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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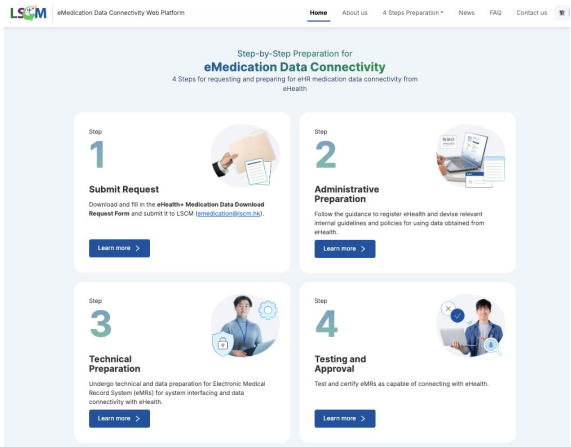
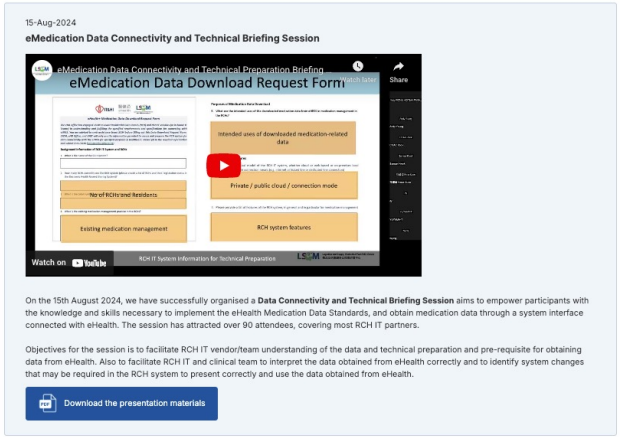
LSCM

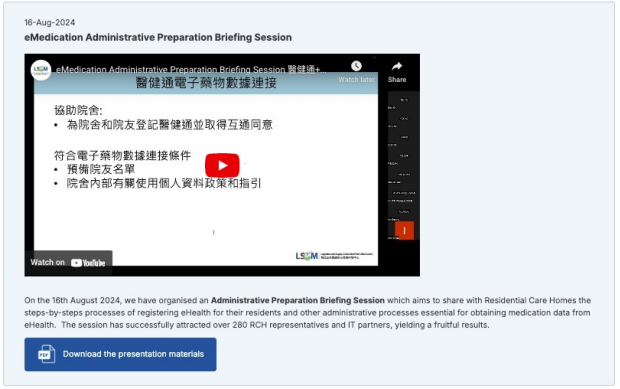
eHealth eMedication Connectivity Preparation Briefing Series by LSCM

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





Previous Briefing Sessions

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

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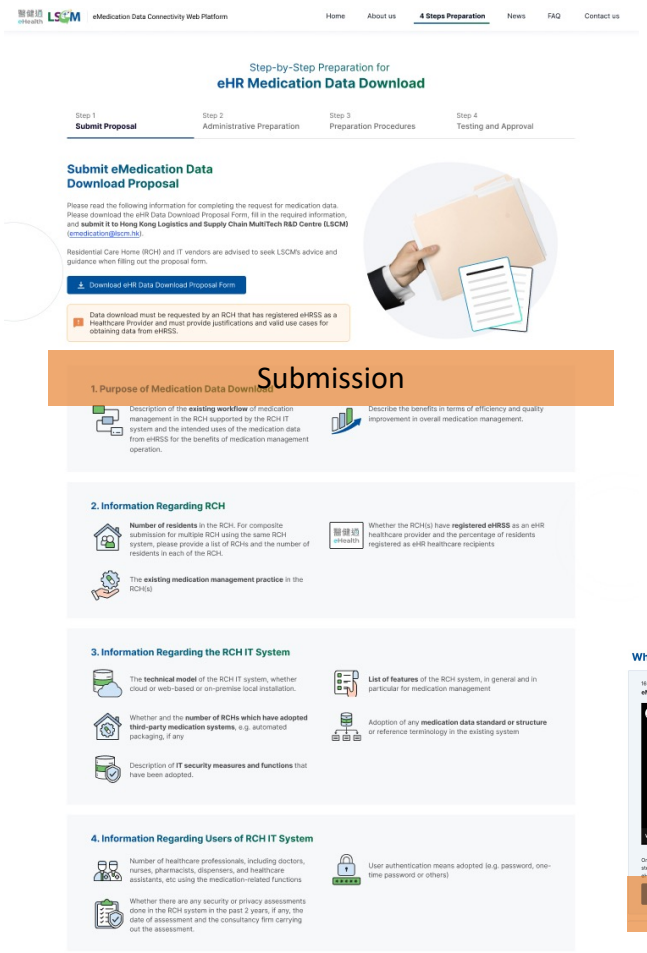
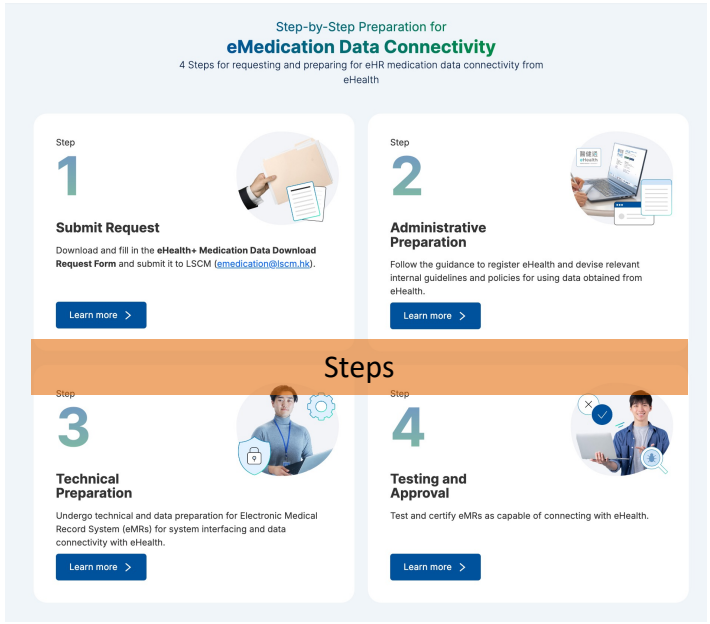
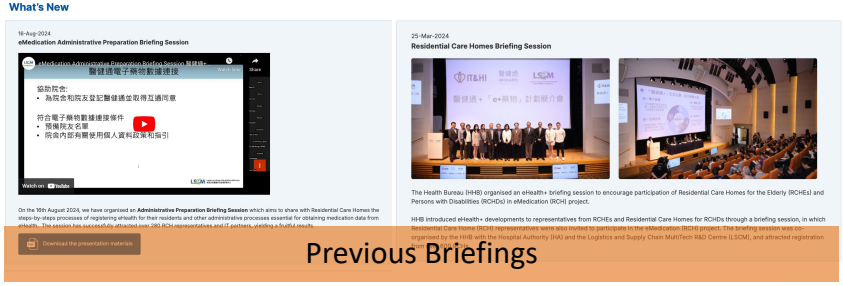
LSCM eMedication Connectivity Platform



Submission



Steps



Previous Briefings

Forms and Specifications

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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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 Polices 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

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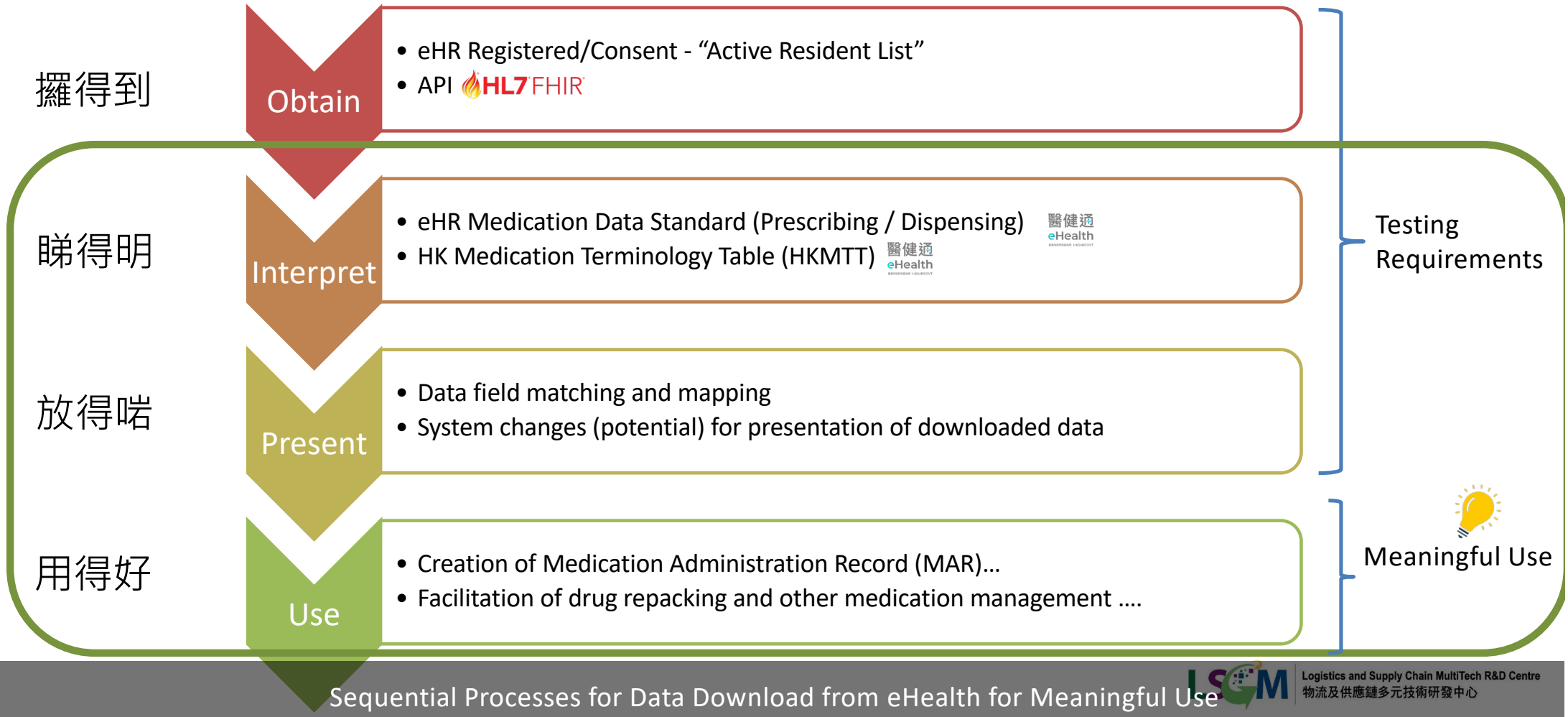
Technical Preparation for Data Downloading

