

# eHealth+ eMedication



**Data and Technical Preparation (Advanced)**

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# eHealth eMedication Connectivity Preparation Briefing Series by LSCM



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-requisites 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](#)

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

**Steps-by-Steps Procedures**

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

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 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 result.

[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](mailto: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

- 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.
- 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).
- 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.
- 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](mailto: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 >](#)

### 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 processes of registering eHealth for their residents and other administrative processes essential for obtaining medication data from eHealth. The session has successfully attracted over 200 RCH representatives and IT experts, yielding a fruitful result.

[Download the presentation materials](#)

25-Mar-2024

**Residential Care Homes Briefing Session**



The Health Bureau (H&B) organized an eHealth briefing session to encourage participation of Residential Care Homes for the Elderly (RCH&E) and Persons with Disabilities (RCH&D) in eMedication (eMR) project.

H&B introduced eHealth developments to representatives from RCH&Es and Residential Care Homes for RCH&Ds through a briefing session, in which Residential Care Home (RCH) representatives were also invited to participate in the eMedication (eMR) project. The briefing session was co-organised by the H&B with the Hospital Authority (HA) and the Logistics and Supply Chain MultiTech R&D Centre (LSCM), and attracted registration from over 100 RCHs.

## 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...

#### Related Form

	Medication Data Standards	Security Standards
<b>eHR Dispensing Record</b>	<p>Healthcare provider (HCP) registering with the Electronic Health Record Sharing System (eHealth)</p> <p><a href="#">Download</a> <a href="#">Print</a></p>	<p><b>eHR Prescribing Record</b></p> <p>Providing information of additional HSL (only applicable to HCP with more than one HSL)</p> <p><a href="#">Download</a> <a href="#">Print</a></p>
<b>Healthcare Recipient Index</b>	<p>Healthcare provider (HCP) registering with the Electronic Health Record Sharing System (eHealth)</p> <p><a href="#">Download</a> <a href="#">Print</a></p>	<p><b>eHR Content Standard Guidebook</b></p> <p>Providing information of additional HSL (only applicable to HCP with more than one HSL)</p> <p><a href="#">Download</a> <a href="#">Print</a></p>
<b>eHR Content Codex</b>	<p>Healthcare provider (HCP) registering with the Electronic Health Record Sharing System (eHealth)</p> <p><a href="#">Download</a> <a href="#">Print</a></p>	<p><b>Hong Kong Clinical Terminology Table</b></p> <p>Providing information of additional HSL (only applicable to HCP with more than one HSL)</p> <p><a href="#">Download</a> <a href="#">Print</a></p>
<b>Hong Kong Medication Terminology Table</b>	<p>Healthcare provider (HCP) registering with the Electronic Health Record Sharing System (eHealth)</p> <p><a href="#">Download</a> <a href="#">Print</a></p>	

[Previous Step](#)

[Next Step](#)

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



# 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
  - SRAA

## 4. Testing and Approval

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

# Agenda

1. Data Preparation (Advanced) – eHR Data Standard and HL7 FHIR
2. Technical Set-Up for Data Testing
3. LSCM Experience Sharing of Testing Environment Set-up
4. iAM Smart Authentication Introduction (Digital Policy Office)


Obtain – Interpret – Present - Use

# TECHNICAL PREPARATION

# Technical Preparation for Data Downloading



擺得到

Obtain

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

睇得明

Interpret

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

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 

Sequential Processes for Data Download from eHealth for Meaningful Use

# RCH IT Systems and eHealth Interfacing



Submit HL7 FHIR Request:

- PMI
- Date Range
- Request for Prescribing /Dispensing

Get HL7 FHIR Reply:

- PMI
- Date Range
- Replied Prescribing/Dispensing records

Upload HL7 FHIR:

- PMI
- Date of dispensing
- Dispensed records

Patient 1, dispensing institution, date, drug 1....  
 Patient 1, dispensing institution, date, drug 2....  
 Patient 1, dispensing institution, date, drug 3....  
 Patient 2, dispensing institution, date, drug 1....  
 Patient 3, dispensing institution, date, drug 1....  
 .....

“Active Resident List”

Medication records in structured format in “Stagging Area”

“Active Medication Records”

Automatic Packaging Machines

PMI  
 eHR registration  
 Sharing Consent  
 Submit request

Patient 1, prescriber, institution, date, drug 1....  
 Patient 1, prescriber, institution, date, drug 2....  
 Patient 1, prescriber, institution, date, drug 3....  
 Patient 2, prescriber, institution, date, drug 1....  
 Patient 3, prescriber, institution, date, drug 1....  
 .....

Present for users’ confirmation and verification

Match/Map

Interface downstream

RCH System

# Via “Active Resident List” in eMR submit a Record Request to eHealth

HCP Identification

Patient

\*Validation

Record requested

eHR HCP ID	eHR HCR No	Family Name, Given Name	ID	Patient Birth Date	Gender	eHR Registered	Sharing Consent	Medication Download agreed	Date Range Start Date End Date	Prescribed Record	Dispensed Record
321 456 987 0	470381070919	Lee, One	A123456(7)	1911-01-01	M	Y	Y	Y	2024-01-01 to 2024-03-31	Y	-
321 456 987 0	210987654321	Cheung, Mui	C765421(1)	1943-12-02	F	Y	Y	Y	2024-02-01 to 2024-03-31	Y	Y

Submit

*\*Other validation rules applied at eHealth upon processing each data download request from RCH*

List of patients with parameters to specify for record retrieval

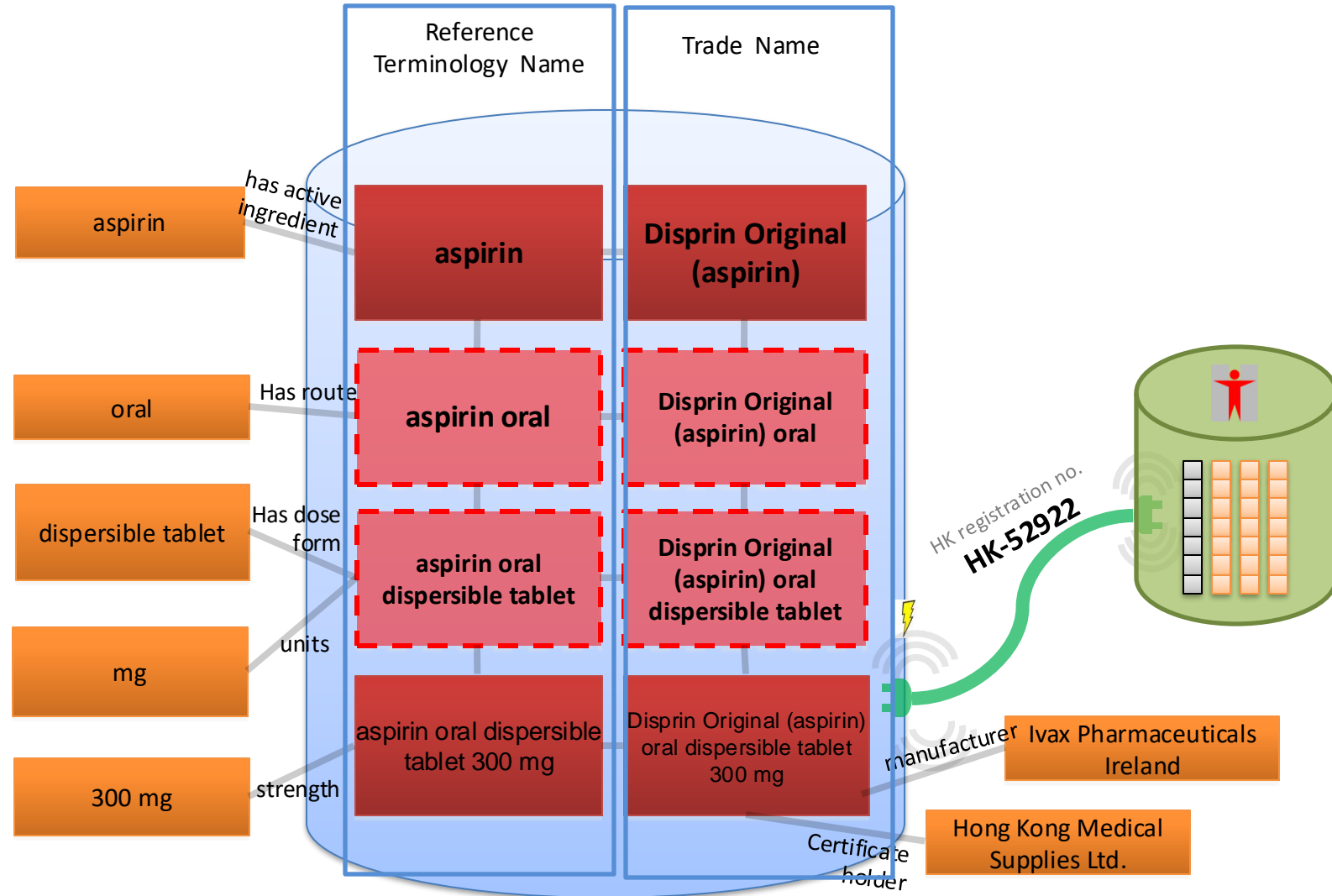




How to define a drug name

# **HONG KONG MEDICATION TERMINOLOGY TABLE (HKMTT)**

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



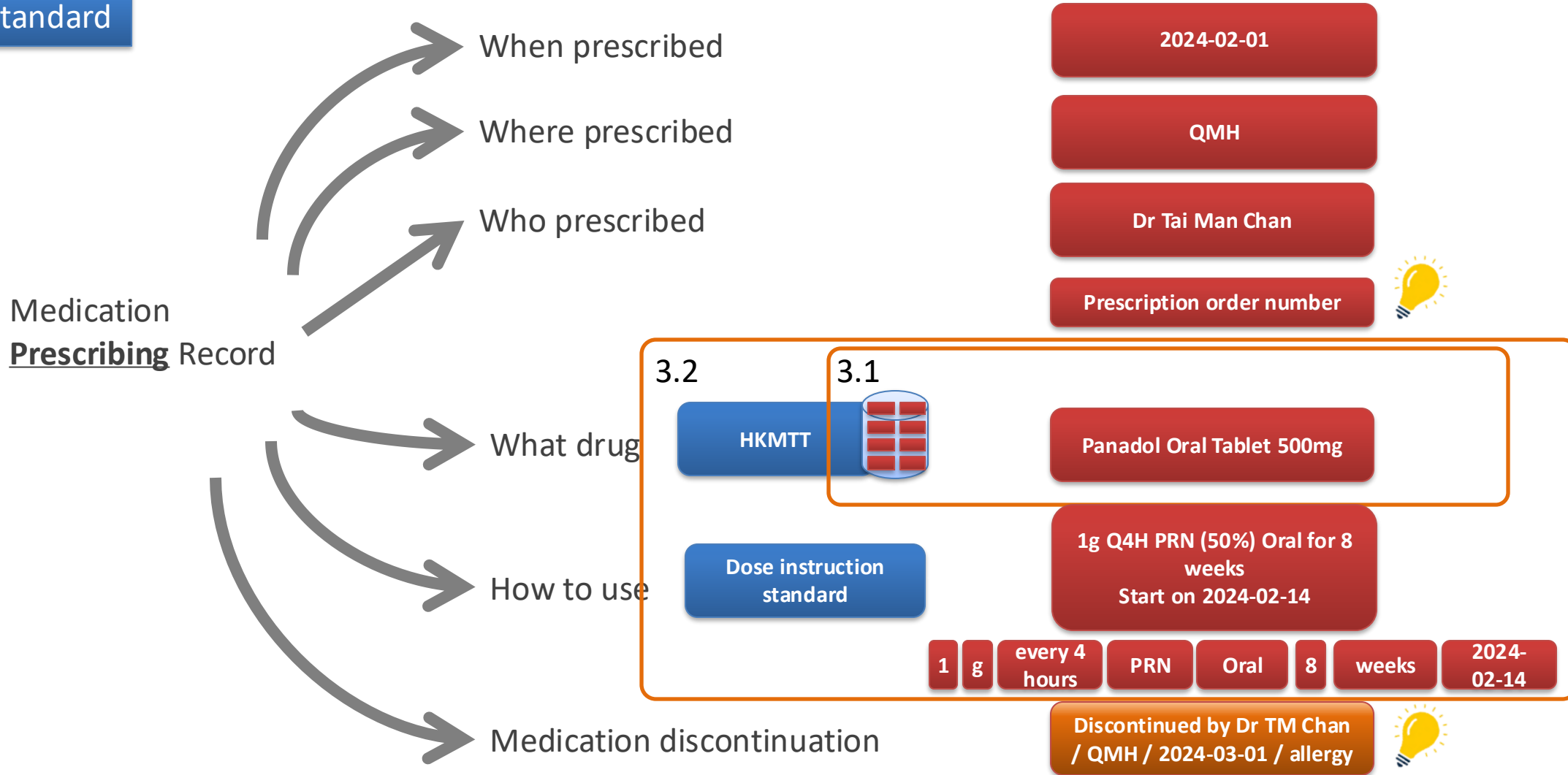
As of Aug 2024 HKMTT contains 14,000 unique pharmaceutical products actively registered in HK

