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**eHealth**

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**Developers' Quick Guide
eHealth Chinese Medicines Dispensing Records Upload
(FHIR)**

# 1 Contents

## 1.  Purpose

This document is intended for Information Technology personnel involved in the development of programmes to upload data from their Electronic Medical Record (EMR) system to the electronic Health Record Sharing System (eHRSS).

The technical interface requirements for implementing Health Level Seven (HL7) Fast Healthcare Interoperability Resources (FHIR) Release 4 (R4) for uploading the Chinese Medicines Dispensing Records to eHRSS are provided below.  Readers who prefer more in-depth study of the HL7 FHIR (R4B) standards and content standards may refer to the HL7 FHIR website https://www.hl7.org/fhir/ and the **eHR Content Standards Guidebook** on the eHealth official website https://www.ehealth.gov.hk/ for more detail.

## 2.  Data Components
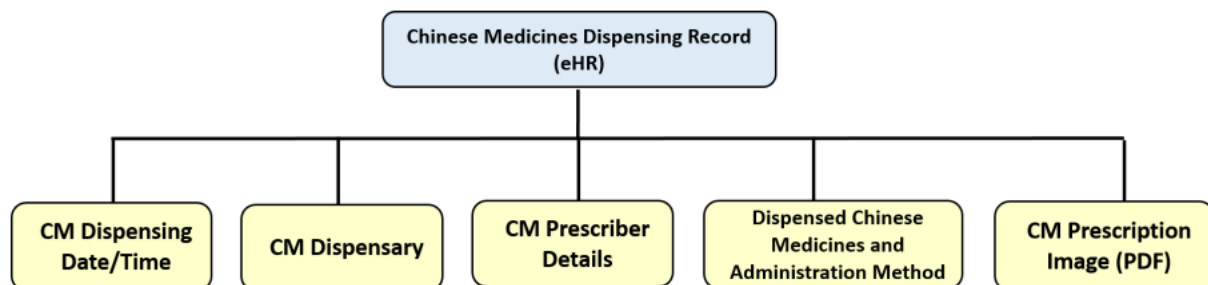


**Chinese Medicines Dispensing Date/Time**
It includes the date and time when the drug was dispensed.

**Chinese Medicines Dispensary**
It includes the information of the healthcare institution (HCI) which dispensed the drug.

**Chinese Medicines Prescriber Details**
It includes the information of the healthcare institution (HCI) which issued the prescription order and the name of the prescriber.

**Dispensed Chinese Medicines and Administration Method**

The information of Chinese medicines details and administration methods of the dispensing.

**Chinese Medicines Prescription Image (PDF)**
The PDF format of the Chinese medicines prescription order.

## 3. Upload Standards

**Supported Data Standards Level**

The Chinese Medicines Dispensing data domain (CMRXD) supports Level 2 (including text / PDF report) or Level 3 data standards only.

**Examples of Chinese Medicines Dispensing Scenarios**

Below are the examples depicting the different details in Level 2 and Level 3 Chinese Medicines Dispensing records:

| Data field | Level 2 data | Level 3 data |
|---|---|---|
| Chinese medicines dispensing datetime | 2009-11-11T 00:00:00.000+08:00 | 2009-11-11T 00:00:00.000+08:00 |
| Chinese medicines dispensing institution identifier | 1000000000 | 1000000000 |
| Chinese medicines dispensing institution long name | 中醫堂中醫診所 | 中醫堂中醫診所 |
| Chinese medicines dispensing institution local name | 中醫堂 | 中醫堂 |
| Chinese medicines prescribing institution identifier | 1000000000 | 1000000000 |
| Chinese medicines prescribing institution long name | 中醫堂中醫診所 | 中醫堂中醫診所 |
| Chinese medicines prescribing institution local name | 中醫堂 | 中醫堂 |
| Chinese medicines prescription order number | PX01162001570 | PX01162001570 |
| Chinese medicines prescriber's English full name | CHAN TAI MAN | CHAN TAI MAN |
| Chinese medicines prescriber's Chinese full name | 陳大文 | 陳大文 |
| Dispensed Chinese medicines dose group number | 1 | 1 |
| Dispensed Chinese medicines type code | DP | DP |
| Dispensed Chinese medicines sequence number | 1 | 1 |
| Dispensed Chinese medicines - recognised terminology name | | HKCTT |
| Dispensed Chinese medicines identifier - recognised terminology | | 8000001 |

| Data field | Level 2 data | Level 3 data |
|---|---|---|
| Dispensed Chinese medicines description - recognised terminology | | 黨參 |
| Dispensed Chinese medicines code - local terminology | | 0DSH04 |
| Dispensed Chinese medicines description - local terminology | 黨參 | 黨參 |
| Dispensed Chinese medicines dose value | 10 | 10 |
| Dispensed Chinese medicines dose unit code | | 1 |
| Dispensed Chinese medicines dose unit description | | 克 |
| Dispensed Chinese medicines dose unit local description | 克 | 克 |
| Dispensed Chinese medicines dose unit remarks | | |
| Dispensed Chinese medicines dose instruction | 服用 2 日 每日服用 1 劑 每劑煎煮後分 2 次服用 每次服用 1 包。已煎湯 劑 每劑=2 包 共 4 包。 清水三碗煎至一碗，飯 後服。 | 服用 2 日 每日服用 1 劑 每劑煎煮後分 2 次服用 每次服用 1 包。已煎湯 劑 每劑=2 包 共 4 包。 清水三碗煎至一碗，飯 後服。 |
| Dispensed Chinese medicines route of medication administration code | | ORL |
| Dispensed Chinese medicines route of medication administration description | | 口服 |
| Dispensed Chinese medicines route of medication administration local description | | 口服 |

**Modes of Data Upload**
HCP can upload clinical data in TWO upload modes according to needs. Please refer to the relevant sections in the General Guide.

- **Data materialization (DM)** mode is to upload all of an HCR's clinical data of a specific sharable dataset (data domain) that exists in the EMR system to eHRSS. DM aims for the first data upload for an HCR who newly given sharing consent to the HCP; and

- **Incremental Load (INC)** mode is for HCP to upload all newly created, amended and cancelled clinical data of a specific sharable data from all HCRs in the EMR system to eHRSS in ONE batch since the last data upload.

**Recognised Terminology**

- The recognised terminology sets adopted for the eHR Chinese Medicines Dispensing Records includes:
    - HKCTT
    - pCM

- The clinical terminology and code sets used are provided in the **self-service kit**. For the latest codes used, please refer the eHR code sets published on the eHealth official website.

**Message Standards**

- FHIR R4 message standards in JSON format are adopted for CM Dispensing Records upload to eHealth.
- Resource and Element names are case-sensitive

**Encoding**

- UTF-8 encoding is used for eHR Clinical data exchange.

## 4. Artifacts Summary

This section provides a list of the FHIR artifact defined as part of this implementation guide:

| Resource used | Definition | Cardinality |
|---|---|---|
| eHRSS Bundle | This profile represents the constraints and localization applied to the Bundle resource by eHRSS | 1..1 |
| eHRSS Composition | This profile represents the constraints and localization applied to the Composition resource by eHRSS | 1..1 |
| eHRSS Patient | This profile represents the constraints and localization applied to the Patient resource by eHRSS. | 1..1 |
| eHRSS Author Organization | This profile represents the constraints and localization applied to the Organization Resource referenced by Composition Resource. | 1..1 |
| eHRSS Organization | This profile represents the constraints and localization applied to the Organization Resource referenced by MedicationRequest Resource. | 0..* |
| eHRSSMedicationDispense | This profile defines MedicationDispense structure which includes eHR Chinese Medicines Dispensing data | 1..* |
| eHRSS MedicationRequest | This profile defines a MedicationRequest structure which includes the medication order related to MedicationDispense | 1..1 |
| eHRSS Medication | This profile defines a Medication structure which includes eHR Chinese Medicines item | 1..* |
| eHRSS DocumentReference | This profile defines a DocumentReference structure which includes eHR Chinese Medicines Dispensing data | 1..1 |
| eHRSS Encounter | This profile defines an Encounter structure which related to the Dispensing records | 0..* |

# 5. Specification of Data uploaded

The section describes the format and data required for the data contributed to eHealth.  Un-used FHIR message items and those not processed by eHRSS are not listed below.  Readers may refer to the HL7 (HK) website for the full HL7 FHIR R4 message specifications if required.