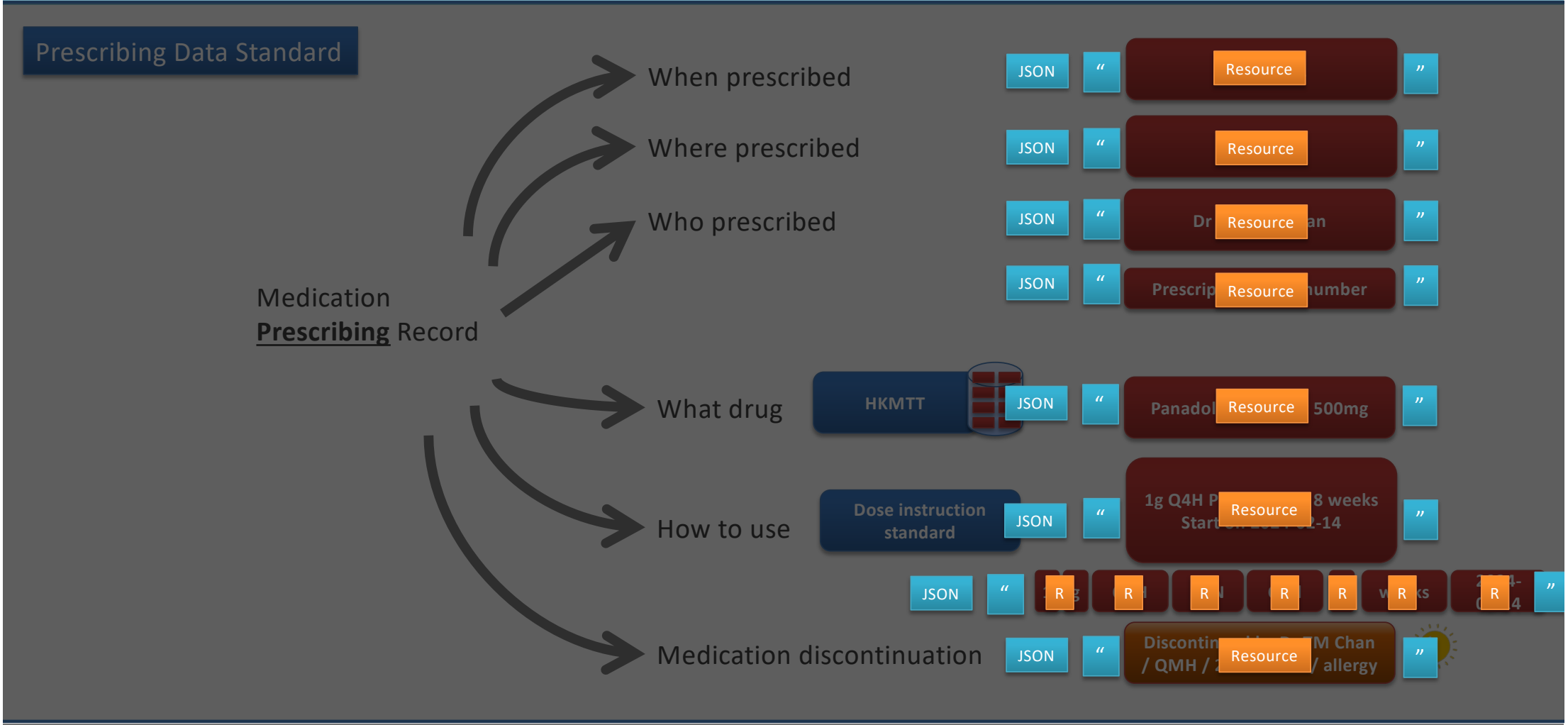


Sequential Processes for Data Download from eHealth for Meaningful Use

eHR Standards

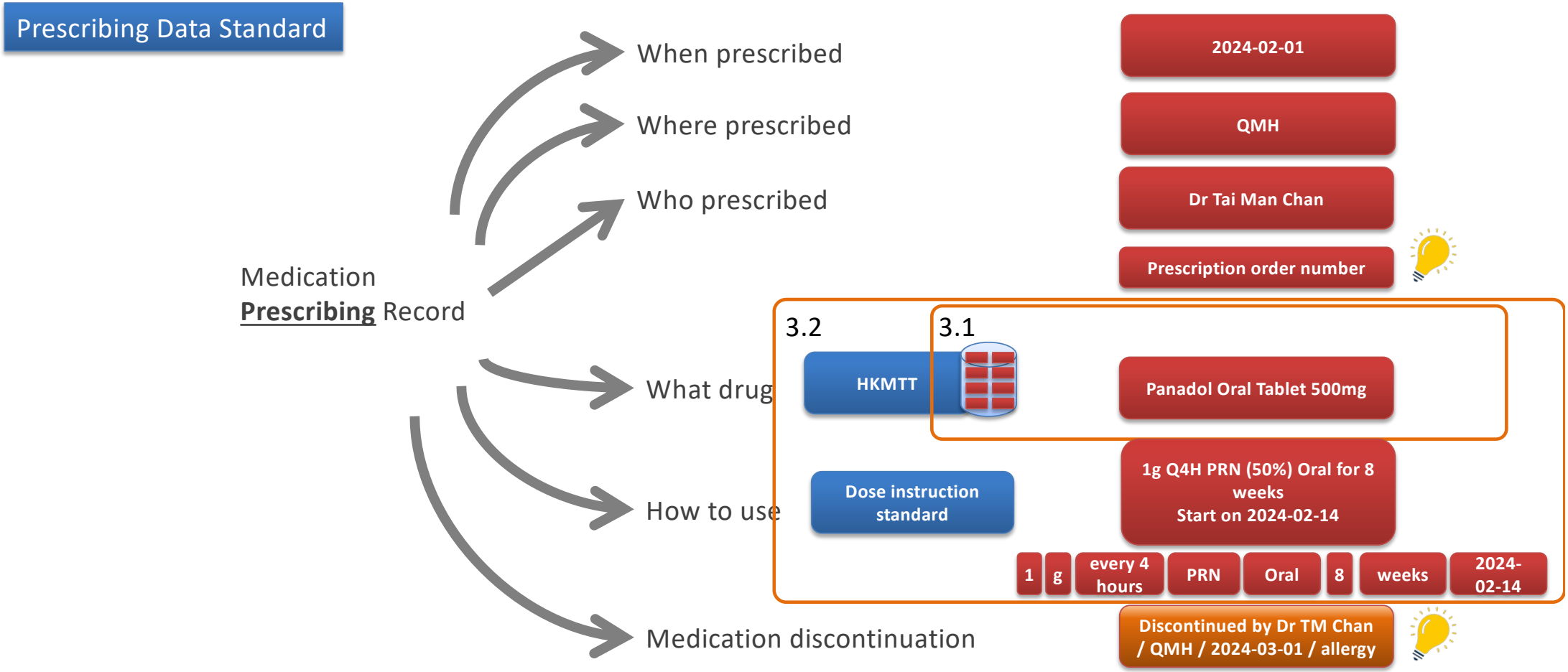
1. Quick Guide (HL7 FHIR)
   https://emedication.lscm.hk/assets/eMedication_Quick-Guide-Drug-Record-Download-20240815.pdf
2. eHR Data Standard (What does the data mean?)
   - Prescribing Data Standards
     https://www.ehealth.gov.hk/filemanager/content/pdf/en/ehris/annex/appendix-a-xi-ehr-prescribing-record.pdf
   - 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)



Discrete Medication Data as **Resources** is “packaged” in **JSON** format

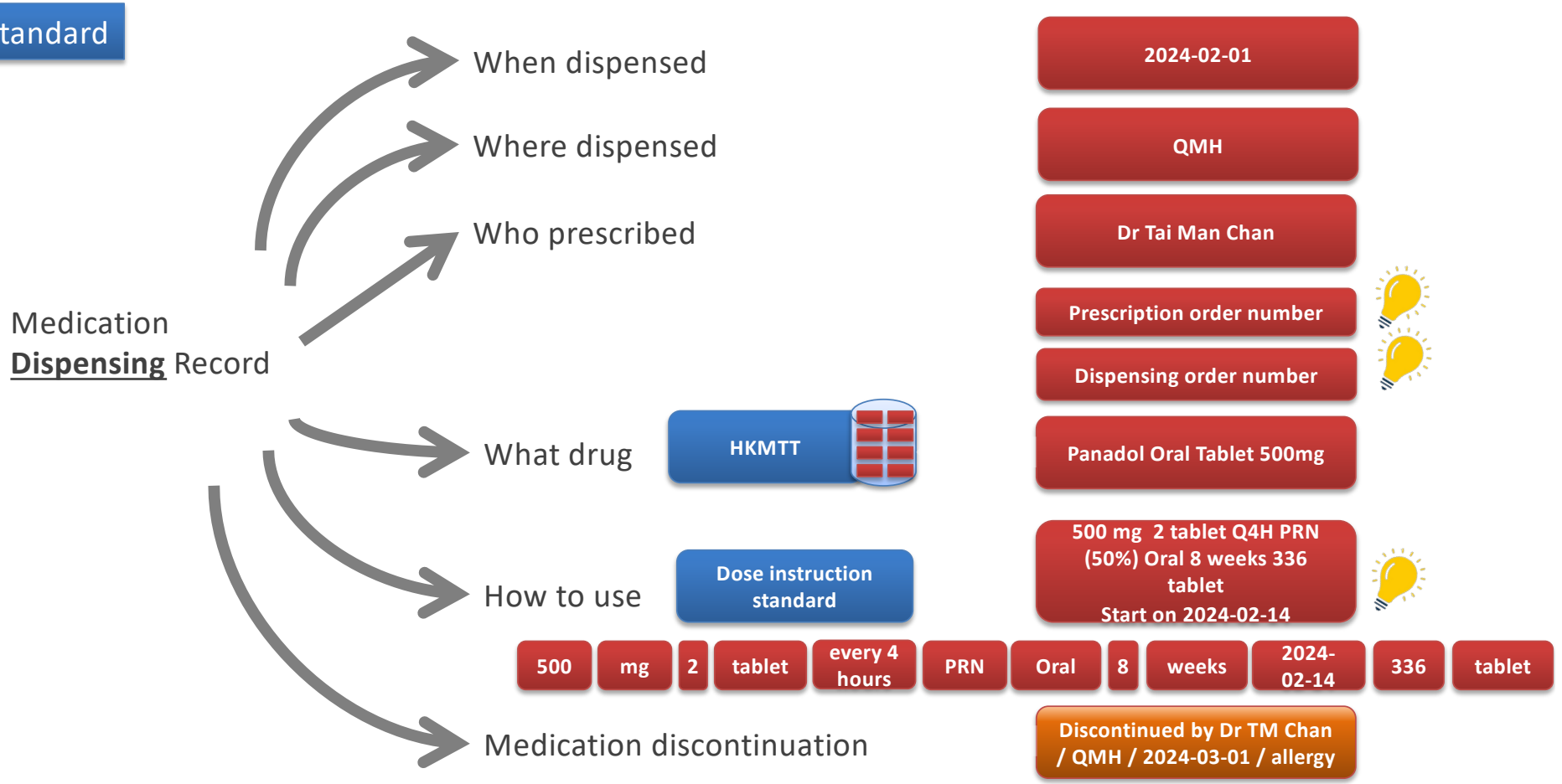
eHR Sharable Data - Prescribing Record 處方醫物資料標準



Data Elements in Medication Prescription Defined in eHR Data Standards

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

Dispensing Data Standard



Similarly for Dispensing

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
[illegible]	[illegible]
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

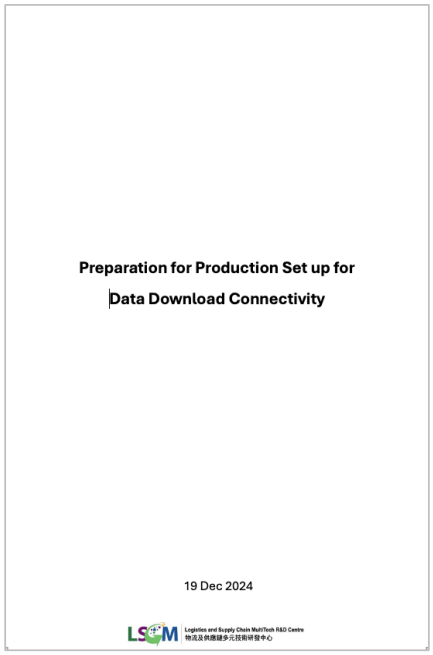
Structured Data is Defined in Codex Table

Obtain – Interpret – Present - Use

DOWNLOAD DATA

Maintain Personal Data Profile

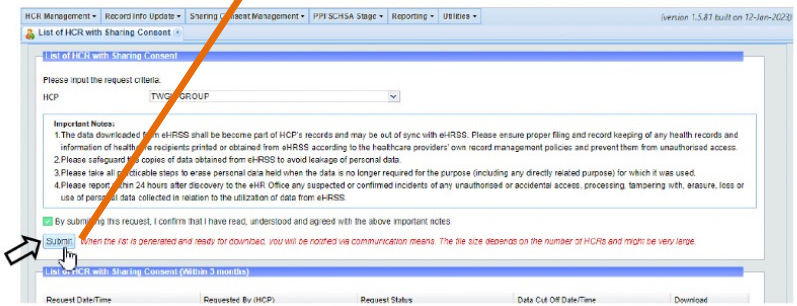
Name | DOB | Sex | Gender | HKID No. | HCR No.



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

- 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



Obtain/record HCR No. of each resident

Update

Specify “Download Request”

Name | DOB | Sex | Gender | HKID No | HCR No.

