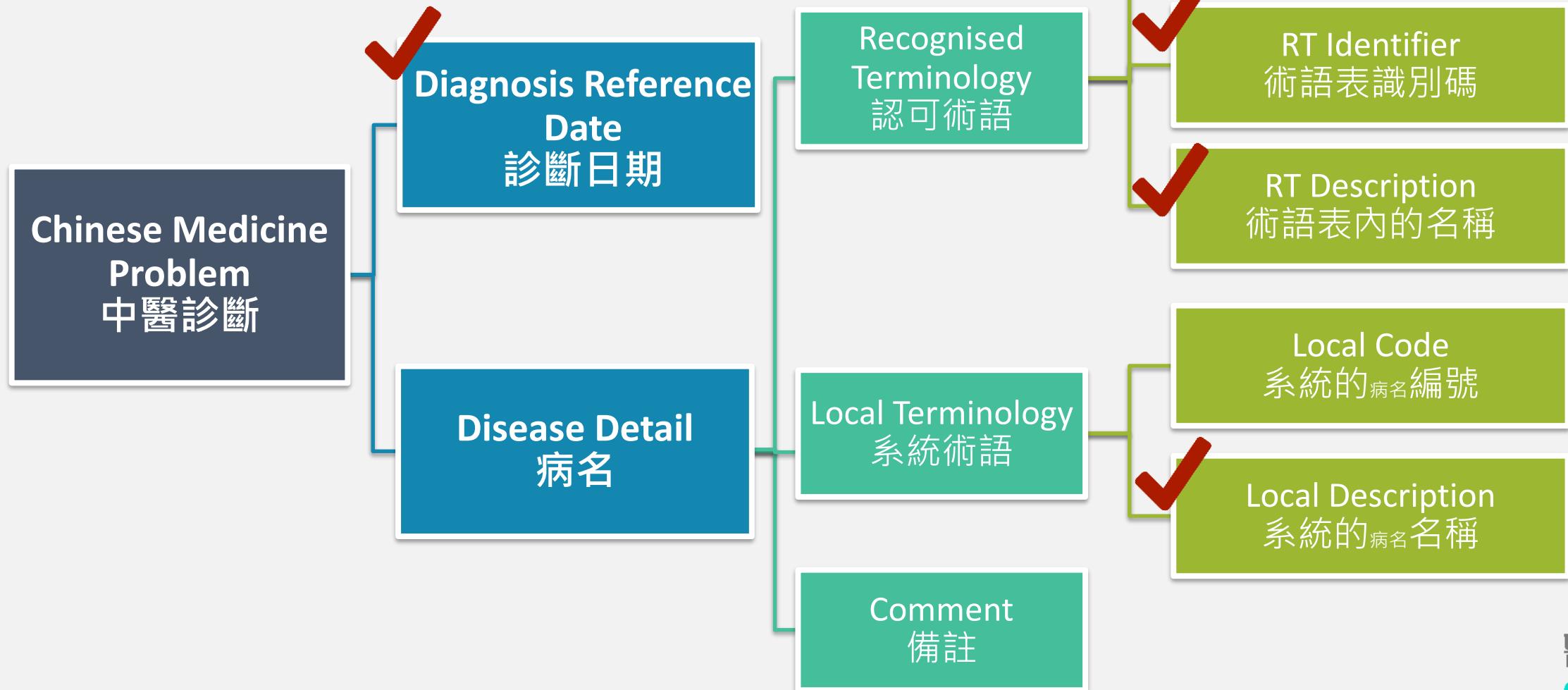
# Level 2

## 2級數據



# Level 3

## 3級數據



# Recognised Terminology

## 認可術語表

Entity 分類	Recognised Terminology 認可術語	Allowable Values 可用範疇
Disease 病名	<ul style="list-style-type: none"> <li>HKCTT 香港臨床醫療術語表</li> </ul>	性質 = 中醫病名
	<ul style="list-style-type: none"> <li>GB/T 15657-1995 中華人民共和國國家標準-中醫病證分類與代碼</li> </ul>	類別 = 中醫疾病分類
Pattern 辨證	<ul style="list-style-type: none"> <li>HKCTT 香港臨床醫療術語表</li> </ul>	性質 = 中醫辨證
	<ul style="list-style-type: none"> <li>GB/T 15657-1995 中華人民共和國國家標準-中醫病證分類與代碼</li> </ul>	類別 = 中醫證候分類
Treatment Approach 治法	<ul style="list-style-type: none"> <li>HKCTT 香港臨床醫療術語表</li> </ul>	性質 = 中醫治法
	<ul style="list-style-type: none"> <li>GB/T 16751.3-1997 中華人民共和國國家標準-中醫臨床診療術語治法部分</li> </ul>	章節 = 4 -26

# CM Problem – Summary

## 中醫診斷 – 摘要

- Accept only Level 2 and Level 3 data
- Mandatory field: Diagnosis Reference Date and Disease Description



### Required Data 可互通的內容

Diagnosis  
Reference Date  
診斷日期

Disease  
病名

Pattern  
辨證

Treatment  
Approach  
治法



### Not Required 無需互通的內容

Chief  
Complaint  
主訴

Pulse  
Conditions  
脈象

Present Illness  
現病史

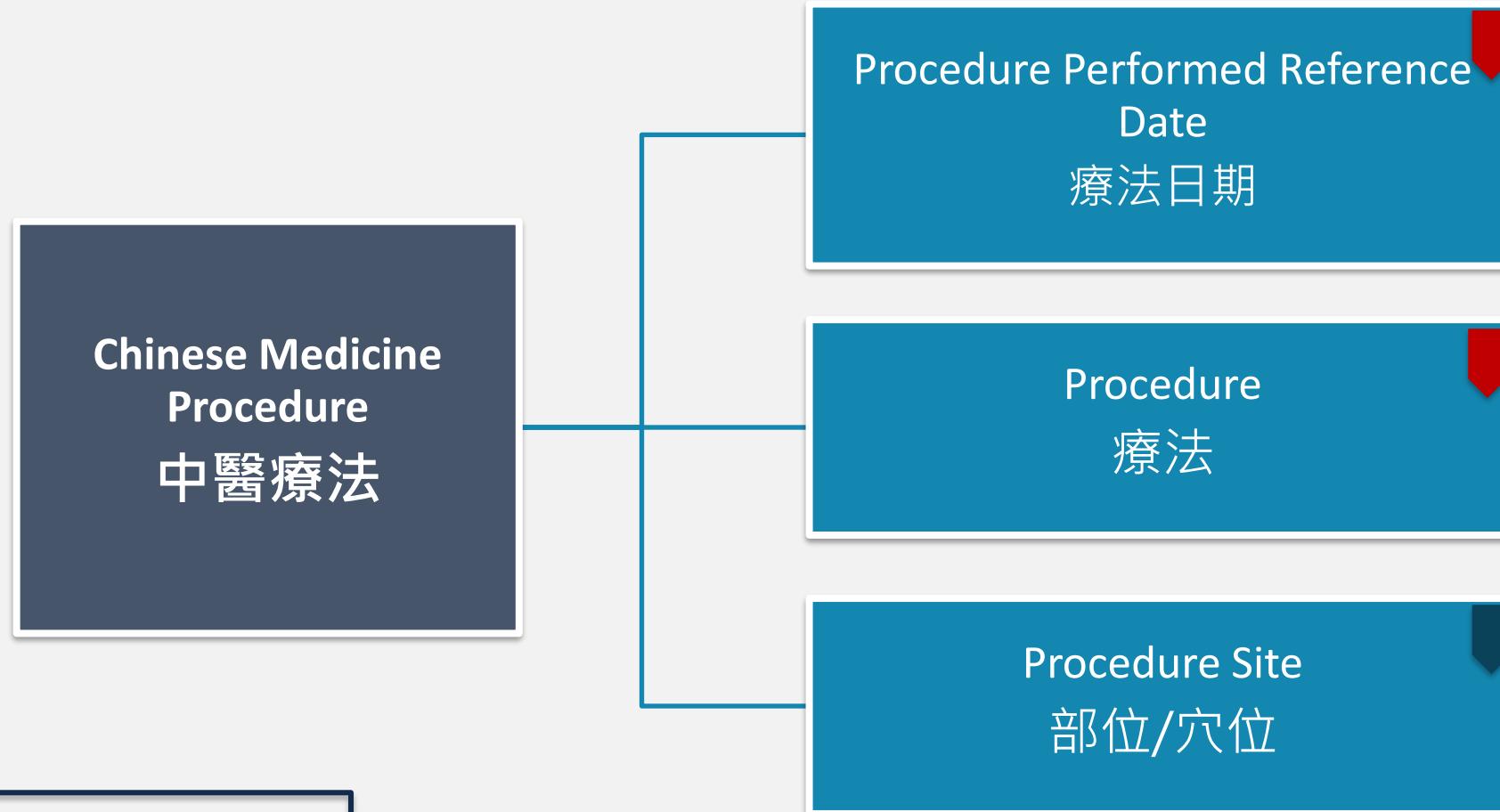
Tongue  
Manifestations  
舌象

# *CM Procedure Data Standards*

## 中醫療法信息標準

# CM Procedure Dataset

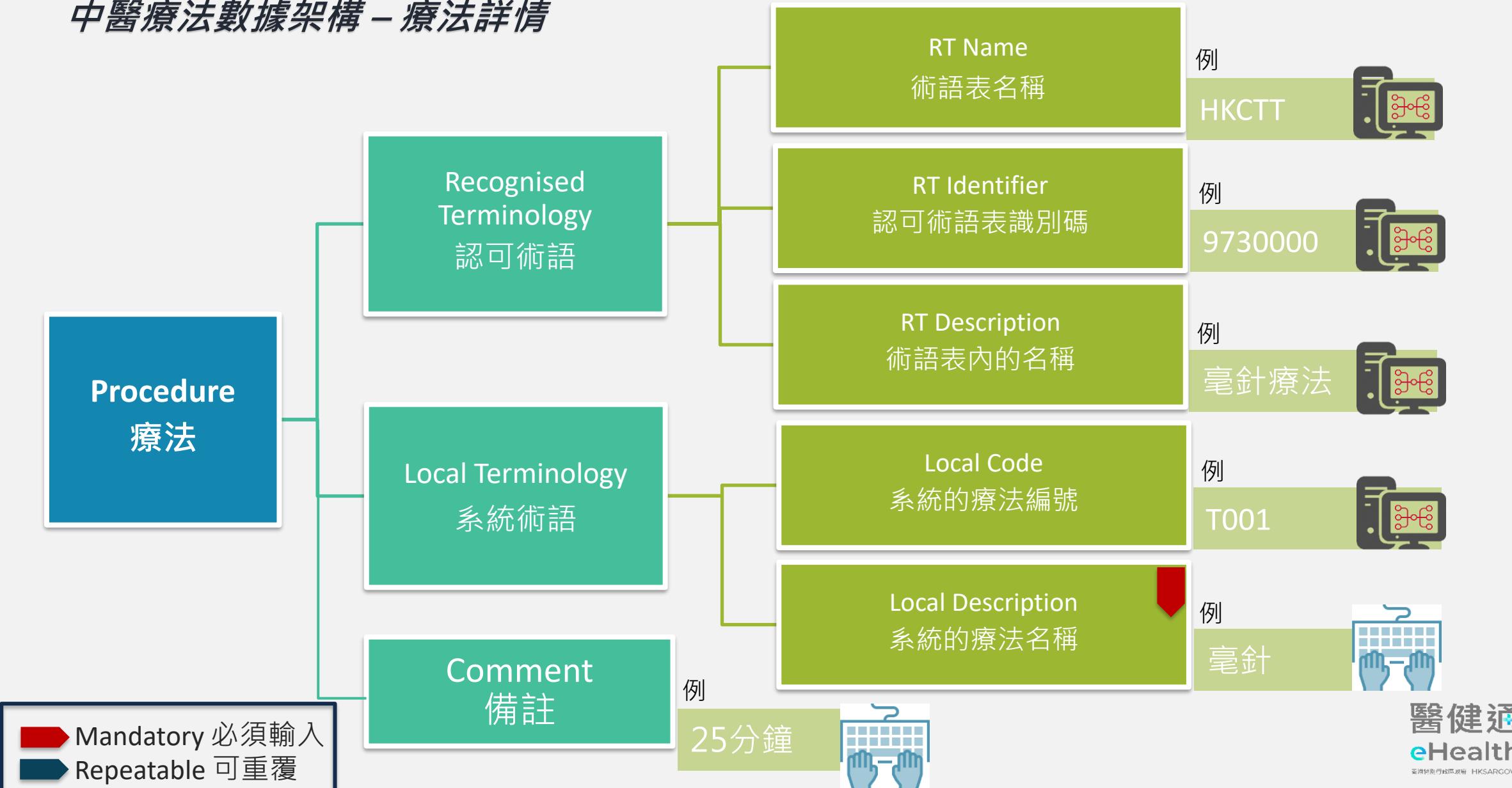
## 中醫療法數據架構



► Mandatory 必須輸入  
► Repeatable 可重覆

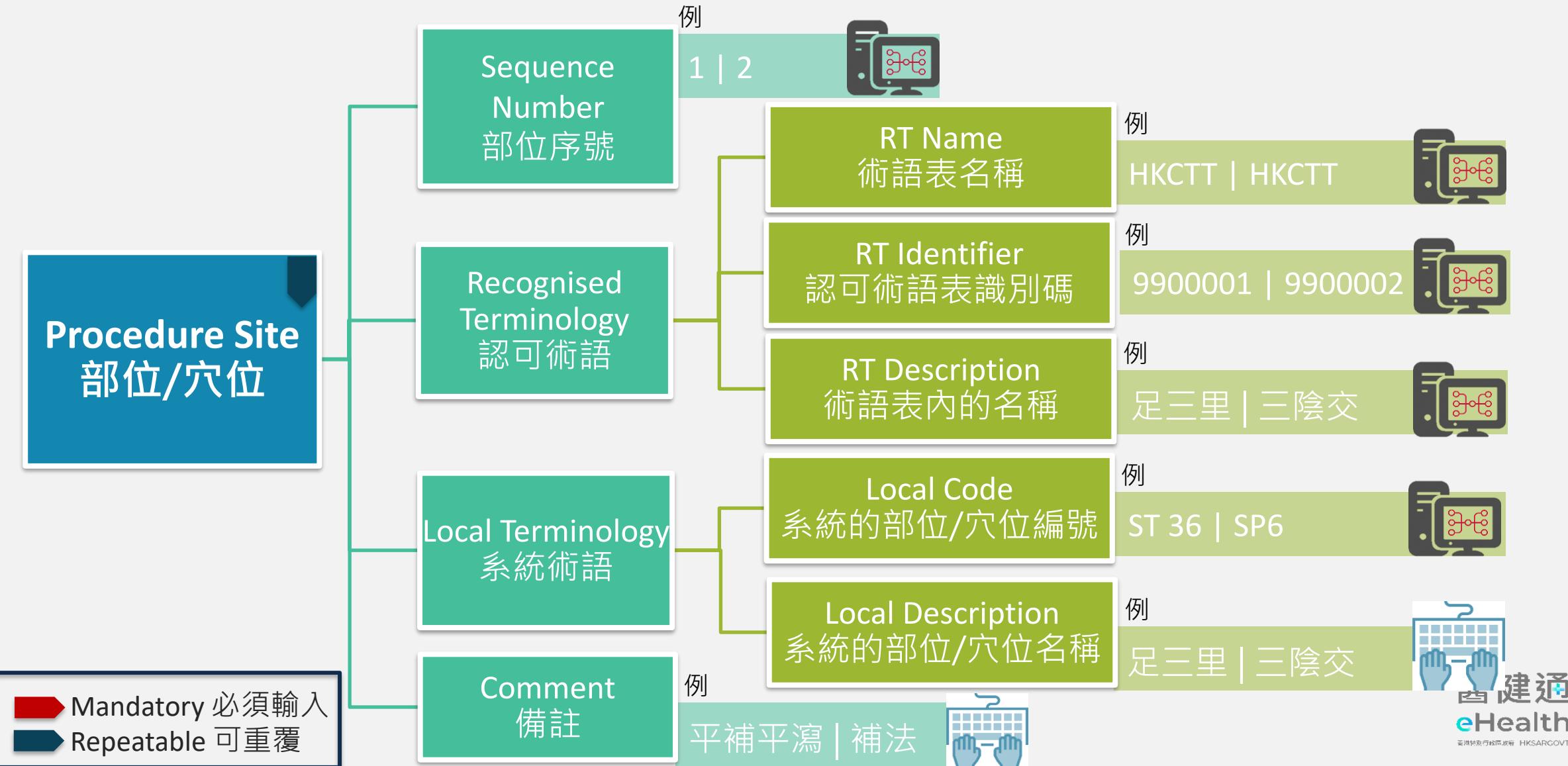
# CM Procedure Dataset – Procedure Detail

