

# **FHIR Implementation Guide for Immunisation Records exchange with eHealth**

## Contents

1. Purpose .....	3
2. Artifacts Summary .....	3
3. Type of Upload.....	4
4. Resources.....	4
4.1 eHRSS Bundle.....	5
4.2 eHRSS Composition.....	6
4.3 eHRSS Patient.....	13
4.4 eHRSS Immunisation.....	16
4.5 eHRSS DocumentReference .....	25
4.6 eHRSS Encounter .....	27
4.7 eHRSS Location .....	28
4.8 eHRSS Organization.....	29
5. Examples.....	30
6. Mapping Tables .....	41
6.1 FHIR Administrative Gender .....	41
7. Code Tables.....	41
8. PDF File name convention .....	43
9. Appendix.....	44

## 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) by using Fast Healthcare Interoperability Resources (FHIR) version 4. This document describes the interface requirements for implementing Immunisation (IMMU) upload based on HL7-HK Standards. Readers who prefer more in-depth study FHIR may refer to the HL7 website <https://hl7.org/fhir/> for further details.

## 2. 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 Bundle resource by eHRSS	1..1
eHRSS Patient	This profile represents the constraints and localization applied to the Patient resource by eHRSS.	1..1
eHRSS Immunisation	This profile defines a structure which includes eHR Immunisation.	1..*
eHRSS DocumentReference	This profile defines a structure which contains the PDF of the Immunisation Records	0..1
eHRSS Encounter	This profile defines an Encounter structure which related to the Immunisation records.	0..1
eHR Location	This profile defines a structure which include the place of immunisation administration take place	0..1
eHR Organization	This profile defines a structure which includes immunisation provider information	0..1

### Notes:

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

<i>Constants:</i>	<b>Bolded</b> values are constants or fixed values.
<i>E.g.:</i>	Example values for illustration.
<i>[...]:</i>	Data variables
<i>"...":</i>	Data values.
<i>NA:</i>	Data Field in concern is not used.
<i>[S]:</i>	Must Support
<i>1..1</i>	Indicates Mandatory and exists only once
<i>0..1</i>	Indicates Optional and exists only once, please refer to Remarks for rules. <i>0..1*</i> denotes conditional Mandatory
<i>0..*</i>	Indicates Optional and exists multiple times, please refer to Remarks for rules. <i>0..**</i> denotes conditional Mandatory

### 3. Type of Upload

#### Data materialization (DM) (First data upload for an HCR)

- When an HCR gives sharing consent to an HCP, HCP's registered EMR system can query a PMI 'Give sharing consent' event (ADT^A28) from eHRSS;
- Upon receiving this event, the EMR system should upload all available clinical data related to the HCR to eHRSS, either immediately or with the next scheduled upload;
- Data should be the point in time image, thus will only involve 'Insert' transactions to eHRSS. Update and Delete transactions to eHRSS will be rejected for DM upload;
- DM upload is packaged by individual data domain for multiple HCR; and
- **DM mode** is denoted in the interface by a fixed value **BL-M** in extension Element "99999999-UploadMode" in *Composition Resource* (details of FHIR message will be described in later section).

#### Incremental Load (INC) (Sub-sequent data upload)

- All subsequent record creations (insert), updates and deletes of all the consented HCRs should be uploaded to eHRSS at regular intervals via the INC data packages;
- **INC** upload is packaged by individual data domain for multiple HCRs; and
- **INC mode** is denoted in the interface by a fixed value **BL** in extension Element "99999999-UploadMode" in *Composition Resource*

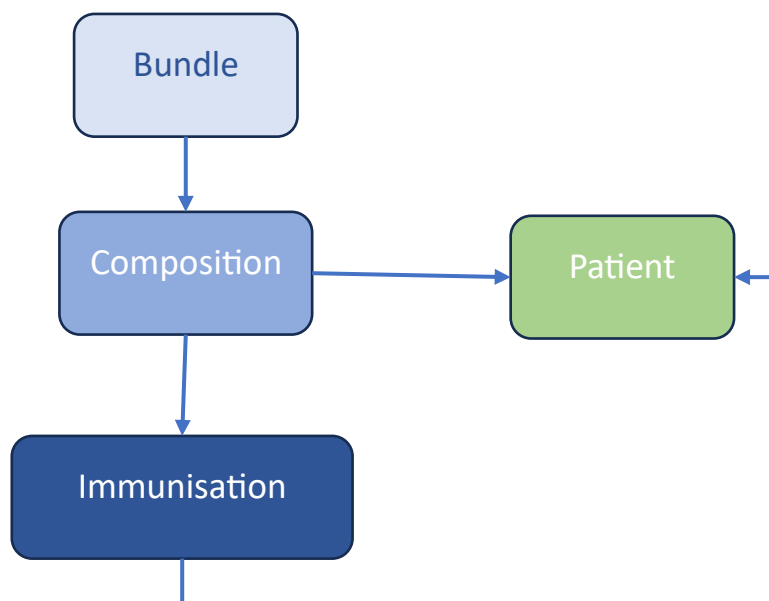
### 4. Resources

Notes :

In actual exchange, resources will be represented in JSON formats.

Resource and Element names are case-sensitive

The following diagram shows FHIR Resource components used for Immunisation domain in this specification:



#### 4.1 eHRSS Bundle

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

+ Rule: A document must have a date

+ Rule: A document must have a Composition as the first resource

The resources be accessed directly using the RESTful API. For other technical details, a supplementary section will be added later.