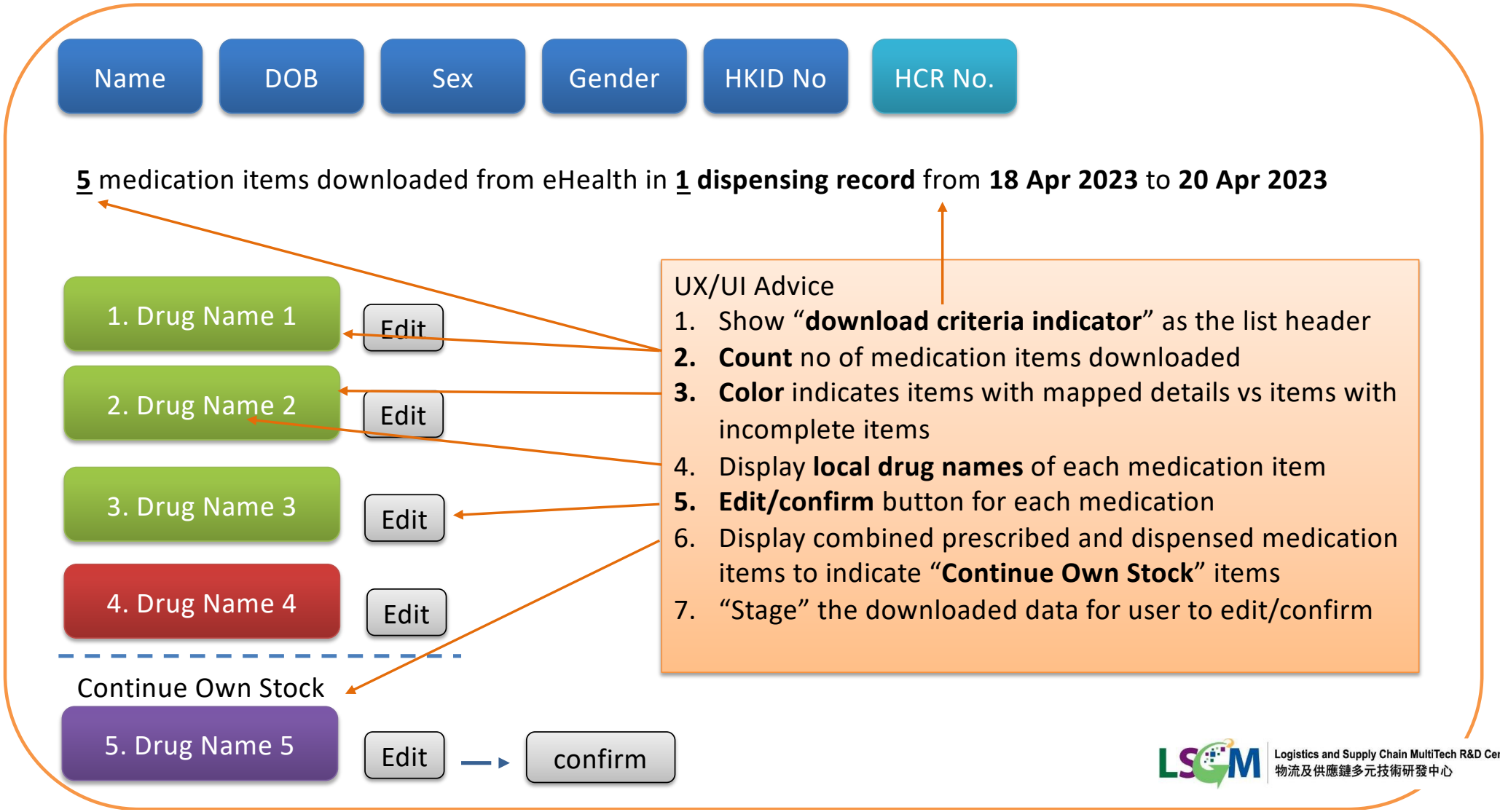
Date from | Date to | Dispensing | Prescribing

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”



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

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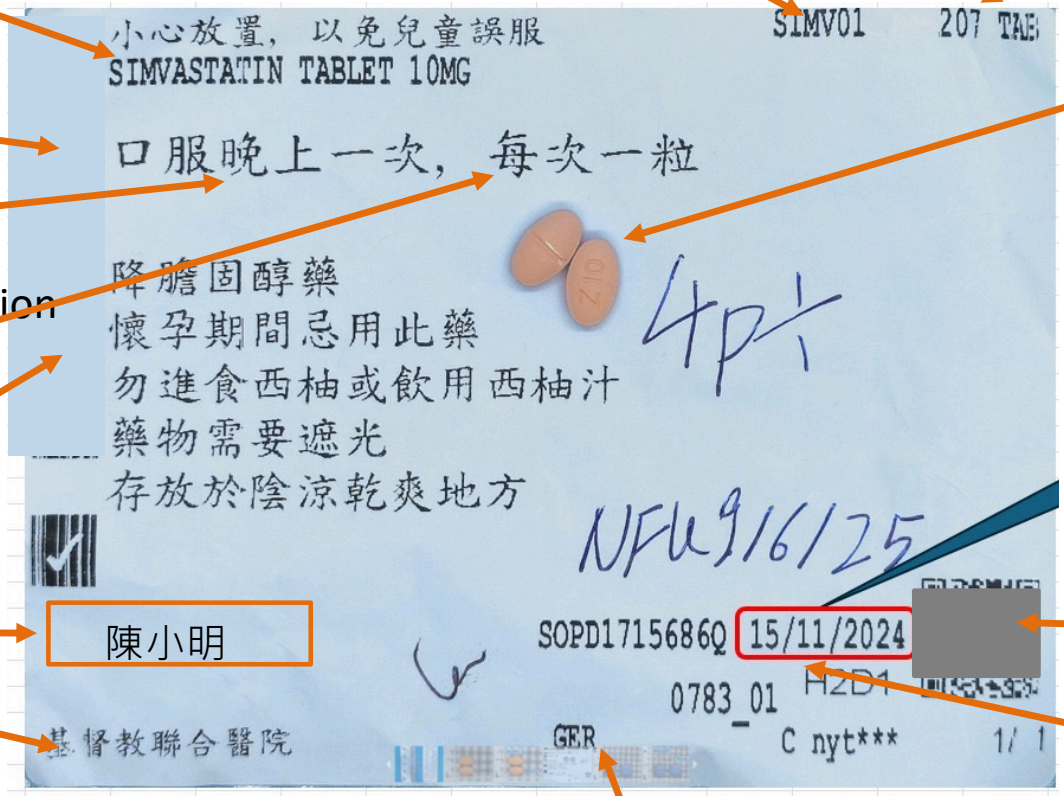
Data Mapping of Downloaded Data with Existing Data Fields



Local Drug Name with Form/Strength

Local Drug Code

Dispensed Quantity/unit

Route

Drug Photo

Frequency

Suppl Frequency

Special Prescription Instruction

Dose/unit

Reminder/alert

Patient Name

Drug Pack Barcode

Dispensing Institution

Dispensing Date

Specialty

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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	| v	3	粒 | v	0800	1200	1700	2000		1	周 | v	之後
+	每日一次 | v	| v	2	粒 | v	0800	1200	1700	2000		1	周 | v	之後
+	每日一次 | v	| v	1	粒 | v	0800	1200	1700	2000		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

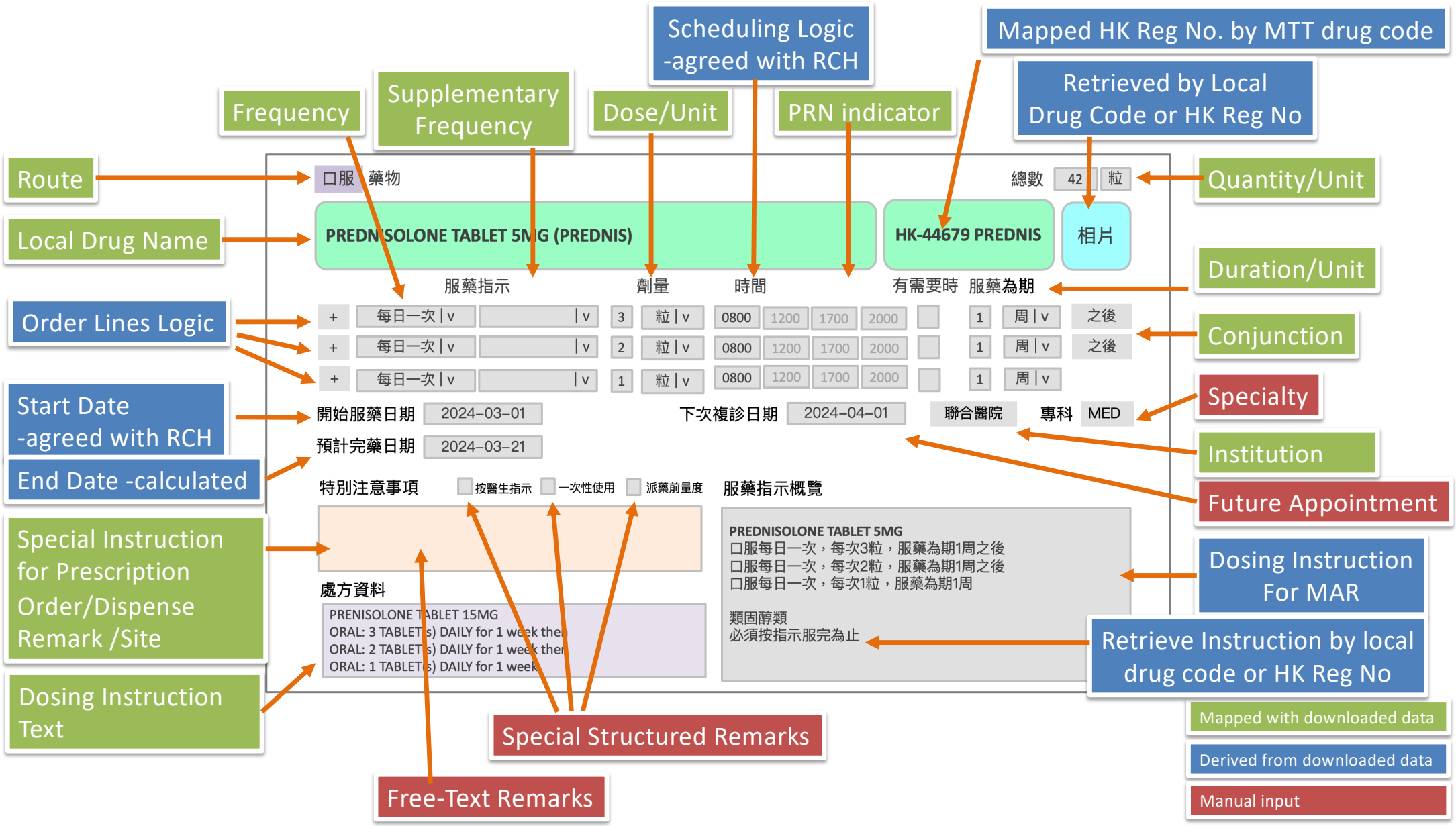
服藥指示概覽

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

處方資料

PRENISOLONE 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


Scheduling Logic -agreed with RCH
Mapped HK Reg No. by MTT drug code
Frequency
Supplementary Frequency
Dose/Unit
PRN indicator
Retrieved by Local Drug Code or HK Reg No
Route
Quantity/Unit
Local Drug Name
Duration/Unit
Order Lines Logic
Conjunction
Start Date -agreed with RCH
Specialty
End Date -calculated
Institution
Future Appointment
Special Instruction for Prescription Order/Dispense Remark /Site
Dosing Instruction For MAR
Retrieve Instruction by local drug code or HK Reg No
Dosing Instruction Text
Special Structured Remarks
Free-Text Remarks
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
粒
0800 1200 1700 2000
周
之後
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
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
處方資料
PRENISOLONE 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
Mapped with downloaded data
Derived from downloaded data
Manual input

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
Color coding 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 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**
THEN	✓	

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		Map as far as possible. 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. 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

圖2：解讀藥物標籤（醫院管理局）

圖6：解讀藥物標籤（私家醫生）

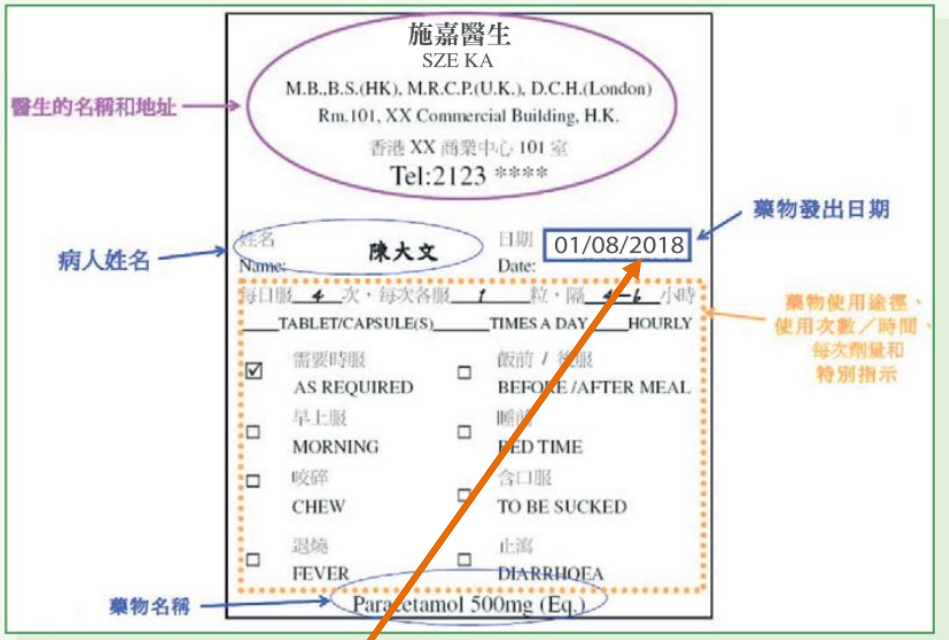


圖4：解讀藥物標籤（衞生署）

Drug Dispensing Date

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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」。

2.2 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

Medication Administration Record

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

(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]
- 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

Prescription Date

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。

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

(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)

[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".

