醫健通

eHealth

香港特別行政區政府 HKSARGOVT

Developers' Quick Guide
eHealth Chinese Medicine Problem Records Upload (FHIR)

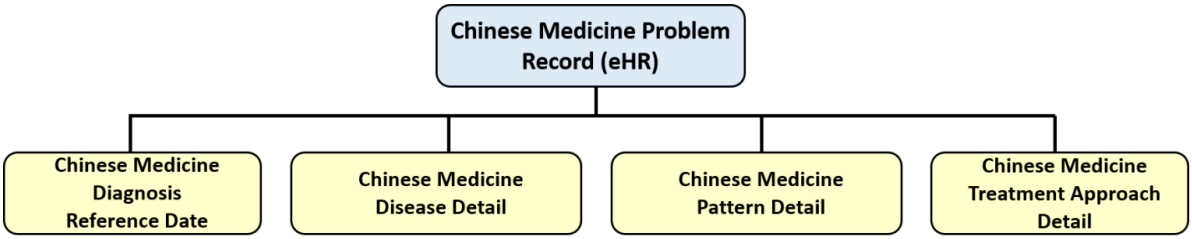
1 Contents

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 Medicine Problem 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 Medicine Diagnosis Reference Date

Date when the Chinese Medicine diagnosis was created.

Chinese Medicine Disease Detail

It describes the recognised terminology/classification from which the Chinese Medicine disease is referenced to:

- Chinese Medicine disease recognised terminology
- Chinese Medicine disease local terminology

Chinese Medicine Pattern Detail

It describes the recognised terminology/classification from which the Chinese Medicine pattern is referenced to:

- Chinese Medicine pattern recognised terminology
- Chinese Medicine pattern local terminology

Chinese Medicine Treatment Approach Detail

It describes the recognised terminology/classification from which the Chinese Medicine treatment approach is referenced to:

- Chinese Medicine treatment approach recognised terminology
- Chinese Medicine treatment approach local terminology

3. Upload Standards

Supported Data Standards Level

The Chinese Medicine Problem data domain (CMPROB) supports Level 2 or Level 3 data standards and does not support Level 1 (text / PDF) data.

Examples of Chinese Medicine Problem Scenarios

Below are the examples depicting the different details in Level 2 and Level 3 Chinese Medicine Problem records:

Data field	Level 2 data	Level 3 data
Chinese Medicine diagnosis reference date	2023-10-24T 10:00:00.000+08:00	2023-10-24T 10:00:00.000+08:00
Chinese Medicine disease - recognised terminology name		HKCTT
Chinese Medicine disease identifier - recognised terminology		9700004
Chinese Medicine disease description - recognised terminology		咳嗽
Chinese Medicine disease local code	ABC056	ABC013
Chinese Medicine disease local description	腰痛	咳嗽病
Chinese Medicine pattern - recognised terminology name		HKCTT
Chinese Medicine pattern identifier - recognised terminology		9710010
Chinese Medicine pattern description - recognised terminology		風寒襲肺證
Chinese Medicine pattern local code	XYZ101	XYZ012
Chinese Medicine pattern local description	腎虛血瘀	風寒襲肺
Chinese Medicine treatment approach - recognised terminology name		HKCTT
Chinese Medicine treatment approach identifier - recognised terminology		9720448
Chinese Medicine treatment approach description - recognised terminology		溫肺止咳
Chinese Medicine treatment approach local code	RST089	RST089

Data field	Level 2 data	Level 3 data
Chinese Medicine treatment approach local description	補腎活血	溫肺止咳

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 Medicine Problem Records includes:
  - HKCTT
  - GB95

- 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 Chinese Medicine Problem 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 Condition	This profile defines a condition structure which includes eHR Chinese Medicine Problem data	1..*
eHRSS Encounter	This profile defines an Encounter structure which related to the diagnosis reported	0..*

Notes:

The following conventions are used for the specifications described in this document:

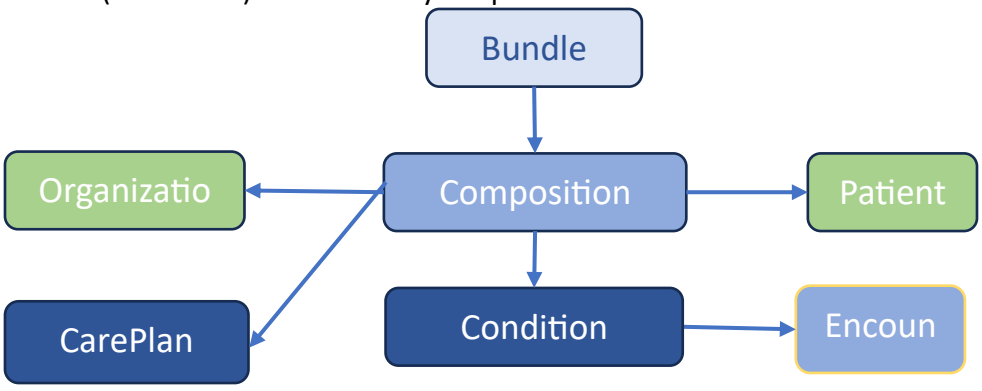
Constants:	***Bolded** values are constants or fixed values.*
E.g.:	*Example values for illustration.*
[…]:	*Data variables*
"…":	*Data values.*
"M/O"	*Indicates if the data field is Mandatory (M) or Optional (O). M* or O* denotes conditional Mandatory or Optional, please refer to Remarks for rules*
NA:	*Data Field in concern is not used.*
[S]:	*Must Support*

5. Specification of Data uploaded

The section describes the format and data required for the data contributed to eHealth. Unused 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 Chinese Medicine Problem 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 Chinese Medicine Problem 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.

