

eHealth+ eMedication

配合醫健通藥物下載：院舍電腦系統資料和版面
設計建議和分享

20 Dec 2024

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LSCM

eHealth eMedication Connectivity Preparation Briefing Series by LSCM

醫健通 e+藥物 計劃簡介會

日期：二〇二四年三月廿五日

地點：香港科學園

主辦：醫務衛生局、醫院管理局、物流及供應鏈多元技術研發中心



1. Kick-off Meeting for eMedication 25 Mar 2024
2. Technical and Data Preparation 15 Aug 2024
3. Administrative Preparation 16 Aug 2024
4. IT Security Preparation 30 Sep 2024
5. Data and Technical Preparation (Advanced) and iAm Smart Authentication 4 Oct 2024
6. eMedication Security Penetration Test Preparation 14 Nov 2024
7. 配合醫健通藥物下載：院舍電腦系統資料和版面設計建議和分享 20 Dec 2024

Steps-by-Steps Procedures

<https://emedication.lscm.hk/en/index.html>

15-Aug-2024
eMedication Data Connectivity and Technical Briefing Session

On the 15th August 2024, we have successfully organised a Data Connectivity and Technical Briefing Session aims to empower participants with the knowledge and skills necessary to implement the eHealth Medication Data Standards, and obtain medication data through a system interface connected with eHealth. The session has attracted over 90 attendees, covering most RCH IT partners.

Objectives for the session is to facilitate RCH IT vendor/team understanding of the data and technical preparation and pre-requisite for obtaining data from eHealth. Also to facilitate RCH IT and clinical team to interpret the data obtained from eHealth correctly and to identify system changes that may be required in the RCH system to present correctly and use the data obtained from eHealth.

[Download the presentation materials](#)

16-Aug-2024
eMedication Administrative Preparation Briefing Session

協助院舍：
 • 為院舍和院友登記醫健通並取得互通同意
 符合電子藥物數據連接條件
 • 預備院友名單
 • 院舍內部有關使用個人資料政策和指引

On the 16th August 2024, we have organised an Administrative Preparation Briefing Session which aims to share with Residential Care Homes the steps-by-steps processes of registering eHealth for their residents and other administrative processes essential for obtaining medication data from eHealth. The session has successfully attracted over 280 RCH representatives and IT partners, yielding a fruitful results.

[Download the presentation materials](#)

Previous Briefing Sessions

LSCM eMedication Connectivity Platform

Step-by-Step Preparation for eHR Medication Data Download

- Step 1 **Submit Proposal**
- Step 2 Administrative Preparation
- Step 3 Preparation Procedures
- Step 4 Testing and Approval

Submit eMedication Data Download Proposal

Please read the following information for completing the request for medication data. Please download the eHR Data Download Proposal Form, fill in the required information, and submit it to Hong Kong Logistics and Supply Chain MultiTech R&D Centre (LSCM) (emedication@lscm.hk).

Residential Care Home (RCH) and IT vendors are advised to seek LSCM's advice and guidance when filling out the proposal form.

[Download eHR Data Download Proposal Form](#)

Data download must be requested by an RCH that has registered eHRSS as a Healthcare Provider and must provide justifications and valid use cases for obtaining data from eHRSS.



Submission

1. Purpose of Medication Data Download

Description of the existing workflow of medication management in the RCH supported by the RCH IT system and the intended uses of the medication data from eHRSS for the benefits of medication management operation.

Describe the benefits in terms of efficiency and quality improvement in overall medication management.

2. Information Regarding RCH

Number of residents in the RCH. For composite submission for multiple RCH using the same RCH system, please provide a list of RCHs and the number of residents in each of the RCH.

Whether the RCH(s) have registered eHRSS as an eHR healthcare provider and the percentage of residents registered as eHR healthcare recipients.

The existing medication management practice in the RCH(s).

3. Information Regarding the RCH IT System

The technical model of the RCH IT system, whether cloud or web-based or on-premise local installation.

List of features of the RCH system, in general and in particular for medication management.

Whether and the number of RCHs which have adopted third-party medication systems, e.g. automated packaging, if any.

Adoption of any medication data standard or structure or reference terminology in the existing system.

Description of IT security measures and functions that have been adopted.

4. Information Regarding Users of RCH IT System

Number of healthcare professionals, including doctors, nurses, pharmacists, dispensers, and healthcare assistants, etc. using the medication-related functions.

User authentication means adopted (e.g. password, one-time password or others).

Whether there are any security or privacy assessments done in the RCH system in the past 2 years, if any, the date of assessment and the consultancy firm carrying out the assessment.

Step-by-Step Preparation for eMedication Data Connectivity

4 Steps for requesting and preparing for eHR medication data connectivity from eHealth

Step 1

Submit Request

Download and fill in the eHealth+ Medication Data Download Request Form and submit it to LSCM (emedication@lscm.hk).

[Learn more >](#)

Step 2

Administrative Preparation

Follow the guidance to register eHealth and devise relevant internal guidelines and policies for using data obtained from eHealth.

[Learn more >](#)

Steps

Step 3

Technical Preparation

Undergo technical and data preparation for Electronic Medical Record System (eMRs) for system interfacing and data connectivity with eHealth.

[Learn more >](#)

Step 4

Testing and Approval

Test and certify eMRs as capable of connecting with eHealth.

[Learn more >](#)

What's New

16-Aug-2024
eMedication Administrative Preparation Briefing Session

On the 16th August 2024, we have organised an Administrative Preparation Briefing Session which aims to share with Residential Care Homes the step-by-step process of registering eHealth for their residents and other administrative processes essential for obtaining medication data from eHealth. The session has successfully attracted over 285 RCHs representatives and 2,400 staff, marking a fruitful result.

[Download the presentation materials](#)

25-Mar-2024
Residential Care Homes Briefing Session

The Health Bureau (HB) organised an eHealth+ briefing session to encourage participation of Residential Care Homes for the Elderly (RCH(E)) and Persons with Disabilities (RCH(D)) in eMedication (eHealth) project.

HB introduced eHealth+ developments to representatives from RCH(E) and Residential Care Homes for RCH(D)s through a briefing session, in which representatives from RCH(E) and RCH(D) were invited to participate in the eHealth+ project. The briefing session was organised by the HB with the Hospital Authority (HA) and the Logistics and Supply Chain MultiTech R&D Centre (LSCM), and attracted registration of 233 RCH(E) and RCH(D) representatives.

Previous Briefings

Step-by-Step Preparation for eHR Medication Data Download

- Step 1 **Submit Proposal**
- Step 2 Administrative Preparation
- Step 3 **Preparation Procedures**
- Step 4 Testing and Approval

Medication Data Standard, System Security and Other Preparation Procedures

The Residential Care Home (RCH) IT system vendor must implement eHRSS Medication Data Standards and fulfil system interfacing specifications to ensure accurate interpretation and use of data downloaded from eHRSS.

The RCH IT system must also achieve the required security standards and implement the procedures for handling data obtained from eHRSS.

The RCH and RCH IT System must devise adequate internal security policies and procedures for handling data obtained from eHRSS to provide approved healthcare purposes. To fulfil the requirements, an Independent Security Risk Assessment and Audit (SRAA) should be carried out, and the report should be sent to eHRO.



Forms and Specifications

List of documents relevant to...

[Medication Data Standards](#) [Security Standards](#)

Related Form

eHR Dispensing Record Healthcare provider (HCP) registering with the Electronic Health Record Sharing System (eHealth)	eHR Prescribing Record Providing information of additional HSL (only applicable to HCP with more than one HSL)
Healthcare Recipient Index Healthcare provider (HCP) registering with the Electronic Health Record Sharing System (eHealth)	eHR Content Standard Guidebook Providing information of additional HSL (only applicable to HCP with more than one HSL)
eHR Content Codec Healthcare provider (HCP) registering with the Electronic Health Record Sharing System (eHealth)	Hong Kong Clinical Terminology Table Providing information of additional HSL (only applicable to HCP with more than one HSL)
Hong Kong Medication Terminology Table Healthcare provider (HCP) registering with the Electronic Health Record Sharing System (eHealth)	

[Previous Step](#)

[Next Step](#)

<https://emedication.lscm.hk/en/index.html>

emedication lscm

Portal for all relevant forms, requirements and specifications and links to eHealth.gov.hk



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物流及供應鏈多元技術研發中心

Step-by-Step Preparation for Data Downloading

1. Request

1. Submit request
2. Submit RCH list

2. Administrative Preparation

1. eHR Registration
 - HCP
 - HCR
 - Sharing / Download
2. Privacy Policies and Procedures
 - PIA

3. Technical Preparation

1. Data Standards (HKCTT/HKMTT)
2. Interfacing Standards (HL7 FHIR)
3. Security
 - Security Checklist
 - Security Tests

How to present and use downloaded data in RCH systems

4. Testing and Approval

1. Data and Integration Tests
2. Formal approval by eHRO

Agenda

1. How to interpret, present and use downloaded data in RCH systems
2. How to download and use HKMTT


Obtain – Interpret – Present - Use

MEDICATION DATA CONNECTIVITY

Technical Preparation for Data Downloading

攤得到

Obtain

- eHR Registered/Consent - “Active Resident List”
- API 

睇得明

Interpret

- eHR Medication Data Standard (Prescribing / Dispensing)
- HK Medication Terminology Table (HKMTT)

醫健通
eHealth

醫健通
eHealth

放得啱

Present

- Data field matching and mapping
- System changes (potential) for presentation of downloaded data

用得好

Use

- Creation of Medication Administration Record (MAR)...
- Facilitation of drug repacking and other medication management

Testing Requirements


Meaningful Use

Sequential Processes for Data Download from eHealth for Meaningful Use



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eHR Standards

1. Quick Guide (HL7 FHIR)

https://emedication.lscm.hk/assets/eMedication_Quick-Guide-Drug-Record-Download-20240815.pdf

2. eHR Data Standard (What does the data mean?)

– Prescribing Data Standards

<https://www.ehealth.gov.hk/filemanager/content/pdf/en/ehris/annex/appendix-a-xi-ehr-prescribing-record.pdf>

– Dispensing Data Standards

<https://www.ehealth.gov.hk/filemanager/content/pdf/en/ehris/annex/appendix-a-x-ehr-dispensing-record.pdf>

– Codex Tables

- Frequency, supplementary frequency, Dose, Route, Site, Quantity, etc.

JavaScript Object Notation (JSON)

Prescribing Data Standard

Medication
Prescribing Record

- When prescribed
- Where prescribed
- Who prescribed

JSON " Resource "

JSON " Resource "

JSON " Dr Resource an "

JSON " Prescrip Resource umber "

What drug

HKMTT  JSON " Panadol Resource 500mg "

How to use

Dose instruction standard JSON " 1g Q4H P Resource 8 weeks Start -14 "

Medication discontinuation

JSON " R R R R R W R KS R 4 "

Discontin Resource M Chan / QMH / / allergy "

