Guide on Implementation & Maintenance of the Hong Kong Clinical Terminology Table

[Document Reference No. G54]

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The Government of the Hong Kong Special Administrative Region

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Document Summary

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Amendment History

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2.0	01 Oct 2020	01 Nov 2020	Updated 1. Section 2 – Overview of HKCTT 2. Section 5.2 – HKCTT (CMS Extension) 3. Section 6.3 – Impact of update on reference terminologies to HKCTT 4. Section 10.6 – Mapping of Laboratory terminologies 5. Section 10.7 – Mapping of Medication terminologies 6. Appendix B – The licensing arrangement of HKCTT 7. Appendix D – Tips on using HKCTT Added 1. Section 10.8 – Mapping of Chinese medicine clinical terminologies 2. Section 10.9 – Mapping of Chinese medicines terminologies
2.1	01 Jul 2022	01 Jul 2022	Amendment on the Name of Bureau from Food and Health Bureau to Health Bureau

2.2	10 May 2024	10 May 2024	Change of eHealth logo
2.3	31 Oct 2025	1 Dec 2025	1. Revised the Intellectual Property Rights Notice and Disclaimer to align terminology with the Electronic Health System Ordinance amendment 2. Amendment of the following terms: ● Changed “Electronic Health Record Sharing System” or “eHR Sharing System” to “Electronic Health System” ● Changed “eHRSS” or “eHR Portal” to “eHealth”

1 INTRODUCTION

1.1 BACKGROUND

1.1.1 Over the past decades, the need for controlled vocabularies for electronic based medical record systems is widely recognised. While a number of international terminologies have been developed, some of these terminologies are designed for statistical purpose and not granular enough to support clinical documentation. Accurate data capturing based on these international terminologies would require look up of a manual which cannot be supported in the clinical environment. Furthermore, the update frequency of these international terminologies (i.e. could be on half-yearly, or yearly basis) is not able to meet the demand of the requirement of clinical documentation. In short, there is a need to develop a structured terminology to capture clinical data for on-going patient care at a local level and to support the development of an interoperable electronic health record (eHR).

1.1.2 Standard terminology ensures that shared health data can be accurately interpreted, and thus can be reused to improve care delivery and optimise workflow. Standard terminology also supports disease surveillance to improve population health and to generate medical knowledge for facilitation of decision support and health services planning. As standard terminology is the foundation for the development of an interoperable eHR, a set of reference terminologies have been identified and acknowledged to be used in HKSAR Electronic Health System (eHealth) known as 'recognised terminology.' For more details, please refer to Section 1.1 of 'Editorial Guide on Hong Kong Clinical Terminology Table – Overview.'

1.2 PURPOSE

1.2.1 The guide on implementation and maintenance of the Hong Kong Clinical Terminology Table (HKCTT) provides a general overview on the aspects of:

- Licensing of HKCTT
- Adoption of HKCTT
- Release and update of HKCTT
- Transmission of patient data to eHR using HKCTT
- Maintenance of HKCTT
- Mapping

This guide is intended for people from various disciplines who may be involved in the initial terminology development and planning on use of HKCTT, technical implementation and adoption of HKCTT, and decision support and other aspects of health information management in their organisations.

1.2.2 It is recommended to read this document in conjunction to the 'Editorial Guide on Hong Kong Clinical Terminology Table – Overview', which provides an introductory overview of the structure and content of HKCTT. Additionally, for more details on the structure and content of individual knowledge domain natures, the following documents are available for reference:

- Editorial Guide on Hong Kong Clinical Terminology Table – Problem & Procedure
- Editorial Guide on Hong Kong Clinical Terminology Table – Laboratory
- Editorial Guide on Hong Kong Clinical Terminology Table – Drug (Medication Terminology Table)
- Editorial Guide on Hong Kong Clinical Terminology Table – Chinese Medicine Problem & Procedure
- Editorial Guide on Hong Kong Clinical Terminology Table – Chinese Medicines

1.3 ROLES OF ELECTRONIC HEALTH RECORD INFORMATION STANDARDS OFFICE

To support the development and operation of an interoperable eHR, the Electronic Health Record Information Standards Office (eHRISO):

- Is responsible for the development, promotion, implementation, licensing and maintenance of various health information standards;
- Monitors the use of the health information standards to ensure the compliance of these health information standards;
- Acts as a release centre to liaise with the international standards development organisations on using, sublicensing, distributing and maintaining various health information standards being used in HKSAR eHR;
- Extends the standards developed by various standards development organisations in accordance to the license agreement to meet the local requirement; and
- Develops relevant tools for managing various health information standards.