Condition Resource (Multiple occurrences are allowed in a bundle)

- Contains the list of Chinese Medicine Problem Records based on the mode of upload.

CarePlan Resource (Multiple occurrences are allowed in a bundle)

- Contains the list of Chinese Medicine Problem 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 Chinese Medicine Problem diagnosed.

Encounter Resource (Single occurrence for each **Condition**)

- Contains the encounter information for each Condition 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	Delete Scenario
resourceType	Resource Name	string(6)	Fixed value: "resourceType":"**Bundle**"	M	M

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	M/O	Delete Scenario
id	Resource id which is a logic id to identify the artifact A UUID represented as a URI (RFC 4122) Please see reference website in appendix	uuid	*E.g.* c757873d-ec9a-4326-a141-556f43239520	M	M

Identifier	Persistent identifier for the resource
	
	UUID/OID for Bundle
		Identifier	*E.g.*
			"identifier" : {
			"system" : "urn:ietf:rfc:3986",
			"value" : "urn:uuid:0c3151bd-1cbf-4d64-b04d-cd9187a4c6e0"
			}
				M	M

Type	The type is always "document"	code	Fixed value: "type":"**document**"	M	M
Timestamp	When the bundle was assembled [current time]	instant	In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz *E.g.* "timestamp": "2024-03-01T15:04:48.865+08:00"	M	M
Entry fullUrl	Resources included in this bundle are collected under 'entry' Each resource is identified by a uri A UUID represented as a URI (RFC 4122)	BackboneElement uri	URI for UUID/OID HL7 FHIR Resources that collected in the Chinese Medicine Problem record upload Bundle include: • Composition • Patient • Condition • CarePlan • Encounter *E.g.* "fullUrl": "urn:uuid:21c6828c-b175-4a3b-b6de-6eaf69335021"	M	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	M

5.3 Data Elements in the Composition Resource

The Composition Resource identifies whether the upload package includes list of Chinese Medicine Problem 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 A UUID represented as a URI (RFC 4122) Please see reference website in appendix	uuid	*E.g.* urn:uuid: 30551ce1-5a28-4356-b684-1e639094ad4d	M	M
99999999-ComplianceLevel	[Compliance Level]	url string(1)	Permissible Values: 2,3 *E.g.* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-ComplianceLevel", "valueString": "**[Compliance Level]**" }]	M	M
extension 99999999-DomainVersion	[Domain version] The version of this interface	url string(11)	Fixed value: "eHRSS-1.1.0" E.g.{ "url": "**[eHR FHIR URL]**/99999999-DomainVersion", "valueString": "**eHRSS-1.0.0**"}	M	M
extension 99999999-UploadMode	[Upload Mode]	extension url string(5)	Permissible values: NBL: Non Bulk load E.g. { "url": "**[eHR FHIR URL]**/99999999-UploadMode", "valueString": "**NBL**"}	M	M
99999999-SendingLocation	[Sending Location Code] 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. E.g. { "url": "**[eHR FHIR URL]**/99999999-SendingLocation", "valueString": "**[Sending Location Code]**"}	O	O
status	The status is always “final”. Other codes are not accepted by eHRSS.	string(5)	Fixed value: "**final**"	M	M

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	M/O	Delete scenarios

type.coding .system
type.coding .display
	Composition type
	
	A coding object is required.
		CodeableConcept
		coding.system
		coding.display
			Fixed value:
			"type": {
			"coding": [
			{
			"system": "**[eHR FHIR URL]**",
			"display": "**Hong Kong eHR Healthcare Document**"
			}]}
				M	M

subject.reference	[resource.id] of Patient Resource included in the same bundle
	
	HCR has the condition in this bundle
		Reference(100)	In format:
			Patient/<resource id>
			
			E.g.
			"subject": {
			"reference":
			"Patient/6e480262-978c-49f0-a793-468293932fc2"
			}
			• This resource id is the same value of the Patient resource id
			• The Patient Resource contains data of the HCR
				M	M

date	Message generation time *eHRSS will use this value and [record key] for overriding records uploaded in eHRSS*	dateTime(29)	In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz *E.g.* "date":"2022-12-01T15:04:48.000+08:00"	M	M
author	Author of this composition Name of healthcare institution who created/update the record *eHRSS will not interpret this value*	Reference(100)	Fixed value: Organization/author *E.g.* "author": [{ "reference" : "Organization/3b3703a9-7a26-427c-9352-4e41f046d85e"}] • This resource id is the same value of the Organization resource id	M	M
title	Title of this composition *eHR will not interpret this value*	string(33)	Fixed value: 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: title: "**Chinese Medicine Problem Records**"	M	M
code	The code to identify the section content				