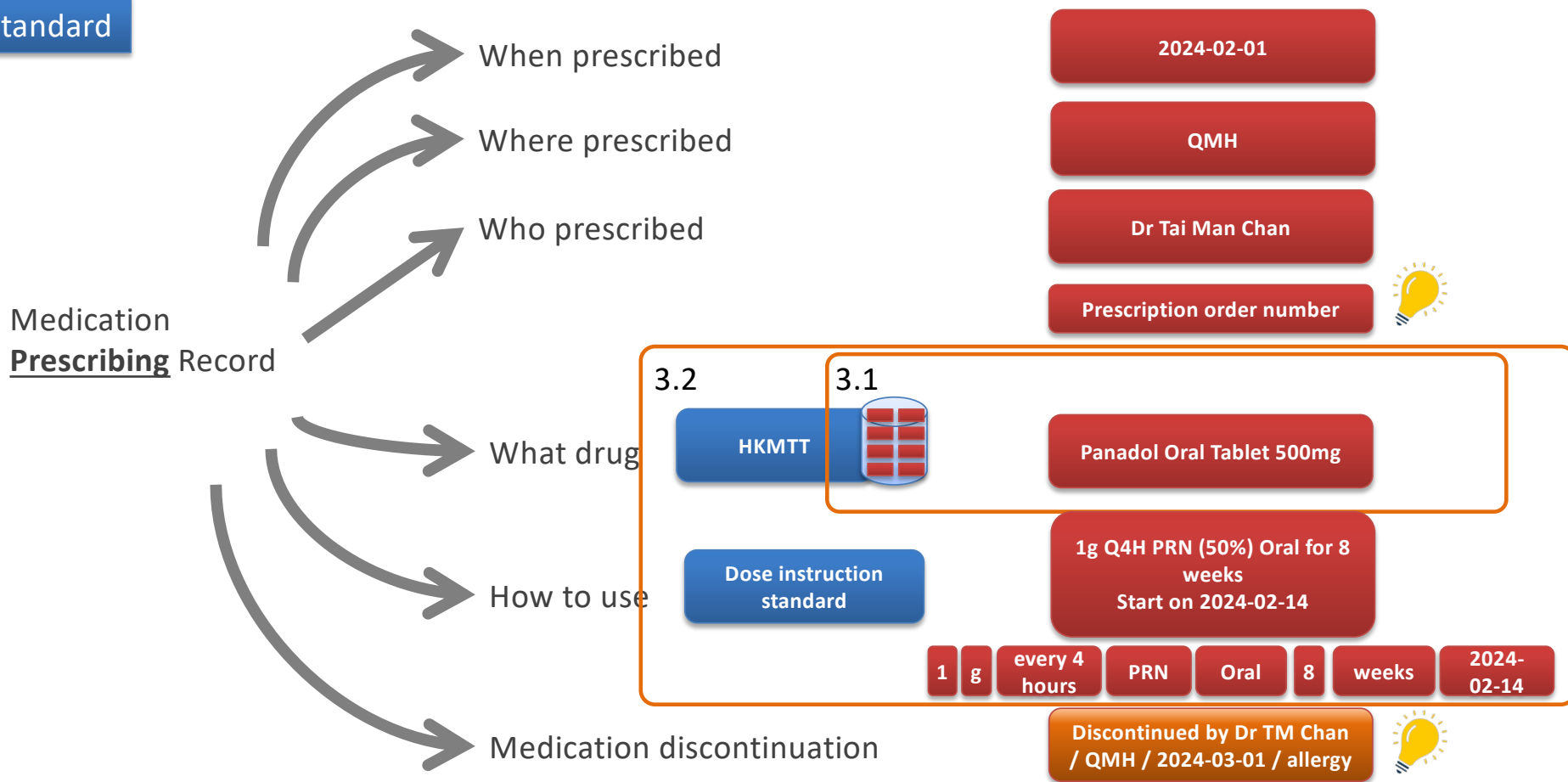
Discrete Medication Data as **Resources** is "packaged" in **JSON** format



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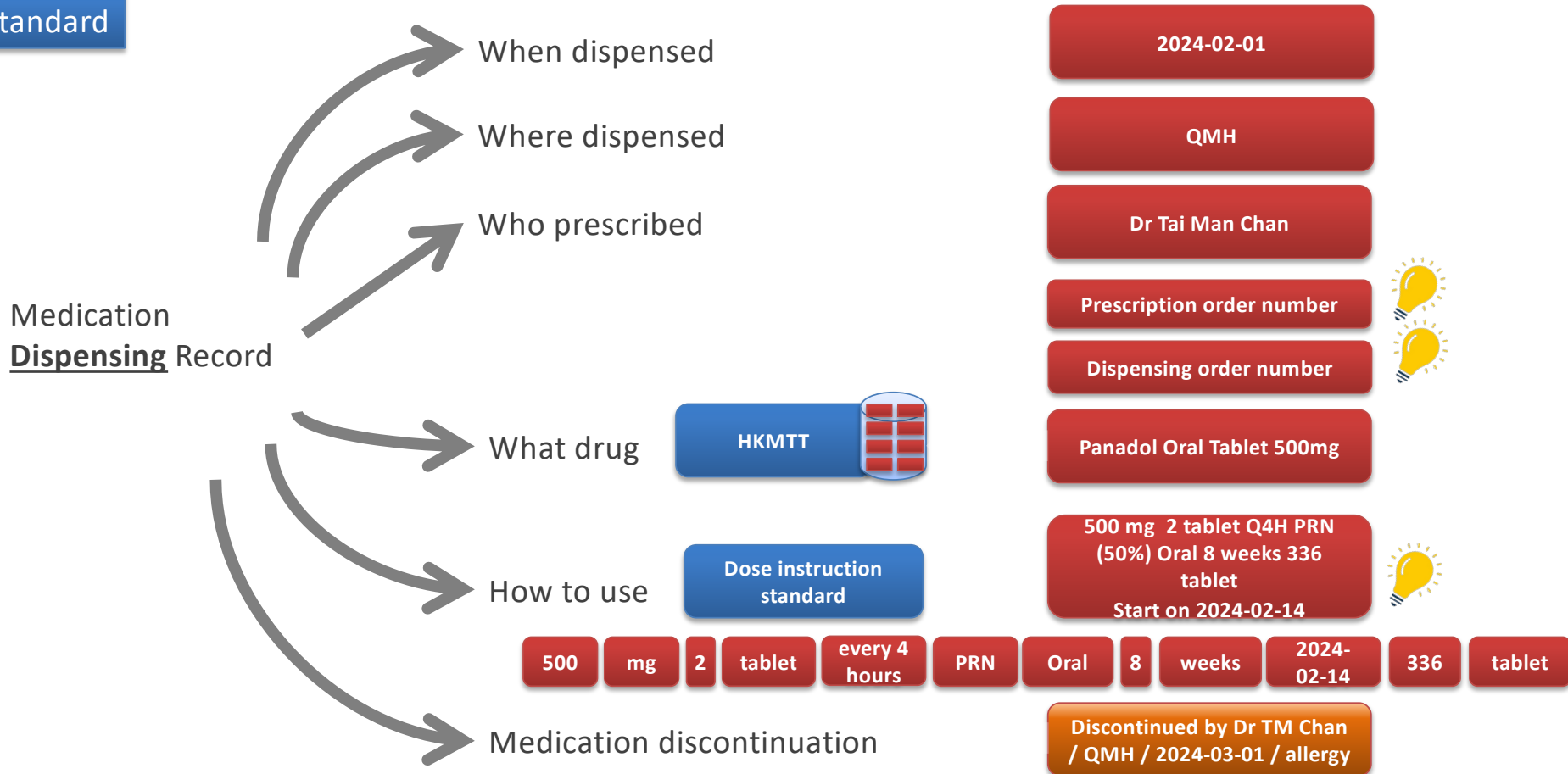
eHR Sharable Data - Prescribing Record 處方醫物資料標準

Prescribing Data Standard



eHR Sharable Data - Dispensing Record 配發醫物資料標準

Dispensing Data Standard



Similarly for Dispensing



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Codex Tables

Dose Unit (117)

Reference: SNOMED-CT; Hospital Authority, e-HR

eHR Value	eHR Description
7700273	actuation
7700274	allergy unit
7700275	ampoule
7700276	antigenic Herpes simplex unit
7700277	anti-Xa international unit
7700278	application
7700279	applicator
7700280	applicatorful
7700281	bag
7700283	bar
7700285	billion organisms unit
7700286	billion vibrios
7700287	blister
7700288	bottle
7700428	BP unit
7700291	capsule
7703616	CAR-positive viable T cells
7700292	carton
7700293	cartridge
7700295	cm
7700296	colony forming unit
7700298	cubic metre
7700300	cylinder
7700301	D antigen unit
7700302	device
7700303	disc
7700304	dose
7700305	dressing
7700306	drop
7700308	enema
7700267	FIP-U
7700268	flocculation unit
7700310	fluid ounce
7700314	g
7700323	g / vial
7700311	gigabecquerel
7700324	gum
7700325	implant
7700326	inch
7700329	international unit
7700333	jar
7700343	kg
7700336	kilo international unit
7700339	kilobecquerel
7700340	kilobecquerel / mL
7700345	kit
7700429	Kyowa unit
7700347	L

eHR Value	eHR Description
7700348	L / L
7700346	LD (50) unit
7700425	Lf unit
7700349	lozenge
7700240	m2
7700350	megabecquerel
7700351	megabecquerel / mL
7700371	mEq
7700374	mg
7700386	mg / vial
7700354	microcurie
7700355	microgram
7700357	microgram / actuation
7702824	microgram HA
7700364	microlitre / g
7700365	microlitre / L
7700368	micromole / L
7700370	millicurie
7700398	million international unit
7700401	million unit
7700403	million unit / mL
7700387	mL
7700392	mm
7700393	mmol
7700395	mmol / mL
7700409	nanogram
7700410	nanogram / g
7700411	nanogram / mL
7700412	nanolitre
7700413	nanolitre / mL
7703702	number
7700415	organisms unit
7700416	ounce
7700417	pack
7700418	pad
7703703	pair
7700420	pastille
7700421	patch
7700423	pessary
7700424	Ph Eur unit
7700229	piece
7700230	pill
7700231	plaque forming unit
7700265	plaster
7700419	ppm
7700232	pre-filled injection device
7700233	pre-filled syringe
7700234	pressor unit
7700235	roll
7700236	sachet
7700237	sachetful
7700238	spray

eHR Value	eHR Description
7703507	SQ-HDM
7700426	SQ-U
7703688	SRU
7700241	strip
7700242	suppository
7700243	syringe
7700245	tablet
7700246	test
7700248	tin
7700250	tube
7700251	tuberculin unit
7700253	unit
7700255	unit / dose
7700256	unit / g
7700427	USP unit
7700262	vial

Structured Data is Defined in Codex Table

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Obtain – Interpret – Present - Use

DOWNLOAD DATA

Maintain Personal Data Profile

Name

DOB

Sex

Gender

HKID No.

HCR No.

Preparation for Production Set up for
Data Download Connectivity

19 Dec 2024

LSHM Logistics and Supply Chain Management Centre
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• 在「Reporting」揀選「List of HCR with Sharing Consent」

• 請閱讀重要事項 (Important Notes)

• 勾選空格代表已閱讀、明白及同意重要事項

• 按「Submit」遞交申請

已取得互通同意之醫護接受者名單
List of HCR with Sharing Consent

The screenshot shows the 'eHR Registration System' interface. The 'Reporting' dropdown menu is open, showing options: 'List of registered HCR', 'List of Newborn Baby', and 'List of HCR with Sharing Consent'. The 'List of HCR with Sharing Consent' option is selected. Below the menu, there is a form titled 'List of HCR with Sharing Consent' with a 'Submit' button. An orange arrow points from the 'HCR No.' label to the 'Submit' button.

Obtain/record HCR No. of each resident

醫健通
eHealth

Update

Specify “Download Request”

Name

DOB

Sex

Gender

HKID No

HCR No.

Date
from

Date
to

Dispensing

Prescribing

Submit



Download Specified Data from eHealth

Medication Data Download UAT Tasks		Recommendations
Download specified data from eHealth testing environment		
Maintain "active resident list" with updated personal profile and eHR ID	✓	Capture, update, import residents' eHR ID number and other personal data for constructing data request to eHealth
Construct correct download request from user interface	✓	Construct the download request according to specifications and standards
Send correct download request with successful connection established	✓	Send download request via established secure channel
Succeed downloading HL7 FHIR files of specified testing patients' data	✓	Receive downloaded messages
Handle of possible variation of prescribing and dispensing date	✓	Set the date range with a buffer (e.g. 3 days) to handle cases which the dispensing and prescribing are not on the same date

Show “Downloaded Medication List”

Name

DOB

Sex

Gender

HKID No

HCR No.