How to define the prescribing and dispensing details in a medication record

# **EHR PRESCRIBING AND DISPENSING DATA STANDARD**

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

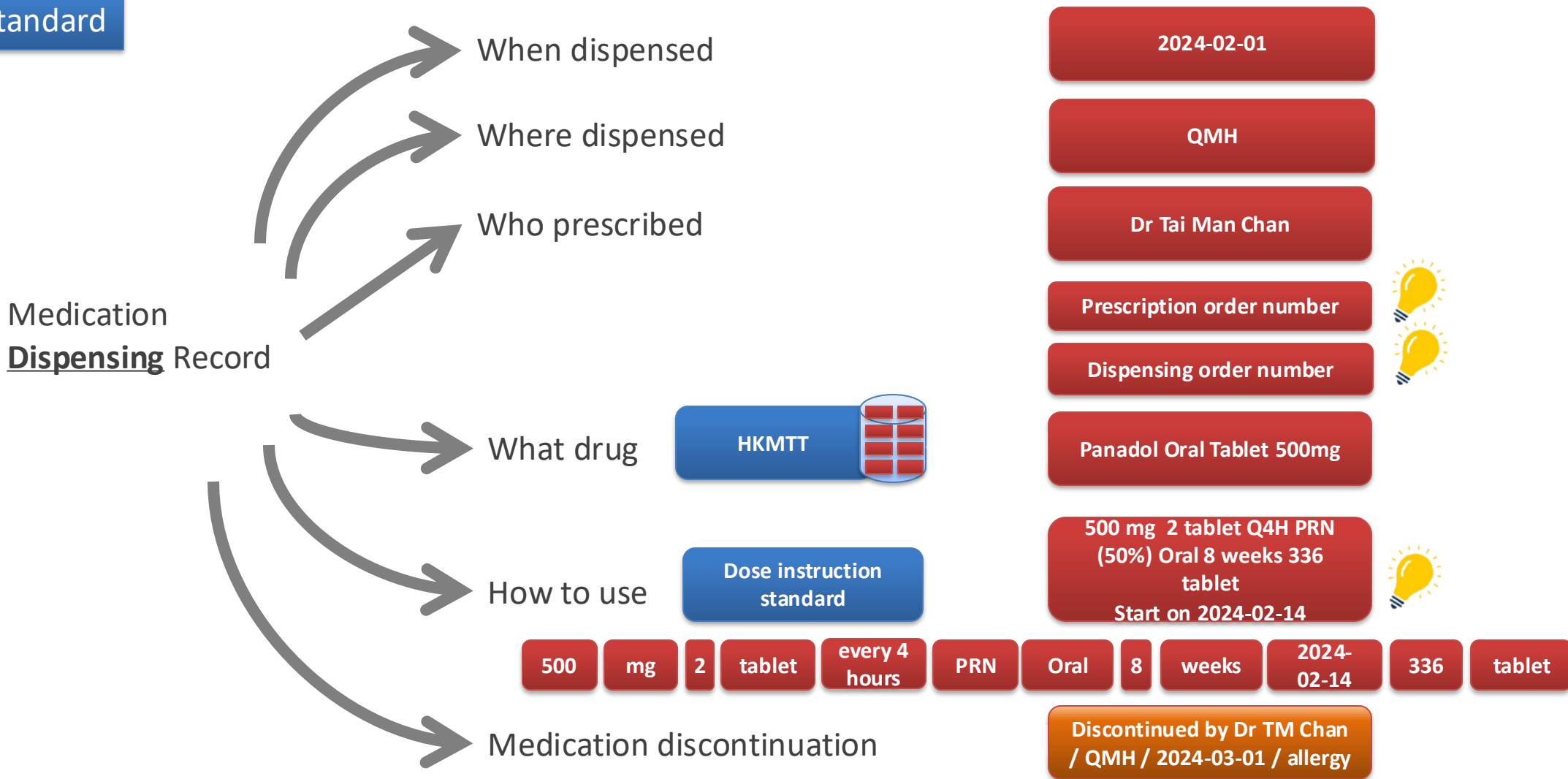
## Prescribing Data Standard



eHR further define and standardize other data elements in medication prescribing and dispensing records

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

## Dispensing Data Standard



Similar data standards applied for dispensing records with additional relevant data elements for dispensing

# eHR Healthcare Recipient Index Data Standard

	Entity Name	Definition	Data Type (code)	Data Type (description)	Example (Certified Level 3)	Code Table
eHR no	eHR number	A unique eHR healthcare recipient identifier assigned to each patient for each participation in the Hong Kong eHR	ST	String	123456789012	
	English surname	Patient's surname in English	ST	String	Chan	
Name	English given name	Patient's given name in English	ST	String	Tai Man Peter	
	Chinese name	Patient's full Chinese name	ST	String	李小明	
	Chinese Commercial Code	Chinese Commercial Code for the patient's Chinese name	NM	Numeric	2621 1420 2494	
	Other name	Any name by which the patient has been known other than the [English given name - patient] or [Chinese name - patient]	ST	String		
Sex	Sex*	[eHR value] of the "Sex" code table. It is used to identify the sex of the patient	CE	Coded element	M*	Sex
DOB	Data of birth	Patient's date of birth	TS	Time Stamp	1991-03-02	
	Exact date of birth	[eHR value] of the "Exact data" code table. It is used to indicate whether the displayed date of birth is the exact birth date as indicated in the ID document	CE	Coded element	EDMY	Exact date
ID No	Type of identity document	[eHR value] of the "type of identity document" code table. It is the type of patient's identity document presented	CE	Coded element	ID	Type of identity document
	Identity document number	The document number of the type of identity document	ST	String	A1234567	

\*Gender is defined as "male" and "female" in FHIR

# eHR Healthcare Recipient Index Data Standard – Codex Table




## Type of identity document

Purpose : to identify the type of identity document the patient presented during eHR registration

Reference : HA

Term ID	eHR Value	eHR Description	Chinese Description	Full Description
9050004	AR	Adoption Certificate	領養證明書	Adopted Children Register (include those issued by HKSAR and non-HKSAR government authorities)
9050039	BC	Birth Certificate - HK	香港出生證明書	Hong Kong Birth Certificate
9050713	CD	Consular Corps ID Card	領事團身份證	Consular Corps Identity Card
9050111	DI	Document of Identity for Visa Purposes	香港特別行政區簽證身份書	HKSAR Document of Identity for Visa Purposes
9050131	EC	Exemption Certificate	豁免證明書(或稱豁免登記證明書)	Certificate of Exemption
9050496	ED	eHR document	電子健康紀錄文件	Document issued by eHRC for newborn registration
9050175	ID	HKID Card	香港身份證	Hong Kong Identity Card
9050515	MD	Macao ID Card	澳門身份證	Macao Identity Card
9050189	OC	Travel documents - PRC	中華人民共和國發出之其他旅遊證件	Other travel documents issued by the People Republic of China government / authorising agent, exclude One-way Permit and Two-way Permit
9050188	OP	Travel document - overseas	其他國家/地區發出之旅遊證件	Travel documents issued by other countries / regions
9050311	OW	One-way Permit	單程証	One-way Permit
9050516	RE	Recognizance Form	擔保書(行街紙)	Recognizance Form
9050370	RP	Re-entry Permit	香港特別行政區回港證	HKSAR Re-entry Permit
9050457	TW	Two-way Permit	雙程証	Two-way Permit

## eHR Prescribing Data Standard

Entity Name	Definition	Data Type (code)	Data Type (description)	Example (Certified Level 3)	Code Table
Prescription datetime	Datetime when the prescription was made	TS	Time stamp	2024-02-01 10:32:00	
Prescribing institution identifier	[Healthcare institution identifier] in the eHR Healthcare Provider Index for the healthcare institution which issued the prescription order	CE	Coded element	QMH	
Prescribing institution long name	[Healthcare institution displayed English long name] or the [Healthcare institution displayed Chinese long name] in the eHR Healthcare Provider Index for the healthcare institution which issued the prescription order	ST	String	Queen Mary Hospital	Healthcare Institution
Prescribing institution local name	Local description of the healthcare provider by which the prescription order was made.	ST	String	Queen Mary	Healthcare Institution
Prescription order number	A unique number assigned for each drug order issued by individual healthcare institution. One drug order would include multiple prescribed drugs.	ST	String	MOEQMH123456700	
Prescriber's English full name	Full English name (with title) of the healthcare professional who prescribed the drug.	ST	String	Dr Chan Tai Man	
Prescriber's Chinese full name	Full Chinese name (with title) of the healthcare professional who prescribed the drug.	ST	String	陳大文醫生	
Prescribed drug - recognised terminology name	Name of the recognised terminology for the prescribed drug	CE	Coded element	HKCTT 	Pharmaceutical Product
Prescribed drug identifier - recognised terminology	Unique identifier of the prescribed drug in the recognised terminology	CE	Coded element	6027457	Pharmaceutical Product
Prescribed drug description - recognised terminology	Description of the prescribed drug in recognised terminology. It should be the corresponding description of the selected [Prescribed drug identifier - recognised terminology].	CE	Coded element	Panadol (paracetamol) oral tablet 500 mg (HK-02280) 	
Prescribed drug code - local terminology	Local code of the prescribed drug developed by the healthcare provider	ST	String	PARA01 	
Prescribed drug description - local terminology	Local description of the prescribed drug developed by the healthcare provider	ST	String	PARACETAMOL TABLET 500MG	
Dose instruction	The entire combined dose instruction information of an ordered drug; the syntax should contain the following information of the prescription order: (i) route of administration, (ii) dose, (iii) frequency, and (iv) duration of treatment or treatment start and end date	ST	String	1g Q4H PRN (50%) Oral for 8 weeks start on 2024-02-14	
Special instruction	Additional information relating to the use of the prescribed drug	ST	String	For Pain	

When  
Where  
Who

What drug

How to use

# eHR Prescribing Data Standard – Dosing Instruction

	Entity Name	Definition	Data Type (code)	Data Type (description)	Example (Certified Level 3)	Code Table
Dose Dose Unit	Prescribed drug dose value	Numeric value of the prescribed drug dose unit	NM	Numeric	500	
	Prescribed drug dose unit code	eHR value of the prescribed drug dose unit code table for identifying the prescribed drug dose unit	CE	Coded element	7700374	Prescribed Drug Dose Unit
	Prescribed drug dose unit description	eHR description of the prescribed drug dose unit code table for for identifying the prescribed drug dose unit	ST	String	mg	Prescribed Drug Dose Unit
	Prescribing drug dose unit local description	Local description of the prescribed drug dose unit developed by the healthcare provider	ST	String	milligram	
Frequency	Prescribed drug frequency code	eHR value of the Drug Frequency code table for identifying the prescribed drug dose frequency	CE	Coded element	7703206	Drug - Frequency
	Prescribed drug frequency description	eHR description of the Drug Frequency code table for identifying the prescribed drug dose frequency	ST	String	every 4 hours	Drug - Frequency
	Prescribed drug frequency local description	Local description of the prescribed drug frequency developed by the healthcare provider	ST	String	Q4H	
Supplementary Frequency	Prescribed drug supplementary frequency code	eHR value of the Drug Supplementary Frequency code table for identifying the prescribed drug dose supplementary frequency	CE	Coded element	7703236	Drug - Supplementary Frequency
	Prescribed drug supplementary frequency description	eHR description of the Drug Supplementary Frequency code table for identifying the prescribed drug dose supplementary frequency	String	String	On odd days	Drug - Supplementary Frequency
	Prescribed drug supplementary frequency local description	Local description of the prescribed drug supplementary frequency developed by the healthcare provider	String	String	Odd Days	
PRN Indicator	Prescribed drug PRN indicator	An indicator for PRN indication if the prescribed medication order is indicated for use on as needed basis	CE	Coded element	Yes	
Route	Prescribed route of medication administration code	eHR value of the Route of medication administration code table for identifying the prescribed route of medication administration	CE	Coded element	7700046	Route of medication administration
	Prescribed route of medication administration description	eHR description of the Route of medication administration code table for identifying the prescribed route of administration	ST	String	Oral	Route of medication administration
	Prescribed route of medication administration local description	Local description of the Route of medication administration developed by the healthcare provider	ST	String	ORAL	