## 中醫療法數據架構 – 療法詳情



# CM Procedure Dataset – Procedure Site Detail

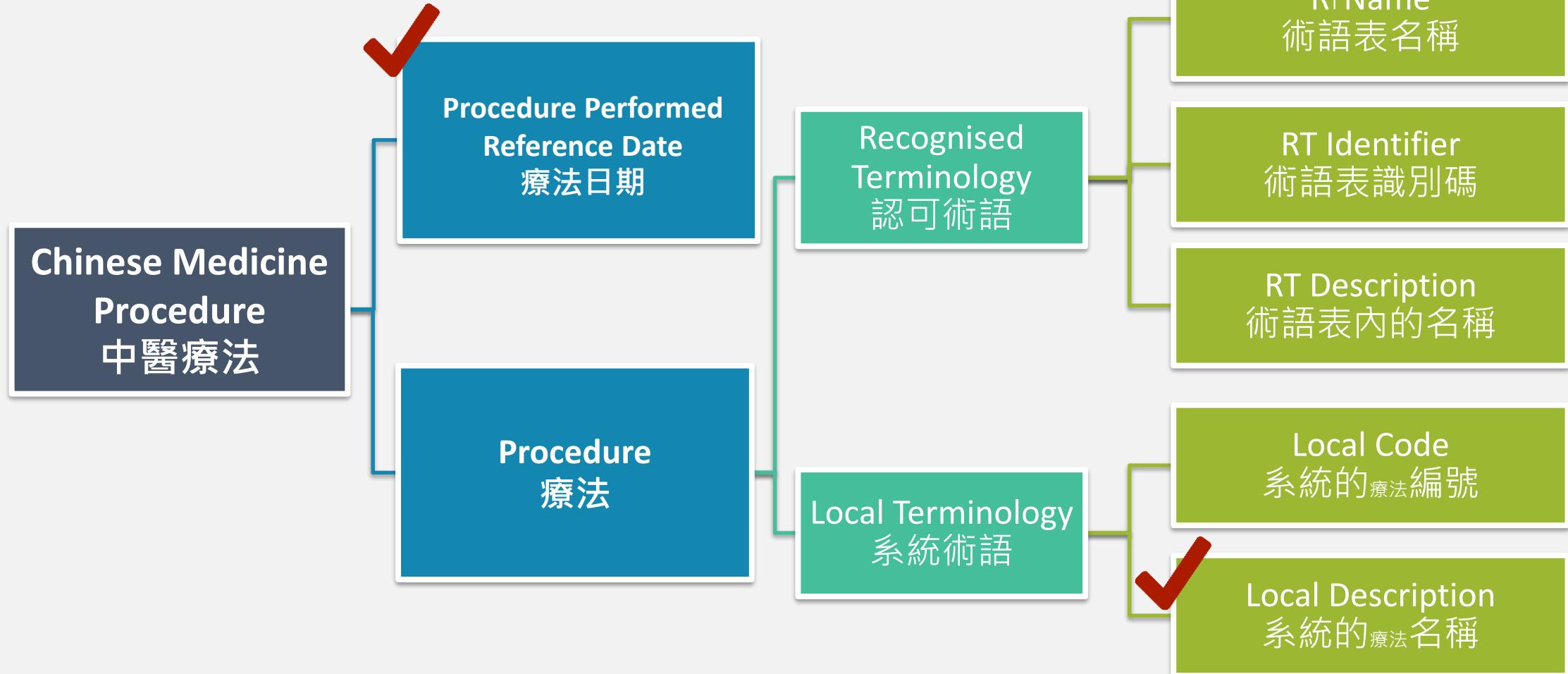
## 中醫療法數據架構 – 穴位/部位詳情





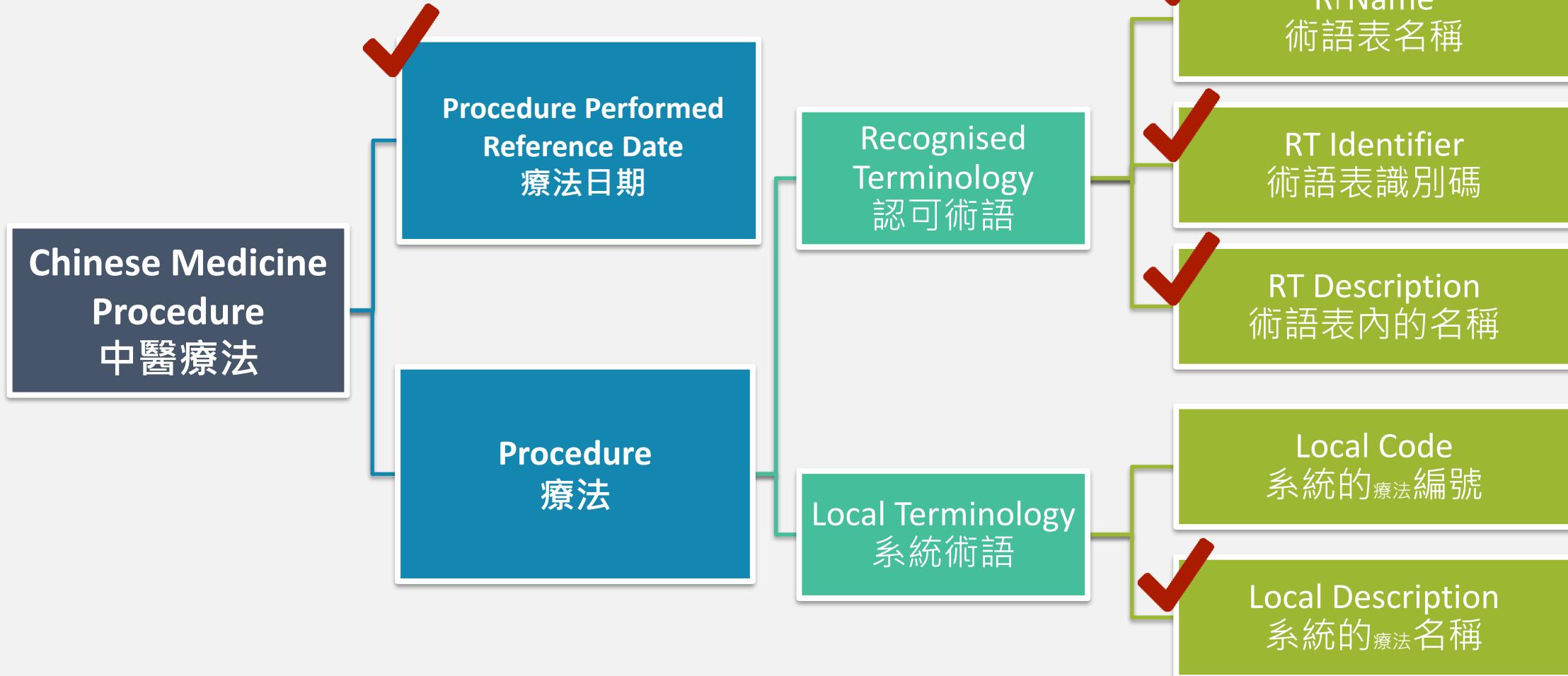
## Level 2

### 2級數據



# Level 3

3級數據





# Recognised Terminology

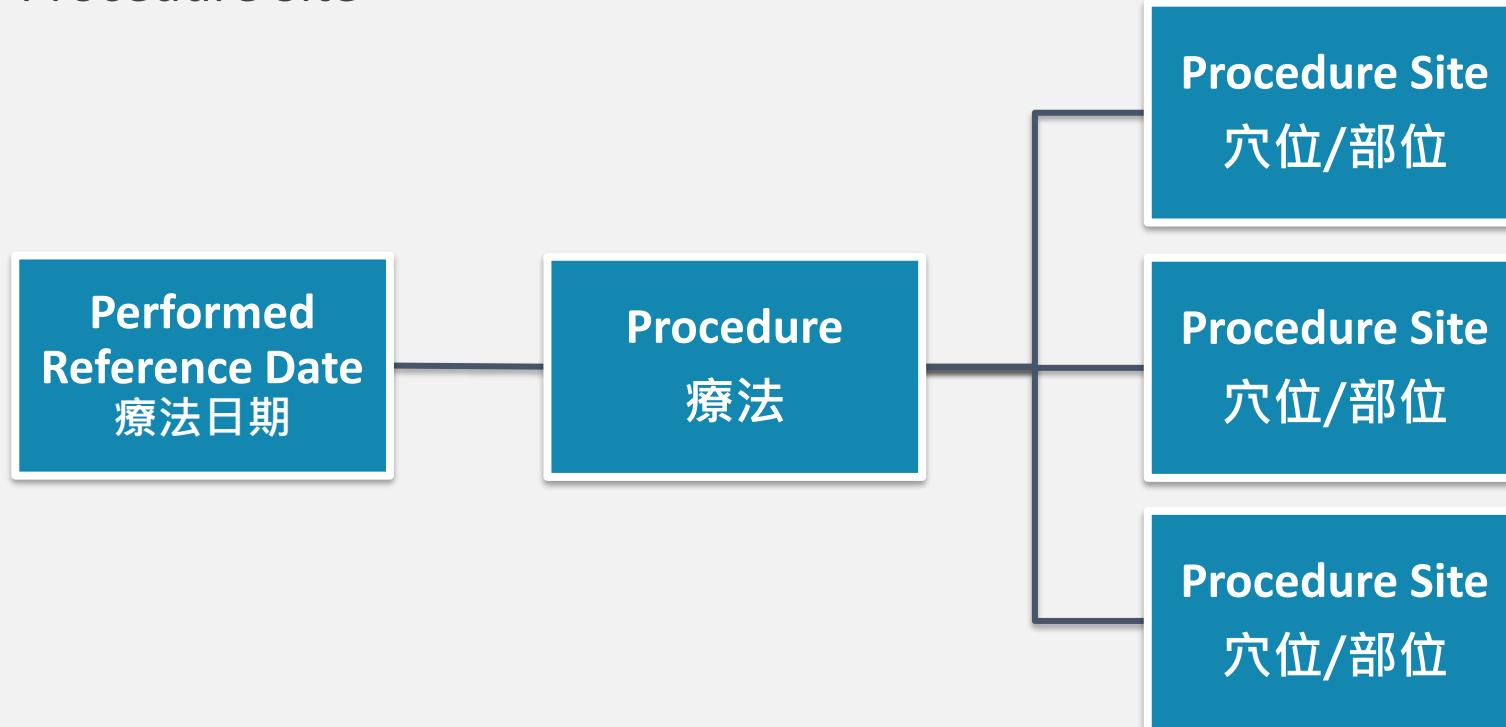
## 認可術語

Entity 分類	Recognised Terminology 認可術語	Allowable Values 可用範疇
Procedure Site 穴位/部位	<ul style="list-style-type: none"> <li>• HKCTT 香港臨床醫療術語表</li> </ul>	性質 = 中醫身體部位
Procedure 療法	<ul style="list-style-type: none"> <li>• HKCTT 香港臨床醫療術語表</li> </ul>	性質 = 中醫療法
	<ul style="list-style-type: none"> <li>• GB/T 16751.3-1997 中華人民共和國國家標準-中醫臨床診療 術語治法部分</li> </ul>	章節 = 27 - 29

# CM Procedure – Summary

## 中醫療法- 摘要

- Accept only Level 2 and Level 3 data
- Mandatory field:
  - Performed Reference Date
  - Procedure Description
- Optional field:
  - Procedure Site