2 OVERVIEW OF HKCTT

The Hong Kong Clinical Terminology Table (HKCTT) is a standardised clinical terminology table, which is built to support the interoperable eHealth in Hong Kong. The table facilitates clinicians to document and review patient's condition. It also assists in the retrieval of data at the granular level as desired to support building of decision support system and other secondary purposes (such as conducting research or reporting data to various authorities). The HKCTT is developed and maintained by the eHRISO through the Information Architecture Management System (IAMS).

The building of the HKCTT is based on the composition of terms from different knowledge domains, including diagnosis, procedure, laboratory tests, specimen, organism and drug. Each HKCTT term represents a unique concept which is assigned with a unique term identifier (Term ID) and description(s). For details on the structure and content of HKCTT, please refer to Section 3 of 'Editorial Guide on Hong Kong Clinical Terminology Table – Overview.'

As health information is dynamic and complex, no single set of terminology is able to represent all clinical concepts. In relation to this, the HKCTT is referenced to various international terminologies commonly used in Hong Kong, with an aim to befit the adoption by different domains. The international terminologies in which HKCTT terms can be mapped to are known as 'Reference terminologies (RT).' By linking the content of HKCTT to international terminologies or classification schemes via mapping, comparability of data records between multiple practitioners using different references across diverse platforms is ensured.

The reference terminologies (RT) in which HKCTT are referenced to are listed as below:

- Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT)
- International Classification of Diseases, 10th Revision (ICD 10), 2001 release
- International Classification of Diseases, 10th Revision (ICD 10), 2010 release
- International Classification of Diseases, 10th Revision (ICD 10), Mental Health & Behavioural Disorders (MBD)
- International Classification for Primary Care, Second edition (ICPC-2)
- Logical Observation Identifiers Names and Codes (LOINC)
- List of Registered Pharmaceutical Products (RPP)
- Classification and codes of diseases and ZHENG of traditional Chinese medicine - GB/T 15657-1995 (GB95)
- Clinic terminology of traditional Chinese medical diagnosis and treatment-Therapeutic methods - GB/T 16751.3-1997 (GB97)
- Proprietary Chinese Medicine (pCm)

While the healthcare sector in Hong Kong has already had her local experience in managing a terminology set, it is recommended to leverage on the local experience and also make reference to the overseas ones in the building of the Hong Kong Clinical Terminology Table to support the eHR development. In relation to this, a set of principles have been developed to ensure the quality of the table and to guide its development and future management [(1)].

i. Non-vagueness
   - Terms must correspond to at least one meaning.

ii. Non-ambiguity
   - Terms should not contain more than one meaning.

iii. Non-redundancy
   - Meanings correspond to no more than one term.

iv. Permanence
   - Once created, the meaning of a HKCTT term becomes inviolate.

v. Expandable
   - A meaningless identifier is used to represent each HKCTT term. This allows the HKCTT to be expanded without any limitation due to the identifier structure or the hierarchical design of the identifier.

vi. Perpetual

- Avoid changing patient data even the table is updated.

For details on terminology management of HKCTT, please refer to Section 4 of 'Editorial Guide on Hong Kong Clinical Terminology Table – Overview.'

3 LICENSING OF HKCTT

3.1 ELIGIBILITY FOR USE OF HKCTT

Healthcare Providers (HCPs) in both public and private sectors who will involve in capturing, retrieving, storing and using of data provided by HKCTT should obtain license for use of HKCTT. All HCPs who join the eHealth will be licensed to use the HKCTT within the HKSAR healthcare environment. Other HCPs who have not joined eHealth is required to obtain stand-alone licensing for use of HKCTT. eHRISO reserves the right to revoke access to use of HKCTT upon violation of the stated terms and conditions.

3.2 CONDITIONS FOR USE OF HKCTT

3.2.1 HKCTT will only be distributed to authorised licensee residing, researching or carrying on business within the territory of HKSAR for not-for-profit purposes.

3.2.2 HKCTT can only be used by authorised licensee, for the collection, compilation, analysis, research, mapping and/or reporting of clinical terminology data within the Hong Kong SAR, in relation to healthcare services (e.g. supporting clinical documentation, preparation for data for sharing with eHealth, supporting interoperability of eHealth), healthcare administration (e.g. data reporting, healthcare planning and evaluation, reimbursement) or healthcare development (e.g. teaching and research).

3.2.3 For details on Terms of Use of the Hong Kong Clinical Terminology Table ("HKCTT"), please refer to Appendix A.

3.3 THE HKCTT LICENSING ARRANGEMENT

3.3.1 HCPs should base on the local situation to determine the most suitable adoption mode; and the type of licenses they should acquire may vary according to the adoption mode they chose. (Please refer to chapter 5 “Adoption of HKCTT", for more details of the HKCTT adoption modes.)

i. For CMS Extension users, license of the HKCTT has already been incorporated in the CMS Adaptation / CMS On-ramp / CMIS On-ramp license. Nevertheless, the HCP should read the Terms of Use for the Hong Kong Clinical Terminology Table.

ii. HCPs who wish to adopt the HKCTT (ELSA) or HKCTT (Core) mode should acquire the “Licence for Use of ELSA and HKCTT”.

iii. Vendors who wish to include the HKCTT in their clinical software or system should first sign “the Agreement with Information Technology (IT) Service Provider to Establish Electronic Health System (eHealth) Connectivity and Incorporate the Hong Kong Clinical Terminology Table (HKCTT)” with the Government. After signing this agreement, vendors would be provided with the HKCTT Testing Version for developing their system.