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	M/O	Delete scenarios
coding.system	Link to data domain coding system	string(255)	In Format: "system": "**[eHR FHIR URL]**/datadomain",	M	M

coding.code	[Record type]	string(6)	Fixed value:
			"code": {
			"coding": [
			{
			"system": "**[eHR FHIR URL]**/datadomain",
			"code": "**CMPROB**"
			}]}
				M	M

section.entry	**Each entry represents each record			M	M
99999999-TransactionType	[Transaction Type] Insert / Update / Delete	extension url string(1)	Permissible Values: **I**: Insert **U**: Update **D**: Delete *E.g.:* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-TransactionType", "valueString": "**[Transaction Type]**" }]	M	M
99999999-LastUpdateDateTime	[Last Update Date Time]	extension url dateTime(29)	In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz *E.g:* "2019-05-31T08:30:00.000+08:00" *E.g:* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-LastUpdateDateTime", "valueDateTime": "**[Last Update Date Time]**" }]	M	M

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	M/O	Delete scenarios
99999999-TransactionDateTime	[Transaction Date Time]	extension url dateTime(29)	In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz *E.g.* "2019-05-31T08:30:00.000+08:00" *E.g.* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-TransactionDateTime", "valueDateTime": "**[Transaction Date Time]**" }]	M	M
99999999-RecordCreateDatetime	[Record Create Datetime]	extension url dateTime(29)	In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz *E.g.*"2021-01-25T08:30:00.000+08:00" *E.g.* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-RecordCreateDatetime", "valueDateTime": "**[Record Create Datetime]**" }]	O	O
extension 99999999-RecordCreateInstIdentifier	[Record Create Institution Identifier]	extension url string(10)	*E.g.* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-RecordCreateInstIdentifier", "valueString": **"[Record Create Institution Identifier]"** }]	O	O
extension 99999999-RecordCreateInstName	[Record Create Institution Name]	extension url string(255)	*E.g.*: "extension": [{ "url": "**[eHR FHIR URL]**/99999999-RecordCreateInstName", "valueString": "**[Record Create Institution Name]**" }]	O	O

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	M/O	Delete scenarios
extension 99999999-RecordLastUpdateDatetime	[Record Last Update Datetime]	extension url dateTime(29)	In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz E.g. 2017-03-04T08:30:00.000+08:00 *E.g.* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-RecordLastUpdateDatetime", "valueDateTime": "**[Record Last Update Datetime]**" }]	O	O
extension 99999999-RecordUpdateInstIdentifier	[Record Update Institution Identifier]	extension url string(10)	*E.g.* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-RecordUpdateInstIdentifier", "valueString": "**[Record Update Institution Identifier]**" }]	O	O
extension 99999999-RecordUpdateInstName	[Record Update Institution Name]	extension url string(255)	*E.g.* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-RecordUpdateInstName", "valueString": "**[Record Update Institution Name]**" }]	O	O
reference.Condition	A reference to data that supports this section **Each entry represents each record	Reference(100)	Reference Format: Condition/<resource id> • This resource id is the same value of the Condition resource id • The Condition Resource contains data of the HCR's list of Chinese Medicine problem are included in this bundle.	M	M

Identifier.value	[Record key]
	of the Chinese Medicine Problem record
		string(40)	*E.g.*
			"identifier": {
			"system": "**[HCP FHIR URL]**/Recordkey",
			"value": "**[Record key]**"
			}
				M	M

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	M/O	Delete scenarios
entry	A reference to treatment Approach that related to **Each entry represents each treatment approach record	Reference(100)	Reference Format: CarePlan/<resource id> • This resource id is the same value of the CarePlan resource id • The CarePlan Resource contains data of the HCR 's list of Treatment Approach related to Chinese Medicine Problem are included in this bundle.	O	NA

identifier	[Record key]
	of the Chinese Medicine Problem record
		string(40)	*E.g.*
			"identifier": {
			"system": "**[HCP FHIR URL]**/Recordkey",
			"value": "**[Record key]**"
			}
				M	M

5.4 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
resourceType	Resource name	string (12)	Fixed value: **"Organization"**	M	M
id	[resource id] reference by Composition resource A UUID represented as a URI (RFC 4122) Please see reference website in appendix	string (45)	The resource id identifies the Healthcare Institution relevant to the Composition resource.	M	M
name	[Healthcare institution long name]	string (255)		M	M

5.5 Data Elements in the Patient Resource

The Patient Resource provides the patient identifier referenced in the other Resources to identify the patient whom these Chinese Medicine Problem 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	Data Definition	FHIR Data Type (Max Length)	Remarks	M/O	Delete
resourceType	Resource name	-	string(7)	Fixed value: "resourceType" : "**Patient**"	M	M
id	Resource id reference by Condition resource	Logical id of this artifact A UUID represented as a URI (RFC 4122);	string(32)	*E.g.*6e480262-978c-49f0-a793-468293932fc2	M	M
identifier	eHR number for this patient	-	identifier			
type.coding.system	Link to document type coding system	-	uri	Fixed value:"**[eHR FHIR URL]/typeofID-ext**"	M	M
type.coding.code	identifier type code	-	string(5)	Fixed value: **"EHRNO"**	M	M