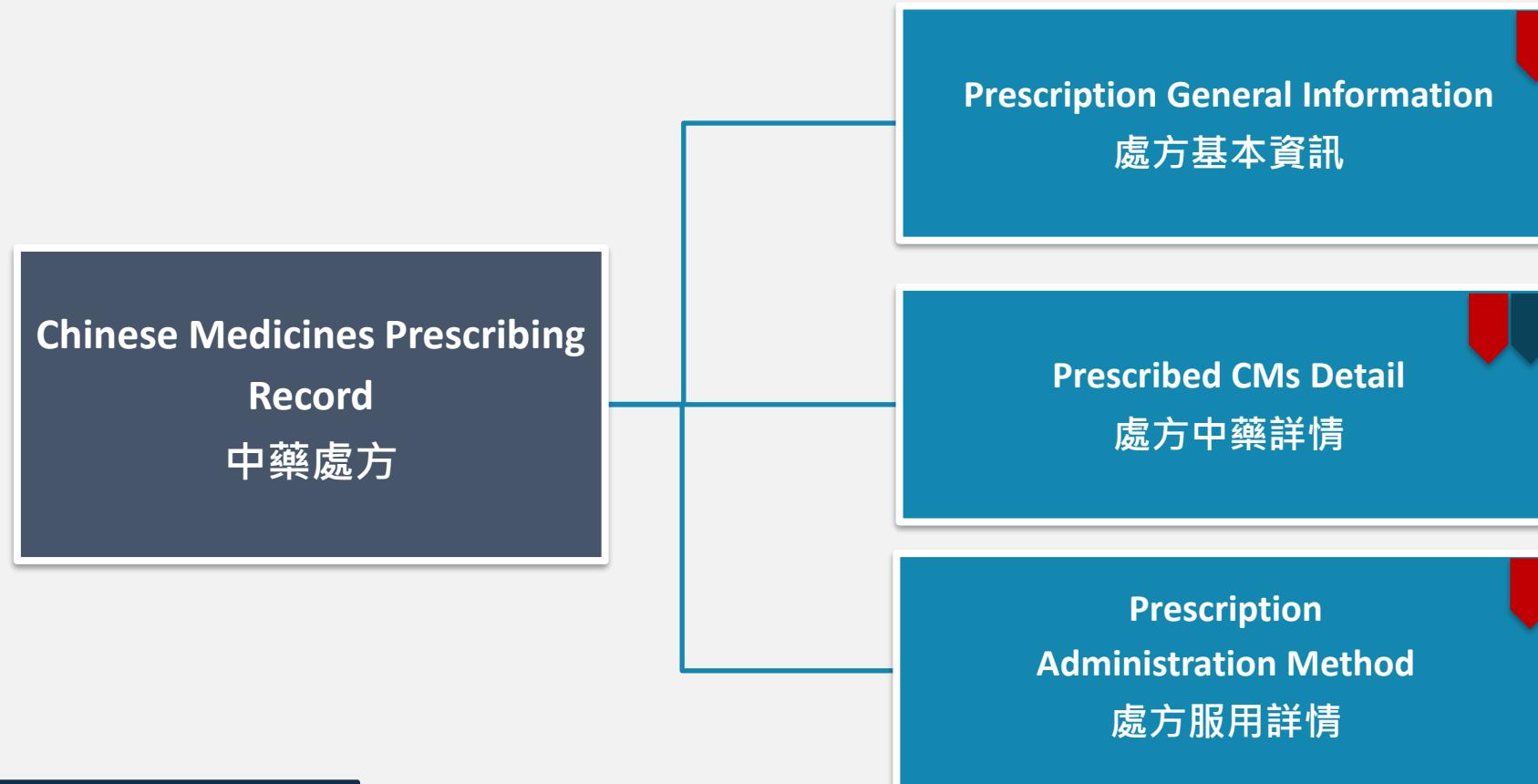
# *CMs Prescribing/ Dispensing Record*

## *Data Standards*

中藥處方/配發紀錄信息標準

# Chinese Medicines Prescribing Record Dataset

中藥處方數據架構

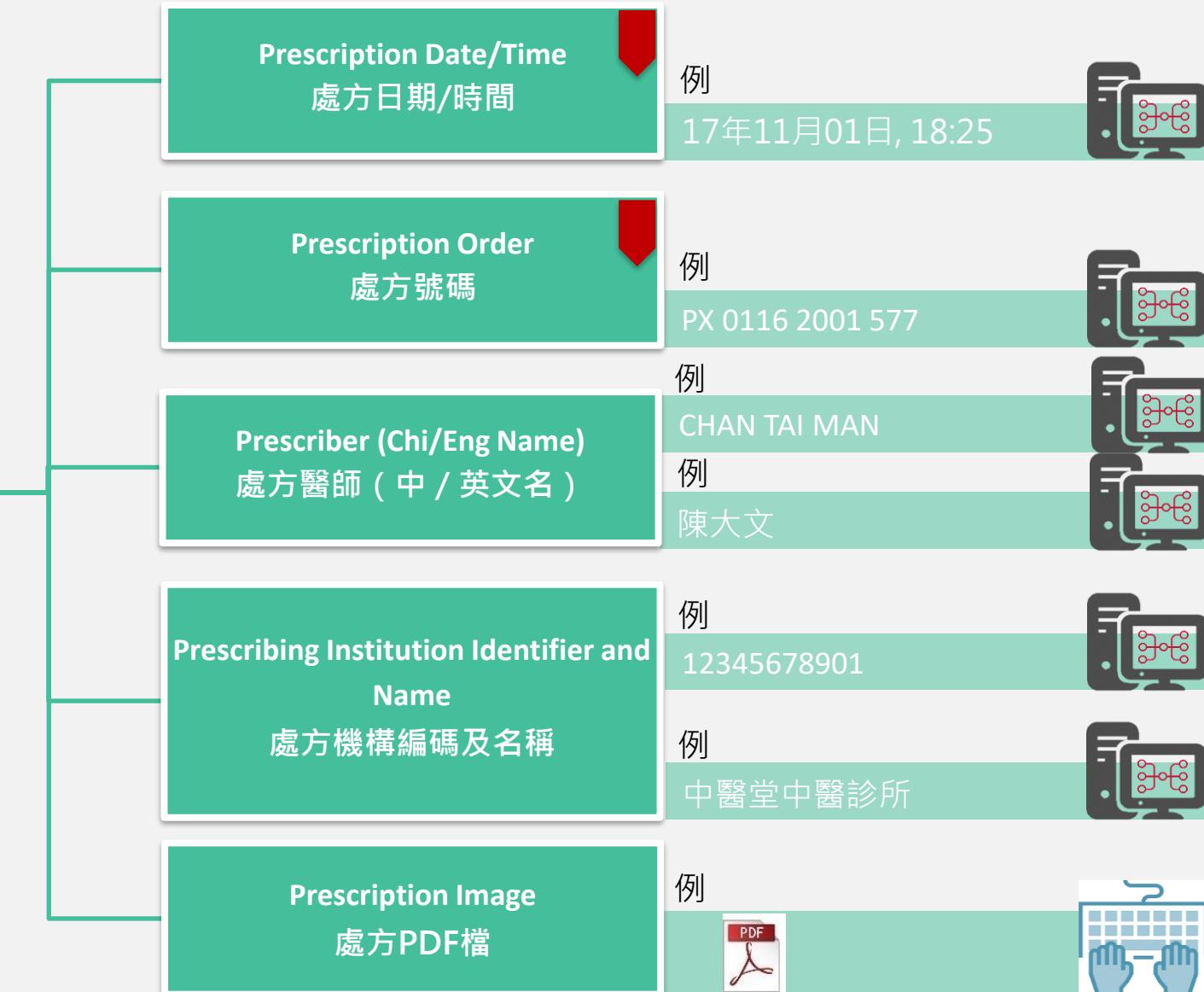


► Mandatory 必須輸入  
► Repeatable 可重覆

# CMs Prescribing Record Dataset - General Information

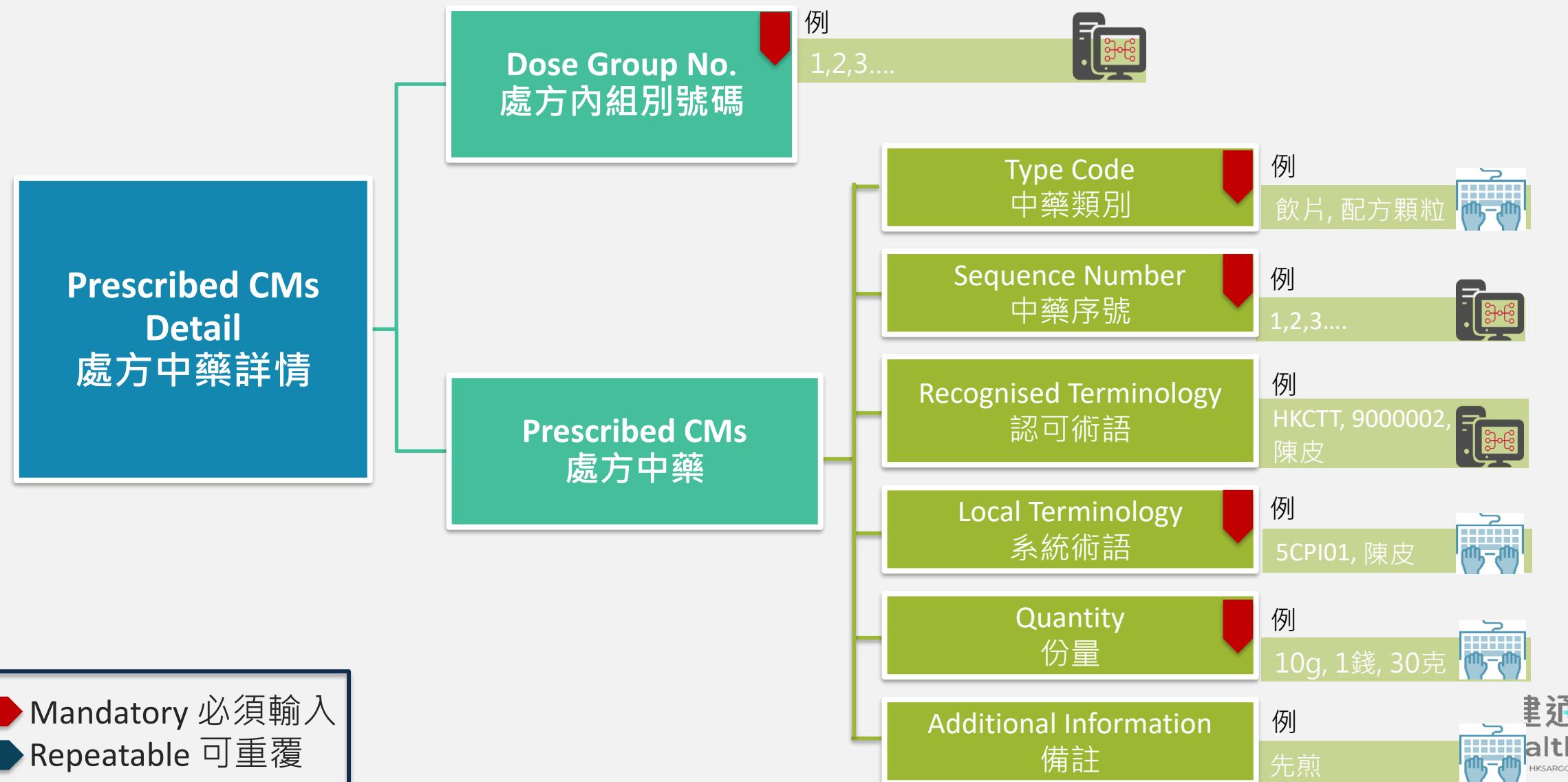
## 中藥處方數據架構 - 基本資訊

### Prescription General Information 處方基本資訊



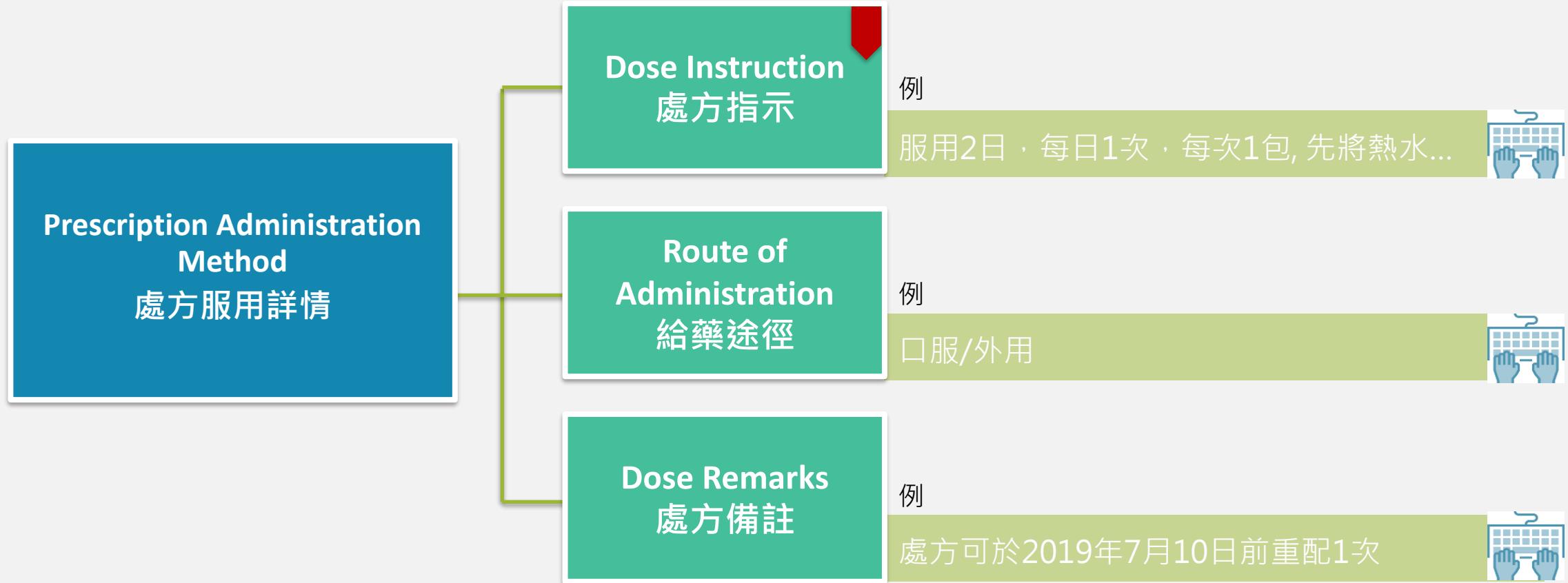
# CMs Prescribing Record Dataset – CMs Detail

## 中藥處方數據架構 - 處方中藥詳情



# CMs Prescribing Record Dataset – Administration Method

## 中藥處方數據架構 - 處方服用詳情



► Mandatory 必須輸入  
► Repeatable 可重覆

# CMS Prescribing Record Dataset – Example

## 中藥處方數據架構 - 例子

醫院管理局 - 香港中醫大學中醫教研中心(I) 九龍亞皆老街B醫院管理局大樓 電話: 23456789 傳真: 23456780 處 方 簿		求診人姓名: 盧細西 LO, SAI SAI 年齡/性別 : 53Y / 男 求診人號碼 : 209000002003 類別/服務: 一般門診/一般診療/普通科  求診日期: 2017年06月22日 04時39分(下午) 開方日期: 2017年06月22日 05時50分(下午)	中醫師: 系統主管 (註冊編號: 999999)
藥物名稱	每日藥量	藥物名稱	每日藥量
1. 蒼朮	3.00 克	(地黃熟)	約 9.60 克
2. 陳皮	3.00 克	(山茱萸)	約 4.80 克
3. 熟地黃	3.00 克	(山藥)	約 4.80 克
4. 酸棗仁	6.00 克	(澤瀉)	約 3.60 克
5. 六味地黃丸	(配方顆粒 5.00 克)	(牡丹皮)	約 3.60 克
HKP-08273			
藥品項目合計: 5 項 服用 3 日 每日服用 2 次 每次 1 包 用藥指示: 早晚一次，空肚服。 ***完***			
中醫師簽署: 系統主管 (註冊編號: 000000)			
處方號碼: PX 0117 0001 901	藥房備註: 服務時間 星期一至五: 上午九時至下午一時 下午二時至下午七時 星期六: 上午九時至下午一時 下午二時至下午五時 星期日及公眾假期: 休息	下次覆診: 大約 _____ 星期 / 月	
- 處方需經診症醫師簽署後方為有效 - 每日藥量以相等之中草藥份量, 非配方顆粒份量 - 配藥劑型: 配方顆粒		列印者: 系統主管 第1頁 共1頁	
報表編號: CMIS0402 (V2.09@201612) 2017年06月23日 03時10分 (下午)			

處方日期/時間

22062017



處方中藥詳情

- 藥物名稱、
- 份量及單位
- 備註
- 中成藥的成份及份量



處方服用詳情及備註

服用日數: 服用3日...  
服用指示: 早晚一次...