## 5.1   Composition of HL7 FHIR Message

The CM Dispensing Records are structured with the HL7 FHIR components (Resources) and hierarchy as specified below.
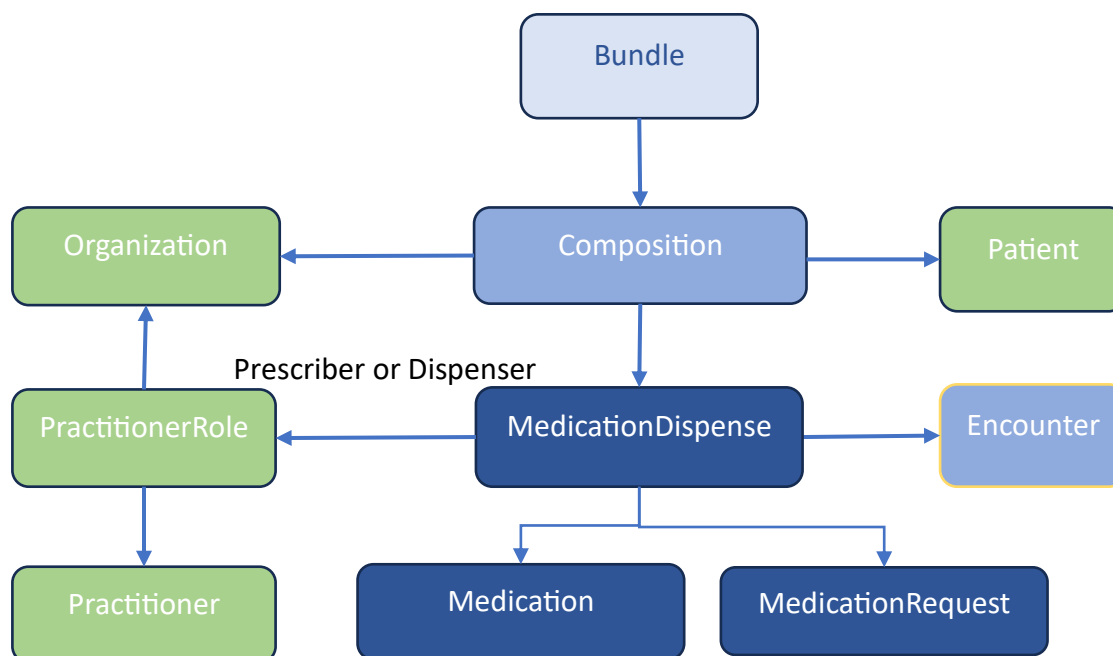
**Bundle Resource** (Single occurrence in each FHIR message bundle)

•        Identify the container type for the collection of data included in the bundle. The resource composition and data contents are determined by the Bundle Type.  For CM Dispensing  Records data upload, the following resources are included in the bundle.

**Composition Resource** (Single occurrence for each bundle)
•        Indicate a composition of data or document are collected in the message bundle. For "document" type of bundle, the "Composition Resource" must be the first resource to be included.

**MedicationRequest Resource** (Multiple occurrences are allowed in a bundle)
•        Contains the list of CM Dispensing records based on the mode of upload.

==Medication Resource== (Single occurrences are allowed for each MedicationRequest)
•        Contains the list of CM Dispensing records based on the mode of upload.

**Patient Resource** (Single occurrence for each **Bundle**)
•        Contains the demographics data of the healthcare recipient (HCR) who has the CM Dispensing record.

**PractitionerRole Resource** (Single occurrence for each **MedicationRequest**)
•        Contains the reference to Prescribing institution and prescriber
•        Contains the reference to Dispensing institution

**Practitioner Resource** (Single occurrence for each **PractitionerRole**)
•        Contains the prescriber 's information

**Organization Resource** (Single occurrence for each **PractitionerRole**)
•        Contains the dispensing institution information

**Encounter Resource** (Single occurrence for each **Medication Order**)
•        Contains the encounter information for each CM Dispensing record.

## 5.2    Data Elements in the Bundle Resource

A bundle is a collection of resources. For the type of "document" bundle, the following rules should be fulfilled.

*+ Rule: A document must have an identifier with a system and a value*

The below table listed data elements in the Bundle Resource which identifies the beginning of the container and the collection of data resources are all included under [resource.entry] in the bundle.

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | M/O |
|---|---|---|---|---|
| resourceType | Name of the current resource | string(6) | Fixed value: "resourceType":"**Bundle**" | M |
| id | Resource id which is a logic id to identify the artifact<br><br>A UUID represented as a URI (RFC 4122 )<br><br>Please see reference website in appendix | uuid | E.g. c757873d-ec9a-4326-a141-556f43239520 | M |
| Identifier | Persistent identifier for the resource<br><br>UUID/OID for Bundle | Identifier | E.g.<br>"identifier" : {<br>"system" : "urn:ietf:rfc:3986",<br>"value" : "urn:uuid:0c3151bd-1cbf-4d64-b04d-cd9187a4c6e0"<br>} | M |
| Type | The type is always "document" | code | Fixed value: "type":"**document**" | M |
| Timestamp | When the bundle was assembled [current time] | instant | In format:<br>YYYY-MM-DDThh:mm:ss.sss+zz:zz<br><br>E.g. "timestamp": "2024-03-01T15:04:48.865+08:00" | M |
| Entry fullUrl | Resources included in this bundle are collected under 'entry'<br><br>Each resource is identified by a uri<br><br>A UUID represented as a URI (RFC 4122 ) | BackboneElement uri | URI for UUID/OID<br><br>HL7 FHIR Resources that collected in the CM Dispensing record upload Bundle include:<br>• Composition<br>• Patient<br>• MedicationDispense<br>• MedicationRequest<br>• Medication<br>• PractitionerRole<br>• Practitoner<br>• Organization<br>• DocumentReference<br>• Encounter<br><br>E.g.<br>"fullUrl": "urn:uuid:21c6828c-b175-4a3b-b6de-6eaf69335021" | M |
| resource | A document must have a Composition as the first resource. Please refer to Composition resource requirements | BackboneElement .Resource | The 1st resource must be "Composition" resource. | M |

## 5.3  Data Elements in the Composition Resource

The Composition Resource identifies whether the upload package includes list of CM Dispensing records in this bundle.