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（範本）

個人藥物記錄

姓名：______________ 身份證號碼：______________

1. 藥物敏感歷史：[ ] 有 [ ]無 [ ]沒有資料　　日期：______________
2. 現正使用的處方藥物

藥名、劑型、劑量、使用次數／時間、使用途徑	開始使用藥物日期	停用藥物日期	藥物來源	注意事項	簽名

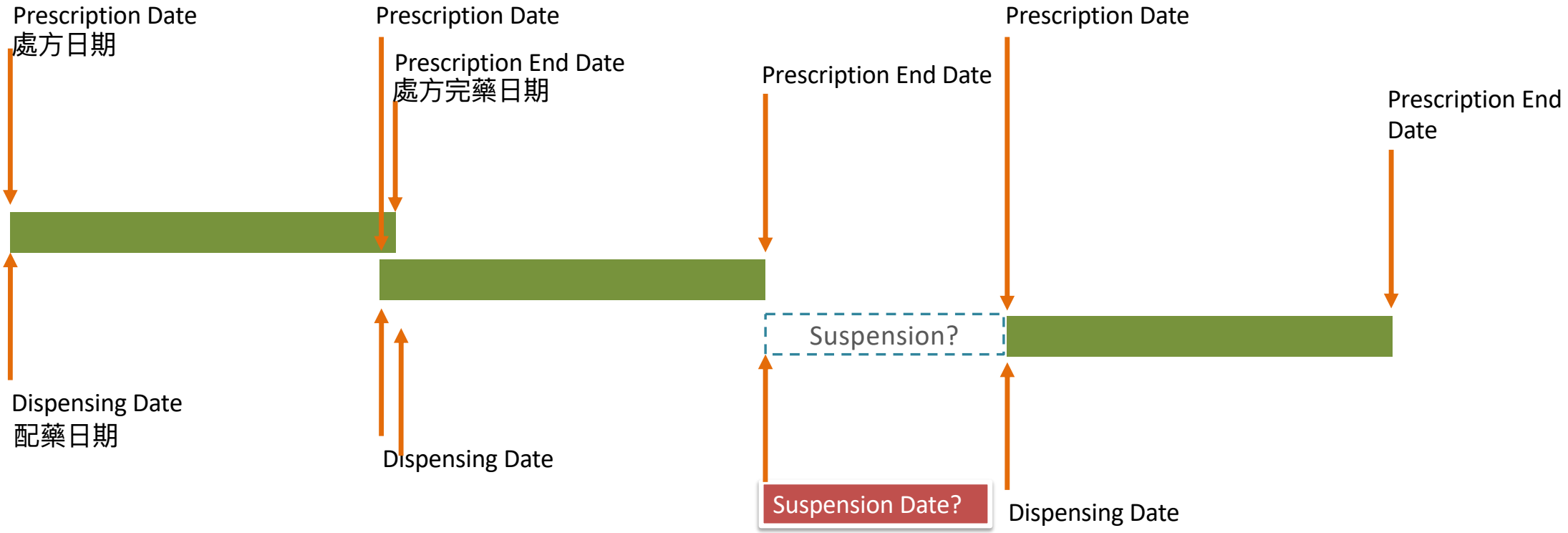
個人備藥和給藥記錄

對何種藥物過敏：

住客姓名 ______________ 出生日期 ____ 床號 ____號　　年　月

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	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
		每天　次	上午　時																															
		每次　粒	上午　時																															
執／核			下午　時																															
	藥物來源：		下午　時																															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
		每天　次	上午　時																															
		每次　粒	上午　時																															
執／核			下午　時																															
	藥物來源：		下午　時																															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
		每天　次	上午　時																															
		每次　粒	上午　時																															
執／核			下午　時																															
	藥物來源：		下午　時																															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
		每天　次	上午　時																															
		每次　粒	上午　時																															
執／核			下午　時																															
	藥物來源：		下午　時																															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
		每天　次	上午　時																															
		每次　粒	上午　時																															
執／核			下午　時																															
	藥物來源：		下午　時																															
	給藥記錄簽署		上午　時																															
	簽名=已服藥; H=因事回家; A=入院;		上午　時																															
	R=拒絕一種或以上藥物; O=其他		上午　時																															
	註: R 或 O：通知護士/保健員作出跟進		下午　時																															
	並作適當記錄		下午　時																															
	處方日期＝該藥物第一次被處方的使用日期。		下午　時																															

”Normal Prescription Practice” – Dates



開始使用藥物日期?
停止使用藥物日期?

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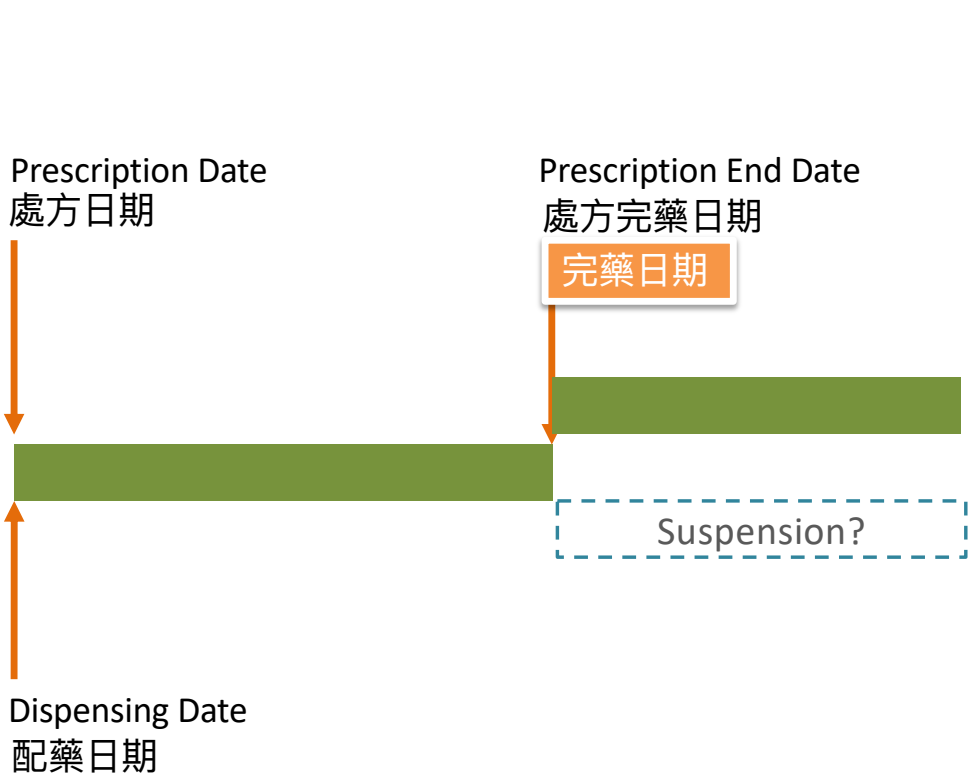
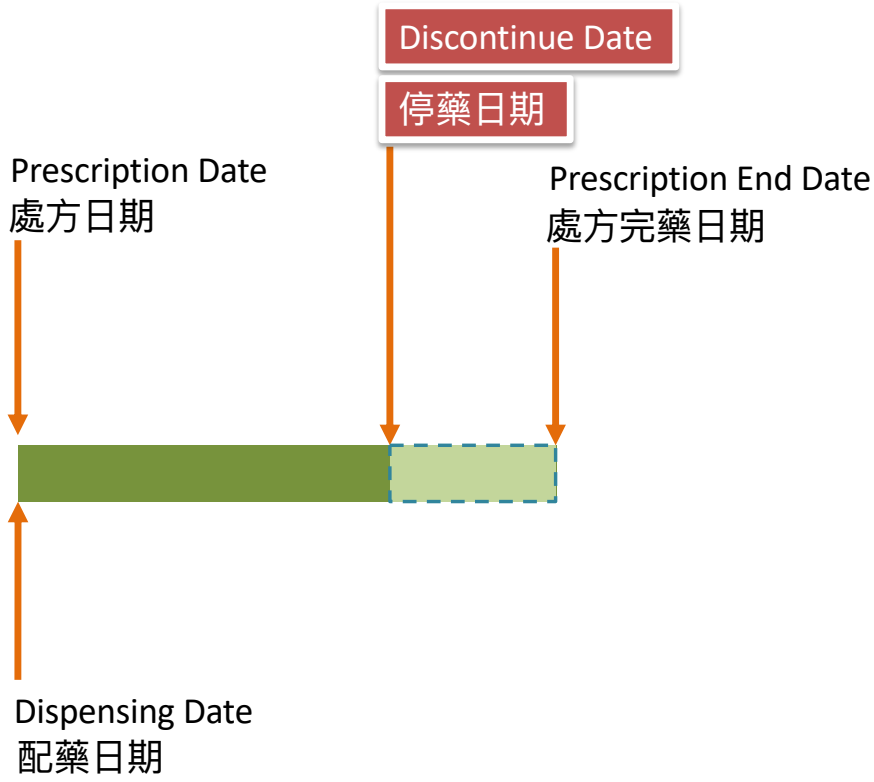
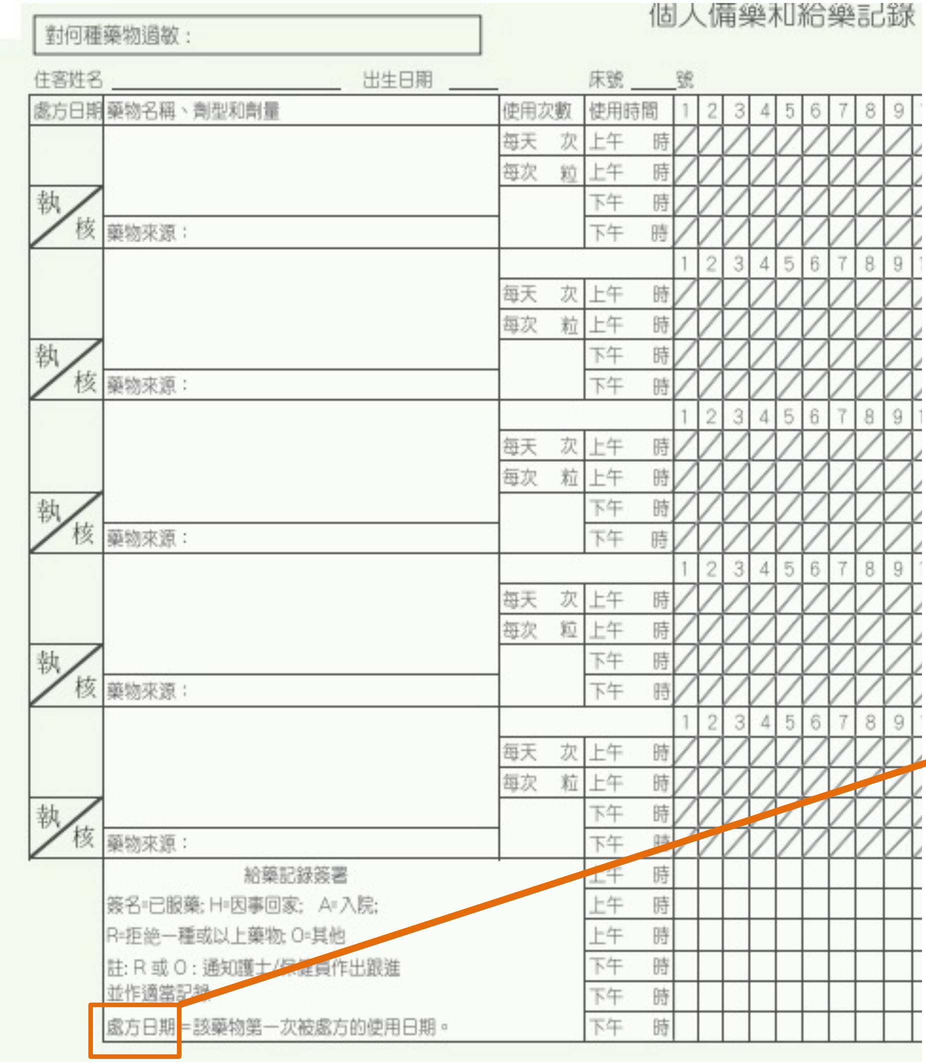
Medication End (完) vs Discontinue (停)