處方號碼

PX01170001901



處方類別

配方顆粒



# Chinese Medicines Dispensing Record Dataset

## 中藥配發數據架構

### Chinese Medicines Dispensing Record

中藥配發

與中藥處方數據架構基本相同

Dispensing General Information

配發基本資訊

Dispensing institution  
Information

配發機構名稱

Dispensed CMs Detail

配發中藥詳情

Dispensed CMs  
Administration Method

配發服用詳情

- ▶ Mandatory 必須輸入
- ▶ Repeatable 可重覆

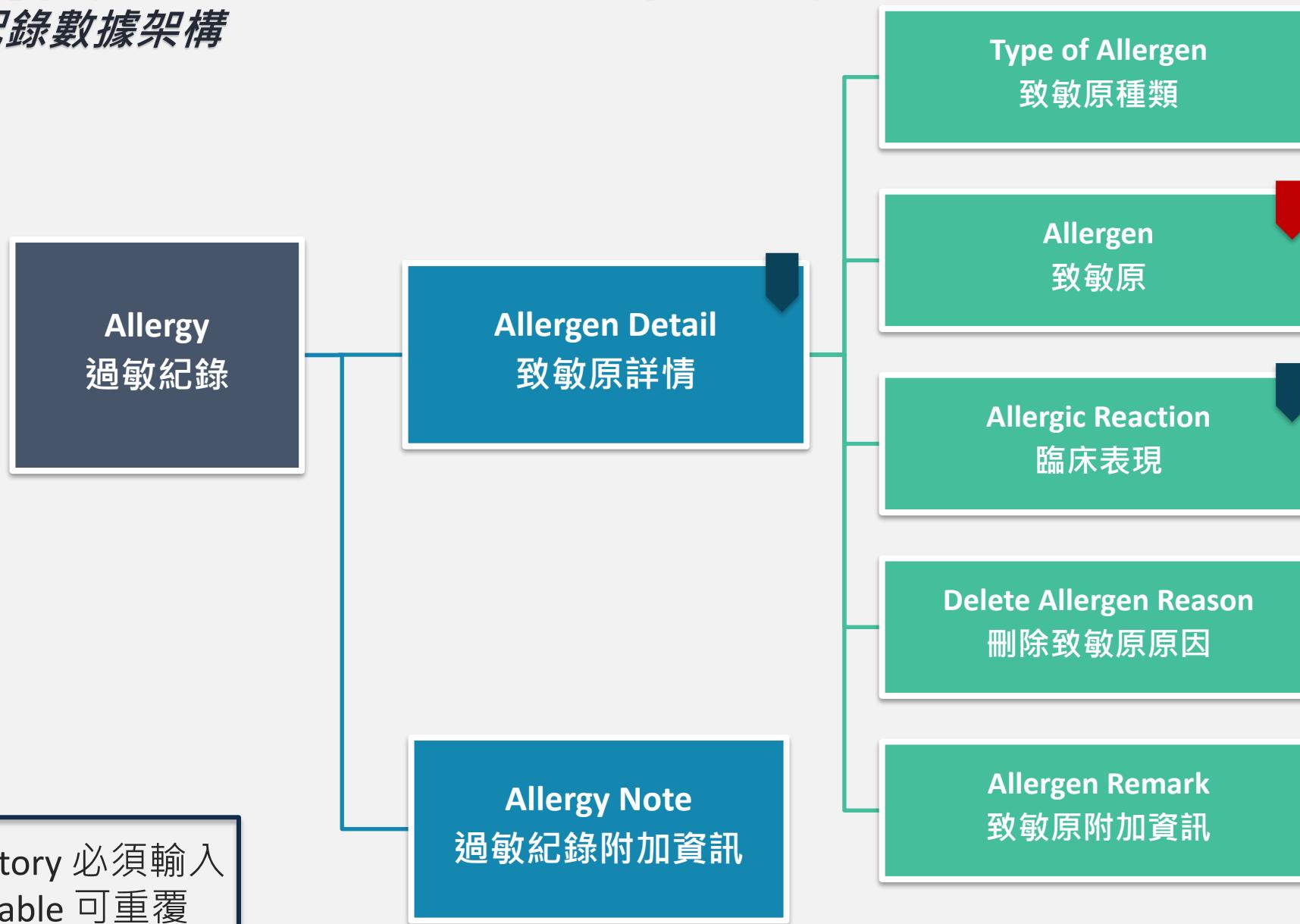
# *Allergy (Chinese Medicine System)*

## *Data Standards*

敏感紀錄信息標準

# Allergy (Chinese Medicine System) Dataset

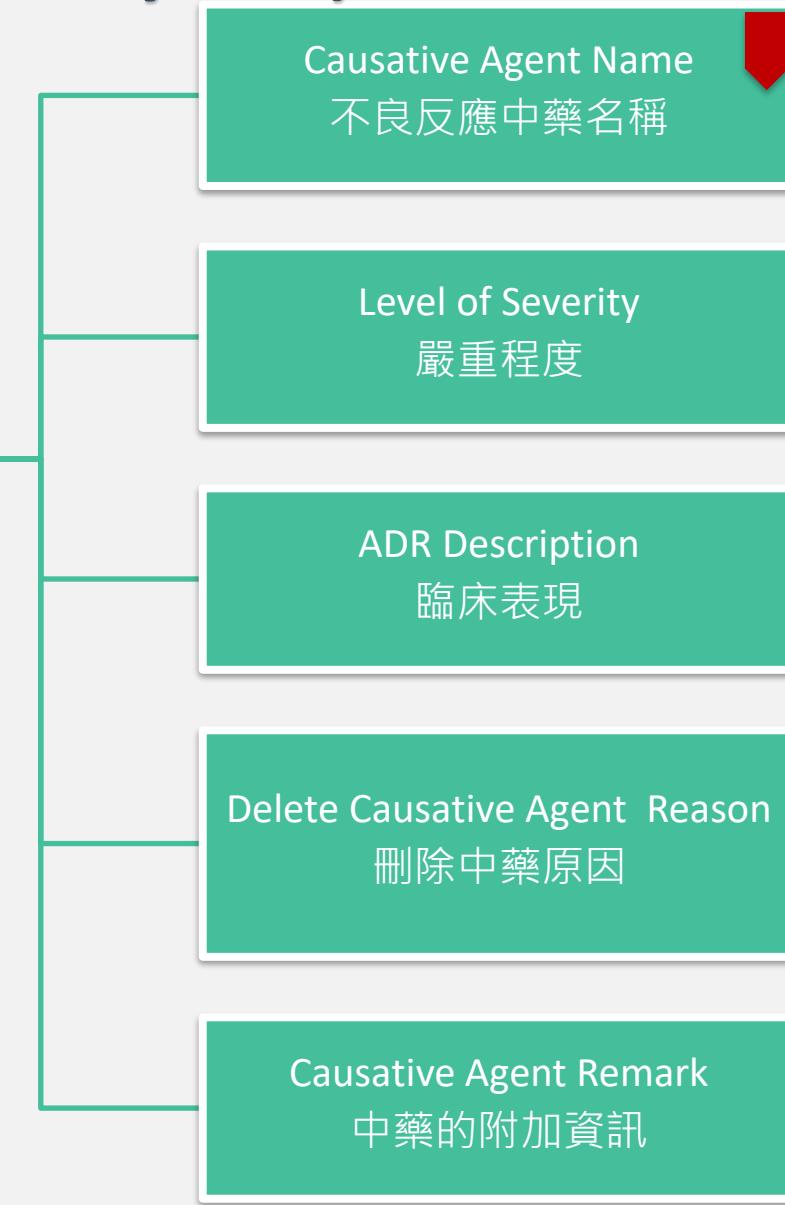
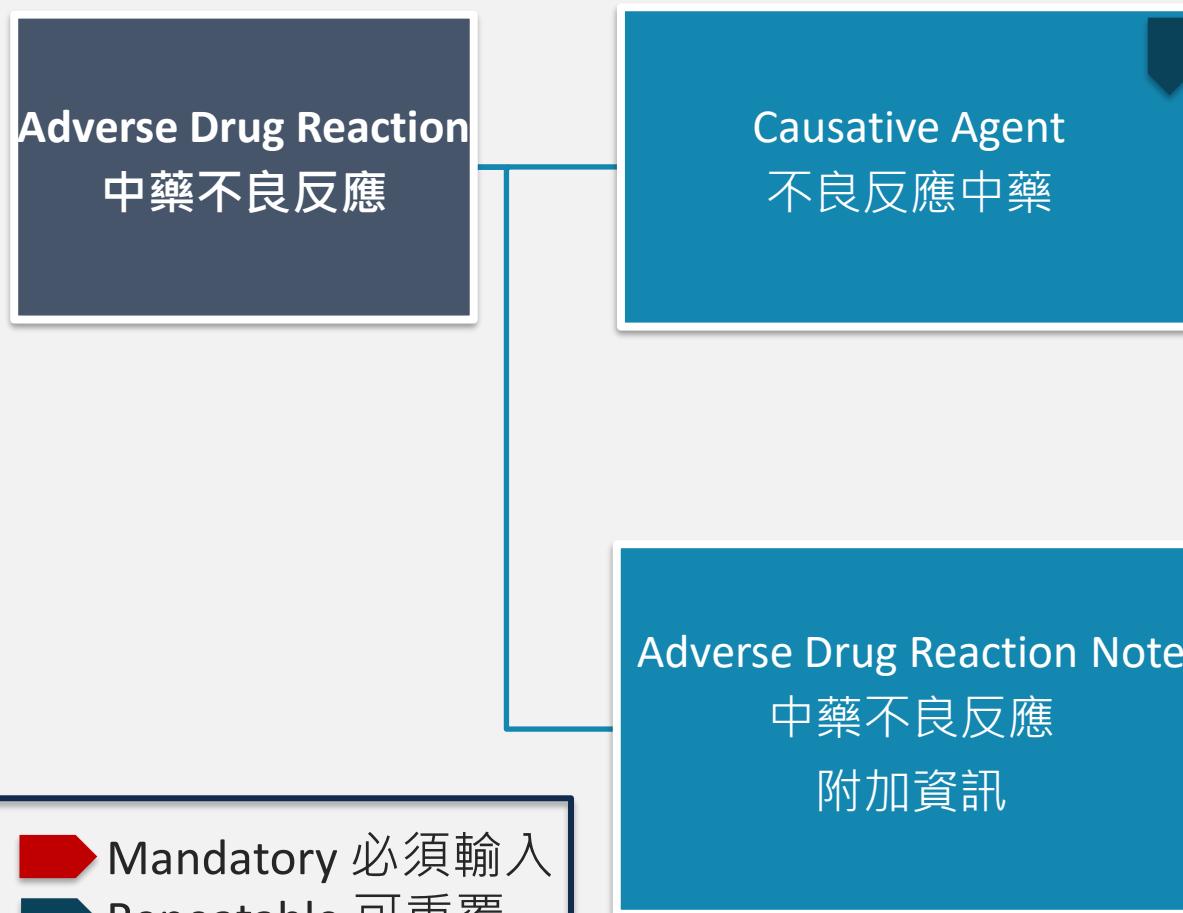
## 敏感紀錄數據架構