5 medication items downloaded from eHealth in 1 dispensing record from **18 Apr 2023** to **20 Apr 2023**

1. Drug Name 1

Edit

2. Drug Name 2

Edit

3. Drug Name 3

Edit

4. Drug Name 4

Edit

Continue Own Stock

5. Drug Name 5

Edit

confirm

UX/UI Advice

1. Show “**download criteria indicator**” as the list header
2. **Count** no of medication items downloaded
3. **Color** indicates items with mapped details vs items with incomplete items
4. Display **local drug names** of each medication item
5. **Edit/confirm** button for each medication
6. Display combined prescribed and dispensed medication items to indicate “**Continue Own Stock**” items
7. “Stage” the downloaded data for user to edit/confirm

Handling of Downloaded Data

Handling of Downloaded Data		
Store downloaded data at local system	✓	Store the downloaded data at "staging" and present an overview of the successfully downloaded data to users at a glance view and detailed individual medication view for verification of the content before writing in record database
Map and interpret data according to eHR data standards	✓	Decode the HL7 FHIR formatted data and interpret the downloaded data
Download both prescription and dispensing records	✓	Download both prescribing and dispensing data and match "new" vs "existing" (continue own stock) medication and show them to users to confirm

Obtain – Interpret – Present - Use

INTERPRET, PRESENT AND USE DOWNLOADED DATA

Data Mapping of Downloaded Data with Existing Data Fields

The image shows a medical prescription slip with the following data fields mapped to it:

- Local Drug Name with Form/Strength:** SIMVASTATIN TABLET 10MG
- Local Drug Code:** SIMV01
- Dispensed Quantity/unit:** 207 TAB
- Route:** 口服晚上一次, 每次一粒
- Frequency:** 降膽固醇藥
- Suppl Frequency:** 懷孕期間忌用此藥
- Special Prescription Instruction:** 勿進食西柚或飲用西柚汁
- Dose/unit:** 藥物需要遮光
- Reminder/alert:** 存放於陰涼乾爽地方
- Patient Name:** 陳小明
- Dispensing Institution:** 基督教聯合醫院
- Drug Photo:** Two orange tablets with a score line.
- Drug Pack Barcode:** SOPD1715686Q
- Dispensing Date:** 15/11/2024
- Specialty:** GER

Additional handwritten notes on the slip include "4p/c" and "NFU 9/16/25".

口服 藥物

總數 42 粒

PREDNISOLONE TABLET 5MG (PREDNIS)

HK-44679 PREDNIS

相片

	服藥指示	劑量	時間	有需要時	服藥為期
+	每日一次 v	3 粒 v	0800 1200 1700 2000	<input type="checkbox"/>	1 周 v 之後
+	每日一次 v	2 粒 v	0800 1200 1700 2000	<input type="checkbox"/>	1 周 v 之後
+	每日一次 v	1 粒 v	0800 1200 1700 2000	<input type="checkbox"/>	1 周 v

開始服藥日期 2024-03-01

下次複診日期 2024-04-01

聯合醫院 專科 MED

預計完藥日期 2024-03-21

特別注意事項 按醫生指示 一次性使用 派藥前量度

處方資料

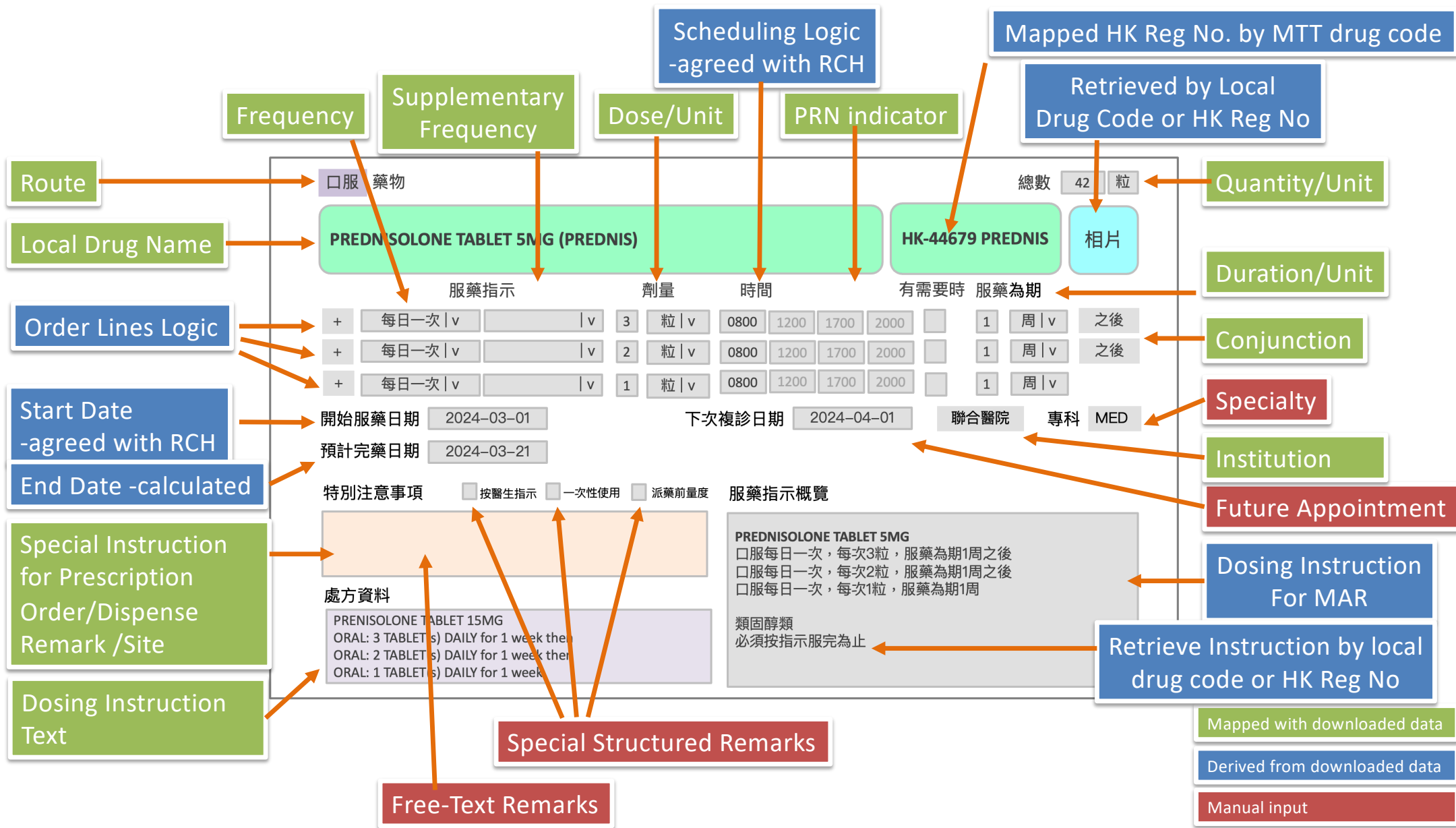
PREDNISOLONE TABLET 5MG
ORAL: 3 TABLET(s) DAILY for 1 week then
ORAL: 2 TABLET(s) DAILY for 1 week then
ORAL: 1 TABLET(s) DAILY for 1 week

服藥指示概覽

PREDNISOLONE TABLET 5MG

口服每日一次，每次3粒，服藥為期1周之後
口服每日一次，每次2粒，服藥為期1周之後
口服每日一次，每次1粒，服藥為期1周

類固醇類
必須按指示服完為止



Route

Local Drug Name

Order Lines Logic

Start Date -agreed with RCH

End Date -calculated

Special Instruction for Prescription Order/Dispense Remark /Site

Dosing Instruction Text

Scheduling Logic -agreed with RCH

Mapped HK Reg No. by MTT drug code

Retrieved by Local Drug Code or HK Reg No

Quantity/Unit

Duration/Unit

Conjunction

Specialty

Institution

Future Appointment

Dosing Instruction For MAR

Retrieve Instruction by local drug code or HK Reg No

Mapped with downloaded data

Derived from downloaded data

Manual input

Special Structured Remarks

Free-Text Remarks

Present Downloaded Data on Medication Inputting Module

Present downloaded data on medication inputting module		
Overview of all downloaded drug items	✓	Present an overview of downloaded medication items for easy verification
<u>Color coding</u> or indicator for drug items mapped or auto-filled vs items/data fields requiring attention	✓	Present with color-coded indication to pay attention to medication and data field requiring attention
Prescribing Institution	✓	Show the prescribing institution and map to the prescribing HCP table locally maintained
Dispensing institution	✓	Show the dispensing institution and map to the dispensing HCP table locally maintained
Drug name and strength	✓	Present local drug names instead of HKMTT drug names for verification with the information on-hand

Dosing instruction text	✓	Present the dosing instruction text always on the screen for easy reference and manual input unmapped data fields or important remarks
Frequency	✓	Show local frequency data and map as far as possible and differential frequency vs supplementary frequency (not to put them in a single “frequency” data structure). Use the combination of both for constructing the dosing lines according to the prescription.
Supplementary Frequency	✓	
AND	✓	Map as far as possible and differentiate “ AND 另” vs “ THEN 之後” and to accommodate situation where both of them will be included in multiple dosing instruction e.g. A and B
THEN	✓	A and B and C, and so on, which have the same start dates and need to be taken “ together ” at the same time A then B A then B then C, and so on, when the start dates are different and should NOT be administered together A and B then C and D, so on, when certain drugs are taken together and then other drugs are taken together



Route	✓	Map and alert special route e.g. NG tube, PR (Per Rectal)
Site	✓	Map and alert special site e.g. left vs right and specific body parts
Duration and unit	✓	Map and calculate
Quantity and unit	✓	Map and calculate
Dose and unit		<p>Map as far as possible.</p> <p>Anticipate cases (based route or local logic on drug items) in which the dose is not provided e.g. topical medication, and default to 適量 may be appropriate and helpful.</p> <p>Anticipate “as directed” instruction e.g. TNG or special instruction. In these cases, remind the users to read the Drug Dose Instruction (Combined Text) and suggest manual input in the remark field may be helpful</p>

圖2：解讀藥物標籤 (醫院管理局)

Diagram illustrating a drug label from a hospital pharmacy (Hospital Authority). The label includes:

- Internal Code (內部用代號):** INSU27
- Drug Quantity (藥物數量):** 5 NO
- Drug Name, Form, and Dose (藥物名稱、劑型和劑量):** INSULIN HUMAN (MIXTARD 30) PENFILL 100U/ML 3ML
- Usage Instructions (藥物使用途徑、使用次數/時間、每次劑量和特別指示):** 皮下注射用 (Subcutaneous injection); 早上一次, 每次三十單位另 (Once in the morning, 30 units each); 下午一次, 每次十五單位 (Once in the afternoon, 15 units each).
- Warnings (注意事項):** 小心放置, 以免兒童誤服 (Keep out of reach of children); 胰島素; 未開啟封蓋前應存放於雪櫃 (Insulin; store in the refrigerator before opening); 開啟後存於攝氏30度以下, 請勿冷藏 (After opening, store below 30°C, do not refrigerate); 於開啟後六星期勿再使用 (Do not use after 6 weeks of opening); 使用前搖勻 (Shake well before use).
- Dispensing Date (藥物發出日期):** 01/08/2018
- Patient Name (病人姓名):** 祝安康
- Hospital/Clinic Name (醫院或診所名稱):** 將軍澳醫院
- QR Code (二維碼):** A QR code with a flow code (流動程式專用二維碼).
- Internal Code (內部用代號):** MED 5A - 0 _ad*** 1/1

圖6：解讀藥物標籤 (私家醫生)

Diagram illustrating a drug label from a private doctor. The label includes:

- Doctor's Name and Address (醫生的名稱和地址):** 施嘉醫生 (SZE KA), M.B.,B.S.(HK), M.R.C.P.(U.K.), D.C.H.(London), Rm.101, XX Commercial Building, H.K., 香港 XX 商業中心 101 室, Tel:2123 ****
- Patient Name (病人姓名):** 陳大文
- Dispensing Date (藥物發出日期):** 01/08/2018
- Drug Name (藥物名稱):** Paracetamol 500mg (Eq.)
- Usage Instructions (藥物使用途徑、使用次數/時間、每次劑量和特別指示):** 每日服 4 次, 每次各服 1 粒, 隔 6 小時 (Take 4 times a day, 1 tablet each, 6 hours apart); TABLET/CAPSULE(S) TIMES A DAY HOURLY; 需要時服 (AS REQUIRED) BEFORE/AFTER MEAL (Before/After meal); 早上服 (MORNING) BED TIME (Bed time); 咬碎 (CHEW) TO BE SUCKED (To be sucked); 發燒 (FEVER) DIARRHOEA (Diarrhoea).