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
Bundle	eHR Bundle Contains a collection of resources	Bundle string(6)	0..1	<i>Fixed Value:</i> <b>"resourceType":"Bundle"</b>
id	Logical id of this artifact  A UUID represented as a URI (RFC 4122 )  Please see reference website in appendix	uuid	1..1	<i>E.g.</i> urn:uuid:c757873d-ec9a-4326-a141-556f43239520
identifier[S]	Persistent identifier for the bundle  UUID for Bundle	Identifier	1..1	<i>E.g.</i>  "identifier" : { "system" : "urn:ietf:rfc:3986", "value" : " d2f9f649-5555-4826-868b-84e015c1f1be" }
type	The type is always “document”	code	1..1	<i>Fixed Value:</i> <b>"type":"document"</b>

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
timestamp[S]	When the bundle was assembled [current time]	instant	1..1	In format: YYYY-MM-DDThh:mm:ss.sss+zz:zz  E.g. "timestamp": "2022-12-01T15:04:48.865+08:00"
Entry fullUrl	The Resource for the entry. The purpose/meaning of the resource is determined by the "Bundle.type".  A UUID represented as a URI (RFC 4122 )	BackboneElement uri	1..*	URI for UUID  E.g. "fullUrl": "urn:uuid:72884cad-ebe6-4f43-a51a-2f978275f132"
resource	The Resource for the entry. The purpose/meaning of the resource is determined by the "Bundle.type".  A document must have a Composition as the first resource. Please refer to Composition resource requirements	BackboneElement.Resource	1..*	The 1st resource must be "Composition" resource.

## 4.2 eHRSS Composition

A Composition is the basic structure from which FHIR Documents are built. The Composition resource - defines a set of healthcare-related information that is assembled together into a single logical document that provides a single coherent statement of meaning, establishes its own context and that has clinical attestation with regard to who is making the statement. The Composition resource provides the basic structure of a FHIR document. The full content of the document is expressed using a Bundle containing the Composition and its entries.

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
Composition	eHR Composition Contains a collection of resources	DomainResource	0..1	Fixed Value: "resourceType": "Composition"

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
id	Logical id of this artifact This id is used to link up the related resources  A UUID represented as a URI (RFC 4122);	string	1..1	<i>E.g.</i> urn:uuid:30551ce1-5a28-4356-b684-1e639094ad4d
status	The status is always “final”. Other codes are not accepted by eHRSS.	code	1..1	<i>Fixed Value:</i> "final"
type	Kind of composition  A coding object is required. system: http://ehealth.gov.hk/fhir display: Hong Kong eHR Healthcare Document	CodeableConcept coding.system coding.display	1..1	<i>Fixed Value:</i> "type": { "coding": [ { "system": "http://ehealth.gov.hk/fhir", "display": "Hong Kong eHR Healthcare Document" }]}
subject	Healthcare Recipient(HCR) the composition is about	Reference(Patient)	1..1	<u>In format:</u> Patient/<resource id>  <i>E.g.</i> "subject": { "reference": "Patient/6e480262-978c-49f0-a793-468293932fc2" }  This resource id is the same value of the Patient resource id
date	Message generation time  <i>eHRSS will use this value and record key for overriding records uploaded in eHRSS</i>	dateTime(25)	1..1	<u>In format:</u> YYYY-MM-DDThh:mm:ss+zz:zz  <i>E.g.</i> "date": "2022-12-01T15:04:48.865+08:00"

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
author	<p>Who and/or what authored the composition</p> <p>Name of healthcare institution who created/update the record</p> <p>HCP could use either the value of the following 2 fields: [Record Create Institution Name] [Record update institution name]</p> <p><i>eHRSS will not interpret this value</i></p>	Reference(Organization)	1..1	<p><u>Fixed value</u> Organization/author</p> <p><i>E.g.</i> "author": [{ "reference": "<b>Organization/author</b>", "display" : "ABC Clinic" }]</p>
title	<p>Human Readable name/title</p> <p><i>eHR will not interpret this value</i></p>	string(33)	0..1	<p><i>Fixed Value:</i> title:"<b>Hong Kong eHR Healthcare Document</b>"</p>
section	Composition is broken into sections	BackboneElement	0..*	
title	<p>A human readable label for this section</p> <p>The title is always "Immunisation Records"</p>	string	0..1	<p><i>Fixed Value:</i> title: "<b>Immunisation Records</b>"</p>
code	<p>A code identifying the kind of content contained within the section. This must be consistent with the section title.</p> <p>[eHR Record Type] The code is always "IMMU"</p>	<p>CodeableConcept</p> <p>coding.system coding.code coding.display</p>	1..1	<p><i>Fixed Value:</i></p> <p>"code": { "coding": [ { "system": "http://ehealth.gov.hk/fhir/datadomain", "code": "<b>IMMU</b>", "display": "<b>Immunisation Records</b>" }]}</p>



FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
entry	<p>A reference to data that supports this section</p> <p><b>**Each entry represents each record</b></p>	Reference(Immunisation)	0..*	<p><u>In format:</u> Immunisation/&lt;resource id&gt;</p> <p>This resource id is the same value of the Immunisation resource id</p> <p>Refer to the section 4.4 eHRSS Immunisation</p>
99999999-TransactionType	<p>[Transaction Type] Insert / Update / Delete</p> <ul style="list-style-type: none"> <li>Insert ("I"): Upload a record which has never been uploaded to eHRSS before.</li> <li>Update ("U"): Update a record which has been uploaded to eHRSS before and its data content was changed since the last upload of this record (identified by [Record Key]).</li> <li>Delete ("D"): Delete an record which has been uploaded to eHRSS before and has since be cancelled or deleted (identified by [Record Key]).</li> <li>DM mode only permits 'I' (Insert)</li> </ul>	<p>BackboneElement.Reference.Extension</p> <p>string(1)</p>	1..1	<p><u>Permissible Values:</u> I: Insert U: Update D: Delete</p> <p><i>E.g.:</i> "extension": [ { "url": "http://ehealth.gov.hk/FHIR/99999999-TransactionType", "valueString": "[Transaction Type]" }]</p>
99999999-LastUpdateDateTime	<p>[Last Update Date Time] The last update datetime for HCP system</p> <p>The url is always "http://ehealth.gov.hk/FHIR/99999999-LastUpdateDateTime".</p>	<p>BackboneElement.Reference.Extension</p> <p>dateTime(25)</p>	0..1	<p><u>In format:</u> YYYY-MM-DDThh:mm:ss+zz:zz E.g: "2021-01-03T15:04:48.865+08:00"</p> <p><i>E.g:</i> "extension": [ { "url": "http://ehealth.gov.hk/FHIR/99999999-LastUpdateDateTime", "valueDateTime": "[Last Update Date Time]" }]</p>