value	[eHR number]	A unique HCR identifier assigned by eHRSS.	numeric(12)	*E.g.*
				{
				"type": {
				"coding": [{
				"system": "**[eHR FHIR URL]**/typeofID-ext",
				"code": "**EHRNO**"}]
				}, "value": "**[eHR number]**"
				}
					M	M

identifier	Document type and HKIC for this patient	-	identifier			
type.coding.system	Link to document type coding system	-	uri	Fixed value:"**[eHR FHIR URL]/typeofID-ext**"	M	M
type.coding.code	[Type of identity document]	The type of identity document the HCR used for eHealth registration or identity update.	string(6)	Permissible Value: ID, BC, CD, ECID	M	M
value	[HKIC]	• Hong Kong Identity Card (HKIC) number; or • Registration Number on Hong Kong Birth Certificate (post-1981); or • Consular Corps Identity Card number issued by HKSAR Immigration Department	string(12)	Format: AANNNNNNC or ANNNNNNC e.g.: A1234563 • C is the check digit • One leading space if there is only one leading alphabet in HKIC number • All Uppercase	M	M

JSON Name	Data Field	Data Definition	FHIR Data Type (Max Length)	Remarks	M/O	Delete
identifier	Document type and document number for this patient	Mandatory if [Type of identity document] = ID / BC / CD or [Identity document number] is blank Optional if [Identity document number] is given	identifier			
type.coding.system	Link to document type coding system	-	uri	Fixed value:"**[eHR FHIR URL]/typeofID-ext**"	O*	O*
type.coding.code	[Type of identity document]	The type of identity document the HCR used for eHealth registration or identity update.	string(6)	Refer to the document type code set provided in the **self-service kit** or the eHRSS official website for the most updated code set.	O*	O*
value	[Identity document number]	The document number of the HCR's identity document	string(30)	Mandatory if HKIC identifier is blank	O*	O*
name.family	[English surname]	HCR's surname in English For single name cases, the single name can be specified in either [English surname] or [English given Name]	string(40)	Mandatory if [English full name] is blank; else Optional All Uppercase letters e.g.1: CHAN e.g.2: PARTICIPANT53	M*	M*
name.given	[English given name]	HCR's given name in English	string(40)	Mandatory if [English full name] is blank; else Optional All Uppercase letters	M*	M*
text	[English full name]	HCR's full name in English	string(100)	Mandatory if [English surname] and [English given name] are blank In format: [English surname] + [,] + 1 white space + [English given name] All Uppercase letters * If HCR has either English surname or given name stored in local EMR system, full name should be filled.	M*	M*

JSON Name	Data Field	Data Definition	FHIR Data Type (Max Length)	Remarks	M/O	Delete
gender	[sex]	The Administrative Gender defined in FHIR eHR will convert the FHIR gender to eHR [Sex] according to the Section 6 conversion table	code	Permissible Values: - male - female - unknown *E.g.*: "gender": " **[Sex]**"	M	M
birthdate	[Date of birth]	The HCR's date of birth as indicated on the HCR's identity document	Date(10)	In format: YYYY-MM-DD *E.g.*: "birthDate": "**[Date of birth]**" If date is exact to 'Year' (e.g. 2010), the unknown month and day should be filled with '01-01'. Example: "2010-01-01". If date is exact to 'Month' (e.g. 2011-12), the unknown day should be filled with '01'. Example: "2011-12-01".	M	M

5.6 Data Elements in the Condition resource

The information about an individual who has diagnosis and problem list.

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	L2 M/O	L3 M/O	Delete Scenario
resousrceType	Codintion	DomainReosourc	Fixed Value: "resourceType": "**Condition**"	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
identifier	[Record key] A unique identifier for each Chinese Medicine Problem 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
clinicalStatus	Condition Clinical Status Codes		Fixed value : "active"	M	M	M
Chinese Medicine Disease – Recognised Terminology						

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	L2 M/O	L3 M/O	Delete Scenario
coding.system	Link to recognized terminology coding system which indicate the [Chinese Medicine disease - recognised terminology name] Name of the recognised terminology from which the Chinese Medicine disease is referenced to.	uri	Fixed value: "system": "**[uri for Chinese Medicine disease - recognised terminology name]**" For HKCTT, fixed uri: **[EHR FHIR URL]**/disease/HKCTT For GB95, fixed uri: **[EHR FHIR URL]**/disease /GB95 Refer to the code set of "Recognised terminology name - Chinese Medicine disease" in Self-Service kit. The latest code set in eHealth website shall prevail	NA	M	NA
coding.code	[Chinese Medicine disease identifier - recognised terminology] Unique identifier of the reported Chinese Medicine disease in the recognised terminology	string(20)	code": "**[Chinese Medicine disease identifier - recognised terminology]**" For HKCTT, use [TermID] e.g. 9700004 For GB95, use [Code] e.g. BNF010	NA	M	NA
coding.display	[Chinese Medicine disease description - recognised terminology] The description of the reported diagnosis in the recognised terminology. It should be the corresponding description of the selected [Diagnosis identifier –recognised terminology].	string(255)	"display": "**[Diagnosis description - recognised terminology]**" For HKCTT, use [eHR Description] e.g. 咳嗽 For GB95, use [疾病名称] e.g. 咳嗽病	NA	M	NA
Chinese Medicine Disease – Local Terminology						
coding.system	Link to local terminology coding system	uri	Fixed Value: "**[HCP FHIR URL]**/diagnosis"	M	M	NA
coding.code	[Chinese Medicine disease local code] Local code created by the healthcare provider for the reported Chinese Medicine disease.	string(20)	"code": "**[Chinese Medicine disease local code]**"	O	O	NA