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



Prescription date / Dispensing Date		
"Start date (s)" 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	✓	Specified Start Date is uncommon in downloaded record. Prescription date 處方日期 Dispensing date 配藥日期 from eHealth are available for download SWD guideline: 收取藥物 藥物發出日期=配藥日期 dispensing date 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 Both dates cannot be deduced from downloaded records from eHealth 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。 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) 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

Expected end date 完藥日期 停藥日期	✓	Prescribed end date is uncommon in downloaded data. **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
PRN indicator	✓	Map and anticipate instruction **"regular frequency PRN"** e.g. Panadol 500 mg QID PRN or **"no frequency PRN"** e.g. TNG one tablet PRN. 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

Remark field 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 Continue Own Stock SFI Purchased by Patient Single Use	✓	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, **which may contain important and "special" instruction on the dosing or precaution or remarks**. However, the fields are optional and different HCP uploading the record may have different practice. 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.

Drug photo	✓	Could use the downloaded **HA drug code and/or HA Drug names** to retrieve existing drug photos if matched. May further consider mapping with HK registration number
Single use indicator	✓	The information may not be universally downloaded in the **Special Instruction for Prescription Order** or **Pharmacy Remark** fields. Could facilitate user input from **Drug Dose Instruction (Combined Text)**
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

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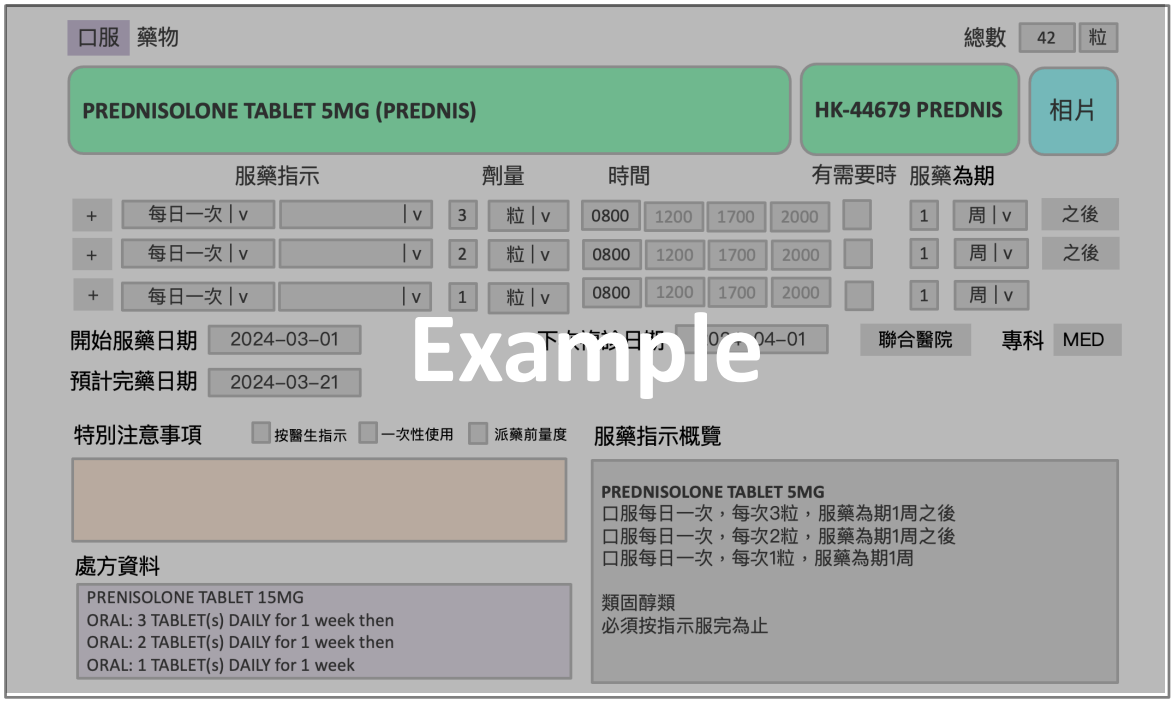
UI/UX Design Concepts

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



From Standards to Practice

USING HKMTT IN RCH SYSTEM

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

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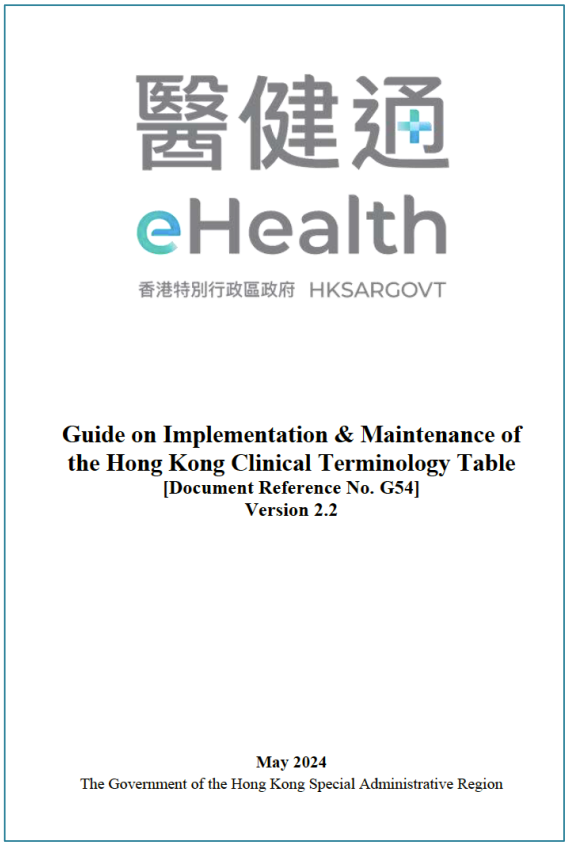
HKMTT Concepts

- 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: Augmentin

Route: Oral

Form: Tablet

Strength: 375mg

Active Ingredient(s): Amoxicillin, Calvulanic Acid

Salts: Trihydrate, Potassium

Certificate Holder: GalxoSmithKline

Legal Classification: Antibiotic

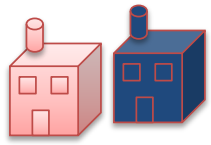
Trade Name (TN): AUGMENTIN

Product Name (AMP): AUGMENTIN TAB 375mg

Pharmacological Class (VMP): Penicillin

HK Registration No.: HK-47298

Drug Information from Manufacturer to Registration to HKMTT

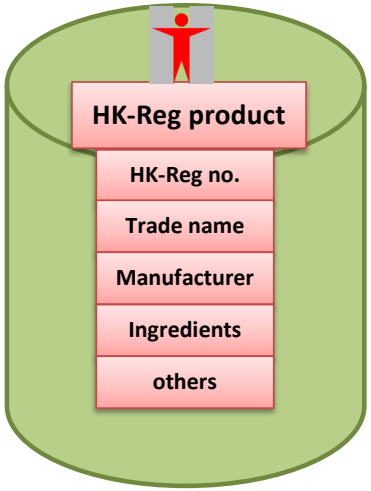


Pharmaceutical Companies / Manufacturers/ certificate holders

Product Registration

Drug name
Ingredient
Strength / concentration
Manufacturer, country…
Other registration particulars…