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
99999999-TransactionDateTime	<p>[Transaction Date Time]</p> <p>The datetime indicates the transaction sequence</p> <p>The url is always "http://ehealth.gov.hk/FHIR/99999999-TransactionDateTime".</p>	<p>BackboneElement.Reference.Extension</p> <p>dateTime(25)</p>	0..1	<p><u>In format:</u> YYYY-MM-DDThh:mm:ss+zz:zz E.g. "2021-01-03T15:04:48.865+08:00"</p> <p>E.g. "extension": [ {   "url": "http://ehealth.gov.hk/FHIR/99999999-TransactionDateTime",   "valueDateTime": "[Transaction Date Time]" }]</p>
99999999-ComplianceLevel	<p>[Compliance Level]</p> <p>Data Compliance level defined by IMMU</p> <p>The url is always "http://ehealth.gov.hk/FHIR/99999999-ComplianceLevel".</p>	<p>BackboneElement.Reference.Extension</p> <p>string(1)</p>	1..1	<p><u>Permissible Value:</u> 1,2,3</p> <p>E.g. "extension": [ {   "url": "http://ehealth.gov.hk/FHIR/99999999-ComplianceLevel",   "valueString": "[Compliance Level]" }]</p>
99999999-UploadMode	<p>Bulk Load Type</p>	varchar(4)	1..1	<p><u>Permissible values:</u> <b>BL:</b> INC Bulk load <b>BL-M:</b> DM Bulk load</p> <p>E.g: "extension": [ {   "url": "http://ehealth.gov.hk/FHIR/99999999-UploadMode",   "valueString": "[99999999-UploadMode]" }]</p>

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
99999999-RecordCreateDatetime	<p>[Record Create Datetime] Datetime when the record was created in source system of HCP</p> <p>The url is always "http://ehealth.gov.hk/FHIR/99999999-RecordCreateDatetime".</p>	<p>BackboneElement.Reference.Extension dateTime(25)</p>	0..1	<p><u>In format:</u> YYYY-MM-DDThh:mm:ss+zz:zz <i>E.g.</i> "2021-01-03T15:04:48.865+08:00"</p> <p><i>E.g.</i> "extension": [ {   "url": "http://ehealth.gov.hk/FHIR/99999999-RecordCreateDatetime",   "valueDateTime": "[Record Create Datetime]" }]</p>
extension 99999999-RecordCreateInstIdentifier	<p>[Record Create Institution Identifier] A unique identifier assigned by eHR Healthcare Provider Index to each healthcare institution who created the record</p> <p>The url is always "http://ehealth.gov.hk/FHIR/99999999-RecordCreateInstIdentifier".</p>	<p>BackboneElement.Reference.Extension string(10)</p>	0..1	<p><i>E.g.</i> "extension": [ {   "url": "http://ehealth.gov.hk/FHIR/99999999-RecordCreateInstIdentifier",   "valueString": "[Record Create Institution Identifier]" }]</p>
extension 99999999-RecordCreateInstName	<p>[Record Create Institution Name] Name of healthcare institution who created the record</p> <p>The url is always "http://ehealth.gov.hk/FHIR/99999999-RecordCreateInstName".</p>	<p>BackboneElement.Reference.Extension varchar(255)</p>	0..1	<p><i>E.g.:</i> "extension": [ {   "url": "http://ehealth.gov.hk/FHIR/99999999-RecordCreateInstName",   "valueString": "[Record Create Institution Name]" }]</p>

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
extension 99999999- RecordLastUpdated Datetime	<p>[Record Last Update Datetime] Datetime when the record was last updated in source system of HCP</p> <p>The url is always "http://ehealth.gov.hk/FHIR/99999999-RecordLastUpdateDatetime".</p>	<p>BackboneElement.Reference.Extension dateTime(25)</p>	0..1	<p><u>In format:</u> YYYY-MM-DDThh:mm:ss+zz:zz <i>E.g.</i> "2021-01-03T15:04:48.865+08:00"</p> <p><i>E.g.</i> "extension": [ {   "url": "http://ehealth.gov.hk/FHIR/99999999-RecordLastUpdateDatetime",   "valueDateTime": "[Record Last Update Datetime]" }]</p>
extension 99999999- RecordUpdateInstId entifier	<p>[Record Update Institution Identifier] A unique identifier assigned by eHR Healthcare Provider Index to each healthcare institution who updated the record</p> <p>The url is always "http://ehealth.gov.hk/FHIR/99999999-RecordUpdateInstIdentifier".</p>	<p>BackboneElement.Reference.Extension string(10)</p>	0..1	<p><i>E.g.</i> "extension": [ {   "url": "http://ehealth.gov.hk/FHIR/99999999-RecordCreateInstIdentifier",   "valueString": "[Record Update Institution Identifier]" }]</p>
extension 99999999- RecordUpdateInstN ame	<p>[Record Update Institution Name] The url is always "http://ehealth.gov.hk/FHIR/99999999-RecordUpdateInstName".</p>	<p>BackboneElement.Reference.Extension varchar(255)</p>		<p><i>E.g.</i> "extension": [ {   "url": "http://ehealth.gov.hk/FHIR/99999999-RecordUpdateInstName",   "valueString": "[Record Update Institution Name]" }]</p>
identifier	<p>[Record key] A unique identifier for each AL1 record or Immunisation record</p>	<p>varchar(40)</p>	1..1	<p><i>E.g.</i> "identifier": {   "system":   "http://ehealth.gov.hk/HCP/Recordkey",   "value": "[Record key]" }</p>

### 4.3 eHRSS Patient

The information about an individual receiving health care services.