# eHR Prescribing Data Standard – Dosing Instruction

	Entity Name	Definition	Data Type (code)	Data Type (description)	Example (Certified Level 3)	Code Table
Site	Prescribed site of medication administration code table	eHR value of the site of medication administration code table for identifying the prescribed site of medication administration	CE	Coded element	<b>8001753</b>	<b>Site of medication administration</b>
	Prescribed site of medication administration description	eHR description of the site of medication administration code table for for identifying the prescribed drug dose unit	ST	String	<b>Face</b>	<b>Site of medication administration</b>
	Prescribed site of medication administration local description	Local description of the site of medication administration developed by the healthcare provider	ST	String	<b>Facial Surface</b>	
Duration	Prescribed drug duration value	Numeric value of the prescribed drug duration	NM	Numeric	<b>8</b>	
	Prescribed drug duration unit code	eHR value of the drug duration unit code table for identifying the prescribed drug duration unit	CE	Coded element	<b>7703286</b>	<b>Drug - duration unit</b>
	Prescribed drug duration unit description	eHR description of the drug duration code table for identifying the prescribed drug dose frequency	ST	String	<b>week</b>	<b>Drug -Duration unit</b>
	Prescribed drug duration unit local description	Local description of the prescribed drug duration developed by the healthcare provider	ST	String	<b>WEEK</b>	
Quantity	Prescribed drug quantity value	Numeric value of the prescribed drug quantity	NM	Numeric	<b>336</b>	
	Prescribed drug quantity code	eHR value of the drug quantity code table for identifying the prescribed drug quantity unit	CE	Coded element	<b>7700245</b>	<b>Prescribed drug quantity unit</b>
	Prescribed drug quantity description	eHR description of the drug quantity code table for identifying the prescribed drug quantity	ST	String	<b>tablet</b>	<b>Prescribed drug quantity unit</b>
	Prescribed drug quantity local description	Local description of the prescribed drug quantity developed by the healthcare provider	ST	String	<b>Tab</b>	
Start Date	Prescribed drug treatment start date	Treatment start date as specified by the healthcare provider	ST	String	<b>2024-02-14</b>	

## eHR Prescribing Data Standard – Dosing Instruction

Entity Name	Definition	Data Type (code)	Data Type (description)	Example (Certified Level 3)	Code Table
Special instruction	Special instruction for prescription order	ST	String	Omit if heart rate <60	
Prescription order number	Prescription order number	ST	String	MOEQMH123456700	
Sequence Numbers 	Prescribed drug sequence number	NM	Numeric	1-999	
	Prescribed drug dose value sequence number	NM	Numeric	0-999	
	Prescribed drug dose instruction sequence number	NM	Numeric	0-999	
Conjunction	Prescribed drug dose value conjunction code	CE	Coded element	9050518	Drug- conjunction
	Prescribed drug dose value conjunction description	ST	String	And	
	Prescribed drug instruction value conjunction code	CE	Coded element	9050519	Drug- conjunction
	Prescribed drug dose instruction conjunction description	ST	String	Then	
Discontinuation	Prescribed medication discontinuation status	CE	Coded element	Y	
	Prescribed medication discontinuation information	ST	String	allergy	
	Prescribed medication discontinuation institution identifier	CE	Coded element	QMH	Healthcare Institution
	Prescribed medication discontinuation institution long name	ST	String	Queen Mary Hospital	Healthcare Institution
	Prescribed medication discontinuation institution local name	ST	String	Queen Mary	
	Prescribed medication discontinuation prescriber's English name	ST	String	Dr Cheung Siu Man	
	Prescribed medication discontinuation prescriber's Chinese name	ST	String	張小文醫生	
	Date of prescribed medication discontinuation	TS	Time stamp	2024-02-14	

## Dose Unit (117)

## Prescribed drug dose unit

Purpose: To define the names of the recognised terminology for prescribed drug dose unit

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	set
7702947	spoonful (5 mL)
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

# Frequency (87)



“Daily frequency”  
“Within the same day”

## Drug - frequency

Purpose: To define the daily frequency for drug  
Source: SNOMED-CT, Hospital Authority, e-HR

eHR Value	Full Description
7703152	once daily
7703687	once per day
7703153	one to two times daily
7703154	one to three times daily
7703155	one to four times daily
7703156	twice daily
7703157	twice daily during daytime
7703158	two to three times daily
7703159	two to four times daily
7703160	three times daily
7703161	three times daily during daytime
7703162	three to four times daily
7703163	four times daily
7703164	four times daily during daytime
7703165	four to six times daily
7703166	five times daily
7703167	five times daily during daytime
7703168	six times daily
7703169	seven times daily
7703170	eight times daily
7703171	nine times daily
7703172	ten times daily
7703173	eleven times daily
7703174	twelve times daily
7703175	sixteen times daily
7703176	in the morning
7703177	in the morning on day of examination
7703178	at noon
7703179	in the afternoon
7703180	in the evening
7703181	at night
7703182	at night before the day of examination
7703183	at bedtime
7703184	before breakfast
7703185	with breakfast
7703186	after breakfast
7703187	before lunch
7703188	with lunch
7703189	after lunch
7703190	before dinner
7703191	with dinner
7703192	after dinner
7703193	every fifteen minutes
7703194	every thirty minutes
7703195	hourly
7703196	hourly during daytime
7703197	every one to two hours
7703198	every two hours

eHR Value	Full Description
7703199	every two hours during daytime
7703200	every two to three hours
7703201	every two to four hours
7703202	every three hours
7703203	every three hours during daytime
7703204	every three to four hours
7703205	every three to six hours
7703206	every four hours
7703207	every four hours during daytime
7703208	every four hours while awake
7703209	every four to six hours
7703210	every five hours
7703211	every six hours
7703212	every six to eight hours
7703213	every eight hours
7703214	every eight to twelve hours
7703215	every ten hours
7703216	every twelve hours
7703217	every sixteen hours
7703218	every eighteen hours
7703219	every twenty four hours
7703220	every thirty six hours
7703221	every forty hours
7703222	every forty eight hours
7703223	every sixty hours
7703224	every seventy two hours
7703225	every ninety six hours
7703226	once
7703227	at once
7703228	at start of attack
7703229	then stop
7703230	before procedure
7703231	after procedure
7703232	1 hour before procedure
7703233	on call to operating theatre
7703234	on induction of anaesthesia
7703235	as directed
7703685	take as directed
7703686	use as directed

# Supplementary frequency (49)



## Drug - supplementary frequency

Purpose: to define the supplementary frequency for drug

Source: SNOMED-CT, Hospital Authority, e-HR

“across time (more than 1 day)”



eHR Value	eHR Description
7703236	on odd days
7703237	on even days
7703238	on alternate days
7703239	every three days
7703240	every four days
7703241	every five days
7703242	every thirty days
7703243	once weekly
7703244	twice weekly
7703245	twice weekly on Monday and Thursday
7703246	twice weekly on Thursday and Sunday
7703247	twice weekly on Tuesday and Friday
7703248	twice weekly on Wednesday and Saturday
7703249	two to three times weekly
7703250	three times weekly
7703251	three times weekly on Monday, Wednesday and Friday
7703252	three times weekly on Tuesday, Thursday and Saturday
7703253	three times weekly on Wednesday, Friday and Sunday
7703254	three to four times weekly
7703255	four times weekly
7703256	five times weekly
7703257	six times weekly
7703258	seven times weekly
7703259	every two weeks
7703260	every three weeks
7703261	every four weeks
7703262	every six weeks
7703263	every ten weeks
7703264	once monthly
7703265	twice monthly
7703266	three times monthly
7703267	four times monthly
7703268	on odd months
7703269	on even months
7703270	every two months
7703271	every three months
7703272	every four months
7703273	every six months
7703274	every nine months
7703275	on every Monday
7703276	on every Tuesday
7703277	on every Wednesday
7703278	on every Thursday
7703279	on every Friday
7703280	on every Saturday
7703281	on every Sunday
7703282	on Monday through Friday
7703283	on day of examination
7703284	on day of procedure

**Route of medication administration**

Purpose: To define the names of the recognised termino

Source: SNOMED-CT, Hospital Authority, e-HR

eHR Value	eHR Description
7703235	as directed
7700000	buccal
7700001	dental
7700002	ear
7700003	endotracheopulmonary
7700004	epidural
7700007	epilesional
7700008	external
7700009	eye
7700103	gargle
7700013	gastroenteral
7700014	gingival
7700015	haemodialysis
7700016	haemofiltration
7700017	infiltration
7700018	inhalation
7700019	instillation
7700020	intra-arterial
7700021	intra-articular
7703689	intracameral
7700022	intracatheter
7700023	intracavernosal
7700024	intracervical
7700025	intracisternal
7700026	intradermal
7700027	intradiscal
7700028	intraepidermal
7700029	intralesional
7700030	intramuscular
7703690	intramyometrial
7700031	intranasal
7700032	intraocular
7700033	intraosseous
7700034	intraperitoneal
7700035	intrapleural
7700036	intrathecal

7700037	intratracheal
7700038	intrauterine
7700039	intravascular
7700040	intravenous
7703691	intraventricular
7700041	intravesical
7700042	intravitreal
7702946	laryngopharyngeal
7700043	mucosal
7700044	nasal
7700045	ophthalmic
7700046	oral
7700050	oral application
7700051	oromucosal
7702942	oropharyngeal
7700052	parenteral
7703692	percutaneous
7700054	periarticular
7700055	peritoneal
8003030	Pharynx
7700056	rectal
7703693	respiratory tract
8001162	scalp structure
7700194	shampoo
8002147	stoma site
7700057	subconjunctival
7700058	subcutaneous
7703694	subdermal implant
7700059	sublingual
7700060	submucosal
7700061	topical
7700062	transdermal
7700063	urethral

eHR Value	eHR Description
7700064	urogenital
7703695	use as emollient
7703696	use as facial wash
7703697	use as soap
7703698	use for bathing
7703699	use for hand wash
7703730	use for peritoneal dialysis
7703731	use for wet wrap therapy
7703732	use for wound dressing
7700065	vaginal
7703700	via gastrostomy tube
7703701	via nasogastric tube
8003121	vulva