3.3.2 Vendors or HCPs who are interested in using HKCTT may approach the eHRISO for more details. For more reference on the licensing arrangement of different mode of adoption of HKCTT, please refer to Appendix B.

4 ROLE OF HKCTT LICENSEE

4.1 INTRODUCTION

4.1.1 HKCTT licensee is any HCPs who have obtained licensing right for using HKCTT within the HKSAR healthcare environment.

4.1.2 All HKCTT licensees (HCPs) are responsible to designate a single point of contact to facilitate communication with the eHRISO in terminology matters related to HKCTT, known as 'HCP Terminology Coordinator'. For eHR users, the contact person for each enrolled HCP would be appointed as 'HCP Terminology Coordinator. For non-eHR users, registration can be made by submitting a form to eHRISO Terminology Coordinator. A copy of the registration form can be referred to Appendix C.

4.1.3 There shall only be one member per HCP appointed as the role of HCP terminology coordinator at any given time. Where required, the HCP may also appoint sub-coordinator(s) as 'Nature Specific Terminology Coordinator' for each domain area, e.g. drug, laboratory, and problem/procedure. For details, please refer to 'Section 4.3 Roles of nature specific terminology coordinator' in the later section.

4.2 ROLES OF HCP TERMINOLOGY COORDINATOR

4.2.1 The following outlines tasks in which the appointed HCP terminology coordinator may be involved in:

i. Administration

- To liaise between HCP and eHRISO on terminology related matters
- To distribute updates and materials received from eHRISO to corresponding staff (i.e. Nature specific terminology coordinator, health care staff, IT team) within the HCP
- To download HKCTT list (including HKCTT delta report) and other reference terminology lists from eHealth where necessary (Note: The eHealth is a web-interface system that provides functions and features for eHR subscribers to access information and eHR related services. For details on download, please refer to 'Section 6.2 Release update of HKCTT.')

- To receive, distribute and follow up on data compliance report from eHRISO (Note: The data compliance report is sent to HCP when transmitted patient data fails to comply with the standards of the eHR data set. For details, please refer to Chapter 8 and Appendix C of the eHR Content Standards Guidebook.)

ii. Submission of requests

- To submit HKCTT request through request submission system via eHealth when an addition or amendment of HKCTT term is requested by user within HCP
- To submit any recommendations related to SNOMED CT via eHealth as requested by user within HCP

4.3 ROLES OF NATURE SPECIFIC TERMINOLOGY COORDINATOR

4.3.1 As the HCP terminology coordinator plays a major role as single contact point between HCP and eHRISO, the HCP may also appoint nature specific coordinator(s) to handle tasks related to any specific domain areas. For example, a HCP may appoint staff to oversee operations in drug, laboratory or problem/procedure domain respectively. The appointment of nature specific terminology coordinator is optional and would vary depending on the operation of the HCP.

4.3.2 The following outlines tasks in which the appointed nature specific coordinator(s) may be involved in:

i. Submission of requests

- To submit HKCTT request through request submission system via eHealth when an addition or amendment of HKCTT term is requested by user within HCP related to the assigned domain
- To submit any recommendations related to SNOMED CT via eHealth as requested by user within HCP related to the assigned domain

5 ADOPTION OF HKCTT

5.1 INTRODUCTION

5.1.1 With the aim of supporting data interoperability amongst various HCPs, it is the strategy of the eHRISO to promote the use of the HKCTT within the Hong Kong Special Administrative Region. The HKCTT can be distributed to the local healthcare providers for not-for-profit purposes by signing a license.

5.1.2 As each HCP have different clinical systems with varying technical compatibility and usage, eHRISO have made available three modes of HKCTT adoption for HCP to choose from, namely HKCTT (CMS Extension), HKCTT (ELSA), and HKCTT (Core). The three modes are comprised of combinations of three components, including:

i. the search panel which is a frontend module which facilitates searching of the HKCTT content,

ii. the terminology service which includes program logics to facilitate searching of the HKCTT content and

iii. the HKCTT content.

5.1.3 Depending on the local situation, HCP may select the components needed to determine the most suitable adoption mode. Regardless of how the HKCTT will be used, all HKCTT users should observe the terms and conditions as included in the Terms of Use for the Hong Kong Clinical Terminology Table (“HKCTT”), please refer to Appendix A.