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
Patient	eHR Patient Information about an individual receiving health care services	DomainResource	1..1	<i>Fixed Value:</i> "resourceType": " <b>Patient</b> "
id	Logical id of this artifact This id is referenced by other related resources  A UUID represented as a URI (RFC 4122 );	string	1..1	<i>E.g.</i> urn:uuid: 6e480262-978c-49f0-a793-468293932fc2
identifier type system code value	An identifier for this patient   [eHR number]	Identifier CodeableConcept uri code string(12)	1..1	<i>E.g.</i> { "type": { "coding": [{ "system": "http://ehealth.gov.hk/FHIR/typeofID-ext", "code": "EHRNO"]}] }, "value": " <b>[eHR number]</b> " }

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
identifier type system code value	<p>An identifier for this patient</p> <p>[Type of identity document] [HKIC number]</p> <p>The Hong Kong Identity Card number or the Registration Number printed on Hong Kong Birth Certificate (post-1981) or the Consular Corps Identity Card number issued by HKSAR Immigration Department, include the check digit</p> <p>Please refer to the Appendix for the codex of [Type of identity document].</p> <p>For participants with Certificate of Exemption, if the HKIC exists, please use "ECID"</p>	Identifier CodeableConcept uri code string(12)	0..1*	<p>M if [Type of identity document] = ID / BC / CD or [Identity document number] is blank O if [Identity document number] is given</p> <p><u>Permissible Value:</u> ID, BC, CD, ECID</p> <p><i>E.g.</i></p> <pre>{   "type": {     "coding": [       {"system": "http://ehealth.gov.hk/FHIR/typeofID-ext", "code": "[Type of identity document]" } }, "value": "[HKIC number]" }</pre>
identifier type system code value	<p>An identifier for this patient</p> <p>[Type of identity document] [Identity document number]</p>	Identifier CodeableConcept uri code string(12)	0..1	<p><i>E.g.</i></p> <pre>{   "type": {     "coding": [       {"system": "http://ehealth.gov.hk/FHIR/typeofID-ext", "code": "[Type of identity document]" } }, "value": "[ Identity document number] " }</pre>
name	A name associated with the patient			

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
text	[English full name] Patient's full name in English uppercase letters	varchar(100)	0..1*	<p><u>In format:</u> [English surname] + [,] + 1 white space + [English given name]</p> <p>O if [English surname] and [English given name] are not blank</p> <p>M if [English surname] and [English given name] are blank</p> <p>* If patient has either English surname or given name stored in local EMR system, full name should be filled.</p>
family	[English surname] Patient's surname in English uppercase letters  For single name cases, the single name can be specified in either [Surname] or [Given Name]	varchar(40)	0..1*	<p>O if [English full name] is not blank</p> <p>M if [English full name] is blank</p>
given	[English given name] Given name should be English uppercase letters	varchar(40)	0..1*	<p>O if [English full name] is not blank</p> <p>M if [English full name] is blank</p>
gender	The Administrative Gender defined in FHIR  eHR will convert the FHIR gender to eHR [Sex] according to the Section 7 conversion table	code	1..1	<p><u>Permissible Value:</u></p> <ul style="list-style-type: none"> <li>- male</li> <li>- female</li> <li>- unknown</li> </ul> <p>E.g.: "gender": " <b>[Sex]</b>"</p>

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	Card.	Remarks
birthdate	[Date of birth] The patient's date of birth	date(10)	1..1	<p><u>In format:</u> YYYY-MM-DD</p> <p><i>E.g.:</i> "birthdate": "[Date of birth]"</p> <p>If date is exact to 'Year' (e.g. 2010), the unknown month and day should be filled with '01-01'. Example: "2010-01-01".</p> <p>If date is exact to 'Month' (e.g. 2011-12), the unknown day should be filled with '01'. Example: "2011-12-01".</p>

#### 4.4 eHRSS Immunisation

The information about an individual who has Immunisation records. The details mapping will be seen in below table.

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
Immunisation	Immunisation event information	DomainResource	1..1	1..1	1..1	1..1	<u>Fixed Value:</u> "resourceType": "Immunisation"
id	<p>Logical id of this artifact This id is referenced by other related resources</p> <p>A UUID represented as a URI (RFC 4122 );</p>	uuid	1..1	1..1	1..1	1..1	E.g. urn:uuid:534922e6-1e05-4b08-b0b3-068773c12658
1004028-Historicalimmunisation	<p>[Historical Immunisation] Indicator on whether the immunisation data is a historical information. All historical immunisation data should be based on the immunisation record documented by previous healthcare providers who gave the vaccine to the patient.</p>	varchar(20)	NA	1..1	1..1	NA	<p><u>Permissible value:</u> Y : Yes N : No U: Unspecified</p> <p>Please refer to the section 6 code table "Yes No Unspecified"</p>



FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
1003428-vaccineAdminRemark	[Vaccine administration remark] The additional information about the vaccine administration	varchar(255)	NA	0..1	0..1	NA	
1003430-ImmuRecordReportText	[Immunisation record report (text)] The additional information about the vaccine administration	varchar(32768)	0..1*	0..1	0..1	NA	M if [Immunisation record report (PDF)] is blank
1001818-ImmuRecordReport	Immunisation Report Information	Reference(DocumentReference)	0..1	0..1	0..1	NA	<p><u>In format:</u> DocumentReference/&lt;resource id&gt;</p> <p>This resource id is the same value of the DocumentReference resource id</p> <p><i>E.g.</i>  "1001818-ImmuRecordReport ":  {    "reference":    "DocumentReference/1832473e-2fe0-452d-abe9-3cdb9879522f"  }</p> <p>Refer to the section 4.5 eHRSS DocumentReference</p>

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
identifier	[Record key] A unique identifier for each Immunisation record	varchar(40)	1..1	1..1	1..1	1..1	This [Record Key] is reference to the same [Record Key] in Composite Resource entry  <i>E.g.</i> "identifier": { "system": "http://ehealth.gov.hk/HCP/Recordkey", "value": "[Record key]" }
	[Immunisation record number] A unique identifier for each vaccine administration record defined by individual healthcare institution	varchar(100)	0..1	0..1	0..1	NA	<i>E.g.</i> "identifier": { "system": "http://ehealth.gov.hk/HCP/recordnum", "value": "[Immunisation record number]" }
status	Possible values completed entered-in-error not-done  <i>eHRSS will not interpret the value.</i>	CodeableConcept	1..1	1..1	1..1	1..1	<u>Fixed Value:</u> <b>completed</b>
vaccineCode	The code for vaccine product administered.	CodeableConcept	1..1	1..1	1..1	NA	Please refer to the section 6 Code table