## Site of medication administration

Purpose: to define the body site of medication administration

Source: SNOMED-CT, Hospital Authority, e-HR

eHR Value	eHR Description
8003668	Alopecia
8003591	Hairline
8001207	Scalp
8003658	Skin of perioral region of face
8003670	Acne
8001522	Cheek
8003592	Chin
8001753	Face
8001654	Skin of forehead
8003652	Skin of vermilion border
8003593	Both lips
8003653	Commissure of lips
8003595	Both eyes
8003594	Eyebrow
8003175	Left eye
8003174	Right eye
8003659	Structure of circumorbital skin
8001864	Eyelid
8003190	Left lower eyelid
8003596	Left upper and lower eyelids
8003188	Left upper eyelid
8003597	Lower eyelid
8003189	Right lower eyelid
8003598	Right upper and lower eyelids
8003187	Right upper eyelid
8001053	Upper eyelid
8000944	Both ears
8002029	Left ear
8000760	Right ear
8003648	Skin structure of ear lobule
8002980	Skin structure of postauricular region
8000138	Skin of nose
8003655	Skin structure of nasolabial fold
8003657	Skin structure of tip of nose
8003600	Anterior naris
8003599	Left anterior naris
8003601	Right anterior naris
8003030	Pharynx
8003602	Affected area
8000935	Blister
8002470	Hyperkeratosis
8003667	Focal hyperkeratosis
8003671	Eczema
8000592	Eruption
8003672	Hair follicle inflammation
8001510	Furuncle
8001492	Keloid

eHR Value	eHR Description
8001184	Pressure ulcer
8003666	Rosacea
8002530	Scar
8002974	Skin
8003673	Skin margin of focal hyperkeratosis
8002147	Stoma Site
8002264	Ulcer
8002513	Verruca
8003669	Vitiligo
8000520	Wound
8003604	Abdominal skin crease
8000844	Areola structure
8001825	Back, excluding neck
8002993	Breast
8003605	Breast skin crease
8001250	Neck
8000726	Nipple
8000570	Shoulder
8001785	Skin of abdomen
8003606	Skin of waist region of trunk
8003654	skin structure of nuchal region
8001359	Thorax
8003252	Trunk
8002053	Umbilical region
8003607	Both upper arms
8003563	Elbow region
8000532	Forearm
8003608	Left upper arm
8003609	Right upper arm
8001804	Skin of axilla
8001475	Skin structure of forearm
8003646	Skin structure of left upper limb
8003647	Skin structure of right upper limb
8002986	Skin structure of upper limb
8003265	Upper limb
8001951	Left hand
8003610	Palm
8001848	Right hand
8002987	Skin of hand
8003650	Skin structure of dorsal area of hand
8001808	Thumb
8001902	Wrist
8003612	All fingers
8003613	Index finger
8003614	Little finger
8003615	Middle finger
8003616	Ring finger
8003611	Skin of interdigital space of hand
8003651	Skin structure of part of digit of hand
8001402	Anus
8003663	Diaper area
8001061	Genital labium

eHR Value	eHR Description
8003264	Inguinal region
8000170	Pubic region
8000694	Skin of buttock
8003656	skin of natal cleft
8001898	Skin of scrotum
8001072	Skin structure of inguinal region
8000675	Skin structure of perianal area
8001113	Both lower legs
8003617	Calf of leg
8001318	Left lower leg
8001610	Limb
8003266	Lower Limb
8000914	Right lower leg
8003661	Skin structure of left lower limb
8002988	Skin structure of lower limb
8003662	Skin structure of right lower limb
8001646	Thigh
8003619	Both knees
8001905	Left knee
8001633	Right knee
8000947	Ankle region
8001459	Foot
8000700	Left foot
8003618	Plantar aspect of heel
8001830	Right foot
8003649	Skin structure of dorsum of foot
8003660	Skin structure of sole of foot
8003622	Both shins
8003620	Left shin
8003621	Right shin
8003623	Heel
8003624	Left heel
8003625	Right heel
8001733	Nail unit structure
8003626	Periungual skin
8003627	Interdigital space of foot
8000843	Toe
8001512	Glans penis
8001060	Skin of foreskin
8000979	Skin of penis
8002985	Skin of perineum
8002038	Urinary bladder
8000514	Urethra
8003122	Vagina
8003121	Vulva

## Duration (6)

### Drug - duration unit

Purpose: The "Drug - duration unit" code table for identifying the duration unit for prescribed / dispensed drug

Source: SNOMED-CT, Hospital Authority, e-HR

eHR Value	eHR Description
7703285	day
7703286	week
7703287	month
7700299	cycle
7700304	dose
7700264	hr

**Prescribed drug quantity unit**

Purpose: To define the names of the recognised terminology for prescribed drug quantity unit

Source: SNOMED-CT, Hospital Authority, e-HR

eHR Value	eHR Description
7700275	ampoule
7700279	applicator
7700280	applicatorful
7700281	bag
7700285	billion organisms unit
7700286	billion vibrios
7700287	blister
7700288	bottle
7700289	box
7700290	can
7700291	capsule
7700292	carton
7700293	cartridge
7700296	colony forming unit
7700298	cubic metre
7700299	cycle
7700300	cylinder
7700301	D antigen unit
7700302	device
7700303	disc
7700304	dose
7700307	drug delivery system
7700308	enema
7700314	g
7700311	gigabecquerel
7700324	gum
7700325	implant
7700326	inch
7700327	inhaler
7700329	international unit
7700330	international unit / g
7700333	jar
7700340	kilobecquerel / mL
7700342	kilocalorie / mL
7700343	kg
7700345	kit
7700347	L
7700348	L / L
7700349	lozenge
7700240	m2
7700350	megabecquerel
7700354	microcurie
7700368	micromole / L
7700370	millicurie
7700374	mg
7700387	mL
7700409	nanogram
7700411	nanogram / mL
7700412	nanolitre
7700413	nanolitre / mL
7703702	number

eHR Value	eHR Description
7700415	organisms unit
7700416	ounce
7700417	pack
7700418	pad
7703703	pair
7700420	pastille
7700421	patch
7700422	pen
7700423	pessary
7700424	Ph Eur unit
7700229	piece
7700230	pill
7700265	plaster
7700419	ppm
7700232	pre-filled injection device
7700233	pre-filled syringe
7700234	pressor unit
7700235	roll
7700236	sachet
7700237	set
7700238	spray
7700242	suppository
7700243	syringe
7700245	tablet
7700246	test
7700248	tin
7700250	tube
7700253	unit
7700256	unit / g
7700257	unit / microgram
7700262	vial

## Conjunction (2)



### Drug - conjunction

Purpose: To define the conjunctions between dose and instruction lines

Source: SNOMED-CT, Hospital Authority, e-HR

eHR Value	eHR Description
9050518	and
9050519	then

## PRN Indicator (2)

### PRN Indicator

Purpose: to define the value for PRN

Source: Hospital Authority; e-HR

eHR Value	eHR Description
Y	Yes
N	No

## Medication Discontinuation Status (1)

### Medication discontinuation status

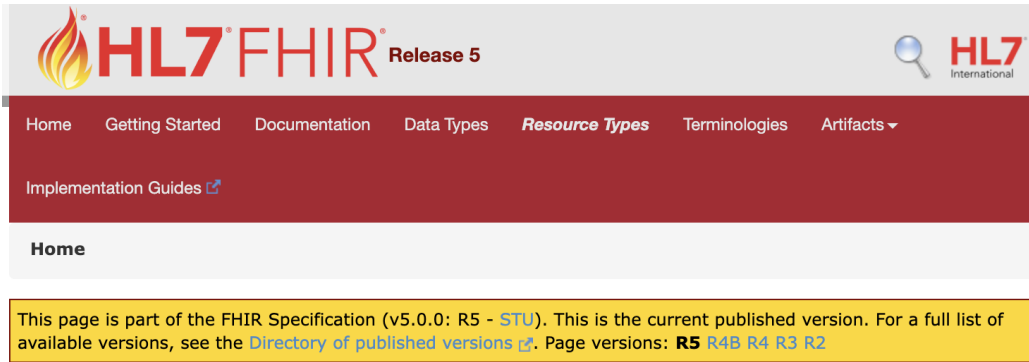
Purpose: to define the value for medication discontinuation status

Source: Hospital Authority; e-HR

eHR Value	eHR Description
Y	Yes

How to defined the prescribing and dispensing details in a medication record





HL7 FHIR<sup>®</sup> Release 5

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Home


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

## 0 Welcome to FHIR®





FHIR is a standard for health care data exchange, published by HL7®.

**First time here?**  
 See the [executive summary](#), the [developer's introduction](#), [clinical introduction](#), [patient introduction](#), or [architect's introduction](#), and then the [FHIR overview & how FHIR versions work](#). See also the [open license \(CC0\)](#) (and don't miss the full [Table of Contents](#) and the [Community Credits](#) or you can [search this specification](#)).

**Level 1** Basic framework on which the specification is built

 <b>Foundation</b>	Base Documentation, XML, JSON, RDF, Datatypes, Extensions
--	---

**Level 2** Supporting implementation and binding to external specifications

 <b>Implementer Support</b>	 <b>Security &amp; Privacy</b>	 <b>Conformance</b>	 <b>Terminology</b>
Downloads, Version Mgmt, Use Cases, Testing	Security, Consent, Provenance, AuditEvent	StructureDefinition, CapabilityStatement, ImplementationGuide, Profiling	CodeSystem, ValueSet, ConceptMap, Terminology Svc

- **HL7 FHIR** (Fast Healthcare Interoperability Resources)
  - an open modern healthcare data standard that facilitates the efficient exchange of health information across different systems using the latest web technologies.
- **RESTful API: REpresentational State Transfer**, a quick, easy way (HTTP) to request and respond to specific information
  - Direct request (Get request)
  - Targeted response (in **JSON Resources**)
  - Realtime access (easy to parse)
- **JSON (JavaScript Object Notation)**: simple, easy-to-read format and clear message
- **Resource-Oriented Architecture (ROA)**: organises healthcare data into specific modular components for fast, accurate, and scalable data sharing
  - Lightweight and efficient – more concise and compact for easy data transfer
  - Easy to parse and read – machine and human-readable without data reformatting and manipulation
  - Flexible and extensible – adaptable data structure and schema
  - Interoperable – widely accepted

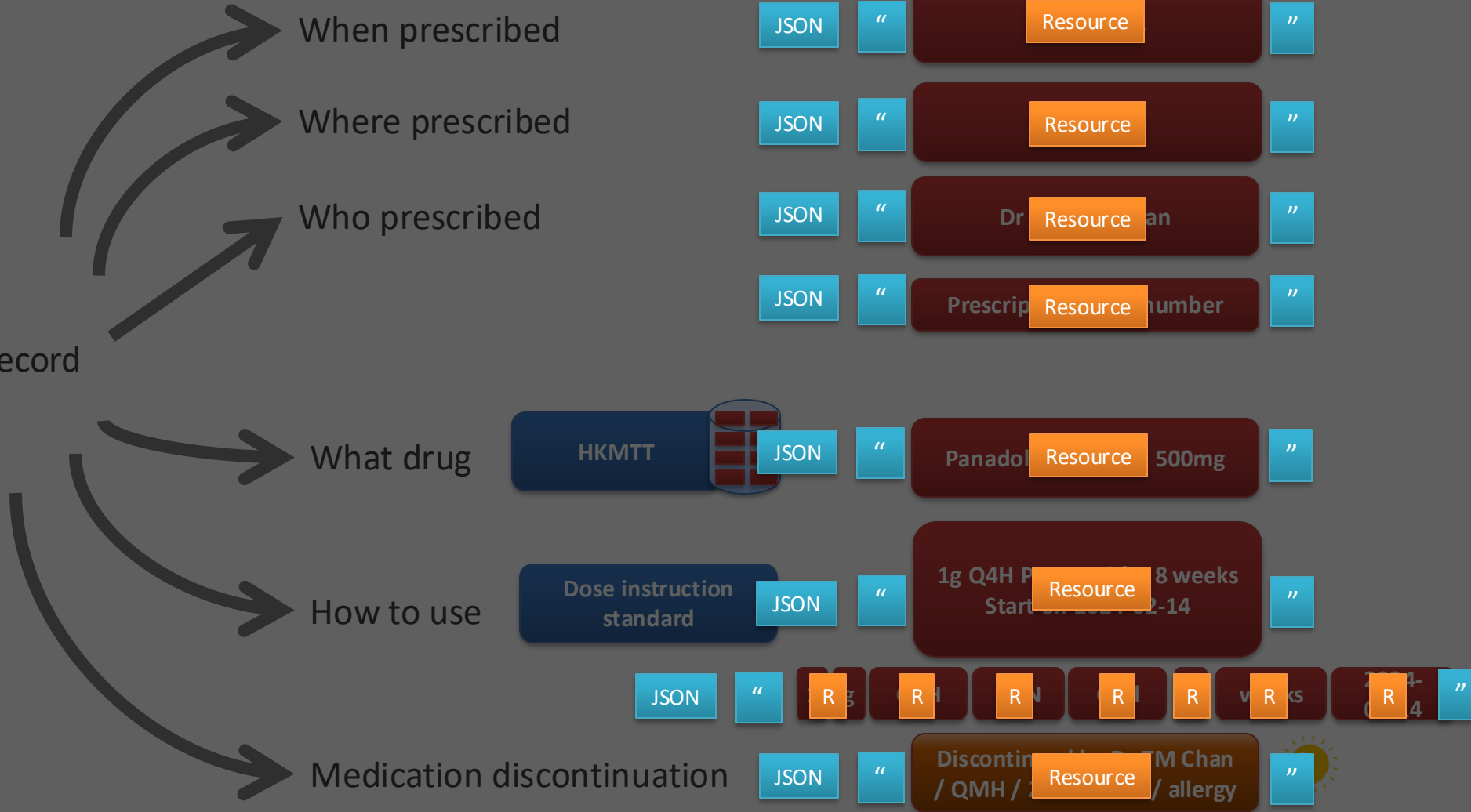
[https://hl7.org/fhir/?utm\\_referrer=https%3A%2F%2Fwww.hl7.org%2F](https://hl7.org/fhir/?utm_referrer=https%3A%2F%2Fwww.hl7.org%2F)