圖4：解讀藥物標籤 (衛生署)

Diagram illustrating a drug label from a government pharmacy (Health Department). The label includes:

- Warnings (注意事項):** KEEP OUT OF REACH OF CHILDREN 小心放置, 以免兒童誤服 (Keep out of reach of children; keep out of reach of children).
- Drug Name, Form, and Dose (藥物名稱、劑型和劑量):** AMPICILLIN CAP 500MG
- Usage Instructions (藥物使用途徑、使用次數/時間、每次劑量和特別指示):** 每日四次, 每次服一粒 (Take 4 times a day, 1 tablet each); 抗生素, 必須按醫生指示服完此藥 (Antibiotic, must take as directed by the doctor); 飯前一小時服 (1 hour before a meal).
- QR Code (二維碼):** A QR code.
- Drug Quantity (藥物數量):** 28 粒 (28 tablets)
- Internal Code (內部代號):** DOP000420447-1
- Dispensing Date (藥物發出日期):** 01/08/2018
- Patient Name (病人姓名):** 陳大文
- Clinic Name (診所名稱):** 衛生署 粉嶺公務員診所藥房 (Health Department, Fan Ling Government Employees Clinic Pharmacy)
- Dispensing Doctor (藥物發出日期):** DR. C. CHAN

Drug Dispensing Date



2.1 收取藥物

Drug Label

院舍會透過多種途徑收取藥物（如醫院、診所、家人、陪診員等），負責處理藥物的院舍員工應跟進下列事項。

2.1.1 核對藥物標籤資料(請參閱圖1至圖6)

- 住客姓名
- 藥物的學名 / 商標名稱和劑型
- 藥物數量
- 劑量
- 使用次數 / 時間
- 使用途徑
- 藥物發出日期
- 醫院、診所或醫生的名稱和地址
- 注意事項 / 特別指示

Drug Dispensing Date

2.1.2 如就上述資料有任何疑問，例如關於「需要時用」的藥物，應向處方藥物的醫生或機構查詢。

2.1.3 根據藥物標籤的資料，填寫住客藥物記錄，包括「個人藥物記錄」及「個人備藥和給藥記錄」。

2.1.4 住客的藥物處方如有任何改變（例如在覆診或出院後經醫生指示更改藥物處方），院舍應即日更新「個人藥物記錄」及「個人備藥和給藥記錄」。

2.1.1 Check drug labels (please refer to figures 1 to 6)

- Name of resident
- Generic name/ brand name and dosage form of drugs
- Drug quantity
- Dosage
- Frequency/ time of administration
- Route of administration
- Drug dispensing date
- Name and address of hospital, clinic or medical practitioner
- Precautions/ special instructions

2.2 備存記錄

Individual Drug Record

2.2.1 個人藥物記錄

資料包括

- (a) 住客姓名
- (b) 身份證號碼
- (c) 藥物過敏或對特定藥物有不良反應的記錄
 - (i) 經醫生診斷曾經令住客產生過敏反應的藥物名稱（可參閱到診醫生所填寫的病歷、住客出院摘要等醫療記錄）
 - (ii) 住客在使用這些藥物後出現不適或不尋常的狀況（如呼吸困難、皮膚出現紅疹等）
- (d) 處方藥物的資料
 - (i) 藥物名稱和劑型、劑量、使用次數 / 時間和使用途徑
 - (ii) 開始使用藥物的日期（住客第一次獲處方該藥物的日期）
 - (iii) 停止使用藥物的日期（醫生指示停止使用該藥物的日期）
 - (iv) 藥物來源（醫院、診所或醫生的名稱）
- (e) 如藥物資料有變，應視作新藥物處理，在記錄上填寫藥物處方、更改日期和簽署

2.2.2 個人備藥和給藥記錄

填寫須知

- (a) 記錄住客資料（如姓名、出生日期、床號等）
- (b) 記錄住客的藥物敏感史
- (c) 登記藥物的日期

- (ii) Date of commencing use of the drugs (i.e. the date of the drugs first prescribed for the resident)
- (iii) Date of ceasing use of the drugs (i.e. the date to terminate use of the drug as instructed by a medical practitioner)

(d) 根據「個人藥物記錄」和「藥物標籤」核對和記錄藥物的資料，包括：

● 處方日期¹

Prescription Date

- 藥物名稱、劑型和劑量
- 使用途徑
- 使用次數
- 藥物來源
- 使用時間

使用時間以「藥物標籤」上列明的使用次數為準，亦要顧及住客的作息時間靈活安排：
- 若標籤是每日3次：即由早上住客起床至晚上住客就寢前的期間分3次用藥，即平均每6至8小時用藥1次，住客便不用在半夜起床用藥，如此類推。
- 若標籤是每8小時1次：即以整日24小時計算，每8小時用藥1次，即使半夜仍然需要按時用藥。

2.2.3 更新藥物記錄

當住客的藥物有改動，例如在覆診或出院後停用某種藥物、開始使用新藥物、又或更改劑量、劑型或使用次數等，負責管理藥物的院舍員工必須即日更新住客「個人藥物記錄」和「個人備藥和給藥記錄」的資料。如對藥物有疑問，應向處方機構查詢。

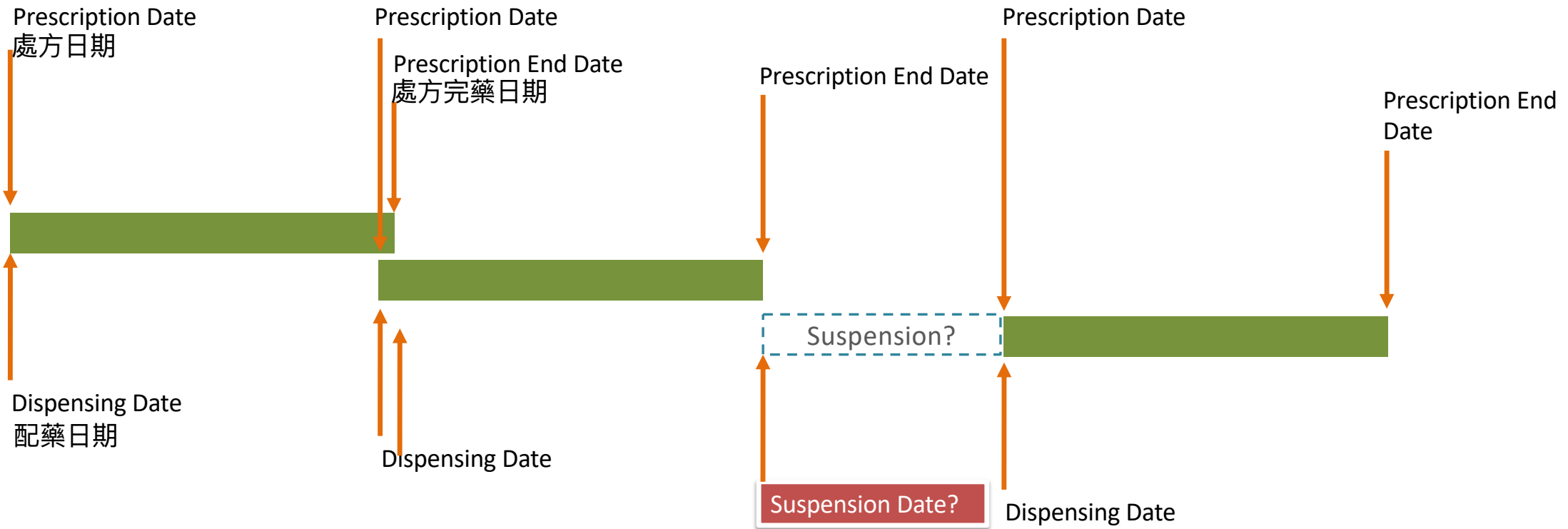
2.2.4 電子藥物記錄

如院舍使用電子藥物記錄系統，應確保無論使用任何簽署記錄方式，院舍必須能夠即時提供準確和不能改動的「個人備藥和給藥記錄」，包括負責備藥和給藥員工的電子簽署或登入系統，以供查閱。院舍亦應保存住客過往的藥物記錄，以供參考。

¹ 如住客第一次使用該藥物，或藥物的處方有變，處方日期以「藥物標籤」顯示的日期為準。如該藥物的處方不變，處方日期為住客「個人藥物記錄」上所載的開始使用藥物的日期。

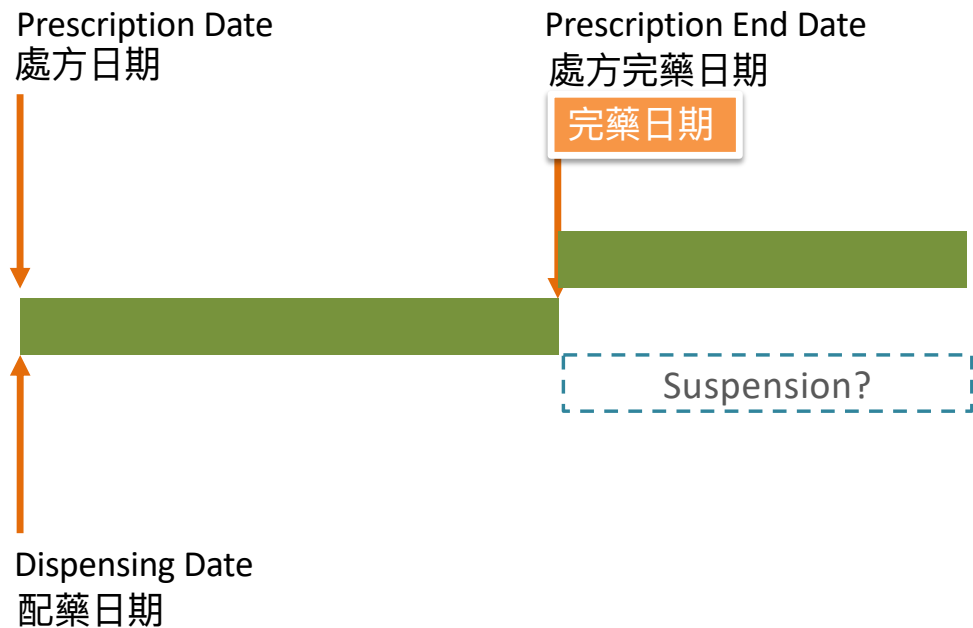
¹ If a resident uses the drug for the first time or the drug prescription has been changed, the prescription date on the drug label should prevail. If the prescription of the drug has not been changed, the prescription date should have been the date when the resident commenced to use the drug, as marked on the "Individual Drug Record".

“Normal Prescription Practice” – Dates

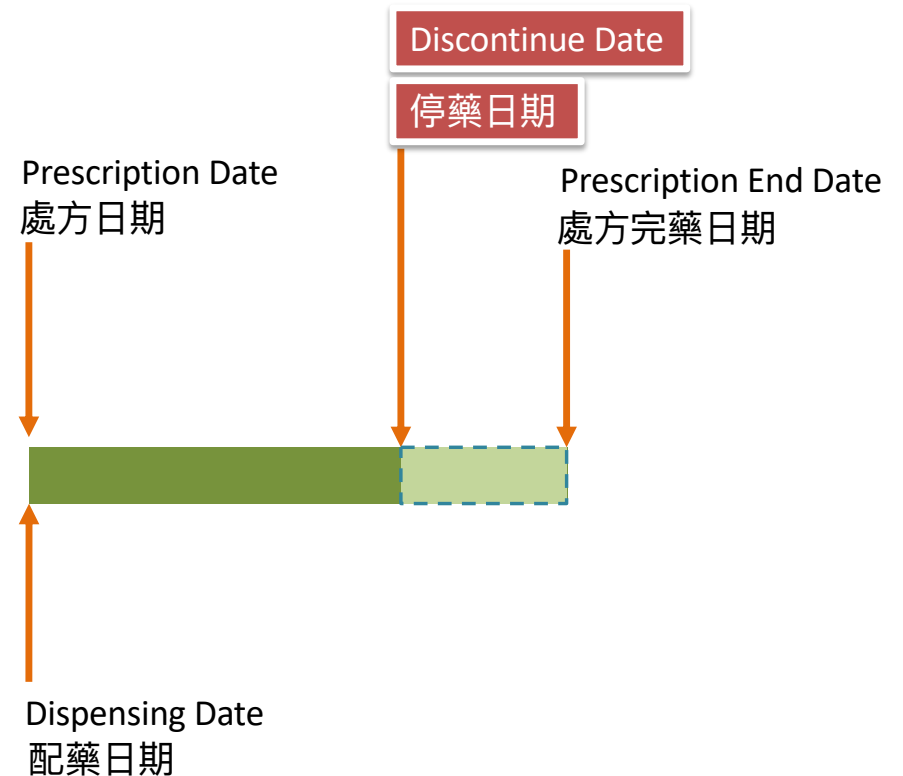


開始使用藥物日期?
停止使用藥物日期?