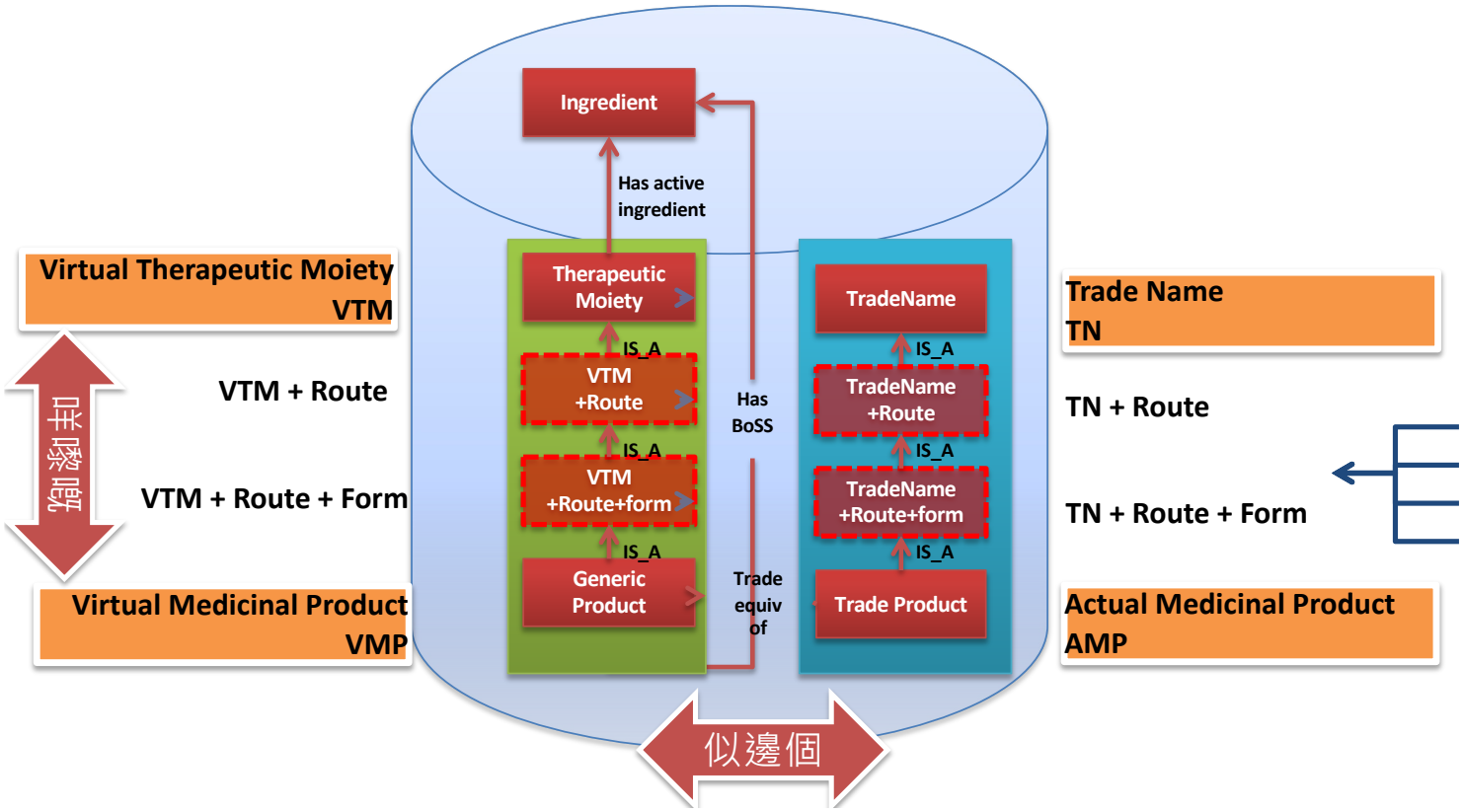
DoH Drug Compendium



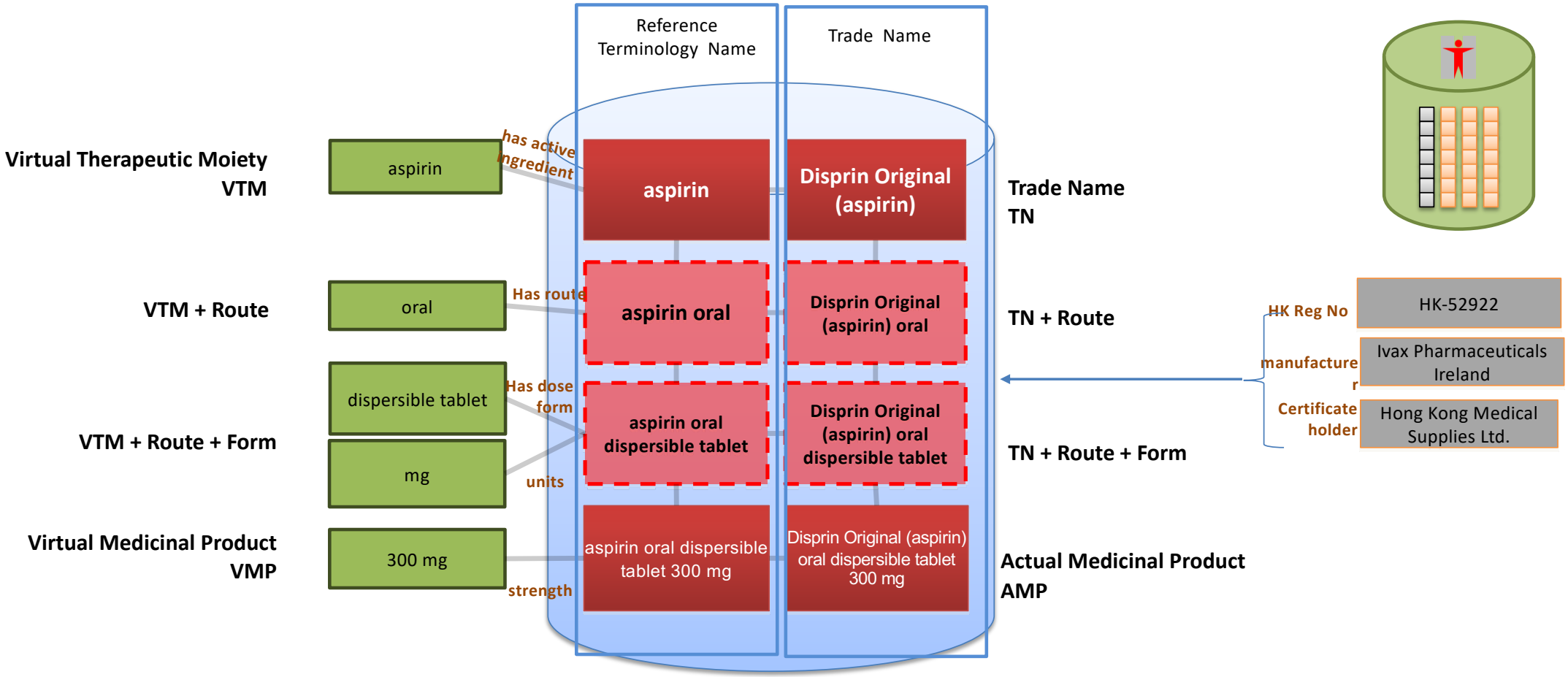
Interface between DH-DC & MTT

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

Medication Terminology Table

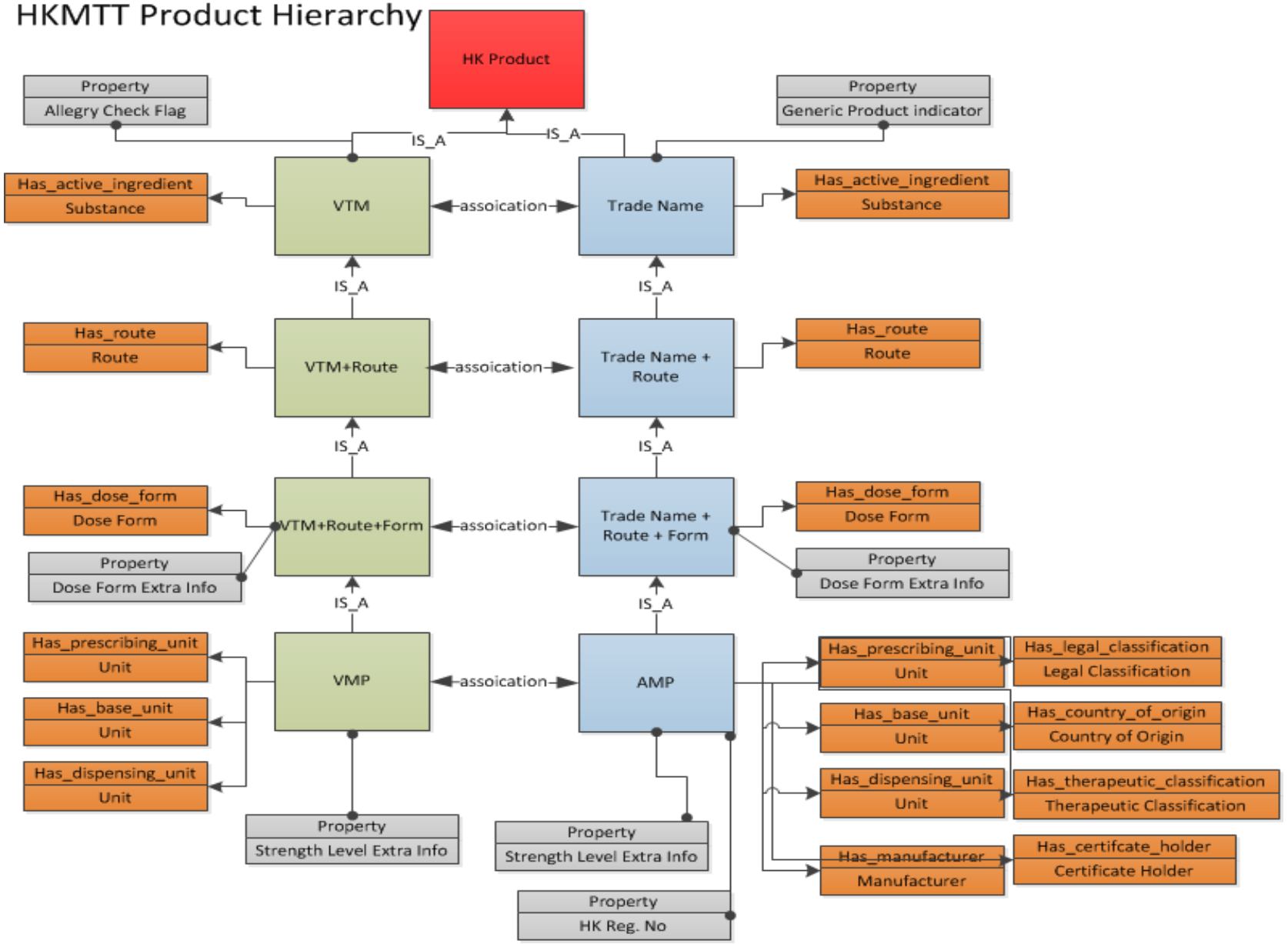


HK Medication Terminology Table (HKMTT) 香港藥物術語表



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

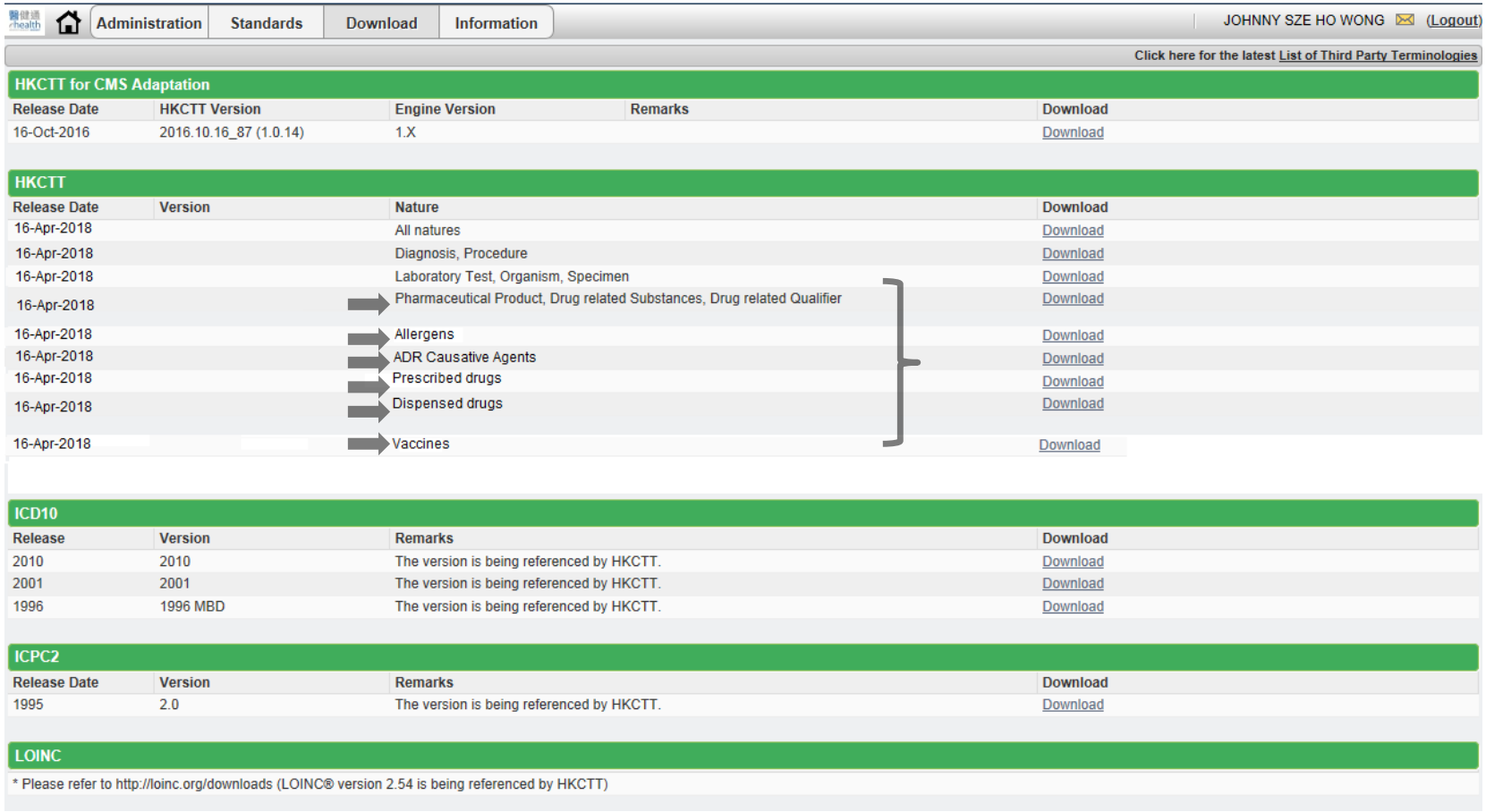
HKMTT Product Hierarchy



Download HKCTT – Drug data files from eHR

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

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

UNZIP

iams-hkctt-ehr-drug-2015.07.14.zip

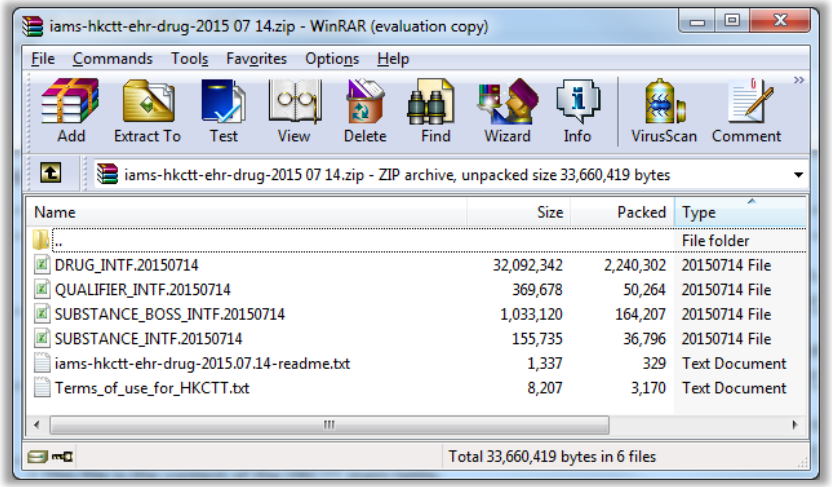
iams-hkctt-ehr-prescribed_drugs-yyyy.mm.dd.zip