<https://www.healthit.gov/topic/standards-technology/standards/fhir>

# JavaScript Object Notation (JSON)

Prescribing Data Standard

Medication  
**Prescribing** Record



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



How to interpret the medication data from eHealth

# **EHR PRESCRIBING AND DISPENSING DATA STRUCTURE**

Single Prescribing / Dispensing Order

(Unique Prescribing / Dispensing Order No)

Drugs

1

Order Line

1

INSULIN HUMAN ISOPHANE + NEUTRAL 70%/30% penfill 100u/ml 3ml (humulin 70/30) subcutaneous :  
12 unit(s) before dinner for 8 weeks, then  
16 unit(s) before dinner for 8 weeks

2

Order Line

1

INSULIN HUMAN ISOPHANE + NEUTRAL 70%/30% penfill 100u/ml 3ml (humulin 70/30) subcutaneous :  
12 unit(s) before dinner for 8 weeks, then  
16 unit(s) before dinner for 8 weeks

3

Order Line

2

METFORMIN HCL tablet  
oral : 500 mg tds for 16 weeks

3

GLICLAZIDE tablet  
oral : 80 mg before breakfast and  
80 mg before dinner for 16 weeks

3

GLICLAZIDE tablet  
oral : 80 mg before breakfast and  
80 mg before dinner for 16 weeks

4

Order Line

4

LISINOPRIL tablet  
oral : 15 mg daily for 16 weeks

5

Order Line

5

PIOGLITAZONE HCL tablet <Special Drug>  
oral : 15 mg daily for 16 weeks

6

Order Line

6

ATORVASTATIN tablet <Special Drug>  
oral : 40 mg daily for 16 weeks

7

Order Line

7

WARFARIN SODIUM tablet  
oral : 1 mg once per day (on odd days) and  
1.5 mg once per day (on even days) for 16 weeks

7

WARFARIN SODIUM tablet  
oral : 1 mg once per day (on odd days) and  
1.5 mg once per day (on even days) for 16 weeks

8

Order Line

8

LACTULOSE liquid  
oral : 10 ml tds prn (50%) for 16 weeks

9

Order Line

9

FLUOCINOLONE ACETONIDE cream 0.005% 5g  
topical : daily [skin] for 16 weeks

## Drug Sequence

Number of the prescribed drug to indicate the drug sequence in a prescribing order (arbitrarily assigned by the prescribing system for different drugs in an order)



1	INSULIN HUMAN ISOPHANE + NEUTRAL 70%/30% penfill 100u/ml 3ml (humulin 70/30) subcutaneous : 12 unit(s) before dinner for 8 weeks, then 16 unit(s) before dinner for 8 weeks	12	Unit		
1	INSULIN HUMAN ISOPHANE + NEUTRAL 70%/30% penfill 100u/ml 3ml (humulin 70/30) subcutaneous : 12 unit(s) before dinner for 8 weeks, then 16 unit(s) before dinner for 8 weeks	16	Unit		
2	METFORMIN HCL tablet oral : 500 mg tds for 16 weeks				
3	GLICLAZIDE tablet oral : 80 mg before breakfast and 80 mg before dinner for 16 weeks	80	mg	1	and
3	GLICLAZIDE tablet oral : 80 mg before breakfast and 80 mg before dinner for 16 weeks	80	mg	2	
4	LISINOPRIL tablet oral : 15 mg daily for 16 weeks				
5	PIOGLITAZONE HCL tablet <Special Drug> oral : 15 mg daily for 16 weeks				
6	ATORVASTATIN tablet <Special Drug> oral : 40 mg daily for 16 weeks				
7	WARFARIN SODIUM tablet oral : 1 mg once per day (on odd days) and 1.5 mg once per day (on even days) for 16 weeks	1	mg	1	and
7	WARFARIN SODIUM tablet oral : 1 mg once per day (on odd days) and 1.5 mg once per day (on even days) for 16 weeks	1.5	mg	2	
8	LACTULOSE liquid oral : 10 ml tds prn (50%) for 16 weeks				
9	FLUOCINOLONE ACETONIDE cream 0.005% 5g topical : daily [skin] for 16 weeks				
10	LORAZEPAM tablet oral : 1 mg at bedtime prn (50%) for 16 weeks, dispense 56 dose				



## Dose Instruction

### Sequence Number

indicating the drug dosing lines sequence at different time e.g. step up or down regime (usually with conjunction "Then")



## Dose Value Sequence

Number of the prescribed dose value of the same drug in multiple prescribing lines with supplementary frequency (e.g. am/pm; odd days/even days usually with conjunction "And")

7

WARFARIN SODIUM tablet  
oral : 1 mg once per day (on odd days) and  
1.5 mg once per day (on even days) for 16 weeks

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	SupplFreq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	VH Hospital	CPO, User26	7	1	once per day	on odd days	and	2023-04-18	MOEVH 2300043629
DrugName	OrderDate	Note	DoseInstruNo	Text				PRN	Route	Dose	Unit	Duration	
warfarin sodium oral tablet	2023-04-18	Dispense by Pharmacy	1	WARFARIN SODIUM tablet oral : 1 mg once per day (on odd days) and 1.5 mg once per day (on even days) for 16 weeks				false	oral	1	mg	16	week

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	SupplFreq	StartDate	RxOrderNo	
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	VH Hospital	CPO, User26	7	2	once per day	on even days	2023-04-18	MOEVH 2300043629	
DrugName	OrderDate	Note	DoseInstruNo	Text				PRN	Route	Dose	Unit	Duration	
warfarin sodium oral tablet	2023-04-18	Dispense by Pharmacy	1	WARFARIN SODIUM tablet oral : 1 mg once per day (on odd days) and 1.5 mg once per day (on even days) for 16 weeks				false	oral	1.5	mg	16	week

# Prescription Order Samples (Advanced)

1 HEPARINOID (HIRUDOID) CREAM 14G for 1 tube  
LA forehead: tds prn (100%) for 10 weeks  
\*Single Use\*

2 LANSOPRAZOLE TABLET 30GM  
ng tube: 30 MG daily for 10 weeks

3 DIGOXIN TABLET 0.0625MG  
oral: 125 MICROGRAM(S) once per day (odd day) and  
oral: 62.5 MICROGRAM(S) once per day (even day) for 10 weeks

4 DILTIAZEM HCL CR TABLET  
oral: 30 MG tds for 10 weeks  
\*\*\* W/H if HR < 60

5 TRAZODONE HCL TABLET  
oral: 50 MG om and  
oral: 100 MG pm and  
oral: 50 MG nocte prn (50%) for 10 weeks

6 PREDNISOLONE TABLET  
oral: 15 MG daily for 1 week then  
oral: 10 MG daily for 1 week then  
oral: 5 MG daily for 1 week

7 VALPROATE SODIUM ENTERIC COATED TABLET  
oral: 200 MG om and  
oral: 400 MG pm for 2 weeks then  
oral: 400 MG om and  
oral: 400 MG nocte for 2 weeks

8 CLONAZEPAM TABLET  
oral: 0.5 MG nocte prn (100%) for 10 weeks, dispense 14 DOSE(S)

9 DICLOFENAC DIETHYLAMMONIUM GEL 1% 20G  
LA affected areas: tds prn for 2 weeks  
\*\*\* 1 tube

10 POLYETHYLENE GLYCOL ELECTROLYTE(KLEAN-PREP) POWDER 68.6G/PK  
oral: 4 SACHET(S) as directed for 2 days, dispense 4 PACK  
\*\*\* 1 sachet at 6pm, 7pm, 8pm on day before procedure, 6am on day of procedure

11 MEFENAMIC ACID (PONSTAN) CAPSULE  
oral: 500 MG tds (from day 1 to day 5 per cycle) for 8 cycle(s)  
\*\*\* on D1-5 of menses x 8 cycles

12 MARVELON TABLET 21TAB/CYCLE  
oral: 1 TABLET once per day (21 days per cycle) for 8 cycle(s)  
\*\*\* on D1-21 of cycle

13 MEFENAMIC ACID (PONSTAN) CAPSULE  
oral: 500 MG tds (from day 1 to day 5 per cycle) for 8 cycle(s)  
\*\*\* on D1-5 of menses x 8 cycles  
discontinued by Dr Chan Tai Man, allergy, QMH, 2023-5-20

1 HEPARINOID (HIRUDOID) CREAM 14G for 1 tube  
 LA forehead: tds prn (100%) for 10 weeks

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	1	0	3 times daily	2023-04-18	MOEVH 2300043629
DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration		
mucopolysaccharide polysulfate topical cream	2023-04-18	*Single Use*	0	HEPARINOID (HIRUDOID) CREAM 14G for 1 tube LA forehead: tds prn (100%) for 10 weeks *Single Use*	Y	topical			10 week		
						Site	Quantity	Unit			
						forehead	1	tube			

2 LANSOPRAZOLE TABLET 30GM  
ng tube: 30 MG daily for 10 weeks

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	StartDate	RxOrderNo	DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	2	0	once per day	2023-04-18	MOEVH 2300043629	lansoprazole oral tablet	2023-04-18		0	LANSOPRAZOLE TABLET 30GM ng tube: 30 MG daily for 10 weeks	N	via nasogastric tube	30	mg	10 week

**3** DIGOXIN TABLET 0.0625MG  
 oral: 125 MICROGRAM(S) once per day (odd day) and  
 oral: 62.5 MICROGRAM(S) once per day (even day) for 10 weeks

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo		Freq	SupplFreq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	3	1	once per day	on odd days	and	2023-04-18	MOEVH 2300043629	
DrugName		OrderDate	Note	DoseInstruNo	Text		PRN	Dose	Unit	Duration				
digoxin oral tablet		2023-04-18		1	DIGOXIN TABLET 0.0625MG oral: 125 MICROGRAM(S) once per day (odd day) and oral: 62.5 MICROGRAM(S) once per day (even day) for 10 weeks		N	125	micro gram	10	week			

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo		Freq	SupplFreq	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	3	2	once per day	on eve days		2023-04-18	MOEVH 2300043629
DrugName		OrderDate	Note	DoseInstruNo	Text		PRN	Dose	Unit	Duration			
digoxin oral tablet		2023-04-18		1	DIGOXIN TABLET 0.0625MG oral: 125 MICROGRAM(S) once per day (odd day) and oral: 62.5 MICROGRAM(S) once per day (even day) for 10 weeks		N	62.5	micro gram	10	week		

4 DILTIAZEM HCL CR TABLET  
 oral: 30 MG tds for 10 weeks  
 \*\*\* W/H if HR < 60

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	4	0	3 times per day	2023-04-18	MOEVH 2300043629
DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration		
diltiazem hydrochloride oral tablet	2023-04-18	*** W/H if HR < 60	0	DILTIAZEM HCL CR TABLET oral: 30 MG tds for 10 weeks *** W/H if HR < 60	N	oral	30	mg	10 week		

**5** TRAZODONE HCL TABLET  
 oral: 50 MG om and  
 oral: 100 MG pm and  
 oral: 50 MG nocte prn (50%) for 10 weeks

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	5	1	in the morning	and	2023-04-18	MOEVH 2300043629
DrugName		OrderDate	Note	DoseInstruNo	Text			PRN	Route	Dose	Unit	Duration
trazodone hydrochloride oraal tablet		2023-04-18		1	TRAZODONE HCL TABLET oral: 50 MG om and oral: 100 MG pm and oral: 50 MG nocte prn (50%) for 10 weeks			N	oral	50	mg	10 week

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	5	2	in the afternoon	and	2023-04-18	MOEVH 2300043629
DrugName		OrderDate	Note	DoseInstruNo	Text			PRN	Route	Dose	Unit	Duration
trazodone hydrochloride oraal tablet		2023-04-18		1	TRAZODONE HCL TABLET oral: 50 MG om and oral: 100 MG pm and oral: 50 MG nocte prn (50%) for 10 weeks			N	oral	100	mg	10 week

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	5	3	at night		2023-04-18	MOEVH 2300043629
DrugName		OrderDate	Note	DoseInstruNo	Text			PRN	Route	Dose	Unit	Duration
trazodone hydrochloride oraal tablet		2023-04-18		1	TRAZODONE HCL TABLET oral: 50 MG om and oral: 100 MG pm and oral: 50 MG nocte prn (50%) for 10 weeks			Y	oral	50	mg	10 week