Medication End (完) vs Discontinue (停)



End — Naturally end , e.g. prescription of 3 months antihypertensive or Complete a course e.g. antibiotic



Discontinue — Prematurely terminate of a current and active prescription order usually by a medical practitioner with a reason

個人備藥和給藥記錄

對何種藥物過敏：

住客姓名 _____ 出生日期 _____ 床號 _____ 號

處方日期	藥物名稱、劑型和劑量	使用次數	使用時間	1	2	3	4	5	6	7	8	9
執 核	藥物來源：	每天 次	上午 時	/	/	/	/	/	/	/	/	/
		每次 粒	上午 時	/	/	/	/	/	/	/	/	/
執 核	藥物來源：	每天 次	上午 時	/	/	/	/	/	/	/	/	/
		每次 粒	上午 時	/	/	/	/	/	/	/	/	/
執 核	藥物來源：	每天 次	上午 時	/	/	/	/	/	/	/	/	/
		每次 粒	上午 時	/	/	/	/	/	/	/	/	/
執 核	藥物來源：	每天 次	上午 時	/	/	/	/	/	/	/	/	/
		每次 粒	上午 時	/	/	/	/	/	/	/	/	/
執 核	藥物來源：	每天 次	上午 時	/	/	/	/	/	/	/	/	/
		每次 粒	上午 時	/	/	/	/	/	/	/	/	/

給藥記錄簽署

簽名=已服藥; H=因事回家; A=入院;
R=拒絕一種或以上藥物; O=其他
註: R 或 O: 通知護士/保健員作出跟進
並作適當記錄

處方日期 = 該藥物第一次被處方的使用日期。

Prescription date / Dispensing Date	
<p>“Start date (s)”</p> <p>藥物發出的日期 處方日期 配藥日期 開始使用藥物日期 停止使用藥物日期</p>	<p>✓ Specified Start Date is uncommon in downloaded record.</p> <p>Prescription date 處方日期 Dispensing date 配藥日期 from eHealth are available for download</p> <p>SWD guideline: 收取藥物 藥物發出日期=配藥日期 dispensing date</p> <p>個人藥物紀錄 開始使用藥物的日期= ever since first date of this drug started 停止使用藥物的日期= date this drug stopped</p> <p>Both dates cannot be deduced from downloaded records from eHealth</p> <p>個人備藥和吸藥紀錄 處方日期=配藥日期 如住客第一次使用該藥物，或藥物的處方有變，處方日期以藥物標籤顯示的日期為準。</p> <p>處方日期=開始使用藥物的日期 如該藥物的處方不變，處方日期為住客個人藥物記錄上所在的開始使用藥物的日期。(However, 開始使用藥物的日期 is not available in not case and it is in fact not verifiable)</p> <p>Treated each episode of dispensing as new and so adopt the 處方日期=配藥日期, which could be downloaded and verifiable with the drug labels</p>

<p>Expected end date 完藥日期 停藥日期</p>	✓	<p>Prescribed end date is uncommon in downloaded data.</p> <p>Calculate it from the dosing instruction and quantity dispensed. Compare it with the next follow up appointment date input by the uses and alert users if dispensed medications are insufficient</p>
<p>PRN indicator</p>	✓	<p>Map and anticipate instruction "regular frequency PRN" e.g. Panadol 500 mg QID PRN or "no</p>
	✓	<p>frequency PRN" e.g. TNG one tablet PRN.</p> <p>Make it clear to the users and drive different workflow e.g. group all PRN medications in separate worksheet or MAR screens and remind users to check before administering</p>

<p>Remark field</p> <p>Withhold if HR<60 Withhold if SBP <100 Give at 6pm, 7 pm and 8pm the day before procedure and 6 am on the day of procedure TNG PRN For Pain For Fever</p> <p>Continue Own Stock SFI Purchased by Patient Single Use</p>	<p>✓ This remark field could capture the “Special Instruction for Prescription Order” from prescribing record or “Pharmacy Remark” from dispensing order if there is any data in those fields in the downloaded data, <u>which may contain important and “special” instruction on the dosing or precaution or remarks.</u> However, the fields are optional and different HCP uploading the record may have different practice.</p> <p>Could consider reading and showing any information in these two fields in the Remark and allow and facilitate the users to manually input any relevant information from the Prescribed Drug Dose Instruction (Combined Text) field always displayed in another area on the screen in which may not be structured and mapped to be shown in other data fields but important for drug administration e.g. Beta Blocker: Drug Withhold if HR<60 or SBP <100; Colchicine: Stop if diarrhoea; Klean-Prep at 6 pm, 7pm and 8 pm the day before procedure and 6 am on the day of procedure...etc.</p>
---	---

Drug photo	✓	<p>Could use the downloaded HA drug code and/or HA Drug names to retrieve existing drug photos if matched.</p> <p>May further consider mapping with HK registration number</p>
Single use indicator	✓	<p>The information may not be universally downloaded in the Special Instruction for Prescription Order or Pharmacy Remark fields.</p> <p>Could facilitate user input from Drug Dose Instruction (Combined Text)</p>
Own Stock indicator	✓	
Self-finance item indicator	✓	
Drug dosing instruction and precaution in Chinese	✓	Need local translation at this moment

MAR		
Show complete and correct medication items	✓	Reorganise and regroup medication lines logically e.g. complex regimen A and B with same start dates or A then B in different start dates and Show important remarks
Separate logically regular, PRN and different routes medication items	✓	Differentiate, organise medication items
Logically regroup (combine or separate) dispensing items for easy review and drug administration	✓	
Show important remarks in dosing instructions	✓	

Obtain – Interpret – **Present** - Use

PRESENT DATA IN CONTEXT

UI – VISUAL AND INTERACTION

UX – FUNCTIONALITY AND WORKFLOW

UI/UX Design Concepts

1. Clear Visual Hierarchy and Visual Flow
2. Guided Process Flow Design
3. Progress Indicator
4. Colour Representation
5. Progressive Disclosure
6. Minimalist Design
7. Structured Input Fields/ Autofill/Smart Default
8. Dynamic Type-Ahead Search
9. Real-Time Validation
10. Responsive Layout

口服 藥物 總數 42 粒

PREDNISOLONE TABLET 5MG (PREDNIS) HK-44679 PREDNIS [相片](#)

	服藥指示	劑量	時間	有需要時	服藥為期
+	每日一次 v	3 粒 v	0800 1200 1700 2000	<input type="checkbox"/>	1 周 v 之後
+	每日一次 v	2 粒 v	0800 1200 1700 2000	<input type="checkbox"/>	1 周 v 之後
+	每日一次 v	1 粒 v	0800 1200 1700 2000	<input type="checkbox"/>	1 周 v

開始服藥日期 2024-03-01 下次發藥日期 2024-04-01 聯合醫院 專科 MED

預計完藥日期 2024-03-21

特別注意事項 按醫生指示 一次性使用 派藥前量度 **服藥指示概覽**

處方資料

PREDNISOLONE TABLET 15MG
ORAL: 3 TABLET(s) DAILY for 1 week then
ORAL: 2 TABLET(s) DAILY for 1 week then
ORAL: 1 TABLET(s) DAILY for 1 week

服藥指示概覽

PREDNISOLONE TABLET 5MG
口服每日一次，每次3粒，服藥為期1周之後
口服每日一次，每次2粒，服藥為期1周之後
口服每日一次，每次1粒，服藥為期1周

類固醇類
必須按指示服完為止

Example

From Standards to Practice

USING HKMTT IN RCH SYSTEM

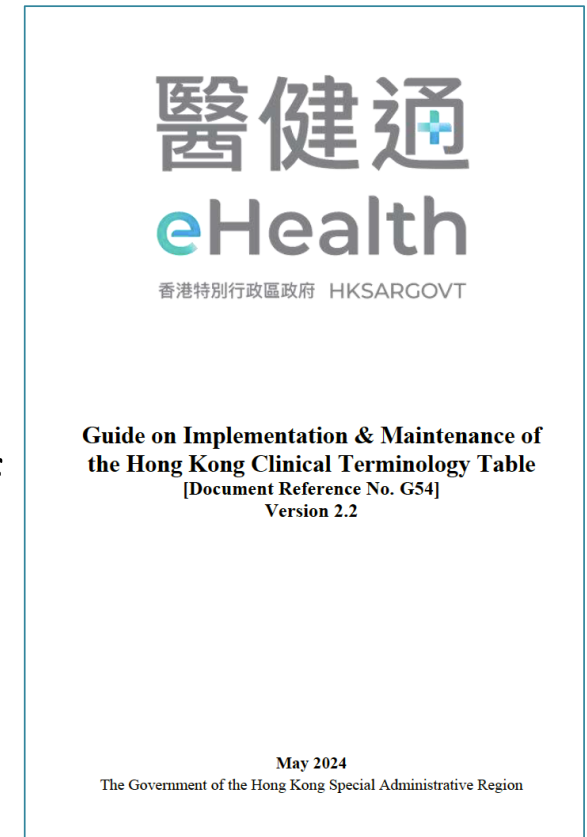
REGISTERED DRUG INFORMATION – PRESCRIPTION/DISPENSING
MEDICATION CONCEPTS – ALLERGY CHECKING

HKMTT Concepts

- The HKMTT has conceptually been designed to encompass eight distinct “**product**” concepts
- MTT concepts are supported by the **Qualifier** and **Substance** tables
- Medication terminologies are used for clinical activities (e.g. **prescribing** and **dispensing**, history of **allergy** or **adverse drug reactions**, **vaccine** names)

Concept

- 係咩嚟㗎?
- 有咩關係?
- 有啲咩用?

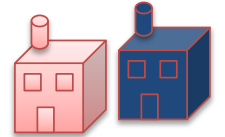


Concepts (Relationship) Start with Detailed Information



Drug Name	Route	Form	Strength	Active Ingredient(s)	Salts	Certificate Holder	Legal Classification
Augmentin	Oral	Tablet	375mg	Amoxicillin	Trihydrate	GalxoSmithKline	Antibiotic
Trade Name (TN)				Calvulanic Acid	Potassium		
Product Name (AMP)						Pharmacological Class (VMP) HK Registration No.	
						Penicillin	HK-47298

Drug Information from Manufacturer to Registration to HKMTT

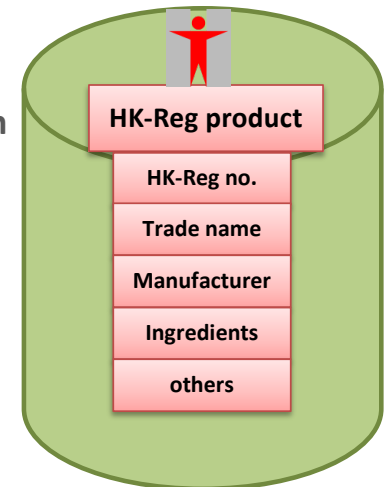


Pharmaceutical
Companies /
Manufacturers/
certificate holders

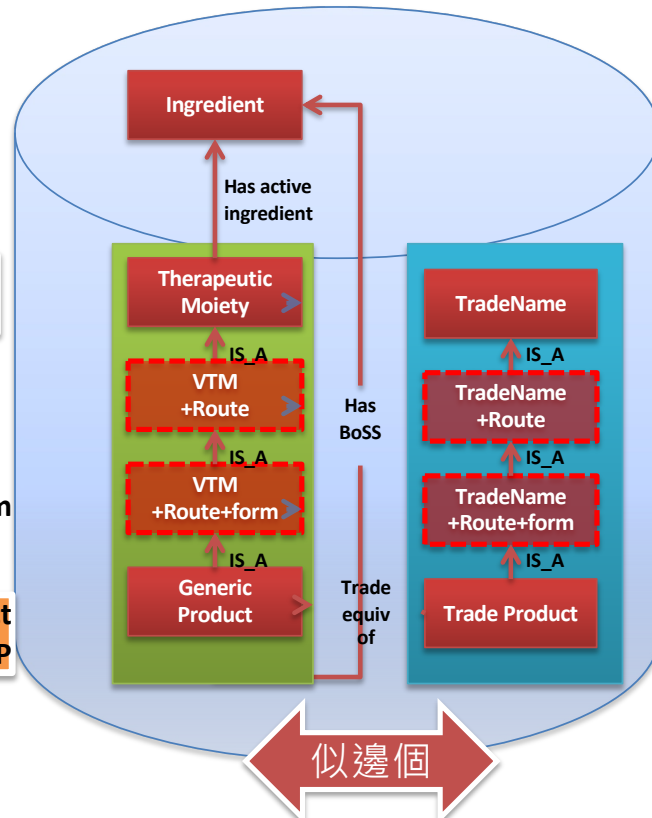
Product Registration
Drug name
Ingredient
Strength / concentration
Manufacturer, country...
Other registration particulars...