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	L2 M/O	L3 M/O	Delete Scenario
coding.display	[Chinese Medicine disease local description] Local description created by the healthcare provider for the reported Chinese Medicine disease.	string(255)	"display": "**[Chinese Medicine disease local description]**"	M	M	NA

coding.1006693-CMdiseaseComment	[Chinese Medicine disease comment]
	Comment made on the reported Chinese Medicine disease
		string(255)	"extension": [
			{
			"url": "**[EHR FHIR URL]**/1006693-MdiseaseComment",
			"valueString": "**[Chinese Medicine disease comment]**"
			}
			]
				O	O	NA

Chinese Medicine Pattern – Recognised Terminology						
coding.system	Link to recognized terminology coding system which indicate the [Chinese Medicine pattern - recognised terminology name] Name of the recognised terminology from which the Chinese Medicine pattern is referenced to.	uri	Mandatory if [Chinese Medicine pattern identifier - recognised terminology] is given, else N/A. Fixed value: "system": "**[uri for Chinese Medicine pattern - recognised terminology name]**" For HKCTT, fixed uri: **[EHR FHIR URL]**/pattern/HKCTT For GB95, fixed uri: **[EHR FHIR URL]**/pattern/GB95	NA	M*	NA
coding.code	[Chinese Medicine pattern identifier - recognised terminology] Unique identifier of the reported Chinese Medicine pattern in the recognised terminolog	string(20)	Mandatory if [Chinese Medicine pattern description - recognised terminology] is given, else N/A. For HKCTT, use [TermID] e.g. 9710010 For GB95, use [Code] e.g. ZBFH51 Refer to the code set of "Recognised terminology name - Chinese Medicine pattern" 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	[Chinese Medicine pattern description - recognised terminology] The description of the reported Chinese Medicine pattern in the recognised terminology. It should be the corresponding description of the selected [Chinese Medicine pattern identifier - recognised terminology]	string(255)	Mandatory if [Chinese Medicine pattern - recognised terminology name] is given, else N/A. For HKCTT, use [eHR Description] e.g. 風寒襲肺證 For GB95, use [证候名称] e.g. 风寒袭肺证	NA	M*	NA
Chinese Medicine Pattern – Local Terminology						
coding.system	Link to local terminology coding system	uri	Fixed Value: "**[HCP FHIR URL]**/pattern"	O	O	NA
coding.code	[Chinese Medicine pattern local code] Local code created by the healthcare provider for the reported Chinese Medicine pattern	string(20)	"code": "**[Chinese Medicine pattern local code]**"	O	O	NA
coding.display	[Chinese Medicine pattern local description] Local description created by the healthcare provider for the reported Chinese Medicine pattern.	string(255)	Mandatory if [Chinese medicine pattern identifier - recognised terminology] is given, else Optional. "display": "**[Chinese Medicine pattern local description]**"	O	M*	NA
coding.extenstion 1006699-CMpatternComment	[Chinese Medicine pattern comment] Comment made on the reported Chinese Medicine pattern	string(255)	Optional if [Chinese Medicine pattern local description] is given, else N/A.	O*	O*	NA

subject.reference	[resource.id] of Patient Resource in the same bundle
	HCR has the condition in this bundle
		Reference(100)	In format:
			Patient/<resource id>
			
			E.g.
			"subject": {
			"reference":
			"Patient/6e480262-978c-49f0-a793-468293932fc2"
			}
			• This resource id is the same value of the Patient resource id
			• The Patient Resource contains data of the HCR
				M	M	NA

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	L2 M/O	L3 M/O	Delete Scenario

Encounter	[resource.id] of Encounter Resource in the same bundle related to the Condition resource	Reference(100)	In format:
			Encounter/<resource id>
			
			E.g.
			"encounter": {
			"reference":
			"Encounter/169281c8-fb76-4e9c-b30f-3dfb3a7f53f2"
			}
			
			• This resource id is the same value of the Encounter resource id
				O	O	NA

recordedDate	[Chinese Medicine diagnosis reference date] Date when the Chinese Medicine diagnosis was created. For eHR, if this date is not available, the last update date of the Chinese Medicine diagnosis should be used when submitting data to the eHR	dateTime(29)	In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz *E.g.* "date":"2023-06-13T16:15:00.000+08:00"	M	M	NA

5.7 Data Elements in the CarePlan resource

The FHIR CarePlan resource represents a treatment approach plan for a patient designed to manage their conditions.