**6** PREDNISOLONE TABLET  
 oral: 15 MG daily for 1 week then  
 oral: 10 MG daily for 1 week then  
 oral: 5 MG daily for 1 week

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	6	1	Once per day	then	2023-04-18	MOEVH 2300043629
DrugName		OrderDate	Note	DoseInstruNo	Text			PRN	Route	Dose	Unit	Duration
prednisolone oral Tablet		2023-04-18		1	PREDNISOLONE TABLET oral: 15 MG daily for 1 week then oral: 10 MG daily for 1 week then oral: 5 MG daily for 1 week			N	oral	15	mg	1 week

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	6	1	Once per day	then	2023-04-18	MOEVH 2300043629
DrugName		OrderDate	Note	DoseInstruNo	Text			PRN	Route	Dose	Unit	Duration
prednisolone oral Tablet		2023-04-18		2	PREDNISOLONE TABLET oral: 15 MG daily for 1 week then oral: 10 MG daily for 1 week then oral: 5 MG daily for 1 week			N	oral	10	mg	1 week

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	StartDate	RxOrderNo	
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	6	1	at Once per day	2023-04-18	MOEVH 2300043629	
DrugName		OrderDate	Note	DoseInstruNo	Text			PRN	Route	Dose	Unit	Duration
prednisolone oral Tablet		2023-04-18		3	PREDNISOLONE TABLET oral: 15 MG daily for 1 week then oral: 10 MG daily for 1 week then oral: 5 MG daily for 1 week			N	oral	5	mg	1 week

**7** VALPROATE SODIUM ENTERIC COATED TABLET  
 oral: 200 MG om and  
 oral: 400 MG pm for 2 weeks then  
 oral: 400 MG om and  
 oral: 400 MG nocte for 2 weeks

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	7	1	in the morning	and	2023-04-18	MOEVH 2300043629
DrugName	OrderDate	Note	DoseInstruNo	Text		PRN	Route	Dose	Unit	Duration		
valproate sodium oral gastro-resistant tablet	2023-04-18		1	VALPROATE SODIUM ENTERIC COATED TABLET oral: 200 MG om and oral: 400 MG pm for 2 weeks then oral: 400 MG om and oral: 400 MG nocte for 2 weeks		N	oral	200	mg	2 week		

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	7	2	in the afternoon	then	2023-04-18	MOEVH 2300043629
DrugName	OrderDate	Note	DoseInstruNo	Text		PRN	Route	Dose	Unit	Duration		
valproate sodium oral gastro-resistant tablet	2023-04-18		1	VALPROATE SODIUM ENTERIC COATED TABLET oral: 200 MG om and oral: 400 MG pm for 2 weeks then oral: 400 MG om and oral: 400 MG nocte for 2 weeks		N	oral	400	mg	2 week		

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Chan Siu Man	7	1	in the morning	and	2023-04-18	MOEVH 2300043629
DrugName	OrderDate	Note	DoseInstruNo	Text		PRN	Route	Dose	Unit	Duration		
valproate sodium oral gastro-resistant tablet	2023-04-18		2	VALPROATE SODIUM ENTERIC COATED TABLET oral: 200 MG om and oral: 400 MG pm for 2 weeks then oral: 400 MG om and oral: 400 MG nocte for 2 weeks		N	oral	400	mg	2 week		

7 VALPROATE SODIUM ENTERIC COATED TABLET  
oral: 200 MG om and  
oral: 400 MG pm for 2 weeks then  
oral: 400 MG om and  
oral: 400 MG nocte for 2 weeks

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	7	2	at night		2023-04-18	MOEVH 2300043629

DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration
valproate sodium oral gastro-resistant tablet	2023-04-18		2	VALPROATE SODIUM ENTERIC COATED TABLET oral: 200 MG om and oral: 400 MG pm for 2 weeks then oral: 400 MG om and oral: 400 MG nocte for 2 weeks	N	oral	400	mg	2 week

8 CLONAZEPAM TABLET  
oral: 0.5 MG nocte prn for 10 weeks, dispense 14 DOSE(S)

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	8	0	at night		2023-04-18	MOEVH 2300043629
DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration			
clonazepam oral tablet	2023-04-18		0	CLONAZEPAM TABLET oral: 0.5 MG nocte prn for 10 weeks, dispense 14 DOSE(S)	Y	oral	0.5	mg	10 week			
							Quantity	Unit				
							14	dose				

9  
 DICLOFENAC DIETHYLAMMONIUM GEL 1% 20G  
 LA affected areas: tds prn for 2 weeks  
 \*\*\* 1 tube

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	9	0	3 times per day		2023-04-18	MOEVH 2300043629

DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration
diclofenac sodium (as diethylamine) topical gel	2023-04-18		0	DICLOFENAC DIETHYLAMMONIUM GEL 1% 20G LA affected areas: tds prn for 2 weeks *** 1 tube	Y	topical			2 week
						Site	Quantity	Unit	
						affected area	1	tube	

**10** POLYETHYLENE GLYCOL ELECTROLYTE(KLEAN-PREP) POWDER 68.6G/PK  
 oral: 4 SACHET(S) as directed for 2 days, dispense 4 PACK  
 \*\*\* 1 sachet at 6pm, 7pm, 8pm on day before procedure, 6am on day of procedure

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	10	0	take as directed		2023-04-18	MOEVH 2300043629

DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration
macrogol 3350 + potassium chloride + sodium bicarbonate + sodium chloride + sodium sulfate oral powder	2023-04-18	*** 1 sachet at 6pm, 7pm, 8pm on day before procedure, 6am on day of procedure	0	POLYETHYLENE GLYCOL ELECTROLYTE(KLEAN-PREP) POWDER 68.6G/PK oral: 4 SACHET(S) as directed for 2 days, dispense 4 PACK *** 1 sachet at 6pm, 7pm, 8pm on day before procedure, 6am on day of procedure	N	oral			
							Quantity	Unit	
							4	sachet	

**11** MEFENAMIC ACID (PONSTAN) CAPSULE  
oral: 500 MG tds (from day 1 to day 5 per cycle) for 8 cycle(s)  
\*\*\* on D1-5 of menses x 8 cycles

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	11	0	3 times per day		2023-04-18	MOEVH 2300043629
DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration			
mefenamic acid oral capsule	2023-04-18	*** on D1-5 of menses x 8 cycles	0	MEFENAMIC ACID (PONSTAN) CAPSULE oral: 500 MG tds (from day 1 to day 5 per cycle) for 8 cycle(s) *** on D1-5 of menses x 8 cycles	N	oral	500	mg	8 cycle			

---

Quantity

$$3 \times 5 \times 8 = 120$$

**12** MARVELON TABLET 21TAB/CYCLE  
oral: 1 TABLET once per day (21 days per cycle) for 8 cycle(s)  
\*\*\*on D1-21 of cycle

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	12	0	once per day		2023-04-18	MOEVH 2300043629
DrugName	OrderDate	Note	DoseInstruNo	Text		PRN	Route	Dose	Unit	Duration		
Marvelon (desogestrel 150 microgram + ethinylestradiol 30 microgram) oral tablet	2023-04-18	***on D1-21 of cycle	0	MARVELON TABLET 21TAB/CYCLE oral: 1 TABLET once per day (21 days per cycle) for 8 cycle(s) ***on D1-21 of cycle		N	oral	1	tablet	8 cycle		

---

Quantity

$$1 \times 21 \times 8 = 168$$

**13** MEFENAMIC ACID (PONSTAN) CAPSULE  
 oral: 500 MG tds (from day 1 to day 5 per cycle) for 8 cycle(s)  
 \*\*\* on D1-5 of menses x 8 cycles  
 discontinued by Dr Chan Tai Man, allergy, QMH, 2023-5-20

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	QMH	Dr Chan Siu Man	1	0	3 times per day		2023-04-18	MOEVH 2300043629

DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration
mefenamic acid oral capsule	2023-04-18	*** on D1-5 of menses x 8 cycles	0	MEFENAMIC ACID (PONSTAN) CAPSULE oral: 500 MG tds (from day 1 to day 5 per cycle) for 8 cycle(s) *** on D1-5 of menses x 8 cycles discontinued by Dr Chan Tai Man, allergy, QMH, 2023-5-20	N	oral	500	mg	8 cycle

Discont_Stat	Discont_jnfo	Discont_In	Discont_Prescrib	Discont_Datetime
Y	allergy	QMH	Dr Chan Tai Man	2023-5-20

# JSON Code -> Interpreted Structured Data -> Present in Application

## HL7 FHIR Message Format

JSON Raw Data Headers

Save Copy Collapse All Expand All Filter JSON

```

system: "https://ehealth.gov.hk/FHIR/HKCTT"
code: "6013286"
display: "warfarin sodium oral tablet"
subject:
  reference: "Patient/e3c5c28a-9b2f-4ee7-ad91-e8020effb5fe"
  authoredOn: "2023-04-18T16:52:17+08:00"
  requester:
    reference: "PractitionerRole/88422de3-81a5-4886-a012-0666725c0b61"
  note:
    0:
      text: "[Dispense by Pharmacy]"
  dosageInstruction:
    0:
      sequence: 1
      text: "WARFARIN SODIUM tablet\noral : 1 mg once per day (on odd days) and\n1.5 mg once per day (on even days for 16 weeks\n"
      asNeededBoolean: false
      route:
        coding: {}
        text: "ORAL"
      doseAndRate:
        0:
          doseQuantity: {}
      dispenseRequest:
        expectedSupplyDuration:
          extension:
            0:
              url: "https://ehealth.gov.hk/F...79-DurationUnitLocalDesc"
              valueString: "Weeks"
            1:
              url: "https://ehealth.gov.hk/F...1005277-DurationUnitCode"
              valueCodeableConcept: {}
          value: 16
  
```

## Structured Data Downloaded in Database (Staging)

K	L	M	N	O	P	Q	R	S	T	U
DS_RXO_INST_ID	DS_RXO_INST_NAME_LONG	DS_RXO_INST_NAME_LOCAL	DS_RXO_INST_NAME_EN	DS_RXO_PRESC_NAME_CN	DS_RXO_SPEC_INST_ORDER	DS_RXO_DOSE_INST	DS_RXO_DRUG_SEQ_NO	DS_RXO_MED_DISC_INFO	DS_RXO_INST_ID	DS_RXO_DISC_INST_NAME_LONG
4011269272	VH Hospital		CPO, USER26		[Dispense by Pharmacy]	INSULIN HUMAN ISOPHANE + NEUTRAL 70%/30% penfill 100u/ml 3ml (humulin 70/30) subcutaneous : 12 unit(s) before dinner for 8 weeks, then 16 unit(s) before dinner for 8 weeks	1			
4011269272	VH Hospital		CPO, USER26		[Dispense by Pharmacy]	INSULIN HUMAN ISOPHANE + NEUTRAL 70%/30% penfill 100u/ml 3ml (humulin 70/30) subcutaneous : 12 unit(s) before dinner for 8 weeks, then 16 unit(s) before dinner for 8 weeks	1			
4011269272	VH Hospital		CPO, USER26		[Dispense by Pharmacy]	METFORMIN HCL tablet oral : 500 mg tds for 16 weeks	2			
4011269272	VH Hospital		CPO, USER26		[Dispense by Pharmacy]	GLICLAZIDE tablet oral : 80 mg before breakfast and 80 mg before dinner for 16 weeks	3			
4011269272	VH Hospital		CPO, USER26		[Dispense by Pharmacy]	GLICLAZIDE tablet oral : 80 mg before breakfast and 80 mg before dinner for 16 weeks	3			
4011269272	VH Hospital		CPO, USER26		[Dispense by Pharmacy]	LISINAPRIL tablet oral : 15 mg daily for 16 weeks	4			
4011269272	VH Hospital		CPO, USER26		[Dispense by Pharmacy]	PIOGLITAZONE HCL tablet <Special Drug> oral : 15 mg daily for 16 weeks	5			

## Presented Data in Application (Medication Record)

7 WARFARIN SODIUM tablet oral : 1 mg once per day (on odd days) and 1.5 mg once per day (on even days) for 16 weeks

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	SupplFreq	DVConj	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	VH Hospital	CPO, User26	7	1	once per day	on odd days	and	2023-04-18	MOEVH 2300043629

DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration
warfarin sodium oral tablet	2023-04-18	Dispense by Pharmacy	1	WARFARIN SODIUM tablet oral : 1 mg once per day (on odd days) and 1.5 mg once per day (on even days) for 16 weeks	false	oral	1	mg	16 week

---

eHRNo	IDNo	Name	DOB	Sex	Institution	Prescriber	RxSeqNo	DoseVSeqNo	Freq	SupplFreq	StartDate	RxOrderNo
781300906326	I0035402	PATIENT, RED	1935-01-01	Male	VH Hospital	CPO, User26	7	2	once per day	on even days	2023-04-18	MOEVH 2300043629

DrugName	OrderDate	Note	DoseInstruNo	Text	PRN	Route	Dose	Unit	Duration
warfarin sodium oral tablet	2023-04-18	Dispense by Pharmacy	1	WARFARIN SODIUM tablet oral : 1 mg once per day (on odd days) and 1.5 mg once per day (on even days) for 16 weeks	false	oral	1.5	mg	16 week

# Key Specifications for Medication Data Download

Step 1 Submit Request Step 2 Administrative Preparation Step 3 **Technical Preparation** Step 4 Testing and Approval

## Medication Data Standard, System Security and Other Preparation Procedures

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

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

The RCH and RCH IT System must devise adequate internal security policies and procedures for handling data obtained from eHealth 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.