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | M/O | Delete scenarios |
|---|---|---|---|---|---|
| resourceType | Resource name | string (11) | Fixed value: "resourceType":" **Composition**" | M | M |
| id | Resource id which is a logic id to identify the artifact<br><br>A UUID represented as a URI (RFC 4122 )<br><br>Please see reference website in appendix | uuid | *E.g.*<br>urn:uuid: 30551ce1-5a28-4356-b684-1e639094ad4d | M | M |
| 99999999-ComplianceLevel | [Compliance Level] | url string(1) | Permissible Values:<br>2,3<br><br>*E.g.*<br>"extension": [<br>{<br>  "url": "**[eHR FHIR URL]**/99999999-ComplianceLevel",<br>  "valueString": "**[Compliance Level]**"<br>}] | M | M |
| extension 99999999-DomainVersion | [Domain version]<br>The version of this interface | url string(11) | Fixed value: "eHRSS-1.1.0"<br>E.g.{<br>"url": "**[eHR FHIR URL]**/99999999-DomainVersion",<br>"valueString": "**eHRSS-1.1.0**"} | M | M |
| extension 99999999-UploadMode | [Upload Mode] | extension url string(5) | Permissible values:<br>NBL: Non Bulk load<br><br>E.g. {<br>"url": "**[eHR FHIR URL]**/99999999-UploadMode",<br>"valueString": "**NBL**"} | M | M |
| 99999999-SendingLocation | [Sending Location Code]<br>A code agreed between eHRSS and the HCP which indicates the location where the data is sending from | extension url string(20) | Use [HCP ID] if sending location cannot be provided.<br><br>E.g. {<br>"url": "**[eHR FHIR URL]**/99999999-SendingLocation",<br>"valueString": "**[Sending Location Code]**"} | O | O |
| status | The status is always "final". Other codes are not accepted by eHRSS. | string(5) | Fixed value:<br>"**final**" | M | M |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | M/O | Delete scenarios |
|---|---|---|---|---|---|
| type.coding.system<br>type.coding.display | Composition type<br><br>A coding object is required. | CodeableConcept<br><br>coding.system<br><br>coding.display | Fixed value:<br>"type": {<br>"coding": [<br>{<br>"system": "**[eHR FHIR URL]**",<br>"display": "**Hong Kong eHR Healthcare Document**"<br>}]} | M | M |
| subject.reference | [resource.id] of Patient Resource included in the same bundle<br><br>HCR has the condition in this bundle | Reference(Patient) | In format:<br>Patient/<resource id><br><br>*E.g.*<br>"subject": {<br>"reference": "Patient/6e480262-978c-49f0-a793-468293932fc2"<br>}<br>• This resource id is the same value of the Patient resource id<br>• The Patient Resource contains data of the HCR | M | M |
| date | Message generation time<br><br>*eHRSS will use this value and [record key] for overriding records uploaded in eHRSS* | dateTime(25) | In format:<br>YYYY-MM-DDThh:mm:ss.sss+zz:zz<br><br>*E.g.* "date":"2022-12-01T15:04:48.000+08:00" | M | M |
| author | Author of this composition<br><br>Name of healthcare institution who created/update the record<br><br>*eHRSS will not interpret this value* | Reference(Organization) | Fixed value:<br>Organization/author<br><br>*E.g.*<br>"author": [{<br>"reference" : "Organization/3b3703a9-7a26-427c-9352-4e41f046d85e"}]<br><br>• This resource id is the same value of the Organization resource id | M | M |
| title | Title of this composition<br><br>*eHR will not interpret this value* | string(33) | Fixed value:<br>title:"**Hong Kong eHR Healthcare Document**" | M | M |
| section | Composition is broken into sections | BackboneElement | - | M | M |
| title | A human readable label for this section | string(255) | Fixed value:<br>title: "**Chinese Medicines Dispensing Records**" | M | M |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | M/O | Delete scenarios |
|---|---|---|---|---|---|
| code | A code identifying the kind of content contained within the section. This must be consistent with the section title. | CodeableConcept<br><br>coding.system<br><br>coding.code | Fixed value:<br>"code": {<br>"coding": [<br>{<br>"system": "**[eHR FHIR URL]**/datadomain",<br>"code": "**CMRXD**"<br>}]} | M | M |
| **MedicaitonDispense** | | | | | |
| 99999999-TransactionType | [Transaction Type] Insert / Update / Delete | BackboneElement.Reference.Extension<br><br>string(1) | Permissible Values:<br>**I**: Insert<br>**U**: Update<br>**D**: Delete<br><br>*E.g.:*<br>"extension": [<br>{<br>"url": "**[eHR FHIR URL]**/99999999-TransactionType",<br>"valueString": "**[Transaction Type]**"<br>}] | M | M |
| 99999999-LastUpdateDateTime | [Last Update Date Time] | BackboneElement.Reference.Extension<br><br>dateTime(29) | In format:<br>YYYY-MM-DDThh:mm:ss.sss+zz:zz<br>*E.g:* "2019-05-31T08:30:00.000+08:00"<br><br>*E.g:*<br>"extension": [<br>{<br>"url": "**[eHR FHIR URL]**/99999999-LastUpdateDateTime",<br>"valueDateTime": "**[Last Update Date Time]**"<br>}] | M | M |
| 99999999-TransactionDateTime | [Transaction Date Time] | BackboneElement.Reference.Extension<br><br>dateTime(25) | In format:<br>YYYY-MM-DDThh:mm:ss.sss+zz:zz<br>*E.g*. "2019-05-31T08:30:00.000+08:00"<br>*E.g.*<br>"extension": [<br>{<br>"url": "**[eHR FHIR URL]**/99999999-TransactionDateTime",<br>"valueDateTime": "**[Transaction Date Time]**"<br>} ] | M | M |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | M/O | Delete scenarios |
|---|---|---|---|---|---|
| 99999999-RecordCreateDatetime | [Record Create Datetime] | BackboneElement.Reference.Extension<br><br>dateTime(29) | In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz *E.g.*"2021-01-25T08:30:00.000+08:00"<br><br>*E.g.*<br>"extension": [<br>{<br>  "url": "**[eHR FHIR URL]**/99999999-RecordCreateDatetime",<br>  "valueDateTime": "**[Record Create Datetime]**"<br>}] | O | O |
| extension 99999999-RecordCreateInstIdentifier | [Record Create Institution Identifier] | BackboneElement.Reference.Extension<br><br>string(10) | *E.g.*<br>"extension": [<br>{<br>  "url": "**[eHR FHIR URL]**/99999999-RecordCreateInstIdentifier",<br>  "valueString": "**[Record Create Institution Identifier]**"<br>}] | O | O |
| extension 99999999-RecordCreateInstName | [Record Create Institution Name] | BackboneElement.Reference.Extension<br><br>string(255) | *E.g.*:<br>"extension": [<br>{<br>  "url": "**[eHR FHIR URL]**/99999999-RecordCreateInstName",<br>  "valueString": "**[Record Create Institution Name]**"<br>}] | O | O |
| extension 99999999-RecordLastUpdateDatetime | [Record Last Update Datetime] | BackboneElement.Reference.Extension<br><br>dateTime(29) | In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz E.g. 2017-03-04T08:30:00.000+08:00<br><br>*E.g.*<br>"extension": [<br>{<br>  "url": "**[eHR FHIR URL]**/99999999-RecordLastUpdateDatetime",<br>  "valueDateTime": "**[Record Last Update Datetime]**"<br>}] | O | O |
| extension 99999999-RecordUpdateInstIdentifier | [Record Update Institution Identifier] | BackboneElement.Reference.Extension<br><br>string(10) | *E.g.*<br>"extension": [<br>{<br>  "url": "**[eHR FHIR URL]**/99999999-RecordUpdateInstIdentifier",<br>  "valueString": "**[Record Update Institution Identifier]**"<br>}] | O | O |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | M/O | Delete scenarios |
|---|---|---|---|---|---|
| extension 99999999-RecordUpdateInstName | [Record Update Institution Name] | BackboneElement.Reference.Extension<br><br>string(255) | *E.g.*<br>"extension": [<br>{<br>  "url": "**[eHR FHIR URL]**/99999999-RecordUpdateInstName",<br>  "valueString": "**[Record Update Institution Name]**"<br>}] | O | O |
| identifier | [Record key] | string(40) | *E.g.*<br>"identifier": {<br>"system": "**[HCP FHIR URL]**/Recordkey",<br>"value": "**[Record key]**"<br>} | M | M |
| entry | A reference to data that supports this section<br><br>**Each entry represents each record | Reference(MedicationDispense) | Reference Format: MedicationDispense/<resource id><br><br>• This resource id is the same value of MedicationDispense resource id<br>• The MedicationDispense Resource contains data of the HCR 's list of CM Prescribing records are included in this bundle. | M | M |
| **DocumentReference** | | | | | |
| identifier | [Record key] | string(40) | *E.g.*<br>"identifier": {<br>"system": "**[HCP FHIR URL]**/Recordkey",<br>"value": "**[Record key]**"<br>} | M | M |
| entry | A reference to data that supports this section<br><br>**Each entry represents each CMRXD PDF record | Reference(DocumentReference) | Reference Format: DocumentReference/<resource id><br><br>• This resource id is the same value of the DocumentReference resource id | M | M |

## 5.4    Data Elements in the Patient Resource

The Patient Resource provides the patient identifier referenced in the other Resources to identify the patient whom these CMRXD data belong to.  This resource also contains the basic demographic data (major keys) used for the validation of the HCR's identity.

| JSON Name | Data Field | FHIR Data Type (Max Length) | Remarks | M/O | delete |
|---|---|---|---|---|---|
| resourceType | Resource name | string(7) | <u>Fixed value</u>: "**Patient**" | M | M |

| JSON Name | Data Field | FHIR Data Type (Max Length) | Remarks | M/O | delete |
|---|---|---|---|---|---|
| id | [resource id]<br>reference by Composition resource<br><br>A UUID represented as a URI (RFC 4122 )<br><br>Please see reference website in appendix | string(45) | This id identifies the patient / HCR whose records are included in the current bundle.  It is used in [subject.reference] in the Composition Resources to identify the concerned patient. | M | M |
| identifier | eHR number for this patient | identifier | There are always 2 entries for Patient Resource [identifier.]  One for eHR number and one for document number/ID. | | |
| type.coding.system | Link to document type coding system | string(255) | <u>Fixed value:</u>"**[eHR FHIR URL]/typeofID-ext**" | M | M |
| type.coding.code | identifier type code | string(5) | <u>Fixed value:</u> **"EHRNO"** | M | M |
| value | [eHR number]<br>A unique HCR identifier assigned by eHRSS. | integer(12) | <u>Fixed length:</u> **12**<br>e.g. 201000000001 | M | M |
| identifier | Document type and HKIC for this patient | identifier | | | |
| type.coding.system | Link to document type coding system | string(255) | <u>Fixed value:</u>"**[eHR FHIR URL]/typeofID-ext**" | M | M |
| type.coding.code | [Type of identity document] eHRSS document type code which is used for registration | string(5) | Refer to the document type code set provided in the **self-service kit** or the eHRSS official website for the most updated code set. | M | M |
| value | Identity Document number of the type of document as specified above<br><br>If document type ="**ID**" or "**CD**" or "**BC**" or "**ECID**", the Identity Document Number will comply with the HKID format, else it will be of free text format | string(12) | <u>In Format:</u><br>If [document type] is **ID, BC, CD, ECID,**<br><br>format of the document number is:<br>AANNNNNNC or<br>ANNNNNNC<br>where:<br>• C is the check digit<br>• All Uppercase | M | M |
| name | Patient's name | | At least [name.family] or [name.given] will be provided | | |
| family | [English surname]<br>Patient's surname in English<br><br>For single name cases, the single name can be specified in either [English surname] or [English given Name] | string(40) | <u>Mandatory</u> if [name.text] and [name.give] are blank; else Optional<br><br>• All Uppercase letters | M* | M* |
| given | [English given name]<br>Patient's given name in English | string(40) | <u>Mandatory</u> if [name.text] and [name.family] are blank; else Optional<br>• All Uppercase letters | M* | M* |