**DoH Drug
Compendium**



Medication Terminology Table



Virtual Therapeutic Moiety
VTM

VTM + Route

VTM + Route + Form

Virtual Medicinal Product
VMP

Trade Name
TN

TN + Route

TN + Route + Form

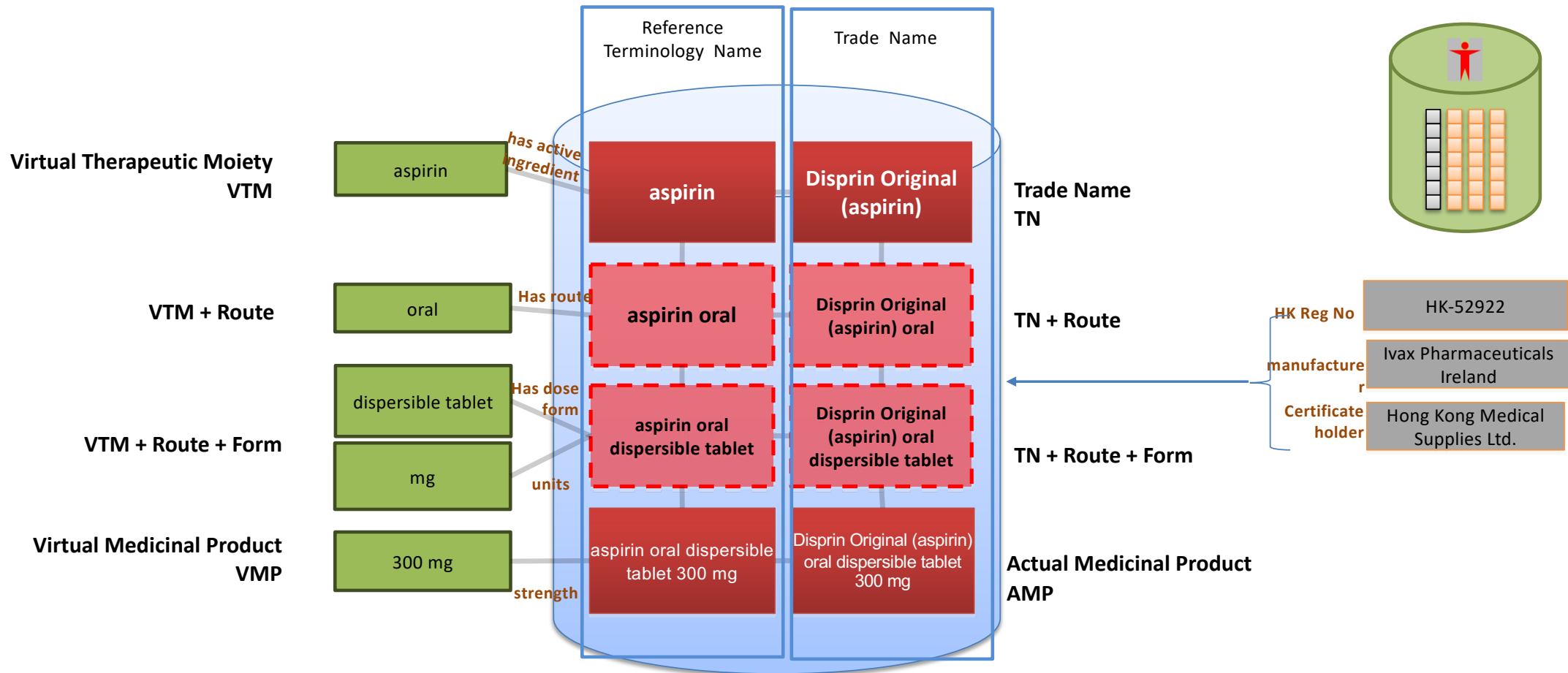
Actual Medicinal Product
AMP

Interface between
DH-DC & MTT

HK Registration no.
Ingredient
Strength / concentration
Dosage form
etc etc...

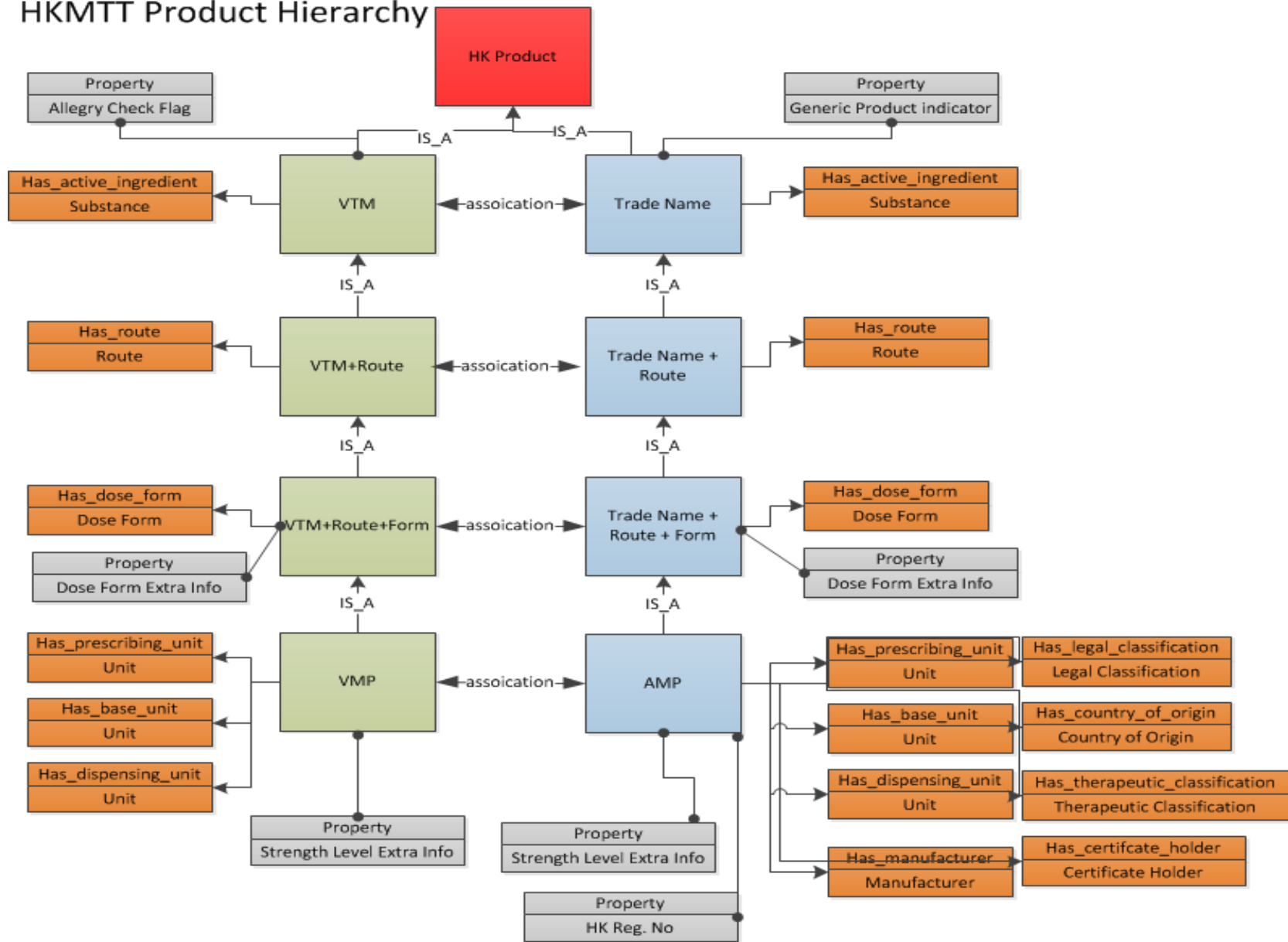
咁嘅嘅嘅

HK Medication Terminology Table (HKMTT) 香港藥物術語表



As of Aug 2024 HKMTT contains 14,000 unique pharmaceutical products actively registered in HK

HKMTT Product Hierarchy



Download HKCTT – Drug data files from eHR

HCP User Administrator could email to ehr@ehealth.gov.hk for requesting the HKCTT download function



Electronic Health Record Sharing System 電子健康紀錄互通系統

User Name
用戶名稱

Important Reminder

1. All patient information is strictly confidential
2. Only access patient data for providing healthcare purpose
3. All access is logged
4. Do not share your account / token
5. Please change your password regularly

[Personal Information Collection Statement](#)

[Privacy Policy Statement](#)

[Regular System Maintenance Schedule](#)

重要提示

1. 所有病人的資料都必須嚴格保密
2. 只可在提供醫護服務及有需要時取覽病人的資料
3. 每次的取覽均會被記錄
4. 切勿與其他人士共用你的帳戶/保安編碼器
5. 請定期更改密碼

[收集個人資料聲明](#)



[私隱政策聲明](#)

[定期系統提升時間表](#)



Logistics and Supply Chain MultiTech R&D Centre
物流及供應鏈多元技術研發中心

Download HKCTT – Drug data files from eHR


[Administration](#)
[Standards](#)
[Download](#)
[Information](#)
JOHNNY SZE HO WONG  [\(Logout\)](#)

[Click here for the latest List of Third Party Terminologies](#)

HKCTT for CMS Adaptation

Release Date	HKCTT Version	Engine Version	Remarks	Download
16-Oct-2016	2016.10.16_87 (1.0.14)	1.X		Download

HKCTT

Release Date	Version	Nature	Download
16-Apr-2018		All natures	Download
16-Apr-2018		Diagnosis, Procedure	Download
16-Apr-2018		Laboratory Test, Organism, Specimen	Download
16-Apr-2018		→ Pharmaceutical Product, Drug related Substances, Drug related Qualifier	Download
16-Apr-2018		→ Allergens	Download
16-Apr-2018		→ ADR Causative Agents	Download
16-Apr-2018		→ Prescribed drugs	Download
16-Apr-2018		→ Dispensed drugs	Download
16-Apr-2018		→ Vaccines	Download

ICD10

Release	Version	Remarks	Download
2010	2010	The version is being referenced by HKCTT.	Download
2001	2001	The version is being referenced by HKCTT.	Download
1996	1996 MBD	The version is being referenced by HKCTT.	Download

ICPC2

Release Date	Version	Remarks	Download
1995	2.0	The version is being referenced by HKCTT.	Download

LOINC

* Please refer to <http://loinc.org/downloads> (LOINC® version 2.54 is being referenced by HKCTT)

Extra Downloaded Files



iams-hkctt-ehr-prescribed_drugs-yyyy.mm.dd.zip



iams-hkctt-ehr-dispensed_drugs-yyyy.mm.dd.zip



iams-hkctt-ehr-vaccines-yyyy.mm.dd.zip



iams-hkctt-ehr-allergens-yyyy.mm.dd.zip

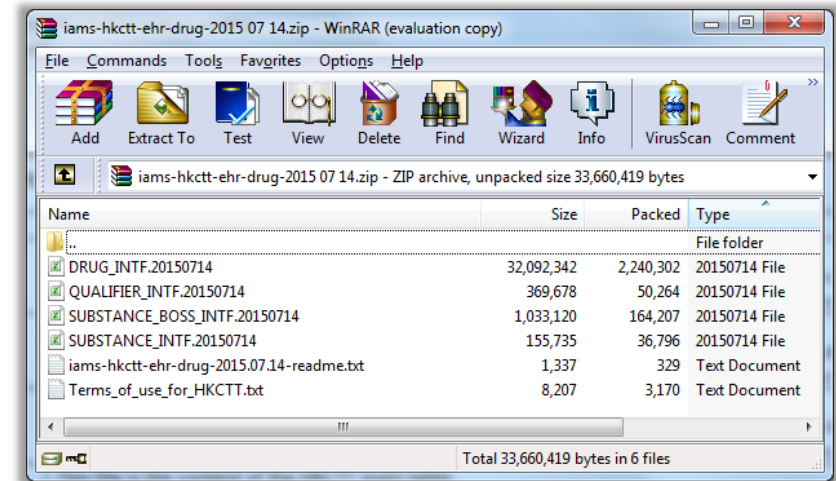


iams-hkctt-ehr-adr_causative_agents-yyyy.mm.dd.zip



UNZIP

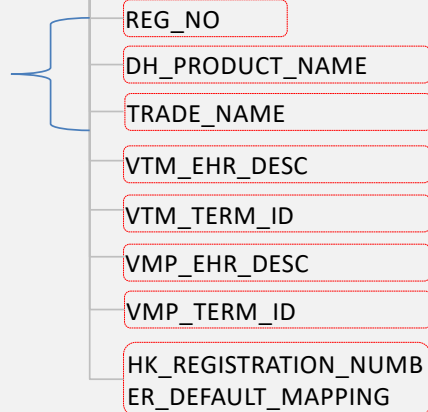
iams-hkctt-ehr-drug-2015.07.14.zip



Schema of HKCTT – Pharmaceutical Products

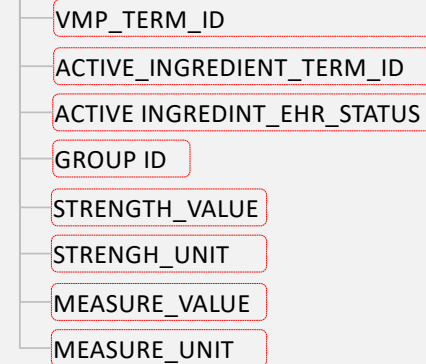
- Detailed DH-Registered Product information:
- HK-Reg No
 - Product Name
 - Trade Name
 - Ingredients
 - Strength
 - Form
 - Manufacturer
 - Importer
 -