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

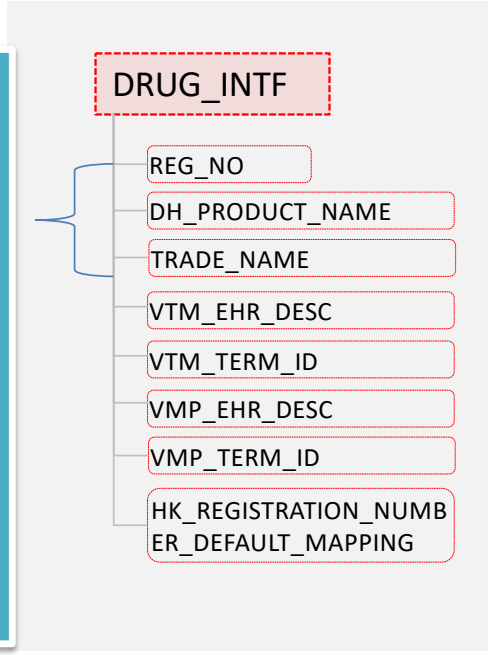
iams-hkctt-ehr-adr_causative_agents-yyyy.mm.dd.zip



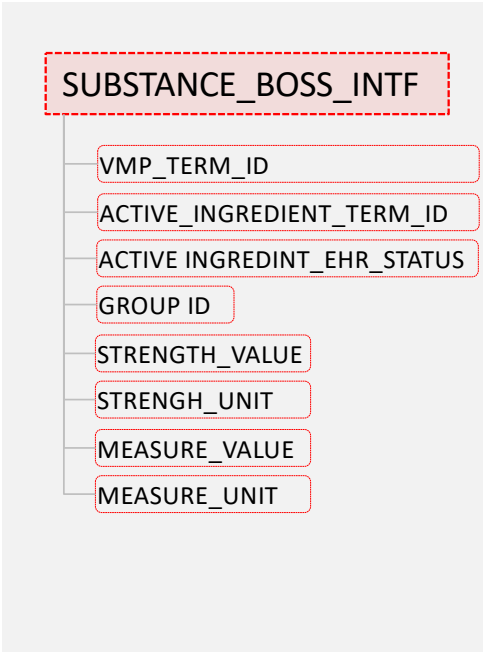
Schema of HKCTT – Pharmaceutical Products

Detailed DH-Registered Product information:

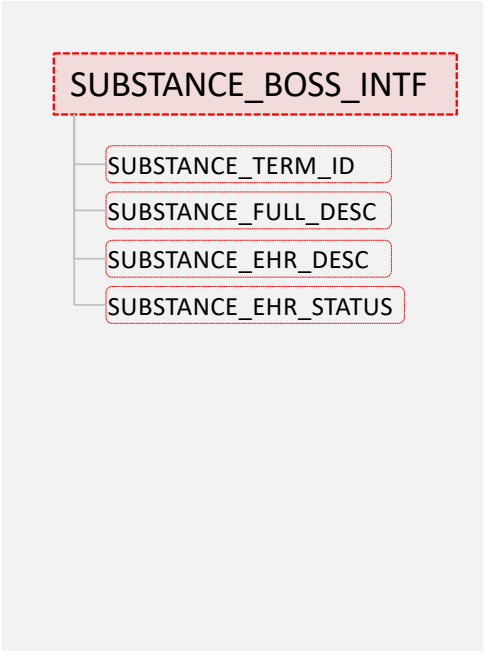
- HK-Reg No
- Product Name
- Trade Name
- Ingredients
- Strength
- Form
- Manufacturer
- Importer
- ….



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



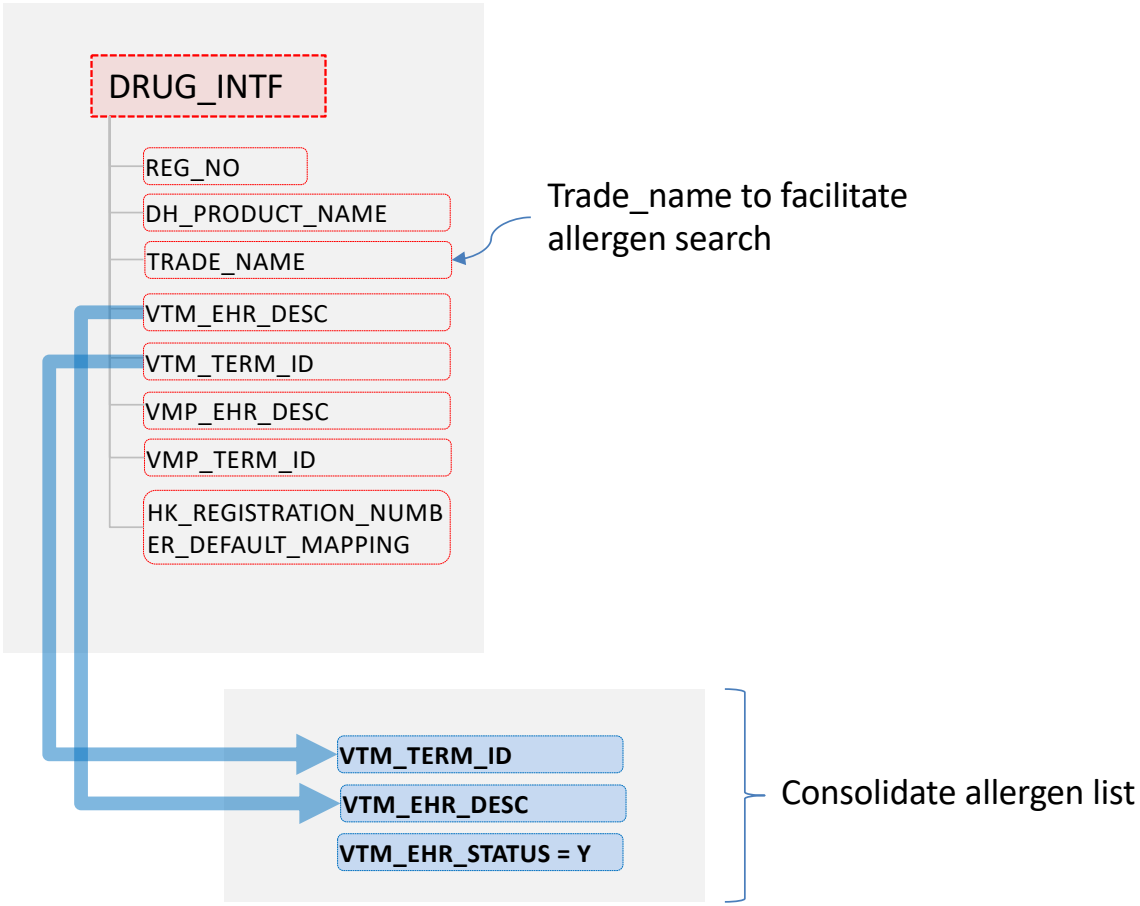
Breakdown **list of active ingredient(s)** per each listed products (VMP) on HKMTT (ID only)



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

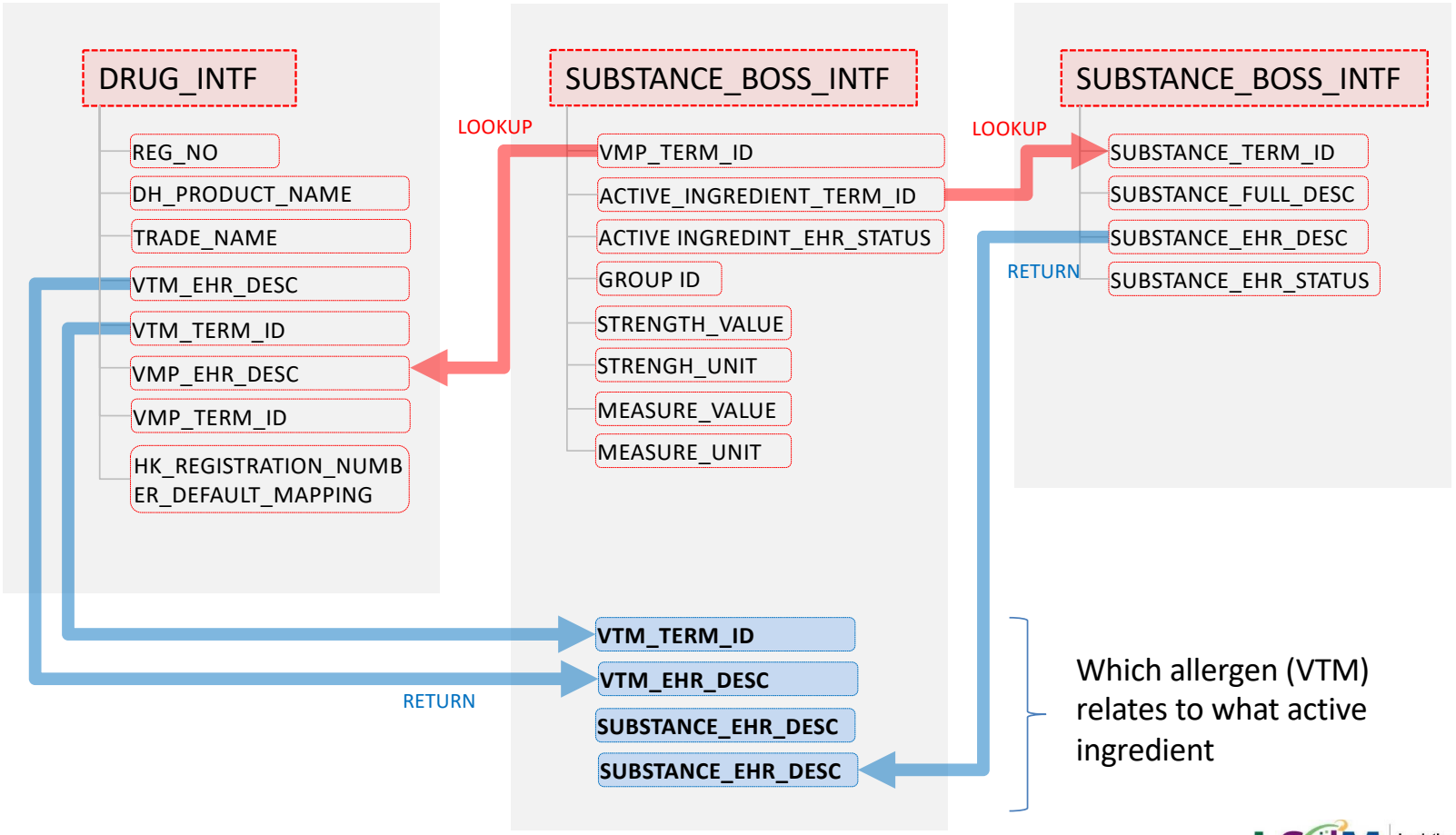
Schema of HKCTT – Pharmaceutical Products

Apply HKMTT as an allergen list



Schema of HKCTT – Pharmaceutical Products

Use case : allergens and active ingredient relationship



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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

Drug Products
used in local system

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

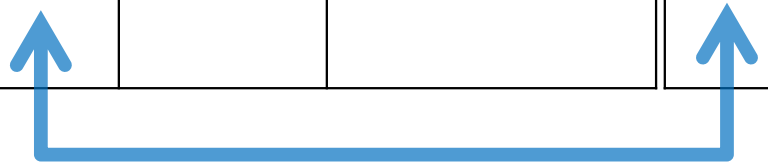
Mapping Drug Products

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

Mapped **HKCTT Product Terms**

HK Reg. no.	HKCTT TermID	HKCTT Description
62663	6013231	docetaxel intravenous concentrate and solvent for solution for infusion 20 mg / 0.5 mL
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