| JSON Name | Data Field | FHIR Data Type (Max Length) | Remarks | M/O | delete |
|-----------|-----------|----------------------------|---------|-----|--------|
| text | [English full name]<br><br>Patient's full name in English | string(100) | Mandatory if [name.family] and [name.given] are blank;else Optional<br><br>In format:<br>[name.family] + [,] + 1 white space + [name.given]<br><br>• All Uppercase letters<br>• If HCR has either English surname or given name stored in local EMR system, full name should be filled. | M* | M* |
| gender | [sex]<br>Gender of the patient<br><br>eHR will convert the FHIR gender to eHR [Sex] according to the Section 8 Mapping table | code(7) | Permissible Values:<br>• male<br>• female<br>• unknown<br><br>*E.g.*:<br>"gender": "**[Sex]**" | M | M |
| birthdate | [Date of birth]<br>Date of birth of the patient as indicated on the patient's identity document | date(10) | In format:<br>YYYY-MM-DD<br><br>*E.g.*:<br>"birthDate": "**[Date of birth]**"<br><br>If date is exact to 'Year' (e.g. 2010), the unknown month and day should be filled with '01-01'. Example: "2010-01-01".<br><br>If date is exact to 'Month' (e.g. 2011-12), the unknown day should be filled with '01'. Example: "2011-12-01". | M | M |

## 5.5   Data Elements in the Organization resource

This Organization Resource entry identifies HCP as the source of data uploading and contains only constant values.

| JSON Name | Data Value | FHIR Data Type | Remarks | M/O | Delete Scenario |
|-----------|-----------|----------------|---------|-----|-----------------|
| resourceType | Resource name | string (12) | Fixed value: **"Organization"** | M | M |
| id | [resource id]<br>reference by Composition resource<br><br>A UUID represented as a URI (RFC 4122 )<br><br>Please see reference website in appendix | string (45) | The resource id identifies the Healthcare Institution relevant to the Composition resource. | M | M |

| JSON Name | Data Value | FHIR Data Type | Remarks | M/O | Delete Scenario |
|---|---|---|---|---|---|
| name | [Healthcare institution long name]<br><br>*eHRSS will not interpret the value* | string (255) | | M | M |

This Organization Resource entry identifies HCP which has the role to prescribe the medication order.

| JSON Name | Data Value | FHIR Data Type | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| resourceType | Resource name | string (12) | Fixed value: **"Organization"** | M | M | M |
| id | [resource id]<br>reference by PractitionerRole resource<br><br>A UUID represented as a URI (RFC 4122 )<br><br>Please see reference website in appendix | string (45) | The resource id identifies the Healthcare Institution relevant to the medication order | M | M | M |
| Identifier.value | [Chinese medicines prescribing institution identifier]<br>[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 Chinese medicines prescription order | numeric(10) | Mandatory if [Chinese medicines prescription institution local name] is blank.<br><br>Fixed length: 10<br>e.g. 1000000000<br><br>E.g.<br>"identifier": [<br>  {<br>    "system": "**[EHR FHIR URL]**/pvdr",<br>    "value": "**[Chinese medicines prescribing institution identifier]**"<br>  }] | M* | M* | NA |
| name | [Chinese medicines prescribing institution long name]<br>The healthcare institution where the radiology request was created.<br>It is the [HCI displayed English long name] (or Chinese) in the eHR Healthcare Provider Index.<br>It should be the corresponding description of the selected [HCI identifier]. | string(255) | Mandatory if [Chinese medicines prescription institution identifier] is given. | M* | M* | NA |

| JSON Name | Data Value | FHIR Data Type | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| alias | [Chinese medicines prescribing institution local name] Local description of the healthcare provider by which the Chinese medicines prescription order was made | string(100) | <u>Mandatory</u> if [Chinese medicines prescribing institution identifier] is blank. | M* | M* | NA |

This Organization Resource entry identifies HCP which has the role to dispense the medications.

| JSON Name | Data Value | FHIR Data Type | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| resourceType | Resource name | string (12) | <u>Fixed value</u>: **"Organization"** | M | M | M |
| id | [resource id] reference by PractitionerRole resource<br><br>A UUID represented as a URI (RFC 4122 )<br><br>Please see reference website in appendix | string (45) | The resource id identifies the Healthcare Institution relevant to the dispenser | M | M | M |
| Identifier.value | [Chinese medicines dispensing institution identifier] eHRSS assigned [Healthcare institution identifier] (HCI ID) where the Chinese medicines dispensing order was issued. | numeric(10) | <u>Mandatory</u> if [Chinese medicines dispensing institution local name] is blank.<br><br>Fixed length: 10 e.g. 1000000000<br><br>E.g. "identifier": [ { "system": "**[EHR FHIR URL]**/pvdr", "value": "**[Chinese medicines dispensing institution identifier]**" }] | M* | M* | NA |
| name | [Chinese medicines dispensing 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 dispensed the Chinese medicines. | string(255) | <u>Mandatory</u> if [Chinese medicines prescription institution identifier] is given. | M* | M* | NA |

| JSON Name | Data Value | FHIR Data Type | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| alias | [Chinese medicines dispensing institution local name] Local description of the healthcare provider by which the Chinese medicines prescription order was made | string(100) | <u>Mandatory</u> if [Chinese medicines dispensing institution identifier] is blank. | M* | M* | NA |

## 5.6   Data Elements in the MedicationDispense resource

The MedicationDispense resource in FHIR represents the event of a medication being prepared and provided to a patient, including details such as the medication supplied, quantity, dosage instructions, and the performer.