5.2 HKCTT (CMS EXTENSION)

5.2.1 HKCTT (CMS Extension) is an application module designed to provide access to HKCTT content with terminology service and search panel. It is an open standard clinical management system with the ability to share clinical data of patients with the eHR Sharing System. For HCP who would like to adopt a total application replacement or to implement a complete solution, the HKCTT (CMS Extension) could be a suitable option. There are three modules available for selection:

i. CMS On–ramp: is designed for the use of private solo or group practice healthcare providers

ii. CMS Adaptation module: is designed for the use of private hospitals or institutions

iii. CMIS On-ramp: is designed for the use of private solo or group practice Chinese medicine healthcare provider

The HKCTT has already been incorporated in the above applications. HCP who would like to install the CMS On-ramp, CMS Adaptation or CMIS On-ramp should contact eHR Registration Office for the detail procedures and system requirements. Once CMS On-ramp, CMS Adaptation module or CMIS On-ramp is adopted, HKCTT content could be retrieved when user searches a clinical term on the provided search panel. For details on how to search HKCTT content with the provided terminology service, please refer to Appendix D.

Since each HKCTT term returned is already assigned with a unique Term ID at backend, HCPs are encouraged to store the Term ID together with the patient data and send the Term ID to eHR Sharing System when uploading patient data. HCP could also store other reference terminology data if necessary.

5.2.2 There will be regular release of HKCTT when new version of HKCTT is available. HCPs should follow the procedure stipulated in the User Guide of On-ramp and Adaptation in order to keep the HKCTT content update.

5.3 HKCTT (ELSA)

5.3.1 HKCTT (ELSA) is a pluggable module designed for providing HKCTT content and a terminology searching service to facilitate searching of the HKCTT. HCP/vendor who is using her own clinical software but still wish to use the HKCTT via her own system can choose this adoption mode.

5.3.2 HKCTT (ELSA) is installed within an eHR secured communication channel called Encapsulated Linkage Security Application (ELSA) which includes both the HKCTT content and the terminology service to facilitate searching of the HKCTT. To support clinicians to use the HKCTT, vendor or HCP has to develop her own searching panel and invoke the HKCTT Offline terminology service based on a standard protocol in order to access the HKCTT content. The guideline on the mechanism and implementation to invoke the terminology service is described in "The Implementation of A Secured Communication Module for the eHR Project Encapsulated Linkage Security Application (ELSA)" manual. Vendors/HCPs wish to adopt the HKCTT using this mode should approach the eHRISO for details.

5.3.3 Update of the HKCTT content will involve acquiring the updated HKCTT content from the eHRISO and also applying these updates to the ELSA (HKCTT) which connects to the HCP's clinical system. When new release of HKCTT is available, the HKCTT data content can be refreshed by following the ELSA system patch management module if the HCP has joined the eHR program with connectivity to eHealth. Vendor or HCP should follow the system patch management section in the ELSA implementation guide and develop the required system changes in order to check, download, query and apply the patches available in eHR Sharing System. The details of hardware and software (including supporting operating system) information can be found in the ELSA implementation guide.

5.3.4 If the HCP has not joined eHR and does not connect to eHealth, the HKCTT content update cannot be refreshed by the ELSA system patch management module. HCP should contact eHRISO periodically for the latest content and apply the update to ELSA (HKCTT) manually. The update procedure will be included together with the HKCTT content when released by eHRISO.

5.4 HKCTT (CORE)

HKCTT (Core) is a channel designed to provide access to full HKCTT content and documentation. HCPs who are capturing patient data using her own clinical system yet wish to send patient data as Level 3 data to the eHealth may consider mapping their own terms to HKCTT and thus adopt this option. HCPs are recommended to ensure the version of the HKCTT in its own system is updated regularly and as appropriate. Vendors/HCPs wish to adopt the HKCTT using this mode should approach eHRISO for details.

6 RELEASE AND UPDATES

6.1 INTRODUCTION

6.1.1 To accommodate with the continuous advancement and development in health sciences, the content of HKCTT will change and evolve over time. Furthermore, as HKCTT is referenced to various international terminologies, any updates and changes of these reference terminologies (RT) could also trigger changes in content of HKCTT. Thus, efforts are made to carefully review changes and adjust for any impact on data entry, retrieval and comparability of data.

6.2 RELEASE UPDATE OF HKCTT

6.2.1 HKCTT is scheduled for regular monthly update release by leveraging on existing practice of the Hospital Authority Clinical Vocabulary Table (HACVT). The monthly release update has been validated to be efficient in keeping abreast of new medical developments, as well as providing adequate time for maintenance and internal procedures to be conducted. Ad hoc release could occur more than once a month and will be arranged by eHRISO when necessary.