➡ Mandatory 必須輸入  
➡ Repeatable 可重覆

# Adverse Drug Reaction (Chinese Medicine System) Dataset

## 中藥不良反應紀錄數據架構





# Allergy & CM ADR - Summary

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## 敏感及中藥不良反應紀錄 - 摘要

### Allergy 敏感紀錄

Allergen 致敏原

Drug  
西藥

Non-CMs  
substance  
非中藥物品

Allergen information 致敏原詳情

Level of certainty  
確定程度

Allergic Reaction  
致敏反應

### CM ADR 中藥不良反應紀錄

Causative Agent 引發不良反應媒介

\*CMs  
中藥

Causative Agent information 不良反應詳情

Level of severity  
嚴重程度

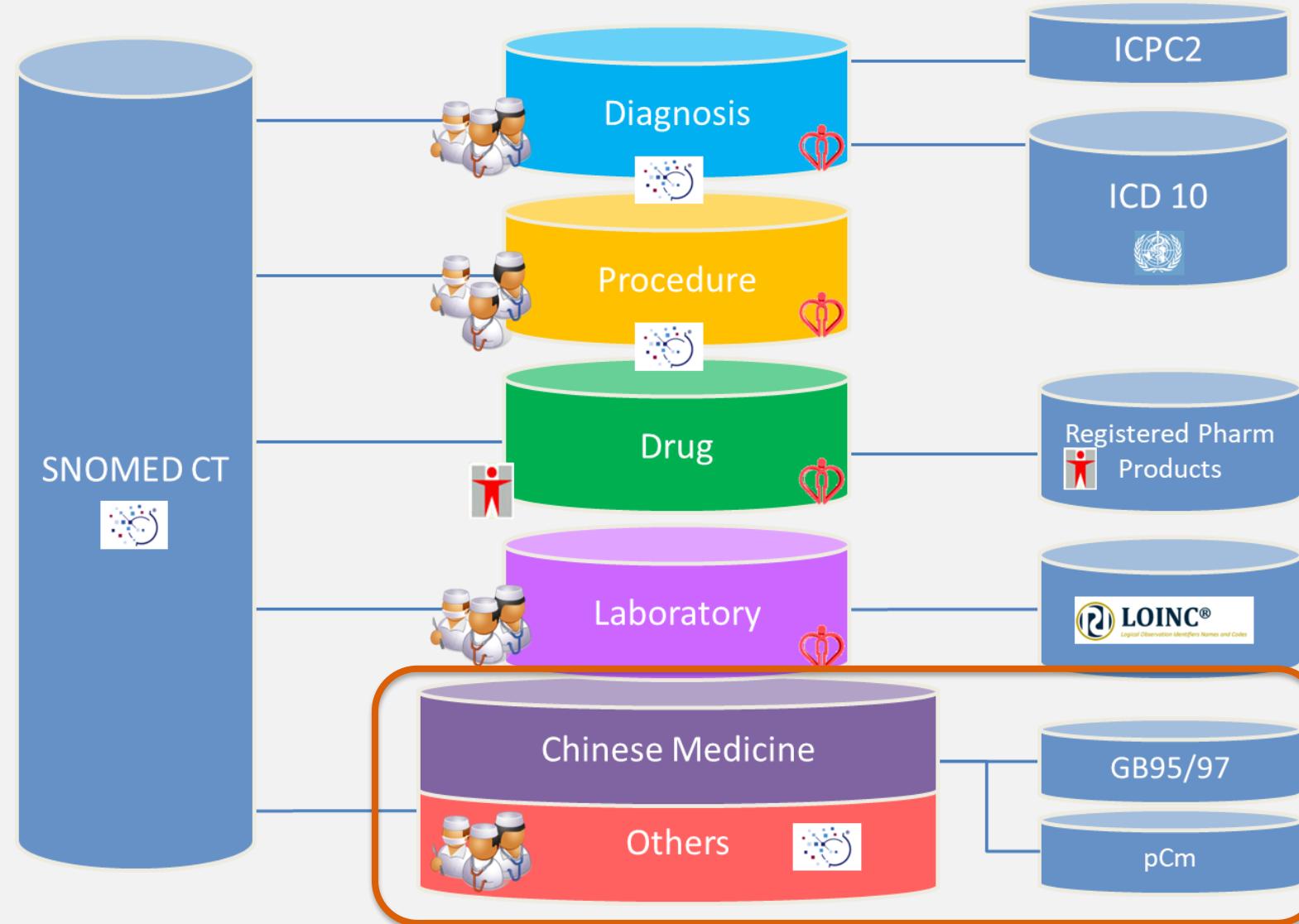
Adverse Reaction  
不良反應

\* including CMM, CMM-PP & pCm

包括原藥材、炮製品、註冊中成藥

# Hong Kong Clinical Terminology Table (HKCTT)

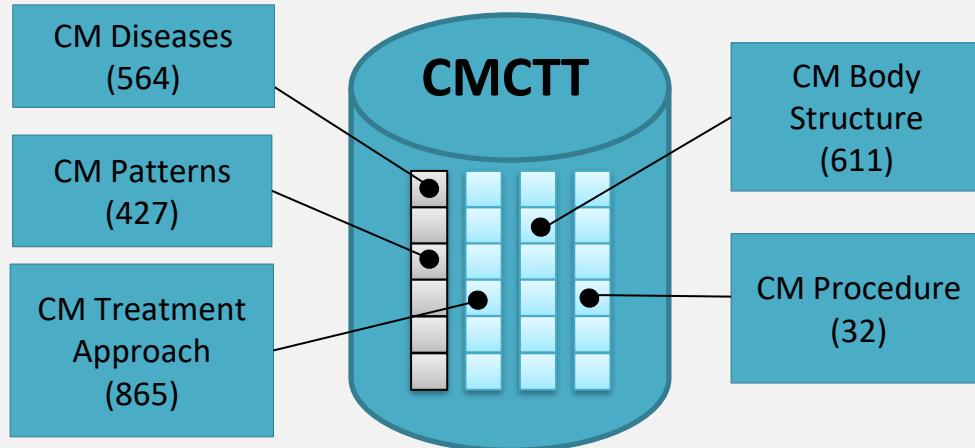
# Hong Kong Clinical Terminology Table (HKCTT)



# Terminology Standardisation



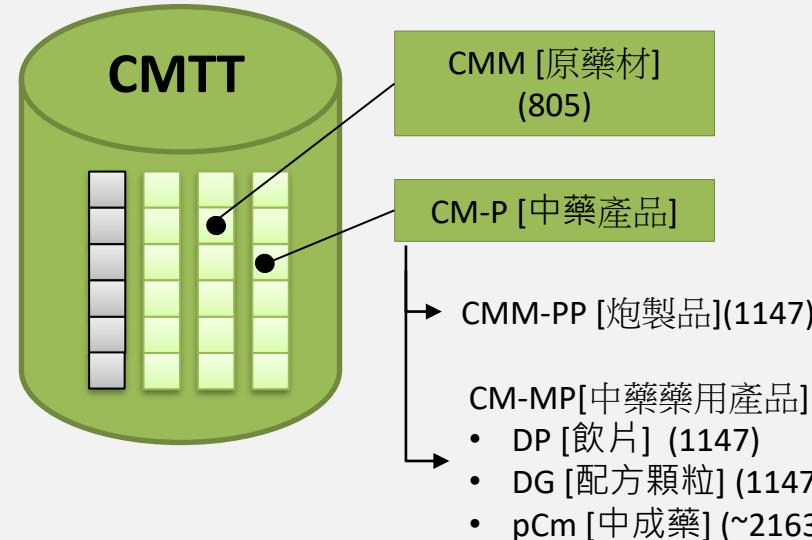
## Chinese Medicine Clinical Terminology Table



## Recognised Terminology

- GB/T 15657-1995  
中華人民共和國國家標準-中醫病證分類與代碼
- GB/T 16751.3-1997  
中華人民共和國國家標準-中醫臨床診療術語治法部分

## Chinese Medicines Terminology Table



- List of applications with "Certificate of registration of proprietary Chinese medicine (pCm)" and "Notice of confirmation of transitional registration of pCm (for pCm in granule form only) under the Chinese Medicines Board of the Chinese Medicine Council of Hong Kong

# Q&A

# Thank You

# FHIR mapping for Chinese Medicine data domains & PMI query service

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HL7 HONG KONG – 7<sup>TH</sup> CONNECTATHON

Jul 7, 2025

# What is “Connectathon”?

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Connectathon has two very important purposes and one very important principle. A Connectathon is an event that is centered on an open consensus built Interoperability (Connection) specification. The purpose of a Connectathon is both to prove that the specification is complete as well as to prove that implementations written to that specification can ‘connect’. The most important principle of a Connectathon is that it is a safe place for failure in these endeavors. That is that it is free of negative consequences of a mistake in someone’s implementation and that the specification might need to be refined.

Source: <https://healthcaresecprivacy.blogspot.com/2013/11/what-is-connectathon.html>

# Our Purpose

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## EHR

- Consent HL7 interface specification for HK eHealth
- Speed up data sharing by healthcare providers

## HL7 HK

- Form a community on HL7 & FHIR in HK to develop healthcare interface standards

# Topic

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## ◆ Resources

Data Domain	FHIR Resource
CM Allergy/ADR	AllergyIntolerance
CM Problem	Condition
CM Procedure	Procedure
CM Prescribing	MedicationRequest
CM Dispensing	MedicationDispense
PMI	Patient

## ◆ Challenge

# FHIR Resources

Categorized	Alphabetical	R2 Layout	By Maturity	Security Category	By Standards Status	By Committee
<b>Foundation</b>	<b>Conformance</b> <ul style="list-style-type: none"> <li>CapabilityStatement <a href="#">N</a></li> <li>StructureDefinition <a href="#">N</a></li> <li>ImplementationGuide 1</li> <li>SearchParameter 3</li> <li>MessageDefinition 1</li> <li>OperationDefinition <a href="#">N</a></li> <li>CompartmentDefinition 1</li> <li>StructureMap 2</li> <li>GraphDefinition 1</li> <li>ExampleScenario 0</li> </ul> <b>Terminology</b> <ul style="list-style-type: none"> <li>CodeSystem <a href="#">N</a></li> <li>ValueSet <a href="#">N</a></li> <li>ConceptMap 3</li> <li>NamingSystem 2</li> <li>TerminologyCapabilities 0</li> </ul> <b>Security</b> <ul style="list-style-type: none"> <li>Provenance 3</li> <li>AuditEvent 3</li> <li>Consent 2</li> </ul> <b>Documents</b> <ul style="list-style-type: none"> <li>Composition 2</li> <li>DocumentManifest 2</li> <li>DocumentReference 3</li> <li>CatalogEntry 0</li> </ul> <b>Other</b> <ul style="list-style-type: none"> <li>Basic 1</li> <li>Binary <a href="#">N</a></li> <li>Bundle <a href="#">N</a></li> <li>Linkage 0</li> <li>MessageHeader 4</li> <li>OperationOutcome <a href="#">N</a></li> <li>Parameters <a href="#">N</a></li> <li>Subscription 3</li> <li>SubscriptionStatus 0</li> <li>SubscriptionTopic 0</li> </ul>					
<b>Base</b>	<b>Individuals</b> <ul style="list-style-type: none"> <li>Patient <a href="#">N</a></li> <li>Practitioner 3</li> <li>PractitionerRole 2</li> <li>RelatedPerson 2</li> <li>Person 2</li> <li>Group 1</li> </ul> <b>Entities #1</b> <ul style="list-style-type: none"> <li>Organization 3</li> <li>OrganizationAffiliation 0</li> <li>HealthcareService 2</li> <li>Endpoint 2</li> <li>Location 3</li> </ul> <b>Entities #2</b> <ul style="list-style-type: none"> <li>Substance 2</li> <li>BiologicallyDerivedProduct 0</li> <li>Device 2</li> <li>DeviceMetric 1</li> <li>NutritionProduct 0</li> </ul> <b>Workflow</b> <ul style="list-style-type: none"> <li>Task 2</li> <li>Appointment 3</li> <li>AppointmentResponse 3</li> <li>Schedule 3</li> <li>Slot 3</li> <li>VerificationResult 0</li> </ul> <b>Management</b> <ul style="list-style-type: none"> <li>Encounter 2</li> <li>EpisodeOfCare 2</li> <li>Flag 1</li> <li>List 1</li> <li>Library 3</li> </ul>					
<b>Clinical</b>	<b>Summary</b> <ul style="list-style-type: none"> <li>AllergyIntolerance 3</li> <li>AdverseEvent 0</li> <li>Condition (Problem) 3</li> <li>Procedure 3</li> <li>FamilyMemberHistory 2</li> <li>ClinicalImpression 0</li> <li>DetectedIssue 1</li> </ul> <b>Diagnostics</b> <ul style="list-style-type: none"> <li>Observation <a href="#">N</a></li> <li>Media 1</li> <li>DiagnosticReport 3</li> <li>Specimen 2</li> <li>BodyStructure 1</li> <li>ImagingStudy 3</li> <li>QuestionnaireResponse 3</li> <li>MolecularSequence 1</li> </ul> <b>Medications</b> <ul style="list-style-type: none"> <li>MedicationRequest 3</li> <li>MedicationAdministration 2</li> <li>MedicationDispense 2</li> <li>MedicationStatement 3</li> <li>Medication 3</li> <li>MedicationKnowledge 0</li> <li>Immunization 3</li> <li>ImmunizationEvaluation 0</li> <li>ImmunizationRecommendation 1</li> </ul> <b>Care Provision</b> <ul style="list-style-type: none"> <li>CarePlan 2</li> <li>CareTeam 2</li> <li>Goal 2</li> <li>ServiceRequest 2</li> <li>NutritionOrder 2</li> <li>VisionPrescription 2</li> <li>RiskAssessment 1</li> <li>RequestGroup 2</li> </ul> <b>Request &amp; Response</b> <ul style="list-style-type: none"> <li>Communication 2</li> <li>CommunicationRequest 2</li> <li>DeviceRequest 1</li> <li>DeviceUseStatement 0</li> <li>GuidanceResponse 2</li> <li>SupplyRequest 1</li> <li>SupplyDelivery 1</li> </ul>					

# AllergyIntolerance

## Structure

Name	Flags	Card.	Type	Description & Constraints
AllergyIntolerance	TU		DomainResource	Allergy or Intolerance (generally: Risk of adverse reaction to a substance)
				Elements defined in Ancestors: <a href="#">id</a> , <a href="#">meta</a> , <a href="#">implicitRules</a> , <a href="#">language</a> , <a href="#">text</a> , <a href="#">contained</a> , <a href="#">extension</a> , <a href="#">modifierExtension</a>
identifier	Σ	0..*	Identifier	External ids for this item
clinicalStatus	?! Σ	0..1	CodeableConcept	active   inactive   resolved Binding: <a href="#">AllergyIntolerance Clinical Status Codes (Required)</a>
verificationStatus	?! Σ	0..1	CodeableConcept	unconfirmed   presumed   confirmed   refuted   entered-in-error Binding: <a href="#">AllergyIntolerance Verification Status (Required)</a>
type	Σ TU	0..1	CodeableConcept	allergy   intolerance - Underlying mechanism (if known) Binding: <a href="#">Allergy Intolerance Type (Preferred)</a>
category	Σ	0..*	code	food   medication   environment   biologic Binding: <a href="#">Allergy Intolerance Category (Required)</a>
criticality	Σ	0..1	code	low   high   unable-to-assess Binding: <a href="#">Allergy Intolerance Criticality (Required)</a>
code	Σ	0..1	CodeableConcept	Code that identifies the allergy or intolerance Binding: <a href="#">AllergyIntolerance Substance/Product, Condition and Negation Codes (Example)</a>
patient	Σ	1..1	Reference(Patient)	Who the allergy or intolerance is for
encounter		0..1	Reference(Encounter)	Encounter when the allergy or intolerance was asserted
onset[x]		0..1		When allergy or intolerance was identified

<https://www.hl7.org/fhir/allergyintolerance.html>

# Condition

A clinical condition, problem, diagnosis, or other event, situation, issue, or clinical concept that has risen to a level of concern.

## Structure

Name	Flags	Card.	Type	Description & Constraints
Condition	TU		DomainResource	<p>Detailed information about conditions, problems or diagnoses</p> <p>+ Warning: If category is problems list item, the clinicalStatus should not be unknown</p> <p>+ Rule: If condition is abated, then clinicalStatus must be either inactive, resolved, or remission.</p>
identifier	Σ	0..*	Identifier	External Ids for this condition
clinicalStatus	?! Σ C	1..1	CodeableConcept	<p>active   recurrence   relapse   inactive   remission   resolved   unknown</p> <p>Binding: <a href="#">Condition Clinical Status Codes (Required)</a></p>
verificationStatus	?! Σ	0..1	CodeableConcept	<p>unconfirmed   provisional   differential   confirmed   refuted   entered-in-error</p> <p>Binding: <a href="#">Condition Verification Status (Required)</a></p>
category	C	0..*	CodeableConcept	<p>problem-list-item   encounter-diagnosis</p> <p>Binding: <a href="#">Condition Category Codes (Preferred)</a></p>
severity		0..1	CodeableConcept	<p>Subjective severity of condition</p> <p>Binding: <a href="#">Condition/Diagnosis Severity (Preferred)</a></p>
code	Σ	0..1	CodeableConcept	<p>Identification of the condition, problem or diagnosis</p> <p>Binding: <a href="#">Condition/Problem/Diagnosis Codes (Example)</a></p>
bodySite	Σ	0..*	CodeableConcept	<p>Anatomical location, if relevant</p> <p>Binding: <a href="#">SNOMED CT Body Structures (Example)</a></p>
subject	Σ	1..1	Reference(Patient   Group)	Who has the condition?
encounter	Σ	0..1	Reference(Encounter)	The Encounter during which this Condition was created
onset[x]	Σ	0..1		Estimated or actual date, date-time, or age
onsetDateTime			dateTime	

<https://www.hl7.org/FHIR/condition.html>

# Procedure

## Structure

Name	Flags	Card.	Type	Description & Constraints
Procedure	TU		DomainResource	An action that is being or was performed on an individual or entity
				Elements defined in Ancestors: id, meta, implicitRules, language, text, contained, extension, modifierExtension
identifier	Σ	0..*	Identifier	External Identifiers for this procedure
instantiatesCanonical	Σ	0..*	canonical(PlanDefinition   ActivityDefinition   Measure   OperationDefinition   Questionnaire)	Instantiates FHIR protocol or definition
instantiatesUri	Σ	0..*	uri	Instantiates external protocol or definition
basedOn	Σ	0..*	Reference(CarePlan   ServiceRequest)	A request for this procedure
partOf	Σ	0..*	Reference(Procedure   Observation   MedicationAdministration)	Part of referenced event
status	?! Σ	1..1	code	preparation   in-progress   not-done   on-hold   stopped   completed   entered-in-error   unknown Binding: <a href="#">EventStatus (Required)</a>
statusReason	Σ	0..1	CodeableConcept	Reason for current status Binding: <a href="#">Procedure Not Performed Reason (SNOMED-CT) (Example)</a>
category	Σ	0..*	CodeableConcept	Classification of the procedure Binding: <a href="#">Procedure Category Codes (SNOMED CT) (Example)</a>
code	Σ	0..1	CodeableConcept	Identification of the procedure Binding: <a href="#">Procedure Codes (SNOMED CT) (Example)</a>
subject	Σ	1..1	Reference(Patient   Group   Device   Practitioner   Organization   Location)	Individual or entity the procedure was performed on
focus	Σ	0..1	Reference(Patient   Group   RelatedPerson   Practitioner   Organization   CareTeam   PractitionerRole   Specimen)	Who is the target of the procedure when it is not the subject of record only
encounter	Σ	0..1	Reference(Encounter)	The Encounter during which this Procedure was created

<https://www.hl7.org/fhir/procedure.html>

# FHIR Resources – MedicationRequest and MedicationDispense

This screenshot shows the MedicationRequest resource page. At the top left is a small icon of a prescription bottle. To its right, the text "Medications > MedicationRequest" is displayed. Below this, a yellow banner contains the text: "This page is part of the FHIR Specification (v5.0.0: R5 - STU). This is the current published version. For a full list of available versions, see the Directory of published versions. Page versions: R5 R4B R4 R3". A red border surrounds the main content area.