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| resousrceType | MedicationDispense | Domain Reosourc | <u>Fixed Value:</u> "resourceType": "**MedicationDispense**" | M | M | M |
| id | Resource id Logical id of this artifact A UUID represented as a URI (RFC 4122 ); | uuid | *E.g.* c7781f44-6df8-4a8b-9e06-0b34263a47c5 | M | M | M |
| extension 1006975-CMDoseRemarks | [Dispensed Chinese medicines dose remarks] Additional information relating to the dispensed Chinese medicines dose. | string(300) | | O | O | O |
| identifier | [Record key] A unique identifier for each Chinese Medicines Dispensing record | string(40) | This [Record Key] is reference to the same [Record Key] in Composite Resource entry "identifier": { "system": "**[HCP FHIR URL]**/Recordkey", "value": "**[Record key]**"} | M | M | M |
| status | Status of the record | string(9) | Fixed value: "**completed**" | M | M | M |
| medication.reference | [resource.id] of Medication Resource | reference(100) | Reference Format: Medication/<resource id> <br> • This resource id is the same value of the Medication resource id | M | M | NA |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| subject.reference | [resource.id] of Patient Resource in the same bundle HCR has the Prescribing records in this bundle | reference(100) | Reference Format: Patient/<resource id><br><br>*E.g.*<br>"subject": {<br>"reference": "Patient/6e480262-978c-49f0-a793-468293932fc2"<br>}<br>• This resource id is the same value of the Patient resource id | M | M | NA |
| encounter.reference | [resource.id] of Encounter Resource for the requester | reference(100) | Reference Format: Encounter/<resource id> | O | O | NA |
| performer.actor.references | [resource.id] of PractitonerRole Resource for the Dispenser | reference(100) | Reference Format: PractitionerRole/<resource id> | O | O | NA |
| authorizingPrescription.reference | [resource.id] of MedicationRequest for the order information | reference(100) | Reference Format: MedicationRequest/<resource id> | O | O | NA |
| whenHandedOver | [Chinese medicines dispensing datetime]<br>The datetime when the Chinese medicines was dispensed. | dateTime(29) | In format:<br>YYYY-MM-DD hh:mm:ss.sss<br>e.g. 2023-01-31 16:30:05.005 | M | M | NA |
| dosageInstruction | | | | | | |
| extension 1006957-CMdoseGpNum | [Dispensed Chinese medicines dose group number]<br>The group number of the dispensed dose. | numeric(3) | Permissible values: 1-999 | M | M | NA |
| text | [Dispensed Chinese medicines dose instruction]<br>The entire combined instruction information of one dispensed Chinese medicines dose; the syntax may contain the decoction method and/or method of administration which includes: Dose, Frequency, Duration of treatment or treatment start and end date. | string(350) | | M | M | NA |
| route | | | | | | |
| coding.system | Link to coding system | | system="[EHR FHIR URL]/ CMroute" | NA | O | NA |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| coding.code | [Dispensed Chinese medicines route of administration code] [eHR value] of the "Chinese medicines route of administration" code table for identifying the dispensed Chinese medicines route of administration. | string(20) | Mandatory if [Dispensed Chinese medicines route of administration description] is given, else N/A. Refer to the code set of "Chinese medicines route of administration" in Self-Service kit. The latest code set in eHealth website shall prevail. | NA | M* | NA |
| coding.display | [Dispensed Chinese medicines route of administration description] [Chineses description] of the "Chinese medicines route of administration" code table for identifying the dispensed Chinese medicines route of administration. It is the corresponding description of the selected [Chinese medicines route of administration - code]. | string(20) | Mandatory if [Dispensed Chinese medicines route of administration code] is given, else N/A. Refer to the code set of "Chinese medicines route of administration" in Self-Service kit. The latest code set in eHealth website shall prevail. | NA | M* | NA |
| text | [Dispensed Chinese medicines route of administration local description] Local description of the dispensed Chinese medicines route of administration developed by the healthcare provider. | string(100) | | O | O | NA |
| doseAndRate | | | | | | |
| doseQuantity. value | [Dispensed Chinese medicines dose value] The numeric value of the corresponding dispensed Chinese medicines dose unit | numeric(10) | Permissible values: 0.01-999.99 | M | M | NA |
| doseQuantity.unit | [Dispensed Chinese medicines dose unit description] [Chinese description] of the "Chinese Medicines dose unit" code table for the dose unit of the dispensed Chinese medicines. It is the corresponding description of the selected [Chinese medicines dose unit - code]. | string (20) | Mandatory if [Dispensed Chinese medicines type code] is "DG", else N/A if [Dispensed Chinese medicines type code] is "DP" or "pCm" | M* | M | NA |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| doseQuantity.code | [Dispensed Chinese medicines dose unit - code] [eHR value] of the "Chinese medicines dose unit" code table for identifying the dose unit of the dispensed Chinese medicines | url string(10) | system="[EHR FHIR URL]/CMdoseUnitcd" Mandatory for Level 3 if [Dispensed Chinese medicines type code] is "DG" and dose value must be "1". Mandatory for Level 2 if [Dispensed Chinese medicines type code] is DG and value must be "1", else N/A if [Dispensed Chinese medicines type code] is "DP" or "pCm". | M* | M* | NA |
| extension 1006968-DoseUnitLocalDesc | [Dispensed Chinese medicines dose unit local description] Local description created by the healthcare provider for the dose unit of the dispensed Chinese medicines. | string(20) | | M | M | NA |
| extension 1006969-CMDoseUnitRemarks | [Dispensed Chinese medicines dose unit remarks] [eHR value] of the "Chinese medicines dose unit remarks" code table for the dose additional information of the dispensed Chinese medicines. | string(20) | Mandatory if [Dispensed Chinese medicines type code] is "DG", else N/A if [Chinese medicines type code] is "DP" or "pCm". | M* | M* | NA |

## 5.7   Data Elements in the MedicationRequest resource

The information about an individual who has medication orders

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| resousrceType | MedicationRequest | DomainReosourc | Fixed Value: "resourceType": "**MedicationRequest**" | M | M | M |
| id | Resource id Logical id of this artifact A UUID  represented as a URI (RFC 4122 ); | uuid | E.g. c7781f44-6df8-4a8b-9e06-0b34263a47c5 | M | M | M |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| identifier | [Chinese medicines prescription order number] A unique number assigned for each Chinese medicines prescription order issued by individual healthcare institution. One Chinese medicines prescription order would include multiple prescribed Chinese medicines. | string(20) | "identifier": { "system": "**[HCP FHIR URL]**/OrderNum", "value": "**[Chinese medicines prescription order number]**"} | M | M | O |
| status | Current state of the order.<br><br>*eHRSS will not interpret this value* | string(9) | Fixed value : "**completed**" | M | M | M |
| intent | Indictor this request is an order.<br><br>*eHRSS will not interpret this value* | string(5) | Fixed value : "**order**" | M | M | M |
| medication | [resource.id] of Medication Resource | reference(100) | Fixed value: "medicationCodeableConcept" : { "extension": [ { "url": "http://hl7.org/fhir/StructureDefinition/data-absent-reason", "valueCode": "not-applicable" } ] } | M | M | NA |
| requester.reference | [resource.id] of PractitionerRole Resource for the requester | reference(100) | Reference Format: PractitionerRole/<resource id> | O | O | NA |

## 5.8 Data Elements in the Medication resource

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| resousrceType | Medication | DomainResosourc | Fixed Value: "resourceType": "**Medication**" | M | M | NA |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| id | Resource id<br>Logical id of this artifact<br>A UUID represented as a URI (RFC 4122 ); | uuid | *E.g.* c7781f44-6df8-4a8b-9e06-0b34263a47c5 | M | M | NA |
| extension 1006957-CMdoseGpNum | [Dispensed Chinese medicines dose group number]<br>The group number of the dispensed dose. | numeric(3) | Permissible values: 1-999 | M | M | NA |
| code | | | | | | |
| extension 1006970-CMAdditionalInfo | [Dispensed Chinese medicines additional information]<br>The decoction method of the corresponding dispensed Chinese medicines or the ingredients of the corresponding dispensed proprietary Chinese medicines | string(500) | | O | O | NA |
| extension 1006958-CMtype | [Dispensed Chinese medicines type code]<br>[eHR value] of the "Chinese medicines type" code table for identifying the type of the prescribed Chinese medicines. | string(10) | Refer to the code set "Chinese medicines type" in Self-Service Kit. The latest code set in eHealth website shall prevail. | M | M | NA |
| extension 1006959-DrugSequenceNum | [Dispensed Chinese medicines sequence number]<br>The sequence number of the prescribed Chinese medicines. | numeric(3) | Permissible values: 1-999<br><br>It must be unique as per particular dispensed Chinese medicines dose. | M | M | NA |
| Dispensed Chinese Medicines - Recognised Terminology | | | | | | |
| coding.system | [Dispensed Chinese medicines - recognised terminology name]<br>Name of the recognised terminology for the dispensed Chinese medicines.<br><br>If eHR value = HKCTT, allowable nature is "中藥產品" ; if eHR value = pCm, all record is allowed | uri | For HKCTT, fixed uri:<br>**[EHR FHIR URL]**/HKCTT<br><br>For pCM, fixed uri:<br>**[EHR FHIR URL]**/pCM<br><br>Refer to the code set "Recognised terminology name - Chinese medicines" in Self-Service Kit. The latest code set in eHealth website shall prevail. | NA | M | NA |
| coding.code | [Dispensed Chinese medicines identifier - recognised terminology]<br>Unique identifier of the dispensed Chinese medicines in the recognised terminology. | string(20) | e.g. 8000001 (for HKCTT)<br><br>Refer to the code set of "Recognised terminology name - Chinese medicines" in Self-Service kit. The latest code set in eHealth website shall prevail. | NA | M | NA |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| coding.display | [Dispensed Chinese medicines description - recognised terminology]<br>Description of the dispensed Chinese medicines in recognised terminology. It should be the corresponding description of the selected [Dispensed Chinese medicines identifier - recognised terminology]. | string (100) | e.g. 黨參 (for HKCTT)<br><br>Refer to the code set of "Recognised terminology name - Chinese medicines" in Self-Service kit. The latest code set in eHealth website shall prevail | NA | M | NA |
| Dispensed Chinese Medicines - Local Terminology | | | | | | |
| coding.system | Link to local terminology coding system | uri | Fixed Value: "**[HCP FHIR URL]**/CM " | O | M | NA |
| coding.code | [Dispensed Chinese medicines code - local terminology]<br>Local code of the dispensed Chinese medicines developed by the healthcare provider. | string (20) | "code": "**[Dispensed Chinese medicines code - local terminology]**" | O | O | NA |
| coding.display | [Dispensed Chinese medicines description - local terminology]<br>Local description of the dispensed Chinese medicines developed by the healthcare provide | string (100) | Mandatory if [Dispensed Chinese medicines identifier - recognised terminology] is given, else Optional.<br><br>"display": "**[Dispensed Chinese medicines description - local terminology]**" | M | M | NA |

## 5.9 Data Elements in the DocumentReference resource

The information about the details for the Medication Order record.