JSON Name	Data Value	FHIR Data Type (Max Length)	Remarks	L2 M/O	L3 M/O	Delete Scenario
resousrceType	CarePlan	DomainResourc	Fixed Value: "resourceType": "**CarePlan**"	M	M	NA
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	NA
status	Indicates whether the plan is currently being acted upon, represents future intentions or is now a historical record.	string(6)	Fixed Value: active			NA
intent	Indicates the level of authority/intentionality associated with the care plan and where the care plan fits into the workflow chain.	string(4)	Fixed Value: plan	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 included in the same bundle	reference(100)	In format:
			Patient/<resource id>
			
			E.g.
			"subject": {
			"reference":
			"Patient/6e480262-978c-49f0-a793-468293932fc2"
			}
			• This resource id is the same value of the Patient resource id
			The Patient Resource contains data of the HCR
				M	M	NA

addresses.reference	Identifies the conditions whose management and/or mitigation are handled by this plan.	reference(100)	In format: Condition/<resource id> *E.g.* "addresses": { "reference": "Condition/6e480262-978c-49f0-a793-468293932fc2"	O	O	NA
Activity.detail.code	A simple summary of treatment approach					
Chinese Medicine Treatment Approach – Recognised Terminology						
coding.system	Link to recognized terminology coding system which indicate the [Chinese Medicine treatment approach - recognised terminology name] Name of the recognised terminology from which the Chinese Medicine treatment approach is referenced to	uri	Mandatory if [Chinese Medicine treatment approach identifier - recognised terminology] is given, else N/A. For HKCTT, fixed uri: **[EHR FHIR URL]**/approach/HKCTT For GB95, fixed uri: **[EHR FHIR URL]**/approach/GB95 Refer to the code set of "Recognised terminology name - Chinese Medicine treatment approach" 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.code	[Chinese Medicine treatment approach identifier - recognised terminology] Unique identifier of the reported Chinese Medicine treatment approach in the recognised terminology	string(20)	Mandatory if [Chinese Medicine treatment approach description - recognised terminology] is given, else N/A. For HKCTT, use [TermID] e.g. 9720448 For GB97, use [Section number] e.g. 14.27.1	NA	M*	NA
coding.display	[Chinese Medicine treatment approach description - recognised terminology] The description of the reported Chinese Medicine treatment approach in the recognised terminology. It should be the corresponding description of the selected [Chinese Medicine treatment approach identifier - recognised terminology].	string (255)	Mandatory if [Chinese Medicine treatment approach - recognised terminology name] is given, else N/A. For HKCTT, use [eHR Description] e.g. 溫肺止咳 For GB97, use [治法] e.g. 温肺止咳	NA	M*	NA
Chinese Medicine Treatment Approach – Local Terminology						
coding.system	Link to local terminology coding system		Fixed Value: "**[HCP FHIR URL]**/approach"	O	M*	NA
coding.code	[Chinese Medicine treatment approach local code] Local code created by the healthcare provider for the reported Chinese Medicine treatment approach.	string (20)	"code": "**[Chinese Medicine disease local code]**"	O	O	NA
coding.display	[Chinese Medicine treatment approach local description] Local description created by the healthcare provider for the reported Chinese Medicine treatment approach.	string (255)	Mandatory if [Chinese Medicine treatment approach identifier - recognised terminology] is given, else Optional. "display": "**[Chinese Medicine treatment approach local description]**"	O	M*	NA
schedule	Identifies what progress is being made for the specific activity.	string(9)	Fixed value: "scheduled"	M	M	NA
note	[Chinese Medicine treatment approach comment]	string(255)	Optional if [Chinese medicine treatment approach local description] is given, else N/A.	O*	O*	NA

5.8 Data Elements for the Encounter resource

The information about an encounter which related to diagnosis reported.

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: "resourceType":" **Encounter**"	M	M	NA
id	Resource id reference by Condition resource	Logical id of this artifact 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.* "extension": [{ "url": "**[eHR FHIR URL]**/99999999-AttendanceInstIdentifier", "valueString": "**[Attendance institution identifier]**" }]	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.*
				{
				"system": "**[HCP FHIR URL]**/EpisodeNum",
				"value": "**[Episode number]**"
				}
					O	O	NA

status	Encounter Status *eHRSS will not interpret the value.*	--	code	Fixed Value : "**finished**"	M	M	M
Class	Classification of patient encounter *eHRSS will not interpret the value.*	--	Coding	Fixed Value: "class": { "system": "**[eHR FHIR URL]**/class", "code": "UNKNOWN", "display": "Unknown status"}	M	M	M

6. 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 Medicine Problem template:

<pre>{
"resourceType": "Bundle",
"id": "[Resource id for Bundle]",
"identifier": {
"system": "urn:ietf:rfc:3986",
"value": "d2f9f649-5555-4826-868b-84e015c1f1be"
},
"type": "document",
"timestamp": "[current time]",
"entry": [
{
"fullUrl": "Composition/[resource id for Composition]",
"resource": {
"resourceType": "Composition",
"id": "[resource id for Composition]",
"extension": [
{
"url": "https://ehealth.gov.hk/FHIR/99999999-SendingLocation",
"valueString": "[Sending location]"
},
{
"url": "https://ehealth.gov.hk/FHIR/99999999-ComplianceLevel",
"valueString": "[Compliance level]"
},
{
"url": "https://ehealth.gov.hk/FHIR/99999999-DomainVersion",
"valueString": "[Domain version]"</pre>
	Comment
	