## List of documents relevant for technical preparation

### Medication Data Standard

Type	Medication Data Standards	Security Standards
Download Developer's Quick Guide for data and interfacing requirements for drug downloading	<a href="#">eHR Dispensing Record</a>	
Download eHealth medication prescribing record standard		<a href="#">Healthcare Recipient Index</a>
Download eHealth data standard guidebook for reference	<a href="#">eHR Content Codex</a>	
Download full set of eHealth data standards	<a href="#">Hong Kong Medication Terminology Table</a>	
Download sample testing cases in JSON format	<a href="#">Prescribing Test Case</a>	

< Previous Step

Next Step >

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

## HL7 FHIR + Data Standards



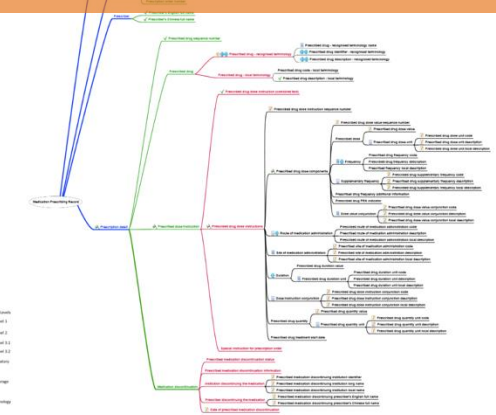
Developers' Quick Guide  
For  
eHR Drug Record Download  
[Document No: TBC]  
Version 1

Mar 2024  
The Government of the Hong Kong Special Administrative Region

[https://emedication.lscm.hk/assets/eMedication\\_Quick-Guide-Drug-Record-Download-20240815.pdf](https://emedication.lscm.hk/assets/eMedication_Quick-Guide-Drug-Record-Download-20240815.pdf)

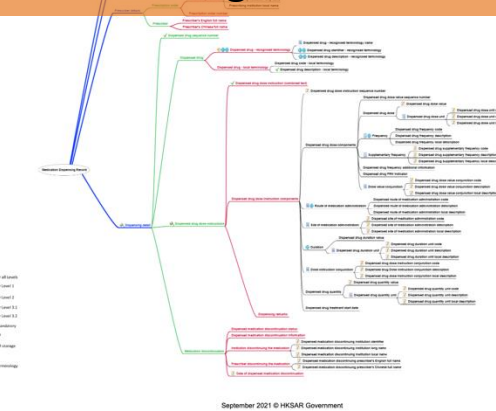
emedication lscm

## Dispensing Data Standard



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

## Prescribing Data Standard



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

Get ready for testing

# TESTING SET-UP



# eHealth+ eMedication Data and Technical Preparation

4th Oct 2024

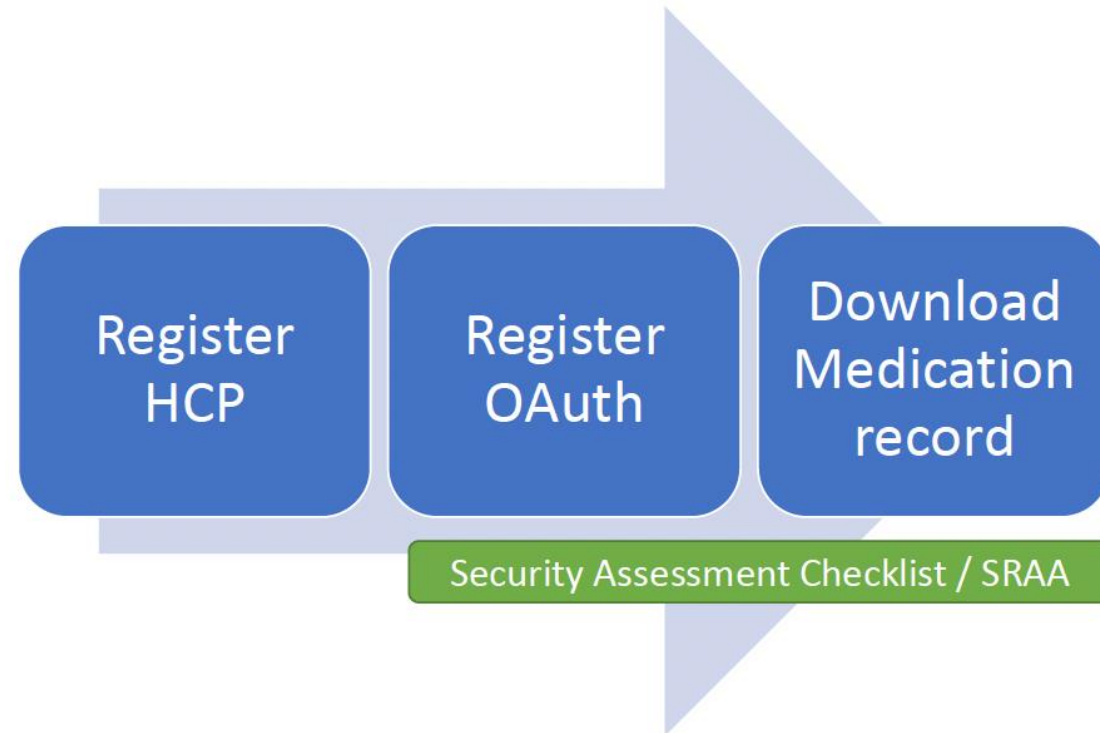


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# Agenda

- ▶ Workflow
- ▶ HCP Setup
- ▶ OAuth Setup

## Workflow (Testing)



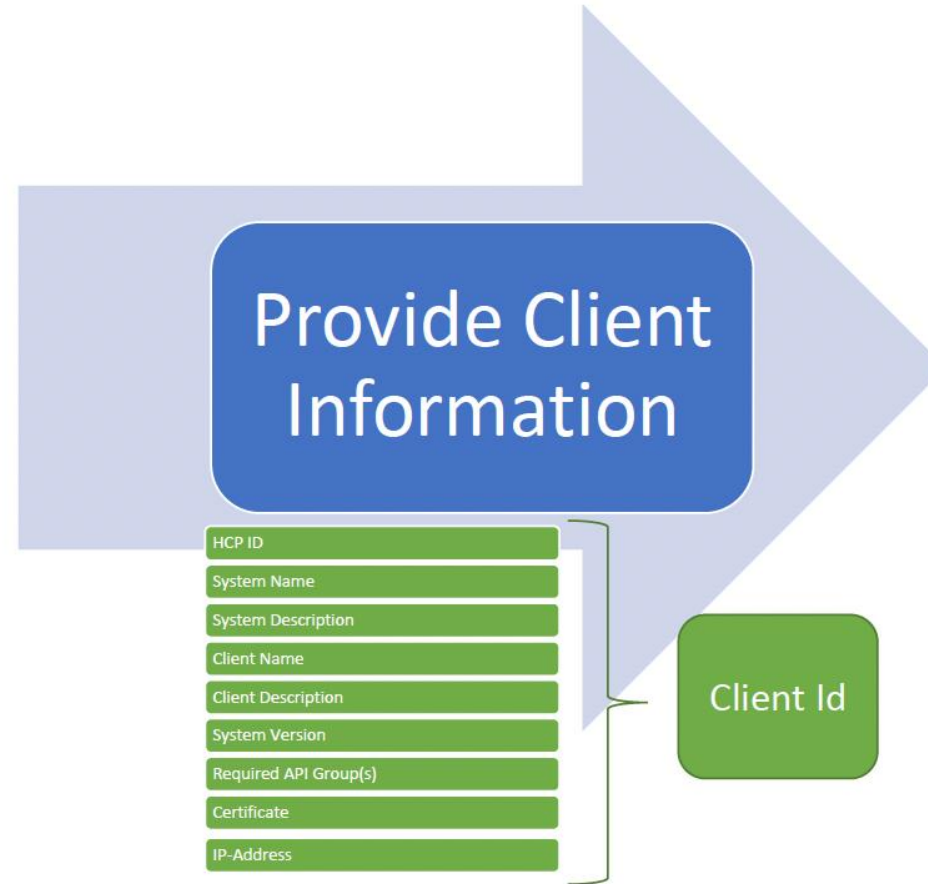
# HCP Setup (Testing)

Contact eHR

HCP Application form

eHRSS Service Configuration		Remarks
Reference Number:	<input type="text"/>	Updated by eHR
Request By:	<input type="text"/>	Request Date: <input type="text" value="01/06/2017"/>
Setup Environment:	<input type="text" value="DEVTEST"/>	
Creating / Production		
Section A: HCP Basic Information		
Official Name:	<input type="text"/>	Official Name in Business Registration
Display Name:	<input type="text"/>	
Display Short Name:	<input type="text"/>	
HCP Identifier:	<input type="text"/>	Updated by eHR
HCP1 Identifier:	<input type="text"/>	Updated by eHR
HCP System Contact Person:	<input type="text"/>	
HCP Setup Contact Email:	<input type="text"/>	
HCP Setup Contact Detail:	<input type="text"/>	
HCP Operation Contact Person:	<input type="text"/>	
HCP Operation Contact Email:	<input type="text"/>	
HCP Operation Contact Detail:	<input type="text"/>	
Section C: System Connection Information		
eHR System ID:	<input type="text"/>	Updated by eHR
Client ID:	<input type="text"/>	Updated by eHR
eHR System Name:	<input type="text"/>	
eHR System Version no.:	<input type="text"/>	
eHR System Description:	<input type="text"/>	
eHR IP Address (IPV4):	<input type="text"/>	
Credential:	<input type="text"/>	For testing, this certificate can be provided by eHR
eHR eHRSS Extended Data		
Last Update Date:	<input type="text"/>	

# OAuth Setup (Testing)



# Download Medication Record (Testing)

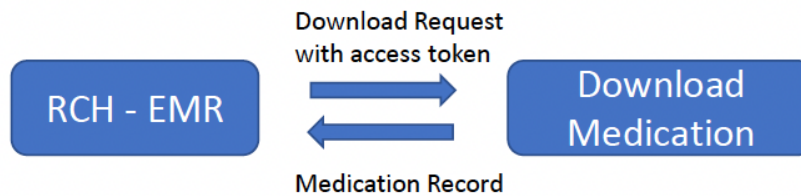
## ▶ Step 1: Get Access Token

- <https://api.uat.ehr.gov.hk/token/get-token>



## ▶ Step 2: Drug Record Download

- [https://api.uat.ehr.gov.hk/gateway/ehrss-eif-drugds-delivery/v1.0/v3/baseR4/MedicationDispense/\\_search](https://api.uat.ehr.gov.hk/gateway/ehrss-eif-drugds-delivery/v1.0/v3/baseR4/MedicationDispense/_search)
- [https://api.uat.ehr.gov.hk/gateway/ehrss-eif-drugds-delivery/v1.0/v3/baseR4/MedicationRequest/\\_search](https://api.uat.ehr.gov.hk/gateway/ehrss-eif-drugds-delivery/v1.0/v3/baseR4/MedicationRequest/_search)