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| resousrceType | Resource name | string(17) | Fixed Value: "**DocumentReference**" | M | M | NA |
| id | [resource id]<br>reference by Composition resource<br><br>A UUID represented as a URI (RFC 4122 )<br>Please see reference website in appendix | string (45) | | M | M | NA |

| JSON Name | Data Value | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| status | This is FHIR Code to identify the status of the CM dispensing records<br>current \| superseded \| entered-in-error | string(7) | <u>Fixed value</u>: **current** | M | M | NA |
| content | Chinese Medicines Prescribing Record in PDF | | | | | |
| attachment.contentType | Type of PDf | string(10) | Fixed value:<br>"contentType": "application/pdf", | M | M | NA |
| attachment.data | [Chinese medicines prescription image (PDF)]<br>Chinese medicines prescription order in PDF format | base64Binary | | M | M | NA |
| attachment.url | [PDF file name]<br>File name of PDF of the corresponding file. | string(255) | <u>In format:</u><br>Please refer the Section 6 Image file (PDF)  name standard | M | M | NA |

## 5.10  Data Elements in the PractitionerRole resource

The information about the details for the Prescriber role for the Medication record.

| JSON Name | Data Value | FHIR Data Type | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| resourceType | Resource name | string (12) | <u>Fixed value</u>: **"PractitionerRole"** | M | M | NA |
| id | [resource id]  reference by MedicationRequest<br>A UUID represented as a URI (RFC 4122 )<br><br>Please see reference website in appendix | string (45) | The resource id identifies the Roles for Organization and Practitioner | M | M | NA |
| practitioner.reference | Links the practitioner to a specific role | reference(100) | <u>In format:</u><br>Practitioner/<resource id><br><br>E.g:<br>"practitioner": {<br>"reference":<br>"Practitioner/8d46812c-4345-45ca-b9ff-ec325816c416"<br>} | O | O | NA |

| JSON Name | Data Value | FHIR Data Type | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| oganization.reference | Links the organization to a specific role | reference(100) | In format:<br>Organization/<resource id><br><br>E.g. "organization": {<br>  "reference":<br>"Organization/c3cdb0dd-9b20-4a14-82bc-3facb3da18f7"<br>}<br><br>Dispensing Role<br>• [Chinese medicines dispensing institution identifier]<br>• [Chinese medicines dispensing institution long name]<br>• [Chinese medicines dispensing institution local name] | O | O | NA |

## 5.11 Data Elements in Practitioner resource

The Practitioner Resources is referenced by the PractitionerRole Resource to identify the practitioner who prescribed the medication order

| JSON Name | Data Value | FHIR Data Type | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| resourceType | Resource name | string (12) | Fixed value: **"Practitioner"** | M | M | M |
| id | [resource id]<br>reference by PractitionerRole<br><br>A UUID represented as a URI (RFC 4122 )<br><br>Please see reference website in appendix | string (45) | The resource id identifies the Healthcare staff who prescribed the Chinese Medicines | M | M | M |
| Prescriber | | | | | | |
| 1006956-PrescriberChineseFullName | [Chinese medicines prescriber's Chinese full name]<br>Full Chinese name (with title) of the healthcare professional who prescribed the Chinese medicines | extension url string(20) | Mandatory if [Chinese medicines prescriber's English full name] is blank.<br><br>Eg.<br>"extension": [<br>{<br>  "url": "**[EHR FHIR URL]**/ 1006956-PrescriberChineseFullName",<br>  "valueString": "**[Chinese medicines prescriber's Chinese full name]**"<br>     }<br>] | M* | M* | NA |

| JSON Name | Data Value | FHIR Data Type | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|
| name.text | [Chinese medicines prescriber's English full name]<br>Full English name (with title) of the healthcare professional who prescribed the Chinese medicines | string(100) | Mandatory if [Chinese medicines prescriber's Chinese full name] is blank.<br><br>E.g.<br>"name": [<br>{<br>"text": [**Chinese medicines prescriber's English full name]**"<br>}] | M* | M* | NA |

## 5.12 Data Elements for the Encounter resource

The information about an encounter which related to medication order.

| JSON Name | Data Value | Data Definition | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|---|
| resousrce Type | Resource name | Encounter information about the service provided to HCR | string(9) | Fixed Value:<br>"resourceType":"**Encounter**" | M | M | NA |
| id | Resource id reference by Condition resource | Logical id of this artifact<br>A UUID represented as a URI (RFC 4122 ); | uuid | E.g. 169281c8-fb76-4e9c-b30f-3dfb3a7f53f2 | O | O | NA |
| 99999999 -AttendanceInstIdentifier | [Attendance institution identifier] | eHRSS assigned [Healthcare Institution Identifier] (HCI ID) of the healthcare institution where the HCR receives the service. | string(10) | E.g.<br>"extension": [<br>  {<br>"url": "**[eHR FHIR URL]**/99999999-AttendanceInstIdentifier",<br>    "valueString": "**[Attendance institution identifier]**"<br>  }] | O | O | NA |
| identifier | [Episode number] | A unique reference number assigned by the healthcare institution to an episode of care. The episode of care can be of inpatient or outpatient nature | string(20) | E.g.<br>{<br>  "system": "**[HCP FHIR URL]**/EpisodeNum",<br>  "value": "**[Episode number]**"<br>} | O | O | NA |

| JSON Name | Data Value | Data Definition | FHIR Data Type (Max Length) | Remarks | L2 M/O | L3 M/O | Delete Scenario |
|---|---|---|---|---|---|---|---|
| status | Encounter Status<br><br>*eHRSS will not interpret the value.* | -- | code | Fixed Value : "**finished**" | M | M | M |
| Class | Classification of patient encounter<br><br>*eHRSS will not interpret the value.* | -- | Coding | Fixed Value:<br>"class": {<br>  "system": "**[eHR FHIR URL]**/class",<br>  "code": "UNKNOWN",<br>  "display": "Unknown status"} | M | M | M |

# 6. Image File (PDF)

The details of PDF naming convention

| File Name | <HCP ID>.<Sending Location Code>.<Record Type>.<Record Key>.<Original File Name>.<File Extension>.<eHR Number>.<Generation Date> <br> where <br> the <Record Type> for the Chinese Medicines Dispensing  Domain is "**CMRXD**" |
|---|---|

E.g.

    8088450656.BRANCHA.CMRXD.CMRXD-001.123.pdf.201000000001

1. The file name must be in capital letters except pdf extension.
2. Dot "." is used as file name delimiters and hence the value of each file name component must not contain dot "."

The table below listed the file name components and their respective definitions:

| Seq | File name Component | Definition | Length | Remarks | M/O |
|---|---|---|---|---|---|
| 1 | HCP ID | A unique identifier assigned to an eHealth Healthcare Provider by eHRSS | string(10) | Fixed Length: 10 <br> e.g. 8088450656 | M |
| 2 | Sending Location Code | A code agreed between eHRSS and the HCP which indicates the location where the data is sending from. | string(20) | Use [HCP ID] if sending location cannot be provided. <br><br> Format: <br> Any combination of the following alphanumeric characters: [A-Z][0-9][-_] | M |
| 3 | Record Type | A standardised code to identify the data domain | string(5) | Refer to defined Dataset Code <br> e.g. CMRXD | M |
| 4 | Record Key | A unique identifier for a record within the HCP's EMR system | string(50) | e.g. CMRXD-0001 | M |
| 5 | Original File Name | The fila name used in source institution | string(100) | e.g. 123 | M |
| 6 | File Extension | pdf (Portable Document Format File) | string(3) | Fixed value: **pdf** | M |
| 7 | eHR Number | A unique HCR identifier assigned by eHRSS | string(12) | Fixed length: 12 <br> e.g. 201000000001 | M |

| Seq | File name Component | Definition | Length | Remarks | M/O |
|---|---|---|---|---|---|
| 8 | Generation Date | File generation date. It should be the same value of the [composition.date] | string(14) | In format: YYYYMMDDhhmmss | M |

# 7. Examples

In the following samples, data variables that have to be generated with each specific upload are quoted in square brackets and highlighted in *[Red]*. The definitions and expected values of these variables are listed in the previous section. All other parts including data values should not be altered without confirmation with the eHRSS project teams.

A sample in JSON format are included in the eHealth Data Upload Self Service Kit. Developers may use it as a template for incorporation with their data uploads after modification.