<http://hl7.org/fhir/medicationrequest.html>

Content Examples Detailed Descriptions Mappings Operations Search Params Profiles

R4 Conversions

## 11.1 Resource MedicationRequest - Content

Pharmacy	Work Group	Maturity Level: 4	Trial Use	Security Category: Patient	Compartments: Enc
----------	------------	-------------------	-----------	----------------------------	-------------------

An order or request for both supply of the medication and the instructions for administration of the medication to a patient. "MedicationRequest" rather than "MedicationPrescription" or "MedicationOrder" to generalize the use across inpatient and outpatient care plans, etc., and to harmonize with workflow patterns.

### 11.1.1 Scope and Usage

This resource covers all types of orders for medications for a patient. This includes inpatient medication orders as well as those placed by the prescriber or by a pharmacy. It also includes orders for over-the-counter medications (e.g. Aspirin), total parenteral supplements. It may be used to support the order of medication-related devices e.g., prefilled syringes such as patient syringes, or syringes used to administer other types of medications. e.g., insulin, narcotics.

This resource would not be used when ordering a device(s) that may have a medication coating e.g. heparin coated stents. These types of devices would be ordered using the Device Request or the SupplyRequest resources.

It is not intended for use in prescribing particular diets, or for ordering non-medication-related items (eyeglasses, supplies, etc.). MedicationRequest may be used to report orders/request from external systems that have been reported for information purposes only and are not expected to be acted upon (e.g. dispensed or administered).

The MedicationRequest resource is a "request" resource from a FHIR workflow perspective - see [Workflow Request](#).

<http://hl7.org/fhir/medicationrequest.html>

This screenshot shows the MedicationDispense resource page. At the top left is a small icon of a prescription bottle. To its right, the text "Medications > MedicationDispense" is displayed. Below this, a yellow banner contains the text: "This page is part of the FHIR Specification (v5.0.0: R5 - STU). This is the current published version. For a full list of available versions, see the Directory of published versions. Page versions: R5 R4B R4 R3 R2". A red border surrounds the main content area.

<http://hl7.org/fhir/medicationdispense.html>

Content Examples Detailed Descriptions Mappings Operations Search Params Profiles Extensions

R4 Conversions

## 11.3 Resource MedicationDispense - Content

Pharmacy	Work Group	Maturity Level: 2	Trial Use	Security Category: Patient	Compartments: Encounter, Patient, Practitioner
----------	------------	-------------------	-----------	----------------------------	--

Indicates that a medication product is to be or has been dispensed for a named person/patient. This includes a description of the medication product (supply) provided and the instructions for administering the medication. The medication dispense is the result of a pharmacy system responding to a medication order.

### 11.3.1 Scope and Usage

This resource covers the supply of medications to a patient. Examples include dispensing and pick-up from an outpatient or community pharmacy, dispensing patient-specific medications from inpatient pharmacy to ward, as well as issuing a single dose from ward stock to a patient for consumption. The medication dispense can be the result of a pharmacy system responding to a medication order.

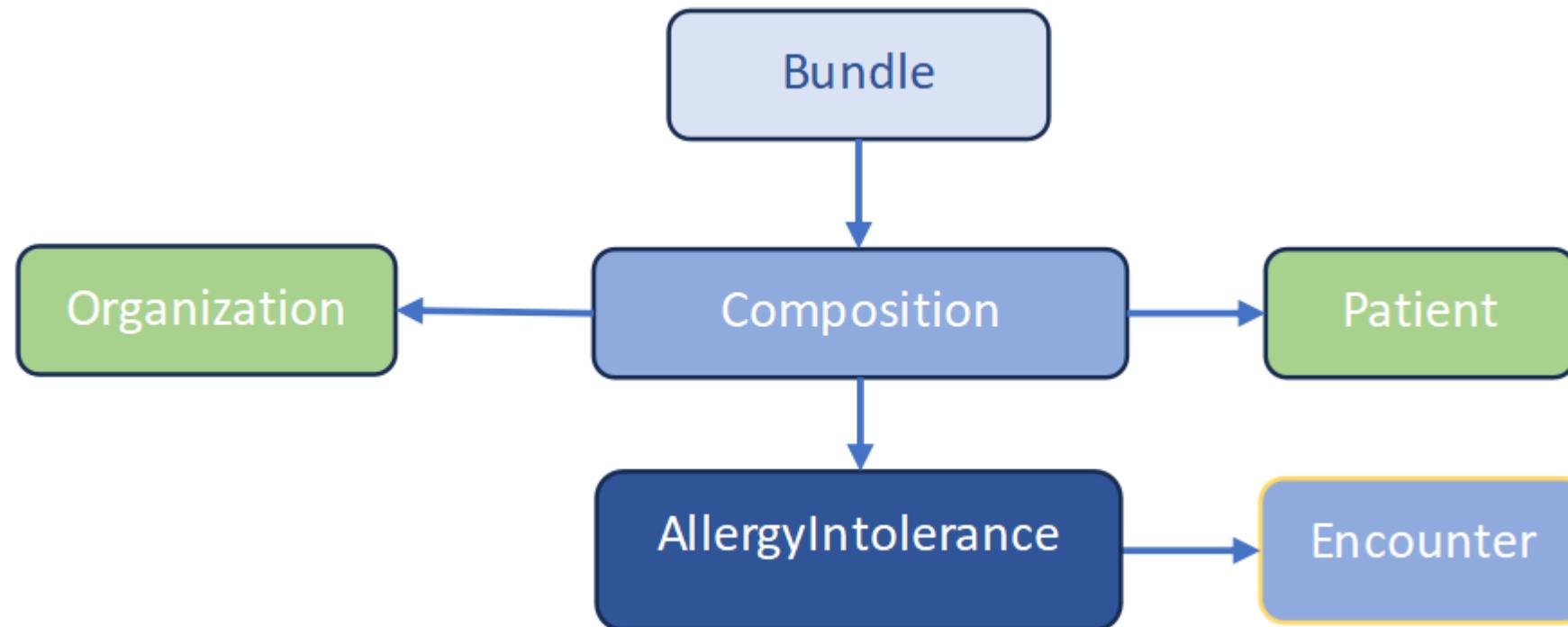
MedicationDispense is an event resource from a FHIR workflow perspective - see [Workflow Event](#)

### 11.3.2 Boundaries and Relationships

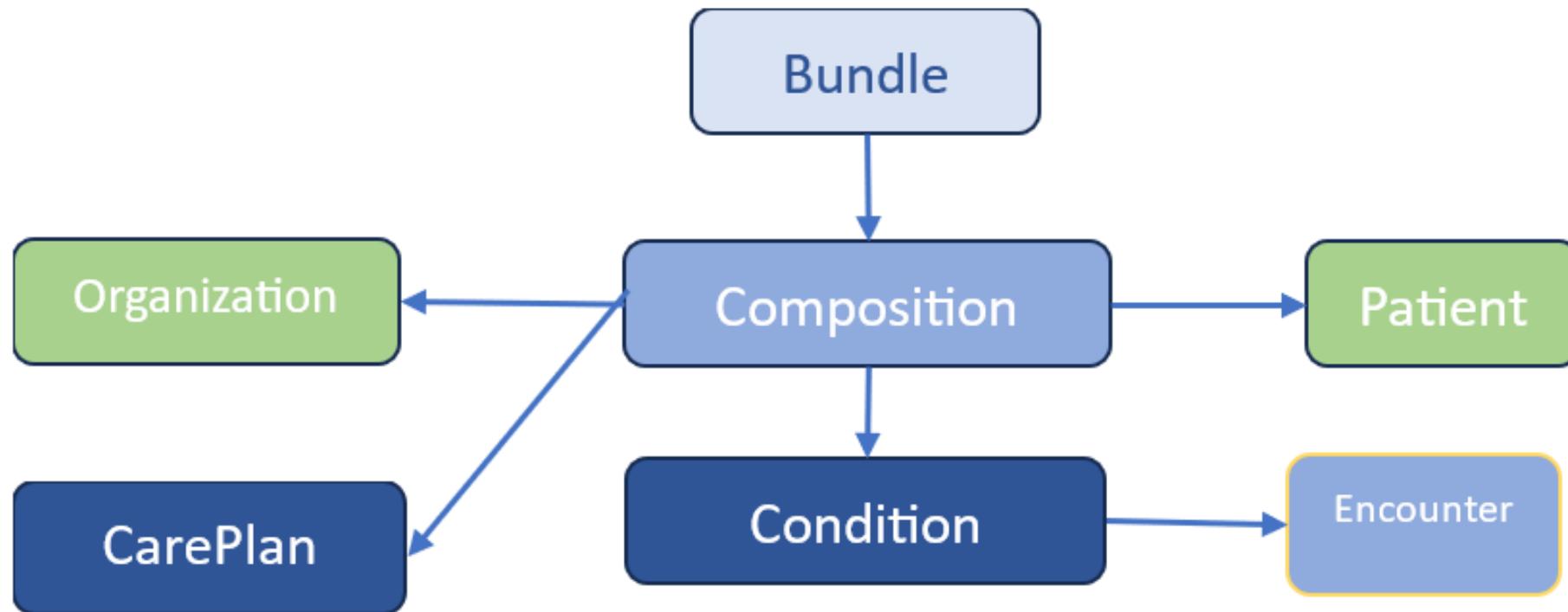
The Medication domain includes a number of related resources

MedicationRequest	An order for both supply of the medication and the instructions for administration of the medicine to a patient.
MedicationDispense	Provision of a supply of a medication with the intention that it is subsequently consumed by a patient (usually in response to a prescription).

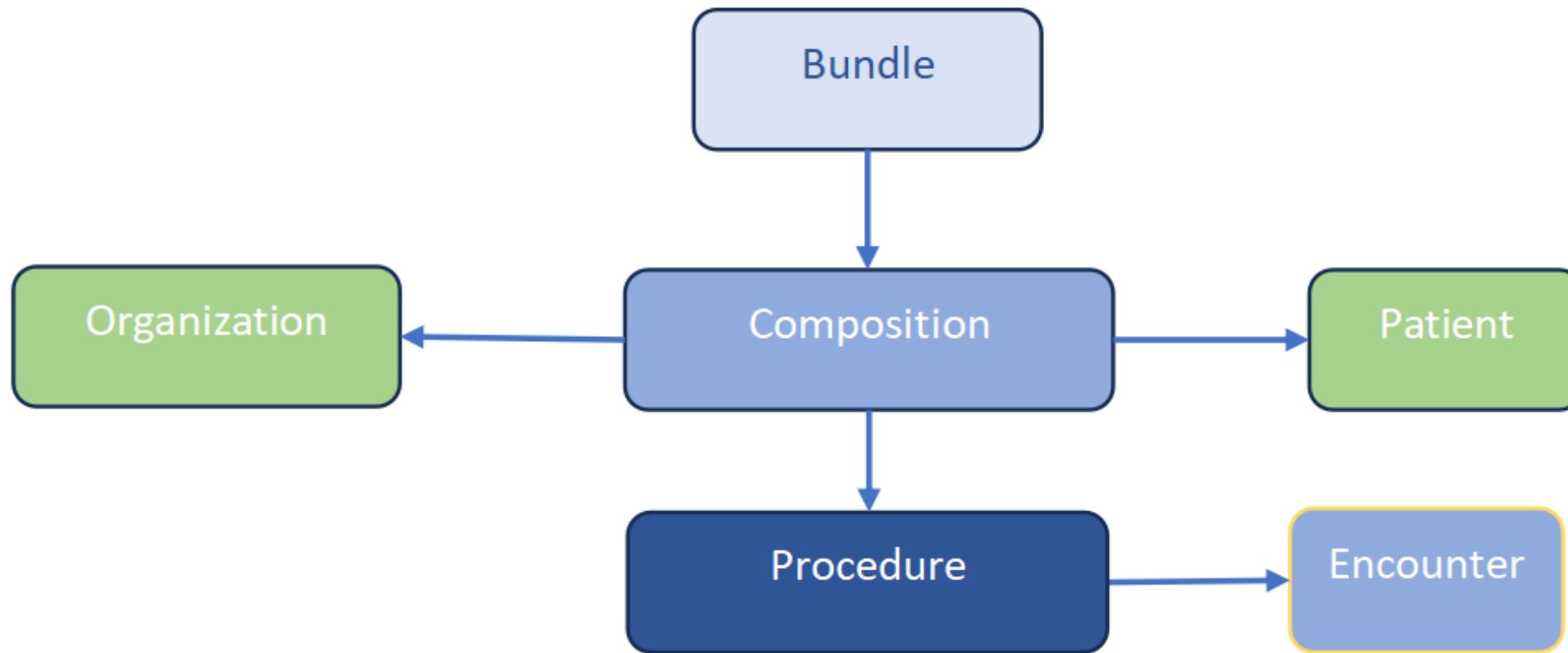
# Composition structure for CM Allergy & ADR