	Bundle Resource
	-[Resource id for Bundle]
	
	-[current time]
	
	-[fullUrl for Composition]
	[resource id for Composition]
	
	- [Sending location]
	
	- [Compliance level]
	
	- [Domain version]

<table>
<tr>
<td>

```
                    },
                    {
                        "url": "https://ehealth.gov.hk/FHIR/99999999-UploadMode",
                        "valueString": "[Upload mode]"
                    }
                ],
                "status": "final",
                "type": {
                    "coding": [
                        {
                            "system": "https://ehealth.gov.hk/FHIR",
                            "display": "Hong Kong eHR Healthcare Document"
                        }
                    ]
                },
                "subject": {
                    "reference": "Patient/[resource id for Patient]"
                },
                "date": "[Message generation time]",
                "author": [
                    {
                        "reference": "Organization/[resource id for Organization]"
                    }
                ],
                "title": "Hong Kong eHR Healthcare Document",
                "section": [
                    {
                        "title": "Chinese Medicine Problem Records",
                        "code": {
                            "coding": [
                                {
                                    "system": "https://ehealth.gov.hk/FHIR/datadomain",
                                    "code": "CMPROB"
                                }
                            ]
                        },
                        "entry": [
                            {
                                "extension": [
                                    {
                                        "url": "https://ehealth.gov.hk/FHIR/99999999-
RecordCreateDatetime",
                                        "valueDateTime": "[Record creation datetime]"
                                    },
```

</td>
<td>

- [Upload mode]

Link to Patient Resource

- [Message generation time]

- [Record creation datetime]

</td>
</tr>
</table>

{ "url": "https://ehealth.gov.hk/FHIR/99999999-RecordCreateInstIdentifier", "valueString": "**[Record creation institution identifier]**" }, { "url": "https://ehealth.gov.hk/FHIR/99999999-RecordCreateInstName", "valueString": "**[Record creation institution name]**" }, { "url": "https://ehealth.gov.hk/FHIR/99999999-RecordLastUpdateDatetime", "valueDateTime": "**[Record last update datetime]**" }, { "url": "https://ehealth.gov.hk/FHIR/99999999-RecordUpdateInstIdentifier", "valueString": "**[Record update institution Identifier]**" }, { "url": "https://ehealth.gov.hk/FHIR/99999999-RecordUpdateInstName", "valueString": "**[Record update institution name]**" }, { "url": "https://ehealth.gov.hk/FHIR/99999999-TransactionDateTime", "valueDateTime": "**[Transaction datetime]**" }, { "url": "https://ehealth.gov.hk/FHIR/99999999-TransactonType", "valueString": "**[Transaction type]**" }, { "url": "https://ehealth.gov.hk/FHIR/99999999-LastUpdateDateTime",	- [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]

"valueDateTime": "[Last Update datetime]"
},
],
"reference": "Condition/[Resource id for Condition]",
"identifier": {
"system": "https://ehealth.gov.hk/FHIR/HCP/local/Recordkey",
"value": "[Record Key]"
}
},
{
"reference": "CarePlan/[Resource id for CarePlan]",
"identifier": {
"system": "https://ehealth.gov.hk/FHIR/HCP/local/Recordkey",
"value": "[Record key]"
}
}
]
}
]
}
},
{
"fullUrl": "Organization/[Resource id for Organization]",
"resource": {
"resourceType": "Organization",
"id": "[Resource id for Organization]",
"name": "[Healthcare institution long name]"
 	
},
{
"fullUrl": "Patient/[Resource id for Patient]",
"resource": {
"resourceType": "Patient",
"id": "[Resource id for Patient]",
"identifier": [
{
"type": {
"coding": [
{
"system": "https://ehealth.gov.hk/FHIR/typeofID-ext",
	Link to Condition Resource
	
	Link to Condition Resource
	
	[fullUrl for Organization]
	Organization Resource
	- [Resource id for Organization resource]
	- [Healthcare institution long name]
	
	[fullUrl for Patient]
	Patient (HCR) Resource
	- Resource id for Patient resource]

"code": "EHRNO"
}
]
},
"value": "**[eHR Number]**"
},
{
"type": {
"coding": [
{
"system": "https://ehealth.gov.hk/FHIR/typeofID-ext",
"code": "**[Type of identity document]**"
}
]
},
- "value": "**[Document number]**"
}
],
"name": [
{
"text": "**[English full name]**",
"family": "**[English Surname]**,
"given": [
"**[English given name]**"
]
}
],
"gender": "**[Sex]**",
"birthDate": "**[Date of Birth]**"
 	
}
},
{
"fullUrl": "Condition/**[Resource id for Condition]**",
"resource": {
"resourceType": "Condition",
"id": "**[Resource id for Condition]**",
"code": {
"coding": [
{
"system": "https://ehealth.gov.hk/FHIR/disease/HKCTT",
"code": "**[Chinese Medicine disease identifier - recognised terminology]**",
	- Fixed value
	
	- [eHR Number]
	
	- [Type of identity document]
	
	- [Document number]
	
	- [English full name]
	- [English surname]
	- [English given name]
	
	- [Sex]
	- [Date of Birth]
	