Chinese Medicines Dispensing Record template:

```
{
    "resourceType": "Bundle",
    "identifier": {
        "system": "urn:ietf:rfc:4122",
        "value": "d2f9f649-5555-4826-868b-84e015c1f1be"
    },
    "type": "document",
    "timestamp": "2022-12-01T05:04:48.865+00:00",
    "entry": [
        {
            "fullUrl": "Composition/2fb40fdc-db52-4a80-991c-b352384c965a",
            "resource": {
                "resourceType": "Composition",
                "id": "2fb40fdc-db52-4a80-991c-b352384c965a",
                "extension": [
                    {
                        "url": "https://ehealth.gov.hk/FHIR/99999999-ComplianceLevel",
                        "valueString": "3"
                    },
                    {
                        "url": "https://ehealth.gov.hk/FHIR/99999999-DomainVersion",
                        "valueString": "eHRSS-1.1.0"
```

Comment

Bundle Resource
-[Resource id for Bundle]

-[current time]

-[fullUrl for Composition]
[resource id for Composition]

- [Compliance level]

- [Domain version]

```json
                },
                {
                    "url": "https://ehealth.gov.hk/FHIR/99999999-UploadMode",
                    "valueString": "NBL"
                },
                {
                    "url": "https://ehealth.gov.hk/FHIR/99999999-SendingLocation",
                    "valueString": "BranchA"
                }
            ],
            "status": "final",
            "type": {
                "coding": [
                    {
                        "system": "https://ehealth.gov.hk/FHIR/",
                        "display": "Hong Kong eHR Healthcare Document"
                    }
                ]
            },
            "date": "2022-12-01T05:04:48.111+08:00",
            "author": [
                {
                    "reference": "Organization/3b3703a9-7a26-427c-9352-4e41f046d85e"
                }
            ],
            "title": "Hong Kong eHR Healthcare Document",
            "section": [
                {
                    "title": "Chinese Medicines Dispensing Record",
                    "code": {
                        "coding": [
                            {
                                "system": "https://ehealth.gov.hk/FHIR/datadomain",
                                "code": "CMRXD"
                            }
                        ]
                    },
                    "entry": [
                        {
                            "extension": [
                                {
                                    "url": "https://ehealth.gov.hk/FHIR/99999999-
RecordCreateDatetime",
                                    "valueDateTime": "2017-03-04T08:30:00.000+08:00"
```

```
            },
            {
                "url": "https://ehealth.gov.hk/FHIR/99999999-
RecordCreateInstIdentifier",
                "valueString": "8840188537"
            },
            {
                "url": "https://ehealth.gov.hk/FHIR/99999999-
RecordCreateInstName",
                "valueString": "Hong Kong Sanatorium & Hospital"
            },
            {
                "url": "https://ehealth.gov.hk/FHIR/99999999-
RecordLastUpdateDatetime",
                "valueDateTime": "2017-03-04T08:30:00.000+08:00"
            },
            {
                "url": "https://ehealth.gov.hk/FHIR/99999999-
RecordUpdateInstIdentifier",
                "valueString": "8840188537"
            },
            {
                "url": "https://ehealth.gov.hk/FHIR/99999999-
RecordUpdateInstName",
                "valueString": "Hong Kong Sanatorium & Hospital"
            },
            {
                "url": "https://ehealth.gov.hk/FHIR/99999999-
TransactionDateTime",
                "valueDateTime": "2017-03-04T08:30:00.000+08:00"
            },
            {
                "url": "https://ehealth.gov.hk/FHIR/99999999-
TransactonType",
                "valueString": "U"
            },
            {
                "url": "https://ehealth.gov.hk/FHIR/99999999-
LastUpdateDateTime",
                "valueDateTime": "2017-03-04T08:30:00.000+08:00"
            }
        ],
        "reference": "MedicationDispense/534922e6-1e05-4b08-b0b3-
068773c12658",
```

| Annotation |
|---|
| - [Record creation institution identifier] |
| - [Record creation institution name] |
| -[Record last update datetime] |
| - [Record update institution Identifier] |
| - [Record update institution name] |
| - [Transaction datetime] |
| - [Transaction type] |
| - [Last Update datetime] |
| Link to MedicationRequest Resource |

```json
                    "identifier": {
                        "system":
"https://ehealth.gov.hk/FHIR/HCP/local/Recordkey",
                        "value": "CMRXD-001"
                    }
                },
                {
                    "reference": "DocumentReference/0a9ead62-692d-4f6a-884b-
9f456e0cdad6",
                    "identifier": {
                        "system":
"https://ehealth.gov.hk/FHIR/HCP/local/Recordkey",
                        "value": "CMRXD-001"
                    }
                }
            ]
        }
    ]
}
        },
        {
            "fullUrl": "Organization/3b3703a9-7a26-427c-9352-4e41f046d85e",
            "resource": {
                "resourceType": "Organization",
                "id": "3b3703a9-7a26-427c-9352-4e41f046d85e",
                "name": "Hospital A"
            }
        },
        {
            "fullUrl": "DocumentReference/0a9ead62-692d-4f6a-884b-9f456e0cdad6",
            "resource": {
                "resourceType": "DocumentReference",
                "content": [
                    {
                        "attachment": {
                            "contentType": "application/pdf",
                            "data": "BASE64 pdf....",
                            "url": "9907819043.BRANCHA.CMRXD.CMRXD-
001.ImageFile.pdf.451931345297.20231025100003"
                        }
                    }
                ]
            }
        },
```

| | |
|---|---|
| | Link to DocumentReference Resource |
| | [fullUrl for Organization] Organization Resource<br>- [Resource id for Organization resource]<br>- [Healthcare institution long name] |
| | [fullUrl for DocumentReference] |
| | -[Chinese medicines prescription image file] |

```
{
    "fullUrl": "MedicationDispense/534922e6-1e05-4b08-b0b3-068773c12658",
    "resource": {
        "resourceType": "MedicationDispense",
        "id": "534922e6-1e05-4b08-b0b3-068773c12658",
        "extension": [
            {
                "url": "https://ehealth.gov.hk/FHIR/1006975-CMDoseRemarks",
                "valueString": "代煎"
            }
        ],
        "status": "completed",
        "subject": {
            "reference": "Patient/d58dd75b-cf09-4a1c-b913-c9e867f27616"
        },
        "performer": [
            {
                "actor": {
                    "reference": "PractitionerRole/DispenserRole"
                }
            }
        ],
        "authorizingPrescription": [
            {
                "reference": "MedicationRequest/MedicationRequest001"
            }
        ],
        "whenHandedOver": "2020-01-15",
        "dosageInstruction": [
            {
                "extension": [
                    {
                        "url": "https://ehealth.gov.hk/FHIR/1006957-CMdoseGpNum",
                        "valueInteger": 1
                    }
                ],
                "text": "服用 2 日 每日服用 1 劑 每劑煎煮後分 2 次服用 每次服用 1 包。已煎湯劑 每劑=2 包 共 4 包。清水三碗煎至一碗，飯後服。",
                "route": {
                    "coding": [
                        {
                            "system": "https://ehealth.org.hk/FHIR/CMroute",
```

| | |
|---|---|
| | [fullUrl for MedicationDispense] MedicationDispense Resource |
| | - [Resource id for MedicationDispense resource] |
| | -[ Dispensed Chinese medicines dose remarks] |
| | Link to Patient Resource |
| | Link to PractitionerRole Resource |
| | Link to PractitionerRole Resource |
| | - [Chinese medicines dispensing datetime] |
| | -[ Dispensed Chinese medicines dose group number] |
| | -[Dispensed Chinese medicines dose instruction] |

```json
                            "code": "ORL",
                            "display": "口服"
                        }
                    ],
                    "text": "口服"
                },
                "doseAndRate": [
                    {
                        "doseQuantity": {
                            "extension": [
                                {
                                    "url": "https://ehealth.gov.hk/FHIR/1006968-
DoseUnitLocalDesc",
                                    "valueString": "克"
                                },
                                {
                                    "url": "https://ehealth.gov.hk/FHIR/1006969-
CMDoseUnitRemarks"
                                }
                            ],
                            "value": 10,
                            "unit": "克",
                            "system":
"https://www.ehealth.gov.hk/FHIR/CMdoseUnitcd",
                            "code": "1"
                        }
                    }
                ]
            }
        ]
    }
},
{
    "fullUrl": "Patient/d58dd75b-cf09-4a1c-b913-c9e867f27616",
    "resource": {
        "resourceType": "Patsient",
        "id": "d58dd75b-cf09-4a1c-b913-c9e867f27616",
        "identifier": [
            {
                "type": {
                    "coding": [
                        {
```

Annotations (right column):

-[Dispensed Chinese medicines route of administration code]
-[Dispensed Chinese medicines route of administration description]
-[ Dispensed Chinese medicines route of administration local description]

-[Dispensed Chinese medicines dose unit local description]

-[Dispensed Chinese medicines dose unit remarks]

-[Dispensed Chinese medicines dose value]
-[ Dispensed Chinese medicines dose unit description]

-[ Dispensed Chinese medicines dose unit – code]