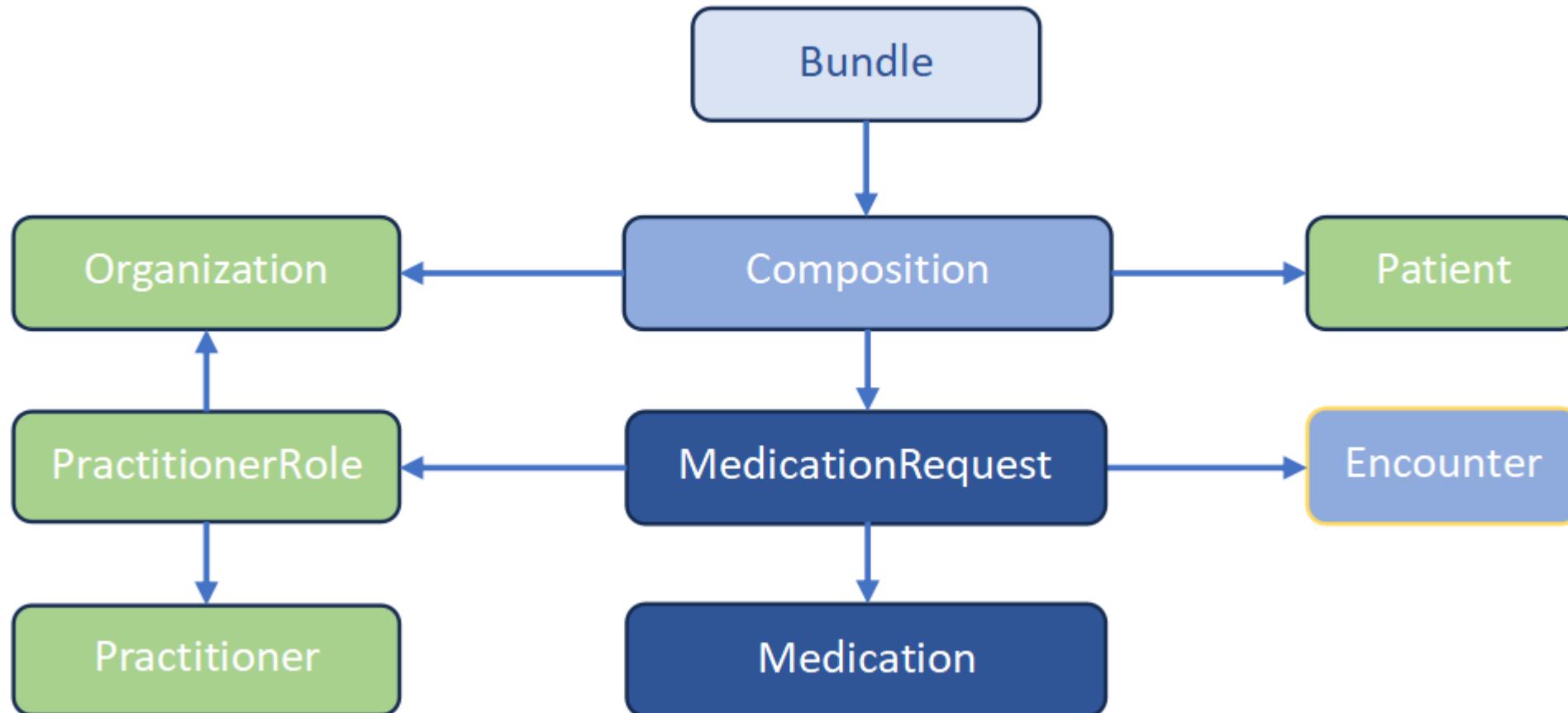
# Composition structure for CM Problem



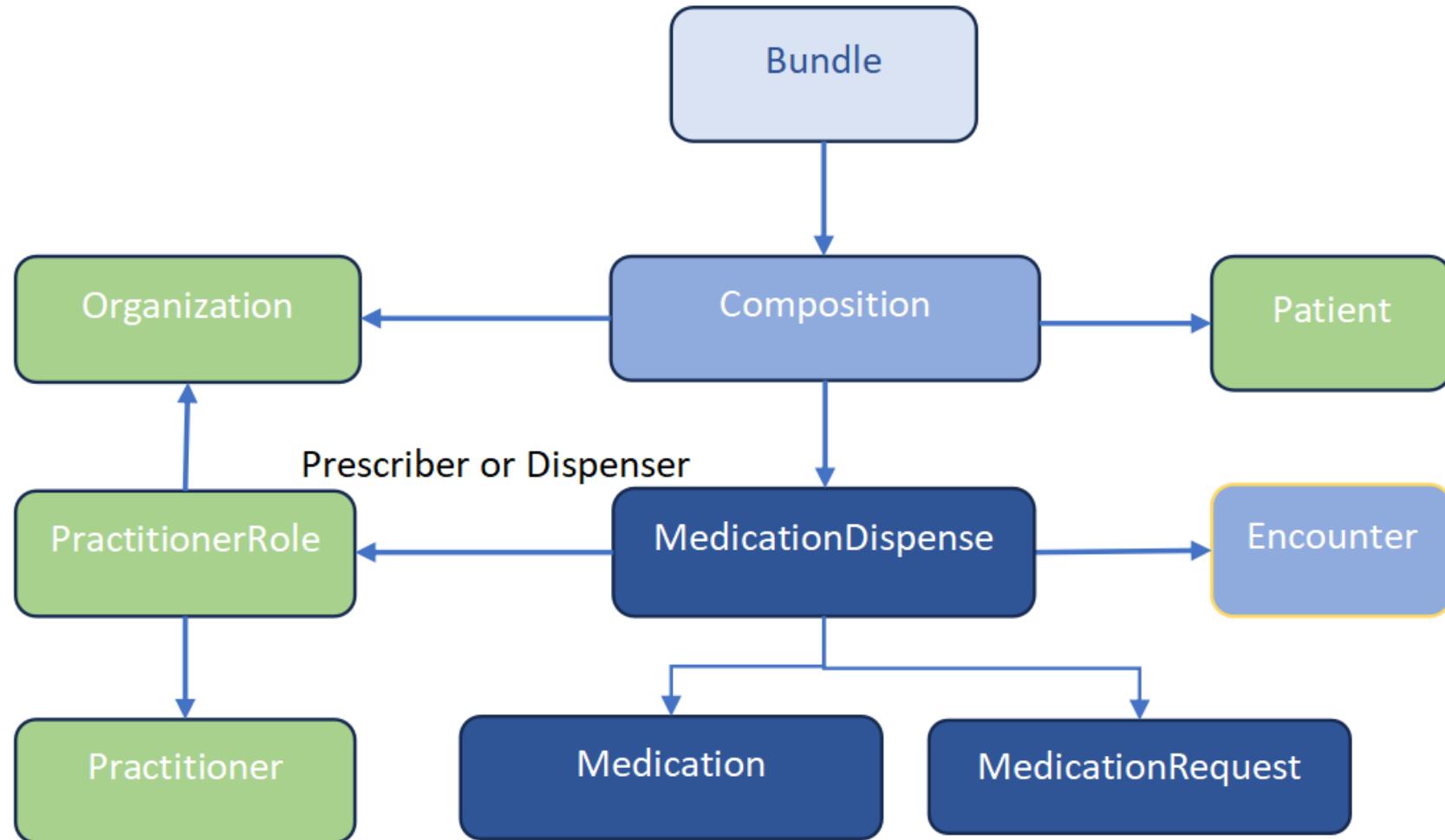
# Composition structure for CM Procedure



# Composition structure for CM Prescribing Record



# Composition structure for CM Dispensing Record



# AllergyIntolerance Example (1)

```
{  
    "fullUrl": "AllergyIntolerance/c7781f44-6df8-4a8b-9e06-0b34263a47c5",  
    "resource": {  
        "resourceType": "AllergyIntolerance",  
        "id": "c7781f44-6df8-4a8b-9e06-0b34263a47c5",  
        "extension": [  
            {  
                "url": "https://ehealth.gov.hk/FHIR/1003138-Typeofallergencode",  
                "valueString": "Drug"  
            },  
            {  
                "url": "https://ehealth.gov.hk/FHIR/1003139-TypeofAllergenDesc",  
                "valueString": "Drug allergen"  
            },  
            {  
                "url": "https://ehealth.gov.hk/FHIR/1003140-TypeofAllergenLocalDesc",  
                "valueString": "Drug allergen"  
            },  
            {  
                "url": "https://ehealth.gov.hk/FHIR/1003145-DeleteAllergyReason",  
                "valueString": "NA"  
            }  
        ],  
        "clinicalStatus": {  
            "coding": [  
                {  
                    "code": "active"  
                }  
            ]  
        },  
        "verificationStatus": {  
            "coding": [  
                {  
                    "system": "https://eHealth.gov.hk/FHIR/LevelofCertainty",  
                    "code": "S",  
                    "display": "Suspected"  
                }  
            ],  
            "text": "Suspected"  
        },  
        "type": {  
            "value": "allergy"  
        },  
        "onset": null,  
        "severity": null,  
        "lastUpdated": null  
    }  
}
```

Type of Allergy

Delete reason

Level of Certainty

Domain Type (allergy / intolerance)

# AllergyIntolerance Example (2)

<pre>  "code": {     "coding": [       {         "system": "https://ehealth.org.hk/FHIR/HKCTT",         "code": "234556",         "display": "Panadol (paracetamol) oral tablet500 mg"       },       {         "system": "https://ehealth.gov.hk/FHIR/HCP/local/allergenCode",         "code": "a1234",         "display": "Peni G"       }     ]   },   "patient": {     "reference": "Patient/2b90dd2b-2dab-4c75-9bb9-a355e07401e8"   },   "encounter": {     "reference": "Encounter/169281c8-fb76-4e9c-b30f-3dfb3a7f53f2"   },   "reaction": [     {       "manifestation": [         {           "coding": [             {               "system": "https://ehealth.gov.hk/FHIR/Allergyreaction",               "code": "2",               "display": "Allergic rhinitis"             }           ],           "text": "Allergic rhinitis"         }       ],       "note": [         {           "text": "NA"         }       ]     }   ] }</pre>	Allergen
	Patient resource reference
	Encounter resource reference
	Allergic reaction
	Allergen remark

# Condition Example (1)

```
{  
    "fullUrl": "Condition/c7781f44-6df8-4a8b-9e06-0b34263a47c5",  
    "resource": {  
        "resourceType": "Condition",  
        "id": "c7781f44-6df8-4a8b-9e06-0b34263a47c5",  
        "code": {  
            "coding": [  
                {  
                    "system": "https://ehealth.gov.hk/FHIR/disease/HKCTT",  
                    "code": "9700004",  
                    "display": "咳嗽"  
                },  
                {  
                    "system": "https://ehealth.gov.hk/FHIR/HCP/local/disease",  
                    "code": "ABC013",  
                    "display": "咳嗽病",  
                }  
            ],  
            "extension": [  
                {  
                    "url": "https://ehealth.gov.hk/FHIR/1006693-CMdiseaseComment",  
                    "valueString": "Patient has reported intermittent symptoms."  
                }  
            ]  
        },  
    },  
}
```

Chinese Medicine disease - recognised terminology - identifier & description

Chinese Medicine disease - local terminology - code & description

Chinese Medicine disease comment

# Condition Example (2)

```
{
  "system": "https://ehealth.gov.hk/FHIR/pattern/HKCTT",
  "code": "9710010",
  "display": "風寒襲肺"
},
{
  "system": "https://ehealth.gov.hk/FHIR/HCP/local/pattern",
  "code": "XYZ012",
  "display": "風寒襲肺"
},
  "extension": [
    {
      "url": "https://ehealth.gov.hk/FHIR/1006699-CMpatternComment",
      "valueString": "Patient has reported intermittent symptoms."
    }
  ],
}
],
  "subject": {
    "reference": "Patient/d58dd75b-cf09-4a1c-b913-c9e867f27616"
  },
  "encounter": {
    "reference": "Encounter/169281c8-fb76-4e9c-b30f-3dfb3a7f53f2"
  },
  "recordedDate": "2023-10-24T10:04:48.865+08:00"
},
```

Chinese Medicine pattern - recognised terminology - identifier & description

Chinese Medicine pattern - local terminology - code & description

Chinese Medicine pattern comment

Chinese Medicine diagnosis reference date

# CarePlan Example

```
{  
  "fullUrl": "CarePlan/6e56ca5c-d1cb-4ede-861d-74f82cc03900",  
  "resource": {  
    "resourceType": "CarePlan",  
    "id": "6e56ca5c-d1cb-4ede-861d-74f82cc03900",  
    "status": "active",  
    "intent": "plan",  
    "subject": {  
      "reference": "Patient/d58dd75b-cf09-4a1c-b913-c9e867f27616"  
    },  
    "addresses": [  
      {  
        "reference": "Condition/c7781f44-6df8-4a8b-9e06-0b34263a47c5"  
      }  
    ],  
    "activity": [  
      {  
        "detail": {  
          "code": {  
            "coding": [  
              {  
                "system": "https://www.ehealth.gov.hk/FHIR/approach/HKCTT",  
                "code": "9720448",  
                "display": "溫肺止咳"  
              },  
              {  
                "system": "https://www.ehealth.gov.hk/FHIR/HCP/local/approach",  
                "code": "RST012",  
                "display": "溫肺止咳"  
              }  
            ]  
          },  
          "status": "scheduled"  
        }  
      }  
    ],  
    "note": [  
      {  
        "text": "NA"  
      }  
    ]  
  }  
}
```

Condition resource reference

Chinese Medicine treatment approach - recognised terminology - identifier & description

Chinese Medicine treatment approach - local terminology - code & description

Chinese Medicine treatment approach comment

# Procedure Example (1)

fullUrl	Procedure/c7781f44-6df8-4a8b-9e06-0b34263a47c5	
resource	{	
resourceType	Procedure	
id	c7781f44-6df8-4a8b-9e06-0b34263a47c5	
status	completed	
code	{	
coding	[	Chinese Medicine procedure performed - recognised terminology - identifier & description
{	{"system": "https://ehealth.gov.hk/FHIR/HKCTT", "code": "9730000", "display": "毫針療法"}	
}	},	
{	{"system": "https://ehealth.gov.hk/FHIR/HCP/local/procedure", "code": "T001", "display": "毫針"}	Chinese Medicine procedure performed - local terminology - code & description
}	}	
]	}	
subject	{	
reference	"Patient/d58dd75b-cf09-4a1c-b913-c9e867f27616"	
}	},	
encounter	{	
reference	"Encounter/169281c8-fb76-4e9c-b30f-3dfb3a7f53f2"	
}	},	
performedDateTime	"2021-07-10T12:30:00.000+08:00"	procedure performed reference date

# Procedure Example (2)

```
"bodySite": [
  {
    "extension": [
      {
        "url": "https://eheahth.gov.hk/FHIR/1006679-CMprocSiteSeqNum",
        "valueInteger": 1
      }
    ],
    "coding": [
      {
        "system": "https://www.health.gov.hk/FHIR/HKCTT",
        "code": "9740161",
        "display": "足三里"
      },
      {
        "system": "https://www.ehealth.gov.hk/FHIR/HCP/local/CMprocSite",
        "code": "ST36",
        "display": "足三里",
        "extension": [
          {
            "url": "https://eheahth.gov.hk/FHIR/1006685-CMprocSiteComment",
            "valueString": "平補平瀉"
          }
        ]
      }
    ]
  }
]
```

Chinese Medicine procedure site - recognised terminology - identifier & description