DRUG_INTF



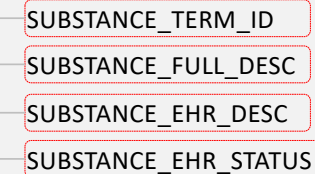
Complete listing of **HK registered products** and their corresponding HKMTT terms. Each HK reg will have a VTM and VMP

SUBSTANCE_BOSS_INTF



Breakdown **list of active ingredient(s)** per each listed products (VMP) on HKMTT (ID only)

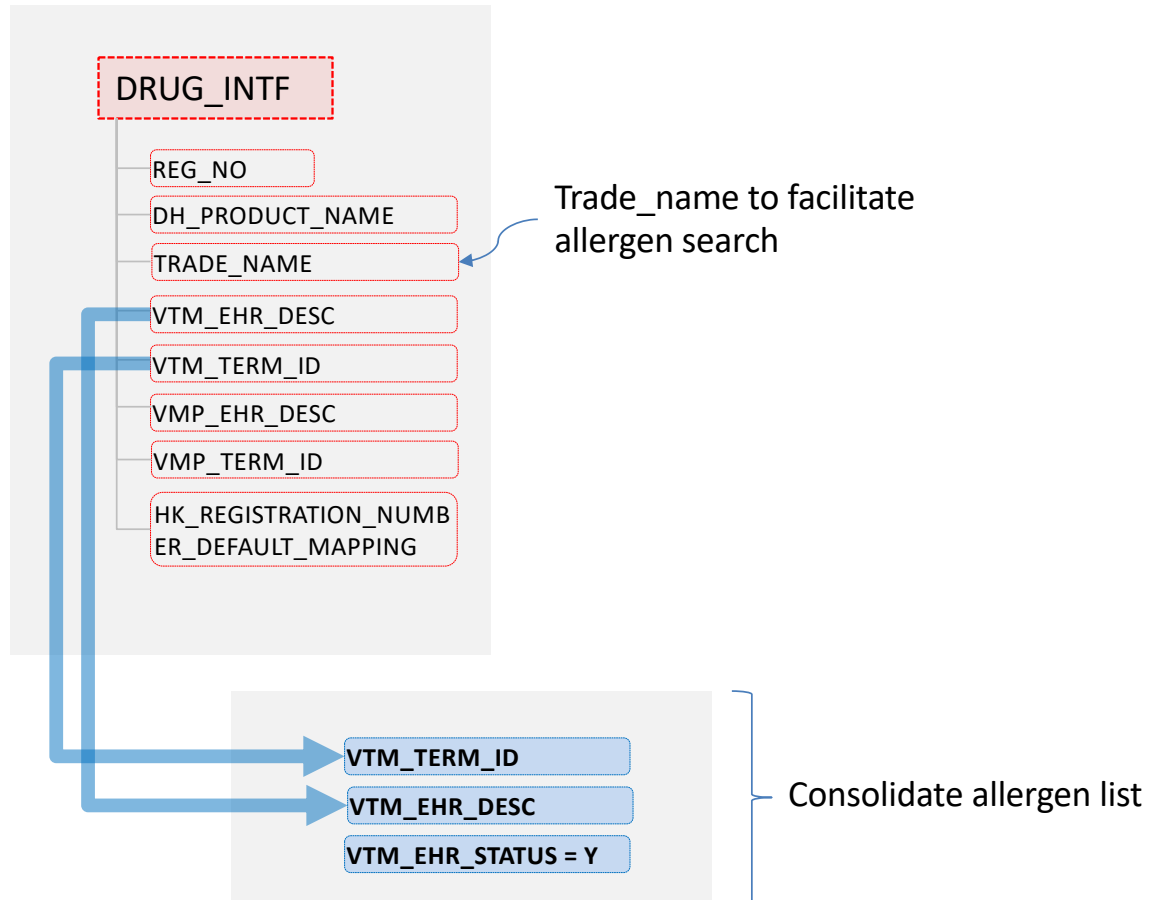
SUBSTANCE_BOSS_INTF



Complete listing of **ingredient substances** maintained on HKMTT (ID and desc.)

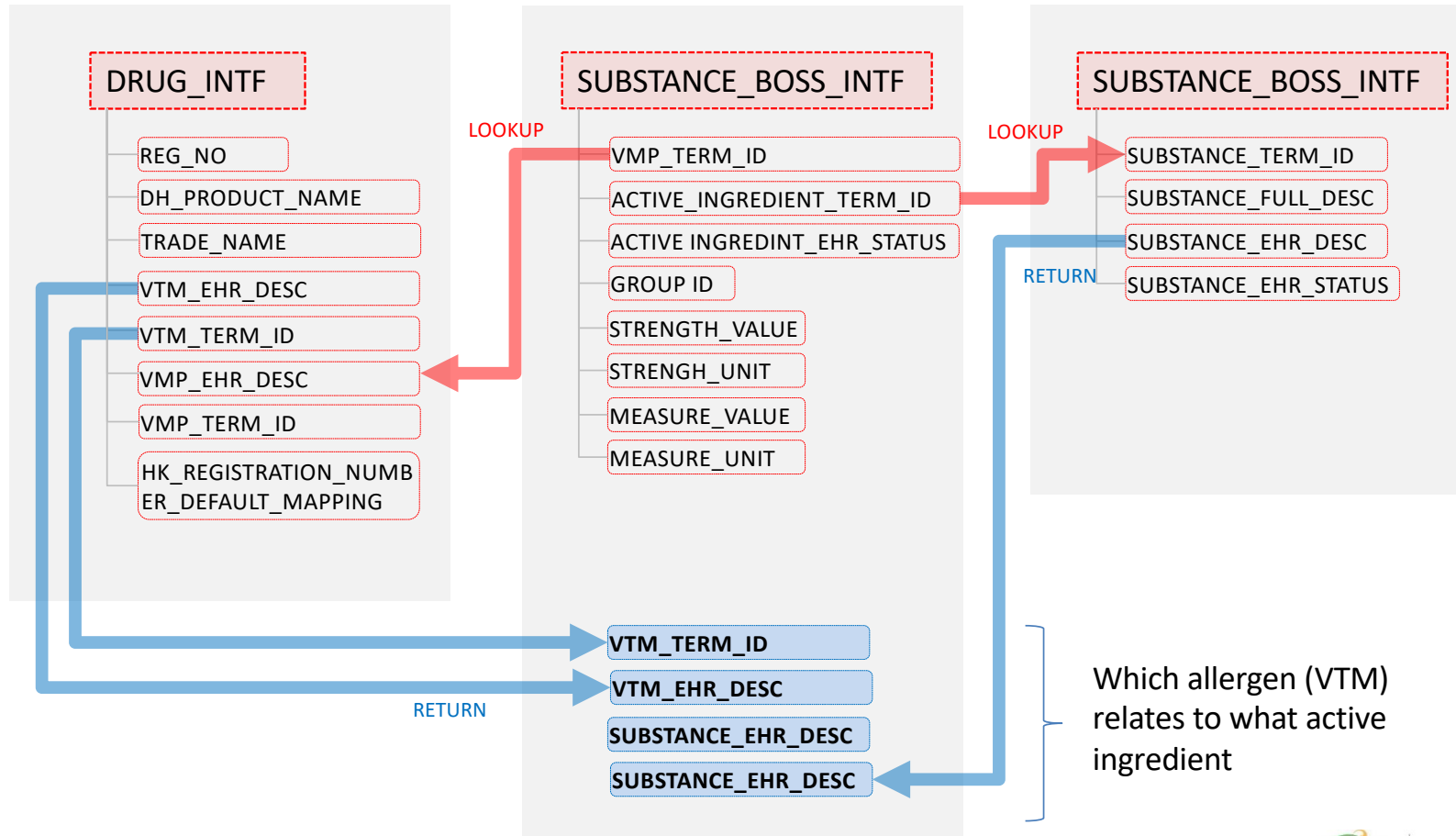
Schema of HKCTT – Pharmaceutical Products

Apply HKMTT as an allergen list



Schema of HKCTT – Pharmaceutical Products

Use case : allergens and active ingredient relationship



Mapping Drug Products

Your local drug information

HK Reg. no.	Local code	Local description
62663	DOCE01	DOCETAXEL INJECTION 20MG/0.5ML
46231	RITU02	RITUXIMAB INJECTION 10MG/ML 50ML

Maintain **HK Reg.** no. for each entry

Mapping Drug Products

Your local drug information

Mapped **HKCTT Product Terms**

HK Reg. no.	Local code	Local description	HK Reg. no.	HKCTT TermID	HKCTT Description
62663	DOCE01	DOCETAXEL INJECTION 20MG/0.5ML	62663	6013231	docetaxel intravenous concentrate and solvent for solution for infusion 20 mg / 0.5 mL
46231	RITU02	RITUXIMAB INJECTION 10MG/ML 50ML	46231	6016415	rituximab intravenous concentrate for solution for infusion 500 mg / 50 mL



Matching HK Reg. no.

Mapping Allergens

Your local drug information

HK Reg. no.	Local code	Local description
36031	DICL	DICLOFENAC SODIUM
42943	CEPH	CEPHALEXIN
27421	AUGM	AUGMENTIN