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
coding.system	uri	uri	NA	NA	1..1	NA	For HKCTT, fixed uri: <a href="http://ehealth.gov.hk/HKCTT">http://ehealth.gov.hk/HKCTT</a>
coding.code	[Vaccine - recognised terminology name] Name of the recognised terminology / classification set for pharmaceutical product (vaccine)	code varchar(20)	NA	NA	1..1	NA	For RPP, fixed uri: <a href="http://ehealth.org.hk/RPP">http://ehealth.org.hk/RPP</a> Recognised terminology name - pharmaceutical product (vaccine)
coding.display	[Vaccine identifier - recognised terminology] Unique identifier of individual vaccine in the recognised terminology for pharmaceutical product (vaccine)	varchar(20)	NA	NA	1..1	NA	<i>E.g.</i>  "vaccineCode": { "coding": [ { "system": " <a href="http://ehealth.org.hk/RPP">http://ehealth.org.hk/RPP</a> ", "code": "[Vaccine identifier - recognised terminology]", "display": "[Vaccine description - recognised terminology]" }, { "system": "http://ehealth.gov.hk/HCP/vac cinelocal", "code": "[Vaccine local code]", "display": "[Vaccine local description]" } ]} }]}
coding.text	[Vaccine description - recognised terminology] Description of individual vaccine in the recognised terminology for pharmaceutical product (vaccine). It should be the corresponding description of the selected [Vaccine identifier - recognised terminology].	varchar(2000)	NA	NA	1..1	NA	

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
coding.system	uri	uri	NA	0..1	0..1	NA	
coding.code	[Vaccine local code] Local code issued to the vaccine as defined by individual healthcare institution	code varchar(20)	NA	0..1	0..1	NA	
coding.display	[Vaccine local description] Local description of the vaccine as defined by individual healthcare institution	varchar(2000)	NA	1..1	1..1	NA	
patient	Who the sensitivity is for	Reference(Patient)	1..1	1..1	1..1	1..1	<p><u>In format:</u> Patient/&lt;resource id&gt;</p> <p>This resource id is the same value of the Patient resource id</p> <p><i>E.g.</i>  <pre>"subject": {   "reference":     "Patient/d58dd75b-cf09-4a1c-b913-c9e867f27616" }</pre> </p> <p>Refer to the section 4.3 eHRSS Patient</p>

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
encounter	Encounter immunisation was part of	Reference(Encounter)	0..1	0..1	0..1	NA	<p><u>In format:</u> Encounter/&lt;resource id&gt;</p> <p>This resource id is the same value of the Encounter resource id</p> <p><i>E.g.</i> "encounter": {   "reference":   "Encounter/169281c8-fb76-4e9c-b30f-3dfb3a7f53f2" }</p> <p>Refer to the section 4.6 eHRSS Encounter</p>
occurrenceDateTime	[Vaccine administration date] The date on which the vaccine was given	dateTime(10)	NA	1..1	1..1	NA	<p><u>In format:</u> YYYY-MM-DD</p> <p><i>E.g.</i> <i>E.g.</i> "2021-01-03"</p>

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
location	Where immunisation occurred	Reference(Location)	NA	0..1	0..1	NA	<p><u>In format:</u> Location/&lt;resource id&gt;</p> <p>This resource id is the same value of the Location resource id</p> <p><i>E.g.</i> "location": {   "reference": "Location/c220e36c-eb67-4fc4-9ba1-2fab52acec6"}</p> <p>Refer to the section 4.7 eHRSS Location</p>
lotNumber	[Batch number] Batch number for drug product as assigned by the drug manufacturer	varchar(255)	NA	0..1	0..1	NA	

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
site							
coding.code	[Site of administration code] "Site of Drug Administration" code table which is used to identify the body site where the drug / substance was given.	CodeableConcept coding.code	NA	NA	0..1*	NA	M if [Site of administration description] is given
coding.display	[Site of administration description] eHR description of "Site of Drug Administration" code table which is used to identify the body site where the drug / substance was given. The [Site of administration description] should be corresponding description of the selected [Site of administration code].	coding.display varchar(255)	NA	NA	0..1*	NA	M if [Site of administration code] is given
coding.text	[Site of administration local description] Local description of the body site where the drug / substance was given, defined by individual healthcare institution.	coding.text varchar(255)	NA	0..1	0..1*	NA	<p>M if [Site of administration code] is given</p> <p>Please refer to Section 6 code tables Site of drug administration</p> <p>E.g.</p> <pre>"coding": [   {     "system": "http://ehealth.gov.hk/SiteOfAdmin",     "code": "[Site of administration code]",     "display": "[Site of administration description]"   } ], "text": "[Site of administration local description]"</pre>

route	[Route of administration code] "Route of drug administration" code which is used to identify the path by which a drug / substance was taken into the body. [Route of administration description] should be the corresponding description of the selected [Route of administration code]	CodeableConcept coding.code	NA	NA	0..1*	NA	M if [Route of administration description] is given
	[Route of administration description] Description of the path by which a drug / substance was taken into the body, defined by individual healthcare institution	coding.display varchar(255)	NA	NA	0..1*	NA	M if [Route of administration code] is given
	[Route of administration local description] Description of the path by which a drug / substance was taken into the body, defined by individual healthcare institution	coding.text varchar(255)	NA	0..1	0..1*	NA	<p>M if [Route of administration code] is given</p> <p>Please refer to Section 6 code tables Route of administration</p> <p>E.g.</p> <pre>"coding": [ { "system": "http://ehealth.gov.hk/RouteOf Admin", "code": "[Route of administration code]", "display": "[Route of administration description]" }], "text": "[Route of administration local description]"</pre>



FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
performer actor	Who performed event	Reference(Organization)	NA	0..1	0..1	NA	<p><u>In format:</u> Organization/&lt;resource id&gt;</p> <p>This resource id is the same value of the Organization resource id</p> <p><i>E.g.</i>  <pre>"performer": [{   "actor": {     "reference": "Organization/72884cad-ebe6-4f43-a51a-2f978275f132"} }]</pre> </p> <p>Refer to the section 4.8 eHRSS Organization</p>
note	[Immunisation record remark] The additional information about the immunisation record	varchar(4000)	0..1	0..1	0..1	NA	<p><i>E.g.</i>  <pre>"next injection date is dd/mm/yyyy"</pre> </p>
protocolApplied  doseNumberString	[Vaccine dose sequence] Immunisation dose in series, booster	varchar(20)	NA	0..1	0..1	NA	

#### 4.5 eHRSS DocumentReference

This resource is used to reference a Immunisation record in PDF file.