Chinese Medicine procedure site - local terminology - code & description

Procedure site comment

# Medication Example

```
{
  "fullUrl": "Medication/742e2458-a8eb-4206-a0ad-0435d163470b",
  "resource": {
    "resourceType": "Medication",
    "id": "742e2458-a8eb-4206-a0ad-0435d163470b",
    "extension": [
      {
        "url": "https://ehealth.gov.hk/FHIR/1006978-CMdoseGpNum",
        "valueInteger": 1
      }
    ],
    "code": {
      "extension": [
        {
          "url": "https://ehealth.gov.hk/FHIR/1006979-CMtype",
          "valueString": "DP"
        },
        {
          "url": "https://ehealth.gov.hk/FHIR/1006980-DrugSequenceNum",
          "valueInteger": 1
        },
        {
          "url": "https://ehealth.gov.hk/FHIR/1006991-CMAdditionalInfo",
          "valueString": "NA"
        }
      ],
      "coding": [
        {
          "system": "https://www.ehealth.gov.hk/FHIR/HKCTT",
          "code": "8000001",
          "display": "黨參"
        },
        {
          "system": "https://www.ehealth.gov.hk/FHIR/HCP/local/CM",
          "code": "ODSH04",
          "display": "黨參"
        }
      ]
    }
  }
}
```

Prescribed Chinese medicines type

Prescribed Chinese medicines sequence

Prescribed Chinese medicines sequence

Prescribed Chinese medicines - recognised terminology - identifier & description

Prescribed Chinese medicines - local terminology - identifier & description

## Chinese medicines type

Purpose: to define the names of the Chinese medicines types  
Reference: Hospital Authority, eHR

Term ID	eHR Value	eHR Description
9050668	DP	飲片
9050669	DG	配方顆粒
9050670	pCm	中成藥

# MedicationRequest Example (1)

```
{  
    "fullUrl": "MedicationRequest/534922e6-1e05-4b08-b0b3-068773c12658",  
    "resource": {  
        "resourceType": "MedicationRequest",  
        "id": "534922e6-1e05-4b08-b0b3-068773c12658",  
        "identifier": [  
            {  
                "system": "http://www.ehealth.gov.hk/FHIR/HCP/local/OrderNum",  
                "value": "PX 0116 2001 574"  
            }  
        ],  
        "status": "completed",  
        "intent": "order",  
        "medication": [  
            {  
                "reference": "medication/742e2458-a8eb-4206-a0ad-0435d163470b"  
            }  
        ],  
        "subject": {  
            "reference": "Patient/d58dd75b-cf09-4a1c-b913-c9e867f27616"  
        },  
        "authoredOn": "2015-01-15T00:00:00.000+08:00",  
        "requester": {  
            "reference": "PractitionerRole/bc9921ec-09d7-4417-ab64-3ea9d34192cc"  
        },  
        "encounter": {  
            "reference": "Encounter/169281c8-fb76-4e9c-b30f-3dfb3a7f53f2"  
        },  
    }  
}
```

Prescription order number

Medication resource reference

Prescription date/time

Requester - PractitionerRole resource reference

# MedicationRequest Example (2)

<pre> "dosageInstruction": [   {     "extension": [       {         "url": "https://ehealth.gov.hk/FHIR/1006978-CMdoseGpNum",         "valueInteger": 1       },       {         "url": "https://ehealth.gov.hk/FHIR/1006996-CMDoseRemarks",         "valueString": "代煎"       }     ],     "text": "服用 2 日每日服用 1 剂。清水三碗煎至一碗，飯後服。"   } ] </pre>	<p>Dose group number Dose remarks</p>																		
<pre> "route": {   "coding": [     {       "system": "https://ehealth.org.hk/FHIR/CMroute",       "code": "ORL",       "display": "口服"     }   ],   "text": "口服" } </pre>	<p>Dose instruction Route of administration code, description &amp; local description</p>																		
<pre> "doseAndRate": [   {     "doseQuantity": {       "extension": [         {           "url": "https://ehealth.gov.hk/FHIR/1006989-DoseUnitLocalDesc",           "valueString": "克"         },         {           "url": "https://ehealth.gov.hk/FHIR/1006990-CMDoseUnitRemarks",           "valueString": ""         }       ],       "value": 2,       "unit": "g",       "system": "https://www.ehealth.gov.hk/FHIR/CMdoseUnitcd",       "code": "1"     }   } ] </pre>	<p>Dose value, dose unit (standard &amp; local)</p> <div> <p>Chinese medicines dose unit Purpose: to define the units of Chinese medicines Reference: Hospital Authority, eHR</p> <table border="1"> <thead> <tr> <th>Term ID</th> <th>eHR Value</th> <th>Chinese Description</th> </tr> </thead> <tbody> <tr> <td>7700314</td> <td>1</td> <td>克</td> </tr> <tr> <td>7700374</td> <td>2</td> <td>毫克</td> </tr> <tr> <td>7703563</td> <td>3</td> <td>錢</td> </tr> <tr> <td>7703564</td> <td>4</td> <td>兩</td> </tr> <tr> <td>7703565</td> <td>5</td> <td>分</td> </tr> </tbody> </table> </div>	Term ID	eHR Value	Chinese Description	7700314	1	克	7700374	2	毫克	7703563	3	錢	7703564	4	兩	7703565	5	分
Term ID	eHR Value	Chinese Description																	
7700314	1	克																	
7700374	2	毫克																	
7703563	3	錢																	
7703564	4	兩																	
7703565	5	分																	

# MedicationDispense Example (1)

<pre>{   "fullUrl": "MedicationDispense/534922e6-1e05-4b08-b0b3-068773c12658",   "resource": {     "resourceType": "MedicationDispense",     "id": "534922e6-1e05-4b08-b0b3-068773c12658",     "extension": [       {         "url": "https://ehealth.gov.hk/FHIR/1006975-CMDoseRemarks",         "valueString": "代煎"       }     ],     "status": "completed",     "medication": [       {         "reference": "medication/742e2458-a8eb-4206-a0ad-0435d163470b"       }     ],     "subject": {       "reference": "Patient/d58dd75b-cf09-4a1c-b913-c9e867f27616"     },     "performer": [       {         "actor": {           "reference": "PractitionerRole/bc9921ec-09d7-4417-ab64-3ea9d34192cc"         }       }     ],     "authorizingPrescription": [       {         "reference": "MedicationRequest/534922e6-1e05-4b08-b0b3-068773c12658"       }     ],     "whenHandedOver": "2020-01-15",   } }</pre>	Dispensed Chinese medicines dose remarks
	MedicationRequest resource reference
	Chinese medicines dispensing datetime

# Medication Dispense Example (2)

```
"dosageInstruction": [
  {
    "extension": [
      {
        "url": "https://ehealth.gov.hk/FHIR/1006957-CMdoseGpNum",
        "valueInteger": 1
      }
    ],
    "text": "服用 2 日 每日服用 1 劑 每劑煎煮後分 2 次服用 每次服用 1 包。已煎湯劑 每劑=2 包 共 4 包。清水三碗煎至一碗，飯後服。",
    "route": {
      "coding": [
        {
          "system": "https://ehealth.org.hk/FHIR/CMroute",
          "code": "ORL",
          "display": "口服"
        }
      ],
      "text": "口服"
    }
  },
  "doseAndRate": [
    {
      "doseQuantity": {
        "extension": [
          {
            "url": "https://ehealth.gov.hk/FHIR/1006968-DoseUnitLocalDesc",
            "valueString": "克"
          },
          {
            "url": "https://ehealth.gov.hk/FHIR/1006969-CMDoseUnitRemarks"
          }
        ],
        "value": 10,
        "unit": "克",
        "system": "https://www.ehealth.gov.hk/FHIR/CMdoseUnitcd",
        "code": "1"
      }
    }
  ]
]
```

Dose group number

Dose instruction

Route of administration code, description & local description

Dose value, dose unit (standard & local)

# PMI Query Service

---

- To allow HCP to query patient whether he/she has joined eHealth as healthcare recipient with consent HCP to upload data
- FHIR API Query service
  - Input parameters
    - HKID (or Document number + Document type)
    - Name (Surname & Given name)
    - Sex
    - Date of Birth
  - Output
    - If found, “**EHR number**” will be returned

# FHIR RESTful API

FHIR is described as a 'RESTful' specification based on common industry level use of the term REST. In practice, FHIR only supports Level 2 of the REST Maturity model as part of the core specification, though full Level 3 conformance is possible through the use of extensions. Because FHIR is a standard, it relies on the standardization of resource structures and interfaces. This may be considered a violation of REST principles but is key to ensuring consistent interoperability across diverse systems.

For each "resource type" the same set of interactions are defined which can be used to manage the resources in a highly granular fashion. Applications claiming conformance to this framework claim to be conformant to "RESTful FHIR" (see [Conformance](#)).

Note that in this RESTful framework, transactions are performed directly on the server resource using an HTTP request/response. The API does not directly address authentication, authorization, and audit collection - for further information, see the [Security Page](#). All the interactions are all described for synchronous use, and an [Asynchronous use pattern](#) is also defined.

The API describes the FHIR resources as a set of operations (known as "interactions") on resources where individual resource instances are managed in collections by their type. Servers can choose which of these interactions are made available and which resource types they support. Servers SHALL provide a [Capability Statement](#) that specifies which interactions and resources are supported.

<http://hl7.org/fhir/http.html>

# FHIR RESTful API - interactions

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In addition to a number of [General Considerations](#) this page defines the following interactions:

## Instance Level

### Interactions

<a href="#">read</a>	Read the current state of the resource
<a href="#">vread</a>	Read the state of a specific version of the resource
<a href="#">update</a>	Update an existing resource by its id (or create it if it is new)
<a href="#">patch</a>	Update an existing resource by posting a set of changes to it
<a href="#">delete</a>	Delete a resource
<a href="#">history</a>	Retrieve the change history for a particular resource

## Type Level Interactions

<a href="#">create</a>	Create a new resource with a server assigned id
<a href="#">search</a>	Search the resource type based on some filter criteria
<a href="#">delete</a>	Conditional Delete across a particular resource type based on some filter criteria
<a href="#">history</a>	Retrieve the change history for a particular resource type

# Search

---

## 3.2.0.9 search

This interaction searches a set of resources based on some filter criteria. The interaction can be performed by several different HTTP commands.

This specification defines FHIR Search operations in both HTTP `POST` and `GET`. Servers supporting Search via HTTP SHALL support both modes of operation, though MAY return a `HTTP 405` (Method Not Allowed) for either `POST` or `GET`, but not both `TU`.

All these search interactions take a series of parameters that are a series of `name=value` pairs encoded in the URL (or as an `application/x-www-form-urlencoded` ([Specification](#)) submission for a `POST`). (See [W3C HTML forms](#)).

# PMIQueryRequest

---

```
POST '[eHealth-server]/gateway/ehrss-eif-pmi-query  
/v1.0/v3/baseR4/PMIQueryRequest/_search' \  
--header 'Content-Type: application/x-www-form-urlencoded' \  
--header 'Authorization: Bearer [Access token]' \  
--data-urlencode 'subject:Patient.name.family=[English Surname]' \  
--data-urlencode 'subject:Patient.name.given=[English Given name]' \  
--data-urlencode 'subject:Patient.gender=[Gender]' \  
--data-urlencode 'subject:Patient.birthDate=[Date of Birth]' \  
--data-urlencode 'subject:Patient.identifier:of-type=[eHR FHIR  
URL]/typeofID-ext|[Document Type]| [Document Number]'
```

Follow OAuth2 standards (JWT)

# Return (sample)

```
{  
    "resourceType": "Bundle",  
    "meta": {  
        "lastUpdated": "2024-06-06T10:28:25.220+08:00"  
    },  
    "identifier": {  
        "system": "urn:ietf:rfc:3986",  
        "value": "urn:uuid:12345678-1234-1234-1234-123456789012"  
    },  
    "type": "searchset",  
    "total": 1,  
    "timestamp": "2024-06-06T10:28:25.220+08:00",  
    "entry": [  
        {  
            "fullUrl": "Patient/64b461b6-b44c-4017-a4e3-b3e85d98cbbf",  
            "resource": {  
                "resourceType": "Patient",  
                "id": "64b461b6-b44c-4017-a4e3-b3e85d98cbbf",  
                "identifier": [  
                    {  
                        "type": {  
                            "coding": [  
                                {  
                                    "system": "https://ehealth.gov.hk/FHIR/typeofID-ext",  
                                    "code": "EHRNO"  
                                }  
                            ]  
                        },  
                        "value": "249752538377"  
                    }  
                ]  
            }  
        }  
    ]  
}
```

Bundle resource

Bundle type

Patient type

EHR Number

# Challenge

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# Specifications

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- Specifications can be found at
  - <https://github.com/hl7hongkong/HL7-Hong-Kong-FHIR-Connectathon-202507/>

The screenshot shows a GitHub repository page for the project "hl7hongkong / HL7-Hong-Kong-FHIR-Connectathon-202507". The repository is public and has one branch and zero tags. A commit from user "hl7hongkong" titled "Update the documents" was made 34 minutes ago, containing 3 commits. The commit details are as follows:

File	Description	Time
Part_1_Allergy_(Chinese_Medicine_System)	Update the documents	40 minutes ago
Part_2_Adverse_Drug_Reaction_(Chinese_Medi...)	Update the documents	40 minutes ago
Part_3_Chinese_Medicine_Problem	Update the documents	40 minutes ago
Part_4_Chinese_Medicine_Procedure	Update the documents	40 minutes ago
Part_5_Chinese_Medicines_Prescribing_Record	Update the documents	40 minutes ago
Part_6_Chinese_Medicines_Dispensing_Record	Update the documents	40 minutes ago
Part_7_PMI_Query_Service	Update the documents	34 minutes ago
README.md	Update the documents	40 minutes ago

# Exercise

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- Following the instructions at the GitHub
  - Submit the answers via
    - Fork the repository by pull request and update the related files
    - Google Form
      - <https://forms.gle/wZkXk46pjQwwy1Wj6>

# Format of the exercise

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- Based on the scenario, select the correct answer (multiple choice)

# Open Discussion

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# Closing remarks

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By

Mr. Pascal Tse (Vice Chair, HL7 Hong Kong)

# Connectathon Series 2025

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## Seventh FHIR Connectathon

**Topics: Chinese Medicine and PMI query service**

- Part 1: Face to face Session (7 Jul 2025)
- Part 2: Online Follow-up Meetings

Zoom Sessions	Time
Jul 14, 2025	Time: 7pm

# HL7 HK FHIR Connectathon

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	Date	Topics
1	Nov 2023	Patient Encounter, Medication, GOPC PPP data download
2	Feb 2024	Allergy/ADR, Immunisation
3	6 May 2024	Problem, Procedure
4	5 Aug 2024	Clinical Note / Summary, Investigation report, Referral, Medical Certificate
5	21 Oct 2024	Laboratory Record (General) & Laboratory Record (Anatomical Pathology)
6	24 Mar 2025	Laboratory Record (Microbiology), Radiology
7	7 Jul 2025	PMI, Chinese Medicine

See you soon

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