6.2.2 HKCTT licensee (HCP) is recommended to ensure the version of the HKCTT in its own system is kept up to date. It is highly recommended that HCP should at least update once every 12 months. HKCTT licensee with delayed upgrades could fail to be interoperable with other systems using the latest versions. Problematic content addressed in the latest version could perpetuate if update is not implemented. In addition, improvements made available by later releases could not be applied. Thus, it is strongly recommended that HCP should not become too out of date with the latest release version.

6.2.3 For eHealth user, notification message would be received via eHR Inbox upon availability of new HKCTT release. The HKCTT content can be accessed through the download module in eHealth after successful logon. Upon access to eHealth, user may select the 'Download' option from the dropdown menu for downloading of HKCTT and other recognised terminologies content (see **Figure 1**). Prior to access to the download page, user must read and accept the constituted terminology acknowledgements (see **Figure 2**). User will also be prompted to comply with the terminology acknowledgement prior to download of content each time (see **Figure 3**).

The download of HKCTT includes the full list of HKCTT content and HKCTT delta report. The HKCTT delta report is a report that documents addition and changes identified between the previous HKCTT release version and the current one. The delta report aims to outline any new addition of terms in each release and any significant modifications that may require attention.

6.2.4 For HKCTT licensee who does not join eHR, eHRISO will arrange distribution separately.

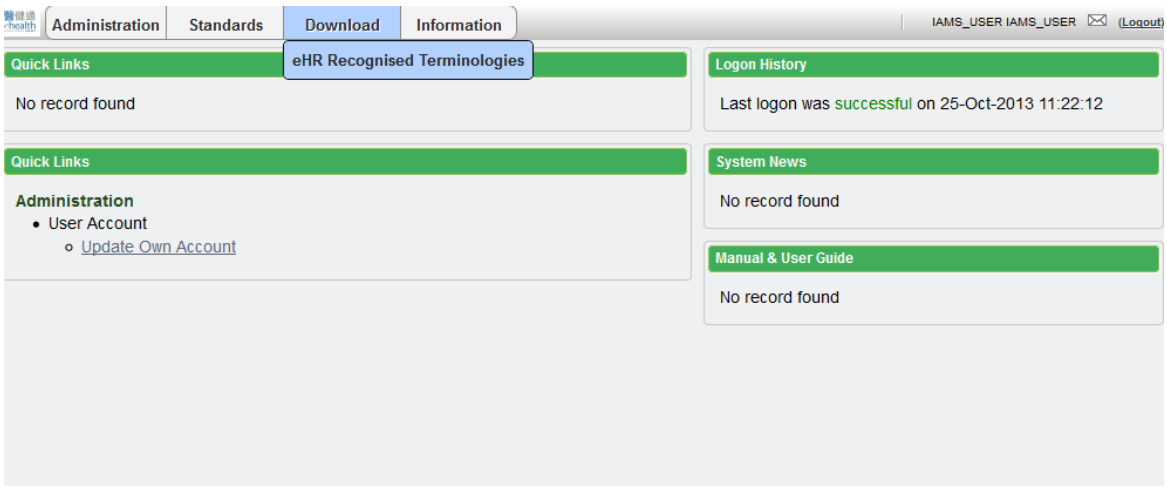


Figure 1 - Download module in eHealth

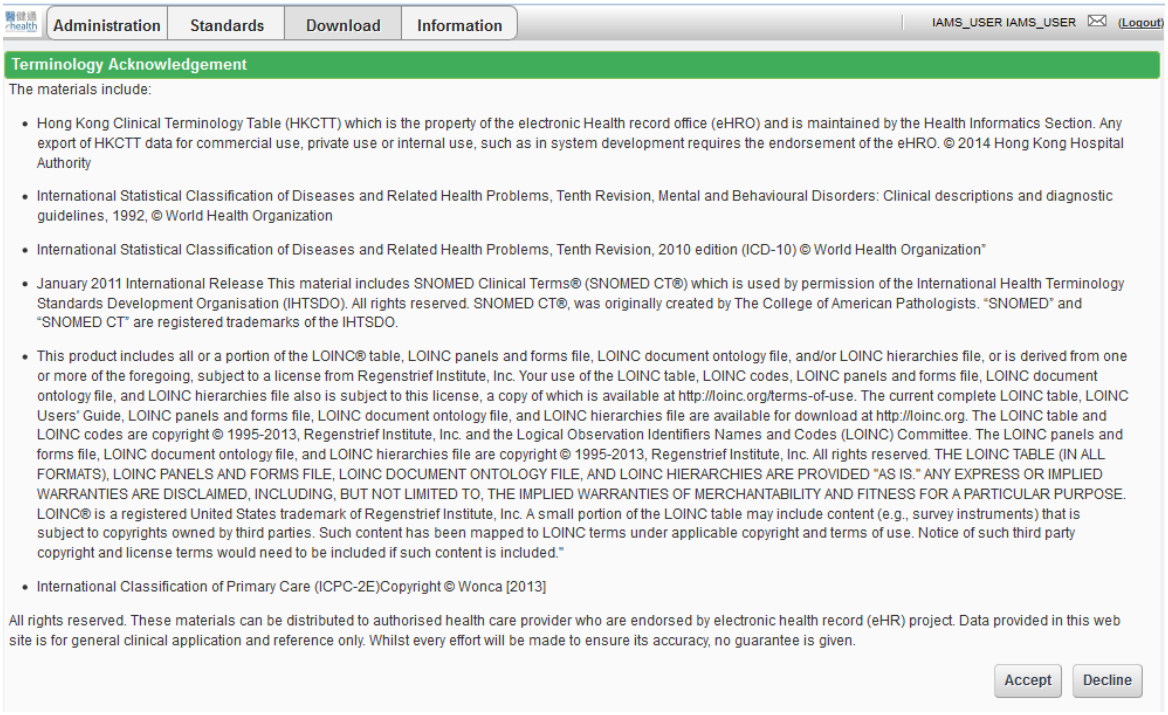


Figure 2 - Terminology acknowledgement prior to download

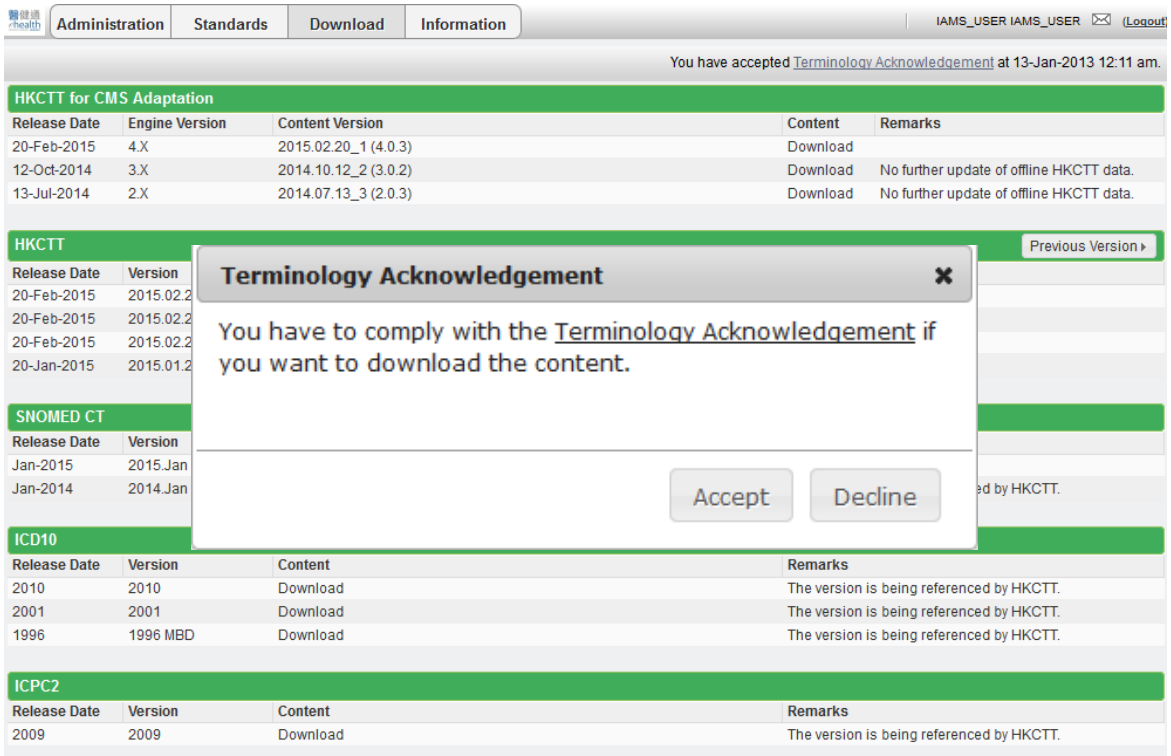
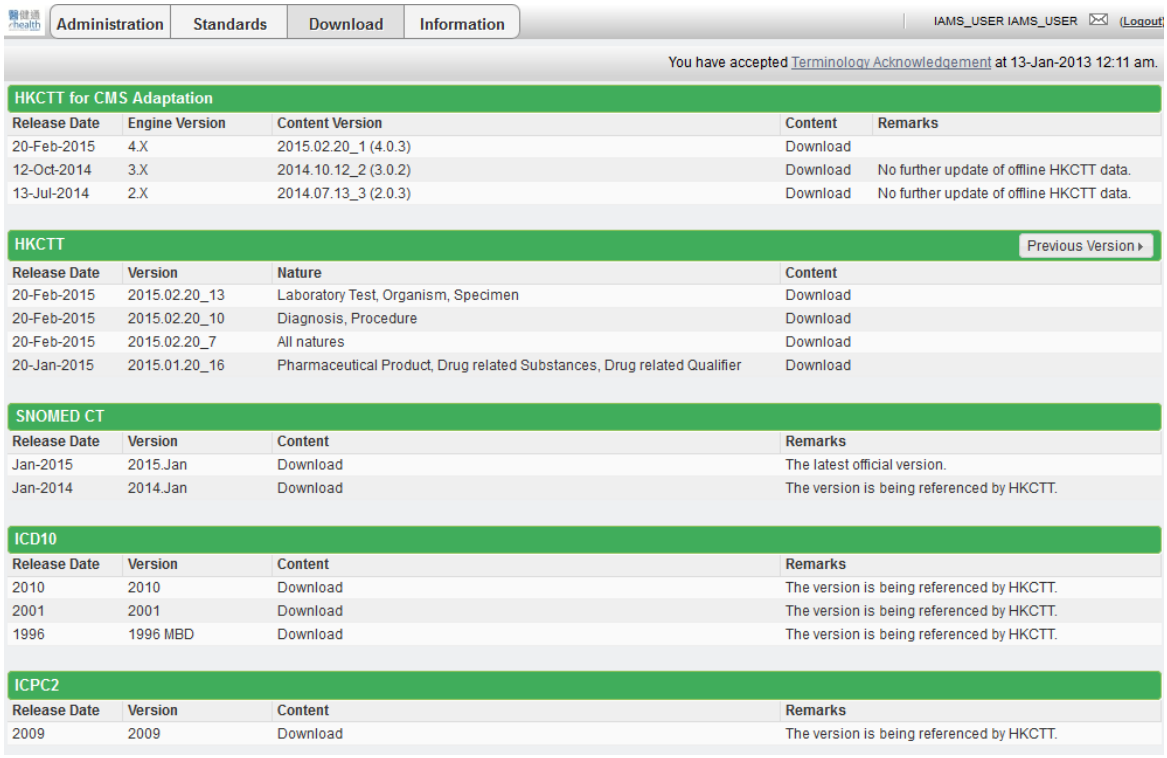