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1. Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
DocumentReference	Immunisation Report Information	DomainResource	1..1	1..1	1..1	NA	<u>Fixed Value:</u> "resourceType": DocumentReference"
id	Logical id of this artifact This id is used to link up the related resources  A UUID represented as a URI (RFC 4122 );	uuid	1..1	1..1	1..1	NA	<i>E.g.</i> urn:uuid: 01f2cd24-bc7a-4d7c-83bf-3d3e3e6bccba
status	current   superseded   entered-in-error  <i>eHRSS will not interpret the value.</i>	code	1..1	1..1	1..1	NA	<i>Fixed value:</i> <b>current</b>
date	[Immunisation record report date]	dateTime(25)	1..1	NA	NA	NA	<u>In format:</u> YYYY-MM-DDThh:mm:ss+zz:zz E.g: "2021-01-03T08:30:00+11:00"

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1. Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
Content contentType	Mime type of the content	Attachment code					M if [Immunisation record report (text)] is blank  Please refer section 8 to see PDF file name convention  "content": [ { "attachment": { "contentType": "application/pdf", "url": "8088450656.BRANCHA.IMMU.IMMU001.123.pdf.201000000001.20090702084530", "title": "Immunisation record" }]]
attachment.data	[Immunisation record report (PDF)] Report of the immunisation record in Portable Document Format (PDF)	base64Binary	0..1*	0..1	0..1	NA	
attachment.url	file:/// [File name]	url varchar(255)	0..1*	0..1	0..1	NA	
attachment.title	[Immunisation record report title] The title of immunisation report	title varchar(255)	0..1	0..1	0..1	NA	

## 4.6 eHRSS Encounter

The information about an encounter which related to Immunisation record reported.

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
Encounter	An interaction during which services are provided to the patient	DomainResource	1..1	1..1	1..1	NA	<u>Fixed Value:</u> "resourceType": "Encounter"
id	Logical id of this artifact This id is referenced by other related resources  A UUID represented as a URI (RFC 4122 );	uuid	1..1	1..1	1..1	NA	<i>E.g.</i> urn:uuid: 169281c8-fb76-4e9c-b30f-3dfb3a7f53f2

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
99999999-AttendanceInst Identifier	[Attendance institution identifier] A unique identifier assigned by eHR Healthcare Provider Index to each healthcare institution for participant attendance	string(10)	0..1	0..1	0..1	NA	E.g. "extension": [ { "url": "http://ehealth.gov.hk/FHIR/99999999-AttendanceInstIdentifier", "valueString": "[Attendance institution identifier]" }]
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)	0..1	0..1	0..1	NA	E.g. { "system": "http://ehealth.gov.hk/HCP/EpisodeNum", "value": "[Episode number]" }
status	Encounter Status  <i>eHRSS will not interpret the value.</i>	code	1..1	1..1	1..1	NA	Fixed Value : <b>finished</b>
Class	Classification of patient encounter  <i>eHRSS will not interpret the value.</i> `Or	Coding	1..1	1..1	1..1	NA	Fixed Value: "class": { "system": "http://ehealth.gov.hk/FHIR/class", "code": "UNKNOWN", "display": "Unknown status" }

#### 4.7 eHRSS Location

This Location resource is used to indicate the immunisation administration take place.

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
Location	Details and position information for a physical place	DomainResource	NA	0..1	0..1	NA	Fixed Value: "resourceType": "Location"

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
id	Logical id of this artifact This id is used to link up the related resources  A UUID represented as a URI (RFC 4122 );	uuid	NA	1..1	1..1	NA	<i>E.g.</i> urn:uuid: c220e36c-eb67-4fc4-9ba1-2fab52acec6
name	[Vaccine administration premises] Name of the premises where the vaccine was administered	varchar(255)	NA	0..1	0..1	NA	<i>E.g.</i> "resource": { "resourceType": "Location", "id": " c220e36c-eb67-4fc4-9ba1-2fab52acec6", "name": "[Vaccine administration premises]" }

#### 4.8 eHRSS Organization

This resource is used to describe the Vaccine Provider information.

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
Organization	Vaccine Administration Provider	DomainResource	NA	1..1	1..1	NA	<u>Fixed Value:</u> "resourceType": "Organization"
id	Logical id of this artifact This id is referenced by other related resources  A UUID represented as a URI (RFC 4122 );	uuid	NA	1..1	1..1	NA	<i>E.g.</i> urn:uuid: 72884cad-eb6-4f43-a51a-2f978275f132
Identifier	[Vaccination provider code] "Vaccination Provider" code which is used to identify the healthcare provider who administered the vaccine	varchar(20)	NA	NA	1..1	NA	Please refer to section 6 code table "Vaccination Provider"

FHIR Structure	FHIR Definition / eHR Definition	FHIR Data Type	L1 Card.	L2 Card.	L3 Card.	Delete Scenario	Remarks
name	[[Vaccination provider description] [eHR description] of the "Vaccination Provider" code table which is used to identify the healthcare provider who administered the vaccine. The [Vaccination provider description] should be the corresponding description of the selected [Vaccination provider code]	varchar(255)	NA	NA	1..1	NA	
alias	[Vaccination provider local description] Local description of the healthcare provider who administered the vaccine, defined by individual healthcare institution	varchar(255)	NA	1..1	1..1	NA	

## 5. 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 for IMMU JSON file 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.