	[fullUrl for Condition]
	Condition Resource
	[Resource id for Condition resource]
	
	- [Chinese Medicine disease - recognised terminology name]

"display": "[Diagnosis description - recognised terminology]"
},
{
"system": "https://ehealth.gov.hk/FHIR/HCP/local/disease",
"code": "[Chinese Medicine disease local code]",
"display": "[Chinese Medicine disease local description]",
"extension": [
{
"url": "https://ehealth.gov.hk/FHIR/1006693-CMdiseaseComment",
"valueString": "[Chinese Medicine disease comment]"
}
]
},
{
"system": "https://ehealth.gov.hk/FHIR/pattern/HKCTT",
"code": "[Chinese Medicine pattern identifier - recognised terminology]",
"display": "[Chinese Medicine pattern description - recognised terminology]"
},
{
"system": "https://ehealth.gov.hk/FHIR/HCP/local/pattern",
"code": "[Chinese Medicine pattern local code]",
"display": "[Chinese Medicine pattern Description]"
"extension": [
{
"url": "https://ehealth.gov.hk/FHIR/1006699-CMpattentComment",
"valueString": "[Chinese Medicine pattern comment]"
}
],
}
]
},
"subject": {
"reference": "Patient/[Resource id for Patient]"
},
"encounter": {
"reference": "Encounter/[Resource id for Encounter]"
	- [Chinese Medicine disease identifier - recognised terminology]
	- [Diagnosis description - recognised terminology]
	- [Chinese Medicine disease local code]
	- [Chinese Medicine disease local description]
	
	-[Chinese Medicine disease comment]
	
	-[Chinese Medicine pattern - recognised terminology name]
	-[Chinese Medicine pattern identifier - recognised terminology]
	-[Chinese Medicine pattern description - recognised terminology]
	
	-[Chinese Medicine pattern local code]
	-[Chinese Medicine pattern Description]
	
	-[Chinese Medicine pattern comment]
	
	Link to Patient resource

<pre>},
"recordedDate": "[Chinese medicine diagnosis reference date]"
}
},
 	
{
"fullUrl": "Encounter/[Resource id for Encounter]",
"resource": {
"resourceType": "Encounter",
"id": "[Resource id for Encounter]",
"extension": [
{
"url": "https://ehealth.gov.hk/FHIR/99999999-
AttendanceInstIdentifier",
"valueString": "[Attendance institution identifier]"
}
],
"identifier": [
{
"system": "https://ehealth.gov.hk/FHIR/HCP/local/EpisodeNum",
"value": "[Episode number]"
}
],
"status": "finished",
"class": {
"system": "https://ehealth.gov.hk/FHIR/class",
"code": "UNKNOWN",
"display": "Unknown status"
}
}
},
{
"fullUrl": "CarePlan/[Resource id for CarePlan]",
"resource": {
"resourceType": "CarePlan",
"id": "[Resource id for CarePlan]",
"status": "active",
"intent": "plan",
"subject": {
"reference": "Patient/[Resource id for Patient]"
},
"addresses": [
{
"reference": "Condition/[Resource id for Conditon]"</pre>
	Link to Encounter resource
	
	-[Chinese medicine diagnosis reference date]
	
	[fullUrl for Encounter]
	Encounter Resource
	- [Resource id for Encounter resource]
	
	- [Attendance institution identifier]
	
	- [Episode number]
	
	[fullUrl for CarePlan]
	Encounter Resource
	[Resource id for CarePlan resource]

`}`
`],`
`"activity": [`
`{`
`"detail": {`
`"code": {`
`"coding": [`
`{`
`"system": "https://www.ehealth.gov.hk/FHIR/approach/HKCTT",`
`"code": "[Chinese Medicine treatment approach identifier - recognised terminology]",`
`"display": "[Chinese Medicine treatment approach description - recognised terminology]"`
`},`
`{`
`"system": "https://www.ehealth.gov.hk/FHIR/HCP/local/approach",`
`"code": "[Chinese Medicine treatment approach local code]",`
`"display": "[Chinese Medicine treatment approach local description]"`
`}`
`]`
`},`
`"status": "scheduled "`
`}`
`}`
`],`
`"note": [`
`{`
`"text": "[Chinese Medicine treatment approach comment]"`
`}`
`]`
`}`
`}`
`]`
`}`
	Link to Patient Resource
	
	Link to Condition Resource
	
	-[Chinese Medicine treatment approach - recognised terminology name]
	-[Chinese Medicine treatment approach identifier - recognised terminology]
	-[Chinese Medicine treatment approach description - recognised terminology]
	
	-[Chinese Medicine treatment approach local code]
	-[Chinese Medicine treatment approach local description]
	
	-[Chinese Medicine treatment approach comment]

7. Mapping Tables

7.1 FHIR Administrative Gender

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

8. 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

9. Data variable

Variable	Variable Value	Remark
eHR FHIR URL	https://ehealth.gov.hk/FHIR	
HCP FHIR URL	https://ehealth.gov.hk/FHIR/HCP/local	

10. Appendix

Reference to generate the UUD URI

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

FHIR Reference

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

Condition Resource: https://hl7.org/fhir/R4/condition.html

Careplan Resource: https://hl7.org/fhir/R4/careplan.html

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