# Sample Response Message of Medication Download

```
Body Cookies (1) Headers (4) Test Results Status: 200 OK Time: 1956 ms Size: 4.13 KB Save as example
Pretty Raw Preview Visualize JSON
1
2 "resourceType": "Bundle",
3 "meta": {
4   "lastUpdated": "2024-06-13T15:02:07.261+08:00"
5 },
6 "identifier": {
7   "system": "urn:ietf:rfc:3906",
8   "value": "urn:uuid:30c76d9e-e992-4c9d-a155-2f0d4a22e2e5"
9 },
10 "type": "document",
11 "timestamp": "2024-06-13T15:02:07.261+08:00",
12 "entry": [
13   {
14     "fullUrl": "Composition/c83f6a43-4a6a-4b7e-b206-2e8b776137c8",
15     "resource": {
16       "resourceType": "Composition",
17       "id": "c83f6a43-4a6a-4b7e-b206-2e8b776137c8",
18       "status": "final",
19       "type": {
20         "text": "Hong Kong eHR Healthcare Document"
```

Get ready for testing

# **LSCM EXPERIENCE SHARING OF TESTING ENVIRONMENT SET-UP**

Testing environment setup and data download experience sharing

# LSCM EXPERIENCE SHARING OF TESTING ENVIRONMENT SET-UP

# Setup and Testing Experience Sharing

## 1. Submit Testing Environment Setup Application Form

- I. Company Information
- II. Content Person Information
- III. Fixed IP

## 2. Network Connection Testing using Telnet

- I. HAIT will provide the IP and hostname

```
[REDACTED]:~$ telnet 127.0.0.1 443
Trying 127.0.0.1...
telnet: Unable to connect to remote host: Connection refused
```

Sample: telnet error

# Setup and Testing Experience Sharing

## 3. Obtain Authentication Token (Fig.1)

- Generate JWS
  - Tips 1: Check if client\_id correct (Fig.2)
  - Tips 2: Check if algorithm correct (Fig.3)
  - Tips 3: Check audience is using UAT site
    - You may try the following alternative URL (valid on 4 Oct 24)
    - <https://api.uat.ehr.gov.hk/realms/ehrss>

```
status 400 data {  
  error: "invalid_client",  
  error_description: "Invalid client credentials",  
}
```

Fig.1 Invalid client credentials request body on obtain auth token

	<b>type:jwt-bearer</b>
grant_type	Fixed value: <b>client_credentials</b>
client_assertion	Value of Signed JWT Claims (JWS).  JWT Claims: { "iss": "[client id]", "sub": "[client id]", "aud": "https://api.core.ehr.gov.hk/realms/ehrss", "exp": [1703747468], "jti": "[81e1f275-3301-43ba-8c8f-34bd32756e48]" }

Fig.2 Double-check if the client id correct

```
const jws = jwt.sign({}, privateKey, {  
  jwtid: uuidv4(),  
  issuer: systemId,  
  subject: systemId,  
  audience: 'https://api.uat.ehr.gov.hk/realms/ehrss',  
  expiresIn: '10m',  
  algorithm: 'RS256',  
});
```

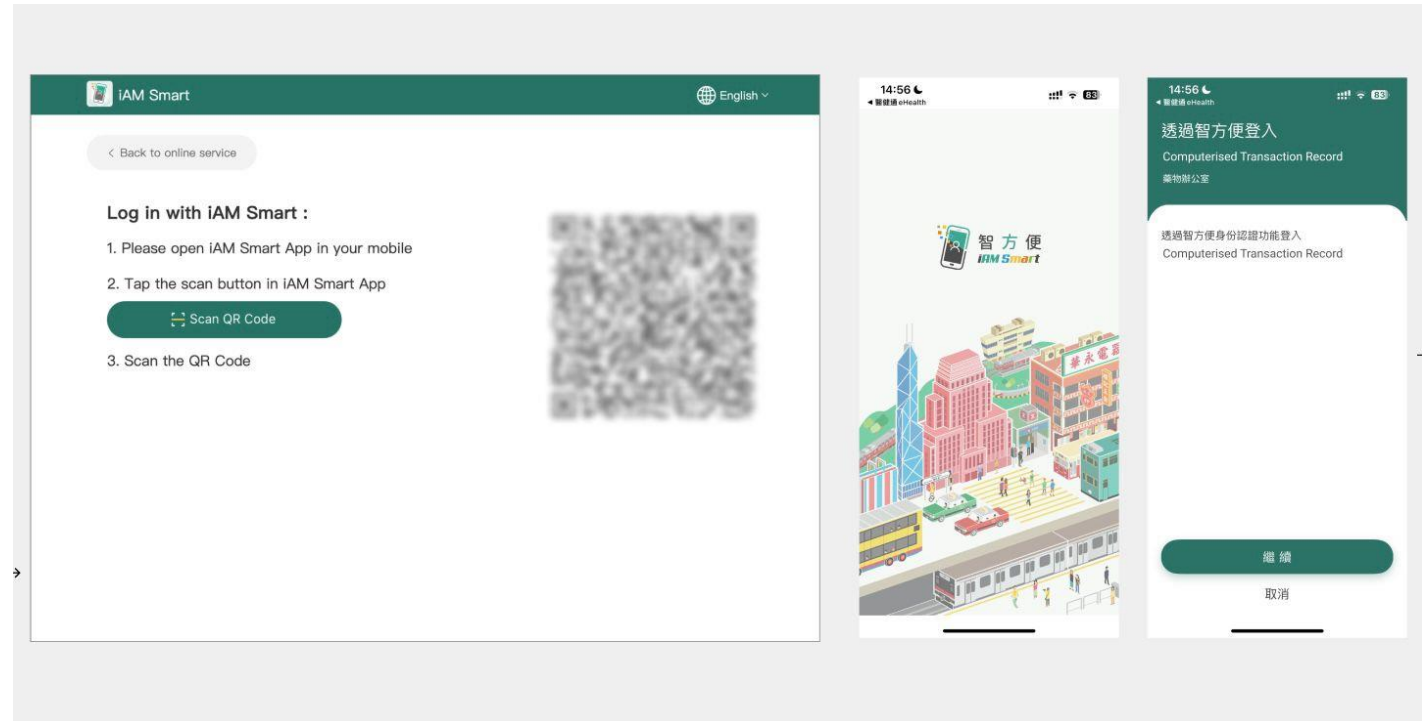
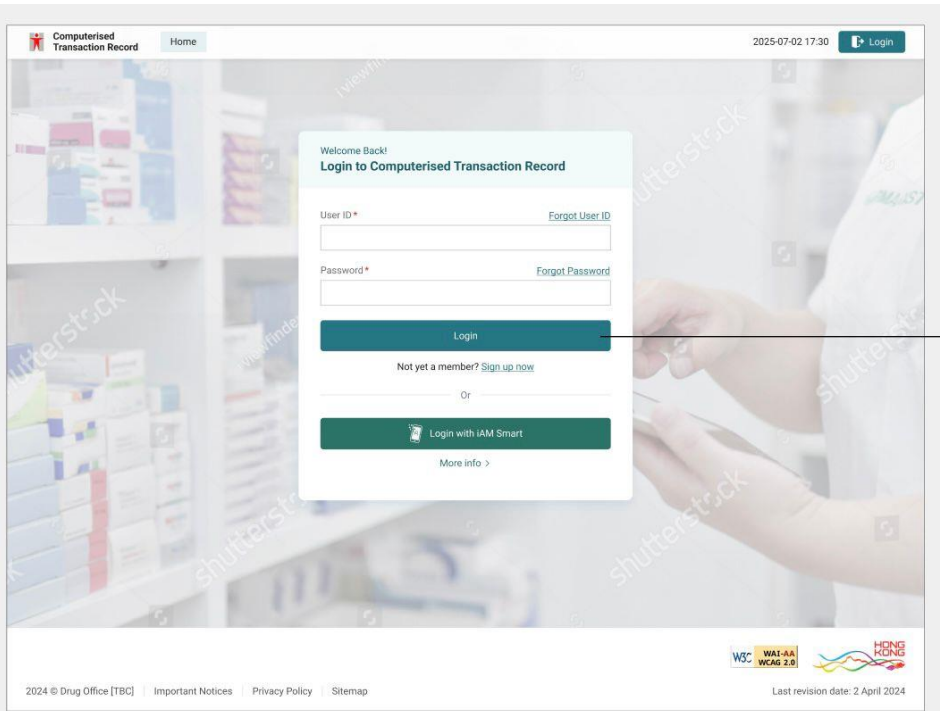
Fig.3 Double-check if the algorithm correct



2 Factor Authentication Made Easy

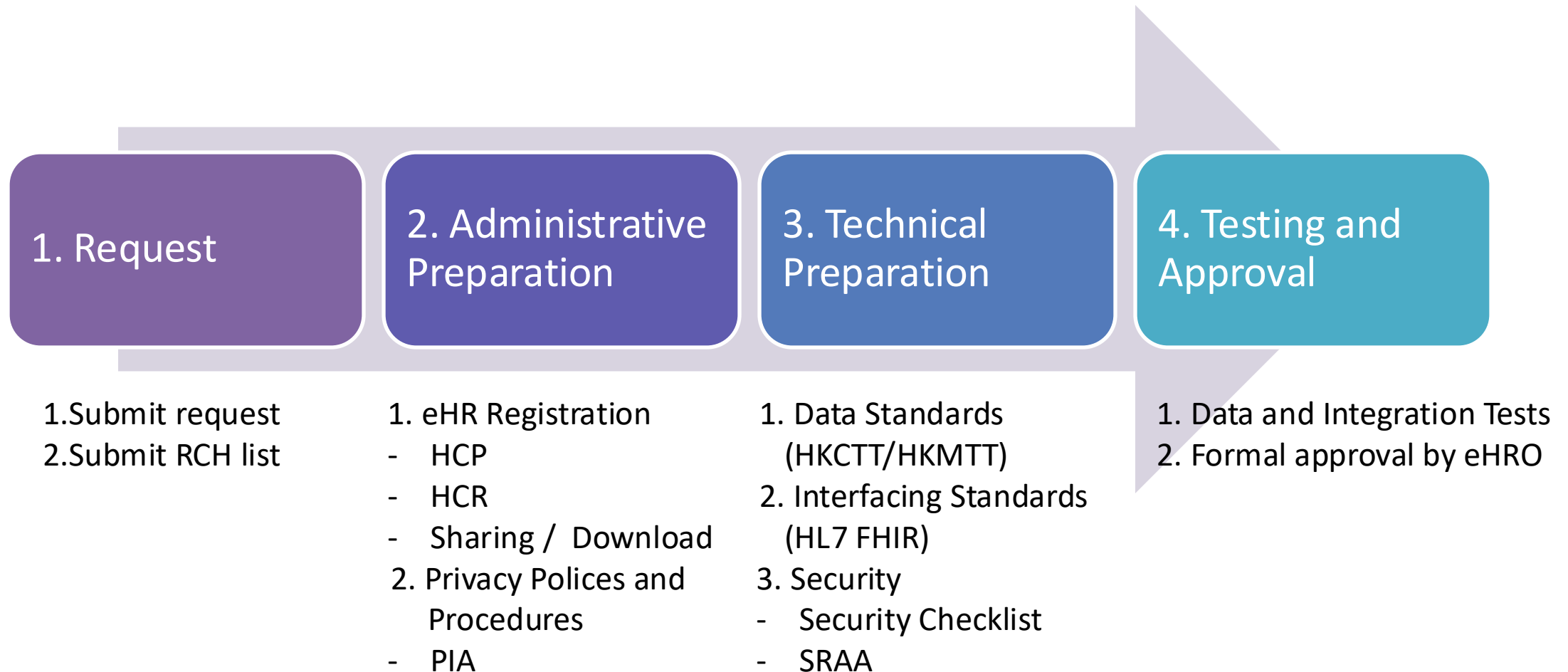
# IAM SMART AUTHENTICATION

# 2 Factor Authentication with iAM Smart



2FA is NOT an industry practice in healthcare but a potential security improvement

# Step-by-Step Preparation for Data Downloading



# Steps Towards Successful Data Download Pilot



Please Scan

1. Submit [application](#) for data download
2. Submit the [RCH lists](#) using your system
3. Select pilot RCH(s) for preparation
4. Prepare your system for data download UAT
  - Set up testing accounts and environment ([emedication@lscm.hk](mailto:emedication@lscm.hk))
5. Prepare your system for SRAA
6. Work with your RCH clients for PIA