[fullUrl for Patient]
Patient (HCR) Resource
- Resource id for Patient resource]

```json
                    "system": "https://ehealth.gov.hk/FHIR/typeofID-ext",
                    "code": "EHRNO"
                  }
                ]
              },
              "value": "234567808800"
            },
            {
              "type": {
                "coding": [
                  {
                    "system": "https://ehealth.gov.hk/FHIR/typeofID-ext",
                    "code": "ID"
                  }
                ]
              },
              "value": "Q1730351"
            }
          ],
          "name": [
            {
              "text": "CHAN, MAN MAN",
              "family": "CHAN",
              "given": [
                "MAN MAN"
              ]
            }
          ],
          "gender": "female",
          "birthDate": "1974-12-25"
        }
      },
      {
        "fullUrl": "PractitionerRole/DispenserRole",
        "resource": {
          "resourceType": "PractitionerRole",
          "id": "DispenserRole",
          "organization": {
            "reference": "Organization/dispenseInst"
          }
        }
      },
      {
        "fullUrl": "Organization/dispenseInst",
```

Right-column annotations:

- Fixed value

- [eHR Number]

- [Type of identity document]

- [Document number]

- [English full name]
- [English surname]
- [English given name]

- [Sex]
- [Date of Birth]

[fullUrl for PractitionerRole]
PractitionerRole Resource
- [Resource id for PractitionerRole resource]

-[fullUrl for Organization]
Organization Resource

```json
            "resource": {
                "resourceType": "Organization",
                "id": "dispenseInst",
                "identifier": [
                    {
                        "system": "https://ehealth.gov.hk/FHIR/pvdr",
                        "value": "1000000000"
                    }
                ],
                "name": "中醫堂中醫診所",
                "alias": [
                    "中醫堂"
                ]
            }
        },
        {
            "fullUrl": "Encounter/169281c8-fb76-4e9c-b30f-3dfb3a7f53f2",
            "resource": {
                "resourceType": "Encounter",
                "id": "169281c8-fb76-4e9c-b30f-3dfb3a7f53f2",
                "extension": [
                    {
                        "url": "https://ehealth.gov.hk/FHIR/99999999-
AttendanceInstIdentifier",
                        "valueString": "8840188537"
                    }
                ],
                "identifier": [
                    {
                        "system": "https://ehealth.gov.hk/FHIR/HCP/local/EpisodeNum",
                        "value": "EP-12345"
                    }
                ],
                "status": "finished",
                "class": {
                    "system": "https://ehealth.gov.hk/FHIR/class",
                    "code": "UNKNOWN",
                    "display": "Unknown status"
                }
            }
        },
        {
            "fullUrl": "MedicationRequest/MedicationRequest001",
```

| | |
|---|---|
| | -[ Chinese medicines dispensing institution identifier ] |
| | -[ Chinese medicines dispensing institution long name] |
| | -[ Chinese medicines dispensing institution local name] |
| | [fullUrl for Encounter] Encounter Resource |
| | - [Resource id for Encounter resource] |
| | - [Attendance institution identifier] |
| | - [Episode number] |

| | |
|---|---|
| ```json        "resource": {            "resourceType": "MedicationRequest",            "id": "MedicationRequest001",            "identifier": [                {                    "value": "PX 0116 2001 570"                }            ],            "status": "completed",            "intent": "order",            "medicationCodeableConcept": {                "extension": [                    {                        "url": "http://hl7.org/fhir/StructureDefinition/data-absent-reason",                        "valueCode": "not-applicable"                    }                ]            },            "requester": {                "reference": "PractitionerRole/requester"            }        }    },    {        "fullUrl": "PractitionerRole/requester",        "resource": {            "resourceType": "PractitionerRole",            "id": "requester",            "practitioner": {                "reference": "Practitioner/PrescriberInfo"            },            "organization": {                "reference": "Organization/PrescriberInst"            }        }    },    {        "fullUrl": "Practitioner/PrescriberInfo",        "resource": {            "resourceType": "Practitioner",            "id": "PrescriberInfo",            "extension": [                {``` | [fullUrl for MedicationRequest] MedicationRequest Resource - [Resource id for   MedicationRequest resource]  -[ Chinese medicines prescription order number]                    Link to PractitionRole resource    [fullUrl for PractitionerRole] PractitionerRole Resource - [Resource id for   PractitionerRole resource]  Link to Practitioner resource   Link to Organization resource      [fullUrl for Practitioner] Practitioner Resource - [Resource id for   Practitioner resource] |

```json
                    "url": "https://ehealth.gov.hk/FHIR/1006956-
PrescriberChineseFullName",
                    "valueString": "陳大文"
                }
            ],
            "name": [
                {
                    "text": "CHAN TAI MAN"
                }
            ]
        }
    },
    {
        "fullUrl": "Organization/PrescriberInst",
        "resource": {
            "resourceType": "Organization",
            "id": "PrescriberInst",
            "identifier": [
                {
                    "system": "https://ehealth.gov.hk/FHIR/pvdr",
                    "value": "1000000000"
                }
            ],
            "name": "中醫堂中醫診所",
            "alias": [
                "中醫堂"
            ]
        }
    },
    {
        "fullUrl": "Medication/742e2458-a8eb-4206-a0ad-0435d163470b",
        "resource": {
            "resourceType": "Medication",
            "id": "742e2458-a8eb-4206-a0ad-0435d163470b",
            "extension": [
                {
                    "url": "https://ehealth.gov.hk/FHIR/1006957-CMdoseGpNum",
                    "valueInteger": 1
                }
            ],
            "code": {
                "extension": [
```

Annotations (right column):

-[ Chinese medicines prescriber's Chinese full name]

-[Chinese medicines prescriber's English full name]

[fullUrl for Organization]
Organization Resource
- [Resource id for
  Organization resource]

-[Chinese medicines prescribing institution identifier]

-[Chinese medicines prescribing institution long name]
-[Chinese medicines prescribing institution local name]

[fullUrl for Medication]
Medication Resource
- [Resource id for Medication
  resource]

-[Dispensed Chinese medicines dose group number]

```json
                    {
                        "url": "https://ehealth.gov.hk/FHIR/1006958-CMtype",
                        "valueString": "DP"
                    },
                    {
                        "url": "https://ehealth.gov.hk/FHIR/1006959-DrugSequenceNum",
                        "valueInteger": 1
                    },
                    {
                        "url": "https://ehealth.gov.hk/FHIR/1006970-CMAdditionalInfo",
                        "valueString": "NA"
                    }
                ],
                "coding": [
                    {
                        "system": "https://www.ehealth.gov.hk/FHIR/HKCTT",
                        "code": "8000001",
                        "display": "黨參"
                    },
                    {
                        "system": "https://ehealth.gov.hk/FHIR/HCP/local/CM",
                        "code": "0DSH04",
                        "display": "黨參"
                    }
                ]
            }
        }
    ]
}
```

-[Dispensed Chinese medicines type code]

-[Dispensed Chinese medicines sequence number]

-[Dispensed Chinese medicines additional information]

-[uri for Dispensed Chinese medicines - recognised terminology name]
-[Dispensed Chinese medicines identifier - recognised terminology]
-[Dispensed Chinese medicines description - recognised terminology]
-[Dispensed Chinese medicines code - local terminology]
-[Dispensed Chinese medicines description - local terminology]

# 8. Mapping Tables

## 8.1 FHIR Administrative Gender

| FHIR Administrative Gender | eHR Value of [Sex] |
|---|---|
| male | M |
| female | F |
| unknown | U |

# 9. Code Tables

### Type of identity document

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

### Diagnosis Status

| eHR Value | eHR Description |
|---|---|
| P | Provisional |
| A | Active |
| I | Inactive |
| R | Resolved |
| C | Cancelled |

# 10. Data variable

| Variable | Variable Value | Remark |
|---|---|---|

| eHR FHIR URL | https://ehealth.gov.hk/FHIR | |
| HCP FHIR URL | https://ehealth.gov.hk/FHIR/HCP/local | |

# 11.  Appendix

<u>Reference to generate the UUD URI</u>

Online UUID generator : https://www.uuidgenerator.net/
Python uuid module documentation:  https://docs.python.org/3/library/uuid.html
Java UUID Class Documentation:
https://docs.oracle.com/en/java/javase/14/docs/api/java.base/java/util/UUID.html


<u>FHIR Reference</u>

Bundle Resource: https://hl7.org/fhir/R4/bundle.html

Composition Resource: https://hl7.org/fhir/R4/composition.html

Patient Resource: https://hl7.org/fhir/R4/patient.html

MedicationRequest : https://hl7.org/fhir/R4/medicationrequest.html

Medication : https://hl7.org/fhir/R4/medication.html

DocumentReference : https://hl7.org/fhir/R4/documentreference.html

Encounter Resource : https://hl7.org/fhir/R4/encounter.html