Allergens
used in local system

Maintain **HK Reg.**
no. for each entry

Mapping Allergens

Your local drug information

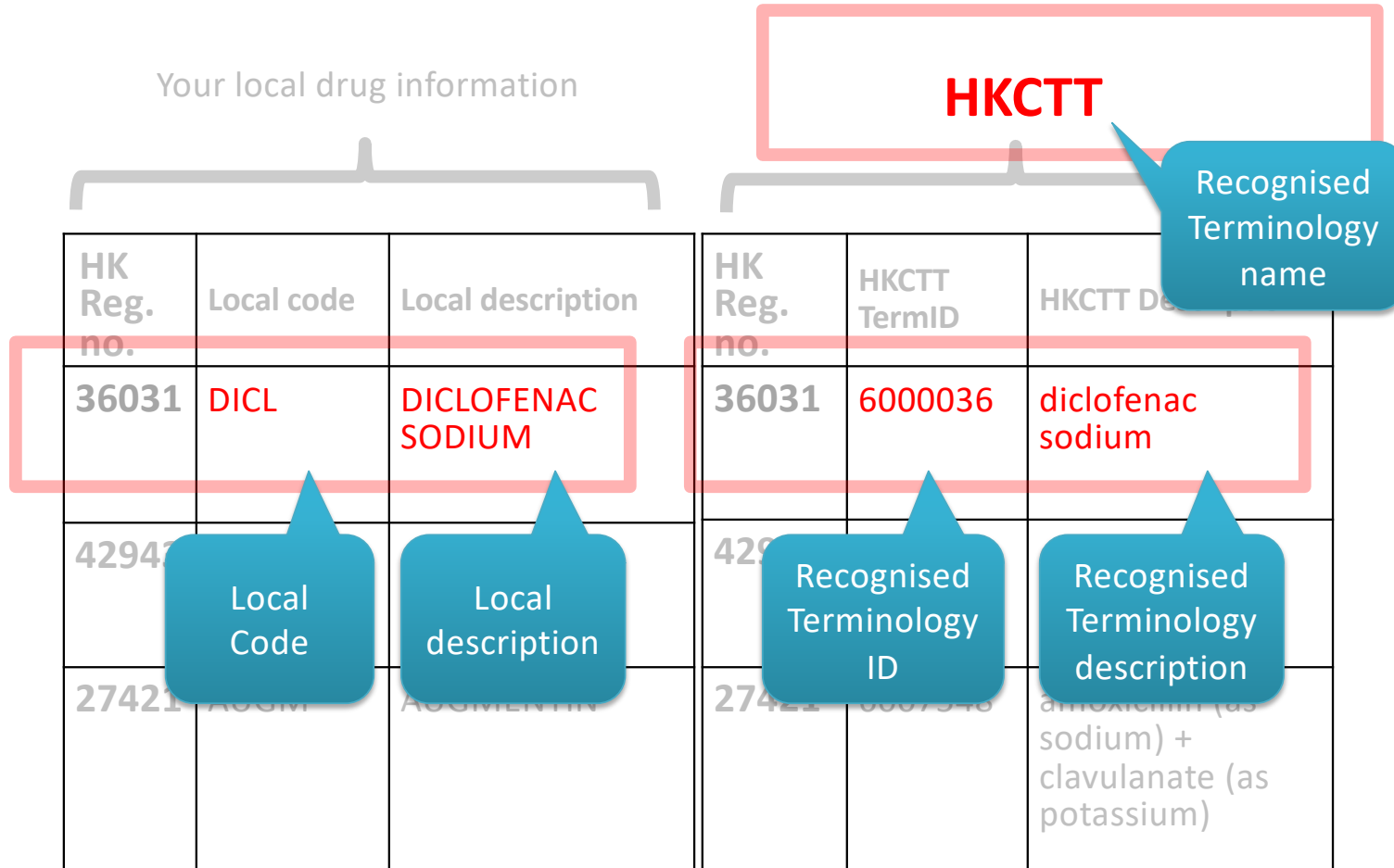
Mapped **HKCTT Product Terms**

HK Reg. no.	Local code	Local description	HK Reg. no.	HKCTT TermID	HKCTT Description
36031	DICL	DICLOFENAC SODIUM	36031	6000036	diclofenac sodium
42943	CEPH	CEPHALEXIN	42943	6005340	cefalexin
27421	AUGM	AUGMENTIN	27421	6007548	amoxicillin (as sodium) + clavulanate (as potassium)

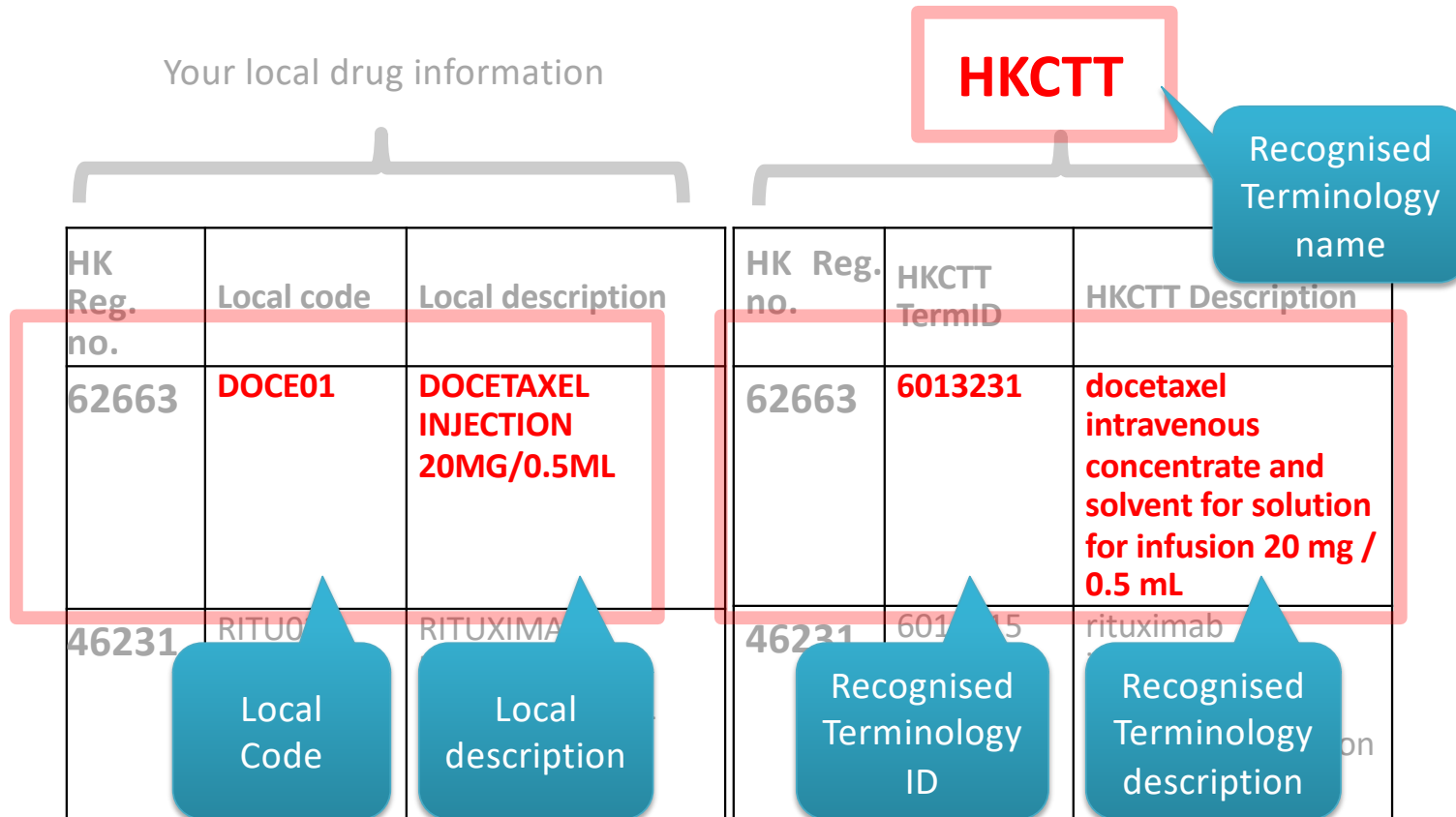
Matching HK Reg. no.

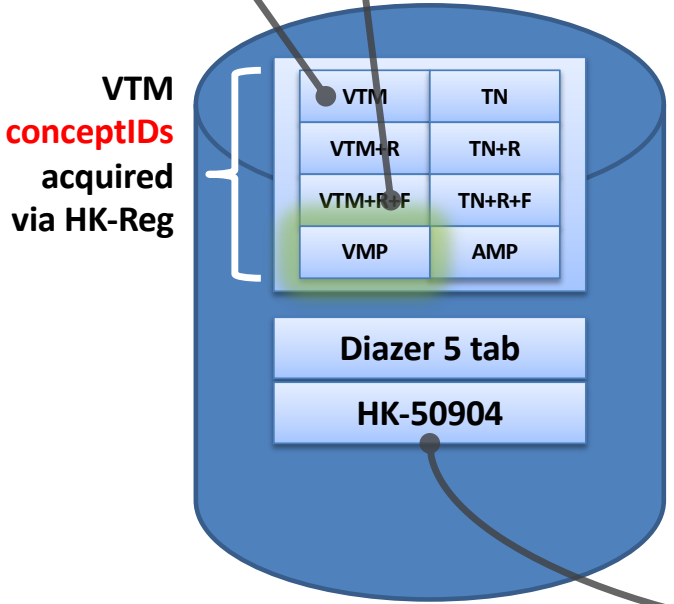
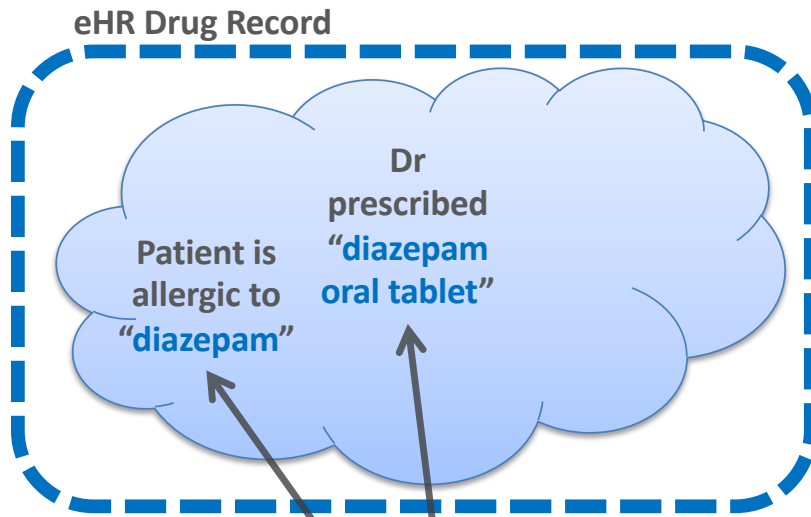


Mapping Allergens

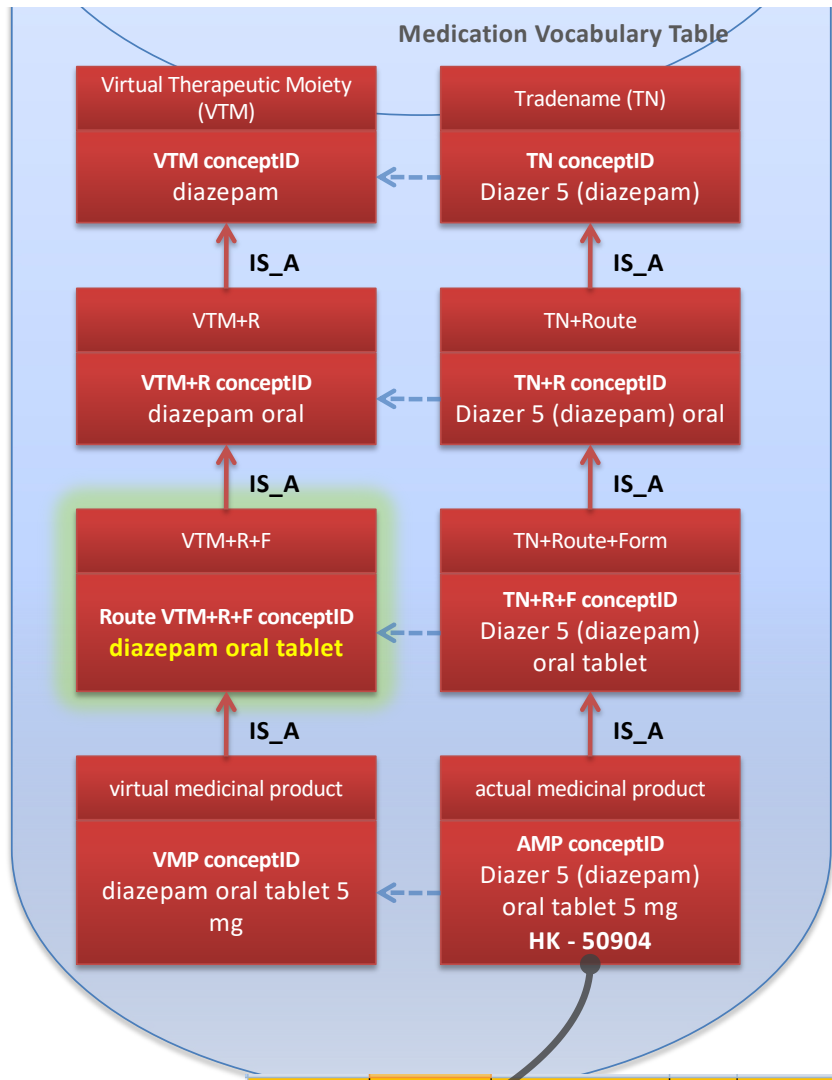


Mapping Drug Products





Healthcare Providers Drug information database



mapping

HK Registration no.	Trade Name	Virtual Therapeutic Moiety (preferred term)	Route	Dose Form	Strength
50904	Diazer 5	diazepam	oral	tablet	5 mg

Start Downloading and Using Today!

- **Standards** are of NO use unless being practised
- **Data Quality** will only be improved after being used
- Get started today to download the medication data
- Downloading is a process (過程) and not a target (目的)
- Target is **Better Medication Management**
- Assistance by LSCM and HAIT on data download services
 - Skills and Knowledge
 - UAT
 - Security Testing
 - Production Setup
 - Pilot run
 - Post Pilot Review for Rollout
 - Enhancements