IMMU template:

```
{
  "resourceType": "Bundle",
  "id": "[Logical id of this artifact]",
  "identifier": {
    "system": "urn:ietf:rfc:3986",
```

```
    "value": "urn:uuid:[UUID for Bundle]"
  },
  "type": "document",
  "timestamp": "[current time]",
  "entry": [
    {
      "fullUrl": "urn:uuid:[UUID for Composition]",
      "resource": {
        "resourceType": "Composition",
        "id": "[UUID for Composition]",
        "status": "final",
        "type": {
          "coding": [
            {
              "system": "http://ehealth.gov.hk/fhir",
              "display": "Hong Kong eHR Healthcare Document"
            }
          ]
        },
        "subject": {
          "reference": "Patient/[UUID for Patient]"
        },
        "date": "[Message generation time]",
        "author": [
          {
            "reference": "Organization/author",
            "display": "[Record Creation institution name]"
          }
        ],
        "title": "Hong Kong eHR Healthcare Document",
        "section": [
          {
```

```
"title": "Hong Kong eHR Healthcare Document",
"code": {
  "coding": [
    {
      "system": "http://ehealth.gov.hk/fhir/datadomain",
      "code": "IMMU",
      "display": "Immunisation Records"
    }
  ]
},
"entry": [
  {
    "extension": [
      {
        "url": "http://ehealth.gov.hk/FHIR/99999999-TransactonType",
        "valueString": "[Transaction Type]"
      },
      {
        "url": "http://ehealth.gov.hk/FHIR/99999999-LastUpdateDateTime",
        "valueDateTime": "[Last Update Date Time]"
      },
      {
        "url": "http://ehealth.gov.hk/FHIR/99999999-TransactionDateTime",
        "valueDateTime": "[Transaction Date Time]"
      },
      {
        "url": "http://ehealth.gov.hk/FHIR/99999999-ComplianceLevel",
        "valueString": "[Compliance Level]"
      },
      {
        "url": "http://ehealth.gov.hk/FHIR/99999999-UploadMode",
        "valueString": "[Bulk Load Type]"
      }
    ]
  }
]
```



```

    },
    {
      "url": "http://ehealth.gov.hk/FHIR/999999999-RecordCreateDatetime",
      "valueDateTime": "[Record Create Datetime]"
    },
    {
      "url": "http://ehealth.gov.hk/FHIR/999999999-
RecordCreateInstIdentifier",
      "valueString": "[Record Create Institution Identifier]"
    },
    {
      "url": "http://ehealth.gov.hk/FHIR/999999999-RecordCreateInstName",
      "valueString": "[Record Create Institution Name]"
    },
    {
      "url": "http://ehealth.gov.hk/FHIR/999999999-
RecordLastUpdateDatetime",
      "valueDateTime": "[Record Last Update Datetime]"
    },
    {
      "url": "http://ehealth.gov.hk/FHIR/999999999-
RecordUpdateInstIdentifier",
      "valueString": "[Record Update Institution Identifier]"
    },
    {
      "url": "http://ehealth.gov.hk/FHIR/999999999-RecordUpdateInstName",
      "valueString": "[Record Update Institution Name]"
    }
  ],
  "reference": "Immunisation/[UUID for Immunisation]",
  "identifier": {
    "system": "http://ehealth.gov.hk/HCPID/Recordkey",

```

```

        "value": "[Record key]"
      }
    ]
  },
  {
    "fullUrl": "urn:uuid:[UUID for Immuization]",
    "resource": {
      "resourceType": "Immunisation",
      "id": "[UUID for Immunisation]",
      "extension": [
        {
          "url": "http://ehealth.gov.hk/FHIR/1004028-Historicalimmunisation",
          "valueString": "[Historical Immunisation]"
        },
        {
          "url": "http://ehealth.gov.hk/FHIR/1003428-vaccineAdminRemark",
          "valueString": "[Vaccine administration remark]"
        },
        {
          "url": "http://ehealth.gov.hk/FHIR/1003430-ImmuRecordReportText",
          "valueString": "[Immunisation record report (text)]"
        },
        {
          "url": "http://ehealth.gov.hk/FHIR/1001818-ImmuRecordReport",
          "valueReference": {
            "reference": "DocumentReference/[UUID for DocumentReference]"
          }
        }
      ]
    }
  }
]

```

```
    }
  ],
  "identifier": [
    {
      "system": "http://ehealth.gov.hk/HCP/recordnum",
      "value": "[Immunisation record number]"
    }
  ],
  "status": "completed",
  "vaccineCode": {
    "coding": [
      {
        "system": "[uri for Vaccine - recognised terminology name]",
        "code": "[Vaccine identifier - recognised terminology]",
        "display": "[Vaccine description - recognised terminology]"
      },
      {
        "system": "http://ehealth.gov.hk/HCP/vaccinelocal",
        "code": "[Vaccine local code]",
        "display": "[Vaccine local description]"
      }
    ]
  },
  "patient": {
    "reference": "Patient/[UUID for Patient]"
  },
  "encounter": {
    "reference": "Encounter/[UUID for Encounter]"
  },
  "occurrenceDateTime": "[Vaccine administration date]",
  "location": {
    "reference": "Location/[UUID for Location]"
  }
}
```

```
    },
    "lotNumber": "[Batch Number]",
    "site": {
      "coding": [
        {
          "system": "http://ehealth.gov.hk/SiteOfAdmin",
          "code": "[Site of administration code]",
          "display": "[Site of administration description]"
        }
      ],
      "text": "[Site of administration local description]"
    },
    "route": {
      "coding": [
        {
          "system": "http://ehealth.gov.hk/RouteOfAdmin",
          "code": "[Route of administration code]",
          "display": "[Route of administration description]"
        }
      ],
      "text": "[Route of administration local description]"
    },
    "performer": [
      {
        "actor": {
          "reference": "Organization/[UUID for Organization]"
        }
      }
    ],
    "note": [
      {
        "text": "[Immunisation record remark]"
      }
    ]
  }
}
```

```

        }
    ],
    "protocolApplied": [
        {
            "doseNumberString": "[Vaccine dose sequence]"
        }
    ]
},
{
    "fullUrl": "urn:uuid:[UUID for Organization]",
    "resource": {
        "resourceType": "Organization",
        "id": "[UUID for Organization]",
        "identifier": [
            {
                "system": "http://ehealth.gov.hk/vaccineProvider",
                "value": "[Vaccination provider code]"
            }
        ],
        "name": "[Vaccination provider description]",
        "alias": [
            "[Vaccination provider local description]"
        ]
    }
},
{
    "fullUrl": "urn:uuid:[UUID for Location]",
    "resource": {
        "resourceType": "Location",
        "id": "[UUID for Location]",
        "name": "[Vaccine administration premises]"
    }
}