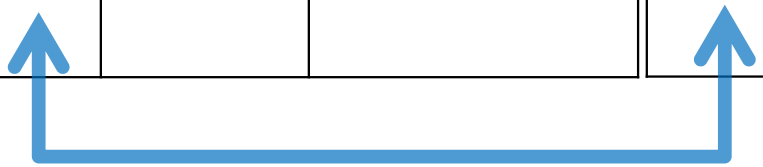
Mapping Allergens

Your local drug information

Mapped **HKCTT Product Terms**

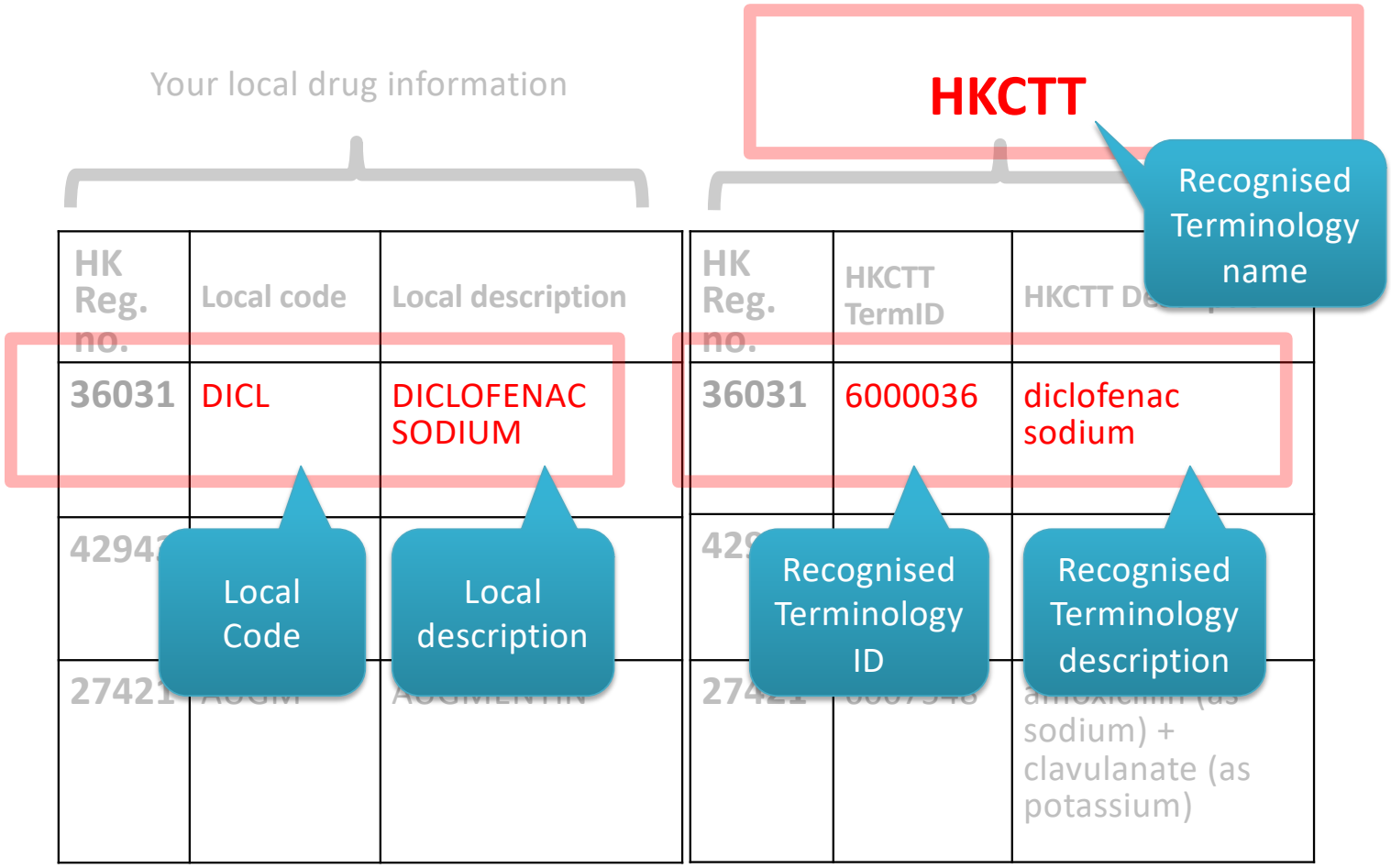
HK Reg. no.	Local code	Local description
36031	DICL	DICLOFENAC SODIUM
42943	CEPH	CEPHALEXIN
27421	AUGM	AUGMENTIN

HK Reg. no.	HKCTT TermID	HKCTT Description
36031	6000036	diclofenac sodium
42943	6005340	cefalexin
27421	6007548	amoxicillin (as sodium) + clavulanate (as potassium)

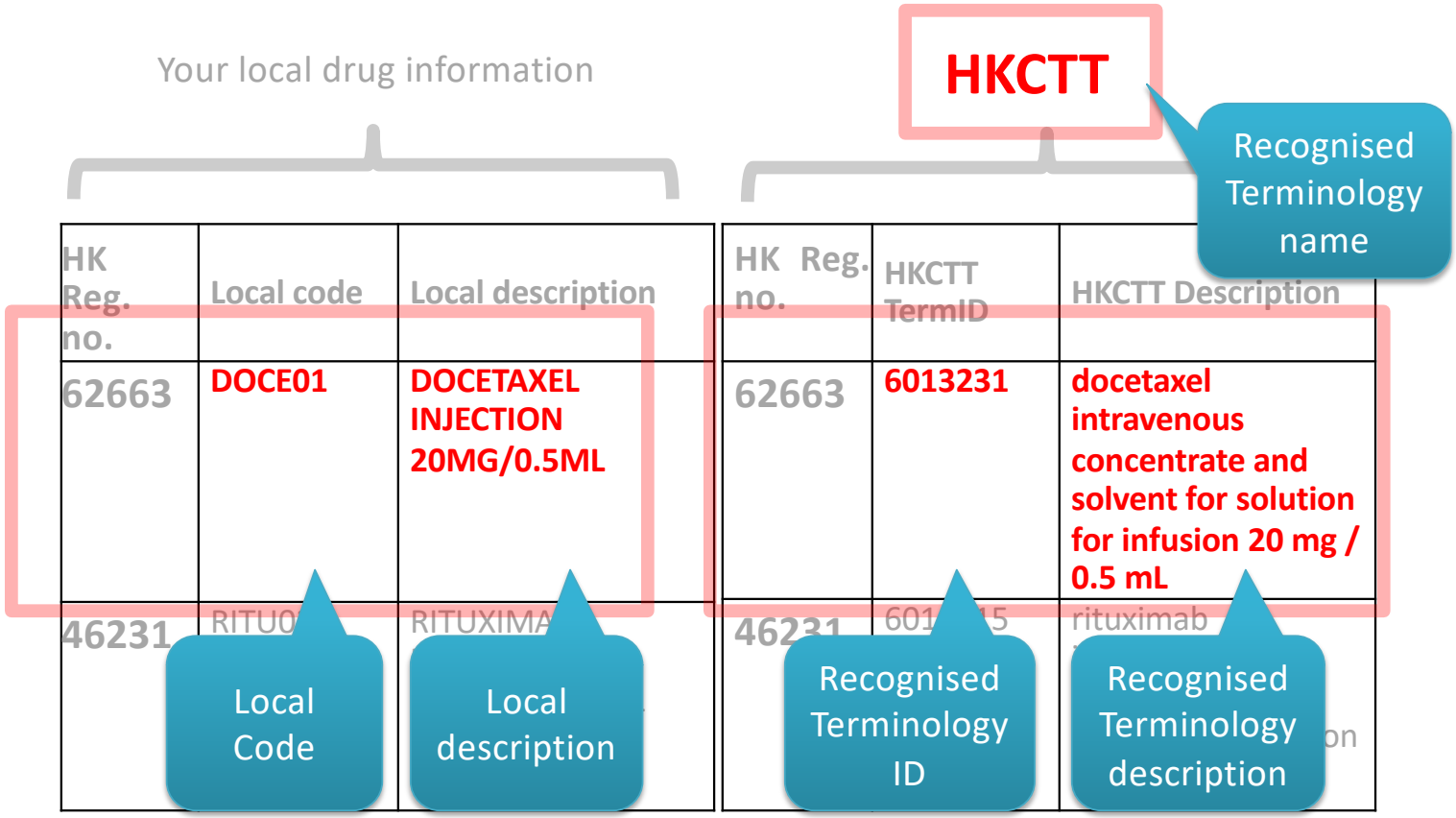


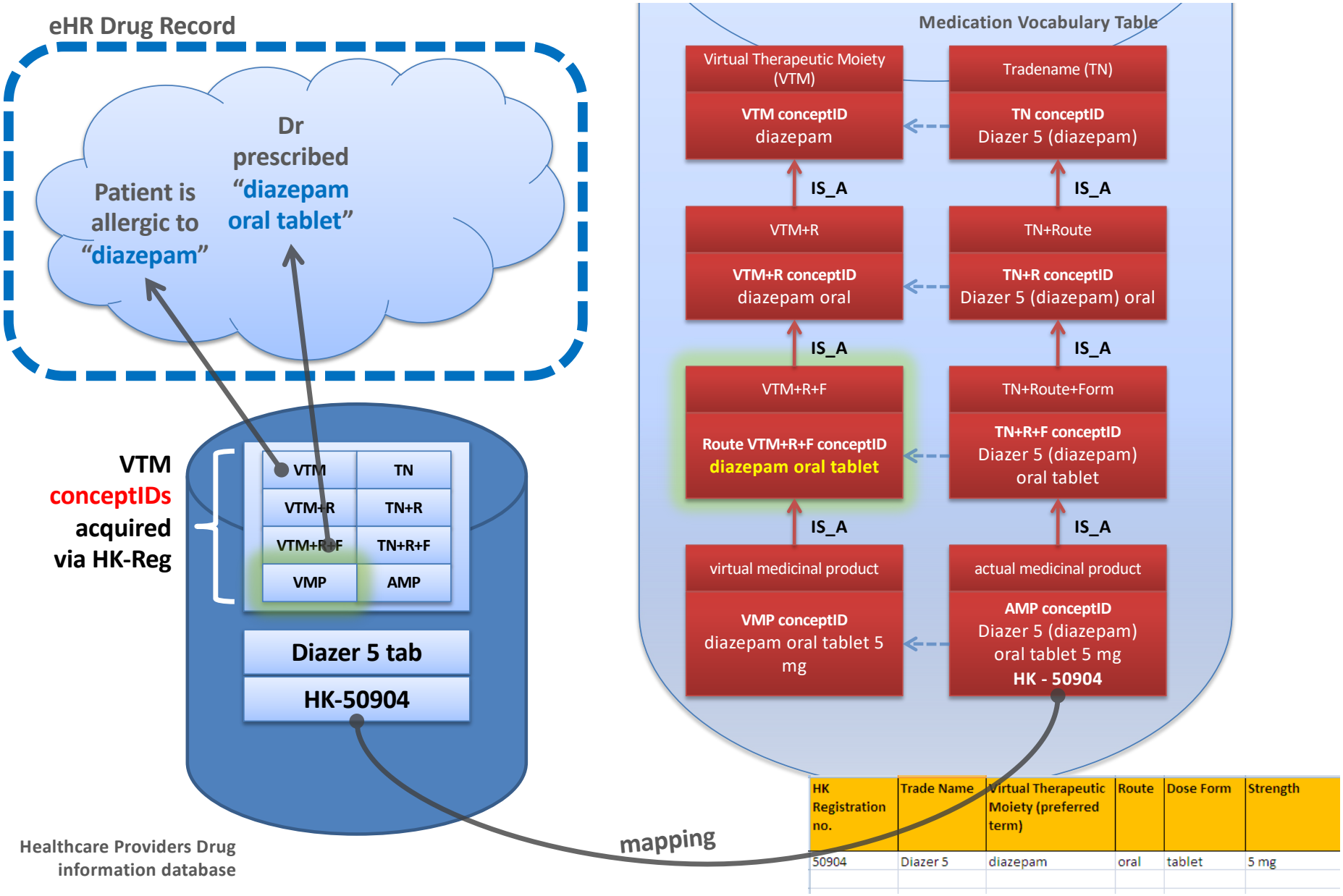
Matching HK Reg. no.

Mapping Allergens



Mapping Drug Products





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