```

```

    }
  },
  {
    "fullUrl": "urn:uuid:[UUID for DocumentReference]",
    "resource": {
      "resourceType": "DocumentReference",
      "id": "[UUID for DocumentReference]",
      "status": "current",
      "date": "[Immunisation record report date]",
      "content": [
        {
          "attachment": {
            "contentType": "application/pdf",
            "data": "[Base64 binary: Immunisation record report (PDF)]",
            "url": "file://[File Name]",
            "title": "[Immunisation record report title]"
          }
        }
      ]
    }
  }
},
{
  "fullUrl": "urn:uuid:[UUID for Encounter]",
  "resource": {
    "resourceType": "Encounter",
    "id": "[UUID for Encounter]",
    "extension": [
      {
        "url": "http://ehealth.gov.hk/FHIR/99999999-AttendanceInstIdentifier",
        "valueString": "[Attendance institution identifier]"
      }
    ]
  }
},

```

```

        "identifier": [
            {
                "system": "http://ehealth.gov.hk/HCP/EpisodeNum",
                "value": "[Episode Number]"
            }
        ],
        "status": "finished",
        "class": {
            "system": "http://ehealth.gov.hk/fhir/class",
            "code": "UNKNOWN",
            "display": "Unknown status"
        }
    }
},
{
    "fullUrl": "urn:uuid:[UUID for Patient]",
    "resource": {
        "resourceType": "Patient",
        "id": "[UUID for Patient]",
        "identifier": [
            {
                "type": {
                    "coding": [
                        {
                            "system": "http://ehealth.gov.hk/fhir/typeofID-ext",
                            "code": "EHRNO"
                        }
                    ]
                },
                "value": "[eHR number]"
            }
        ]
    }
}

```

```
        "type": {
            "coding": [
                {
                    "system": "http://ehealth.gov.hk/fhir/typeofID-ext",
                    "code": "ID"
                }
            ]
        },
        "value": "[HKIC number]"
    },
    "name": [
        {
            "text": "[English full name]",
            "family": "[English surname]",
            "given": [
                "[English given name]"
            ]
        }
    ],
    "gender": "[Sex]",
    "birthDate": "[Date of birth]"
}
]
```



## 6. Mapping Tables

### 6.1 FHIR Administrative Gender

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

## 7. 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證件	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/地區發出之旅遊證件	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

#### Site of drug administration

eHR Value	eHR Description
LT	Left thigh
LA	Left arm
LD	Left deltoid
LG	Left gluteus medius
LVL	Left vastus lateralis
LLFA	Left lower forearm
RA	Right arm
RT	Right thigh
RVL	Right vastus lateralis
RG	Right gluteus medius
RD	Right deltoid
RLFA	Right lower forearm

#### Route of drug administration

eHR Value	eHR Description
ID	Intradermal
IM	Intramuscular
IN	Intranasal
IV	Intravenous
PO	Oral
OTH	Other/Miscellaneous
SCH	Subcutaneous
TD	Transdermal

#### Vaccination provider

eHR Value	eHR Description
HA	HA hospital / clinic
DH	DH clinic
Private	Private hospital /clinic
Other	Other vaccination provider

#### Recognised Terminology Name - Pharmaceutical Product (Vaccine)

eHR Value	eHR Description
HKCTT	Hong Kong Clinical Terminology Table
RPP	List of Registered Pharmaceutical Products

Yes No Unspecified

eHR Value	eHR Description
N	No
Y	Yes
U	Unspecified

## 8. PDF File name convention

Each Image file must be named in the following convention:

<HCP ID>.<Sending Location Code>.<Record Type>.<Record Key>.<Original File Name>.<File Extension>.<eHR Number>.<Generation Date>

E.g. 9907819043.BRANCHA.IMMU.PWH019999.123.pdf.201000000001.20230802033003

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
1	HCP ID	A unique identifier assigned to an eHealth Healthcare Provider by eHRSS	char(10)	Fixed Length: 10 e.g. 9907819043

Seq	File name Component	Definition	Length	Remarks
2	Sending Location Code	A code agreed between eHRSS and the HCP which indicates the location where the data is sending from.	varchar(20)	Use [HCP ID] if sending location cannot be provided.  <u>Format:</u> Any combination of the following alphanumeric characters: [A-Z][0-9][-_]
3	Record Type	A standardised code to identify the data domain	char(5)	Refer to defined Dataset Code e.g. IMMU
4	Record Key	A unique identifier for an vaccine record within the HCP's EMR system	varchar(50)	e.g. PWH019999
5	Original File Name	The file name used in source institution	varchar(100)	e.g. 123
6	File Extension	pdf (Portable Document Format File)	char(3)	Fixed value: <b>pdf</b>
7	eHR Number	A unique HCR identifier assigned by eHRSS	char(12)	Fixed length: 12 e.g. 201000000001
8	Generation Date	File generation date  This date is same as [Message generation time]	char(14)	In format: YYYYMMDDhhmmss

## 9. Appendix

Reference to generate the UUD URI according to RFC 4122

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>

Immunisation Resource: <https://hl7.org/fhir/R4/immunisation.html>

DocumentReference Resource : <https://hl7.org/fhir/R4/documentreference.html>

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

Location Reference : <https://hl7.org/fhir/R4/location.html>

Organization Reference : <https://hl7.org/fhir/R4/organization.html>