Figure 3 - Terminology acknowledgement confirmation when user clicks "download"



Administration | Standards | Download | Information

IAMS_USER IAMS_USER (Logout)

You have accepted Terminology Acknowledgement at 13-Jan-2013 12:11 am.

HKCTT for CMS Adaptation

Release Date	Engine Version	Content Version	Content	Remarks
20-Feb-2015	4.X	2015.02.20_1 (4.0.3)	Download	
12-Oct-2014	3.X	2014.10.12_2 (3.0.2)	Download	No further update of offline HKCTT data.
13-Jul-2014	2.X	2014.07.13_3 (2.0.3)	Download	No further update of offline HKCTT data.

HKCTT Previous Version

Release Date	Version	Nature	Content
20-Feb-2015	2015.02.20_13	Laboratory Test, Organism, Specimen	Download
20-Feb-2015	2015.02.20_10	Diagnosis, Procedure	Download
20-Feb-2015	2015.02.20_7	All natures	Download
20-Jan-2015	2015.01.20_16	Pharmaceutical Product, Drug related Substances, Drug related Qualifier	Download

SNOMED CT

Release Date	Version	Content	Remarks
Jan-2015	2015.Jan	Download	The latest official version.
Jan-2014	2014.Jan	Download	The version is being referenced by HKCTT.

ICD10

Release Date	Version	Content	Remarks
2010	2010	Download	The version is being referenced by HKCTT.
2001	2001	Download	The version is being referenced by HKCTT.
1996	1996 MBD	Download	The version is being referenced by HKCTT.

ICPC2

Release Date	Version	Content	Remarks
2009	2009	Download	The version is being referenced by HKCTT.

Figure 4 - Sample download screen

6.3 IMPACT OF UPDATE ON REFERENCE TERMINOLOGIES TO HKCTT

6.3.1 As HKCTT is referenced to multiple reference terminologies (RT), HKCTT release would adopt the most up to date release of each RT as far as possible. The incorporation of RT release into subsequent HKCTT update release will be reviewed and prioritised as per eHRISO's internal policies and procedures. Frequency of official release of reference terminologies are subject to the corresponding standard development organisation as follows:

Reference Terminology	**Frequency of Official Release**
Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT)	January and July of each year by SNOMED International
International Classification of Diseases 10th Revision (ICD-10)	No regular updates
International Classification of Primary Care 2nd edition (ICPC-2)	No regular updates
Logical Observation Identifiers Names and Codes (LOINC)	Twice per year by Regenstrief Institute
List of Registered Pharmaceutical Products (RPP)	Weekly
Classification and codes of diseases and ZHENG of traditional Chinese medicine - GB/T 15657-1995 (GB95)	No regular updates
Clinic terminology of traditional Chinese medical diagnosis and treatment- Therapeutic methods - GB/T 16751.3-1997 (GB97)	No regular updates
Proprietary Chinese Medicine (pCm)	Periodically updates

6.3.2 Each HKCTT term is mapped to at least one RT except of the Chinese medicine terms, any amendment or version update of the relevant RT could impact the mappings of HKCTT. Some RT update may introduce new codes which could involve amendment of the existing mapping of HKCTT term or creation of new HKCTT term. As there are necessary procedures to review affected terms prior to the implementation of each update, a short delay subsequent to RT update is expected.

Term	**Code in ICD10 2001**	**Code in ICD10 2010**	**Changes incurred**	**Impact to HKCTT**
Congenital spastic paralysis	G80.0	G80.1	Classification of condition changed	Amend existing mapping
Mucosal proctocolitis	K51.5	K51.3	Classification of condition changed	Amend existing mapping
Chronic kidney disease stage 1 to Stage 5	N/A	N18.1 to N18.5	Code added	Amend existing mapping and create new concepts

6.3.3 When a new RT release is available, eHRISO would review and incorporate changes to HKCTT as appropriate. SNOMED CT is described here as an example, please refer to Appendix E – Recognised Terminology Update Workflow for more details. Similar steps would also be applied for other reference terminologies release update.

i. New release updates of SNOMED CT international release from SNOMED International are available biannually in January and July each year.

ii. Copy of the release would be obtained from IHTSDO and made accessible in the Download Centre of eHealth.

iii. Concepts containing changes in the latest SNOMED CT release version and are concurrently used in HKCTT are identified.

iv. All HKCTT terms with SNOMED CT mappings that are affected by the changes made from the latest SNOMED CT release would be reviewed.

- Addition of SNOMED CT concept
- Change of SNOMED CT concept definitions
- Amendment on descriptions of SNOMED CT concept

v. Updated SNOMED CT mappings of the affected HKCTT terms would be approved in IAMS the HKCTT management tool accordingly.

vi. New HKCTT release update will be made accessible in the eHealth

7 TRANSMISSION OF PATIENT DATA TO EHR

Please refer to Chapter 8 and Appendix C of the eHR Content Standards Guidebook.

8 REQUEST SUBMISSION TO EHRISO

8.1 INTRODUCTION

On the occasion where some terms may not be readily available for use in the existing HKCTT, HCPs are encouraged to submit a request for addition of new term(s). Moreover, HCPs can also submit request for amendment of any existing HKCTT term should change(s) is deemed necessary. On both aforementioned instances, 'HCP Terminology Coordinator' or 'Nature Specific Terminology Coordinator' may submit requests to eHRISO via eHealth (see **Figure 5**). For details on roles of HCP terminology coordinator or Nature specific terminology coordinator, please refer to 'Section 4 Role of HKCTT licensee'.

For all request submissions, HCPs are recommended to provide as much detail as possible to facilitate review by eHRISO. While eHRISO will place effort in processing requests in a timely manner, the time frame for promotion of newly added or amended terms would be subject to eHRISO's internal review and procedures. For all submitted requests, a request number would be automatically generated and an email acknowledgement would be sent to the requestor with the corresponding request number for future perusal (see **Figure 6**). For details on the work flow of Request Submission, please refer to "eHealth User Manual for Terminology Related Functions".

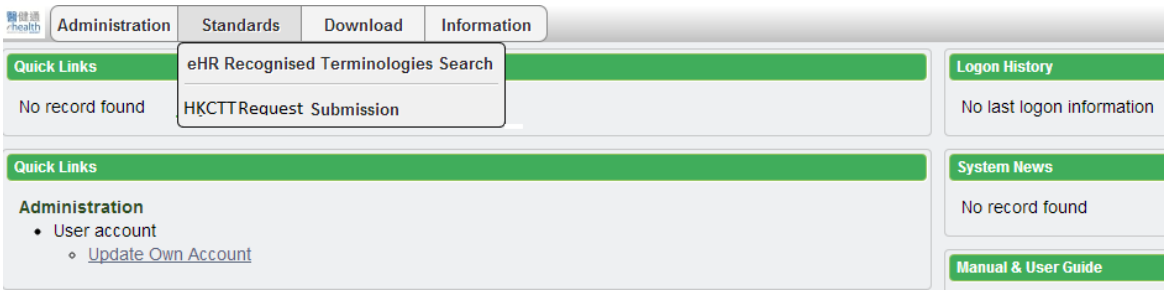
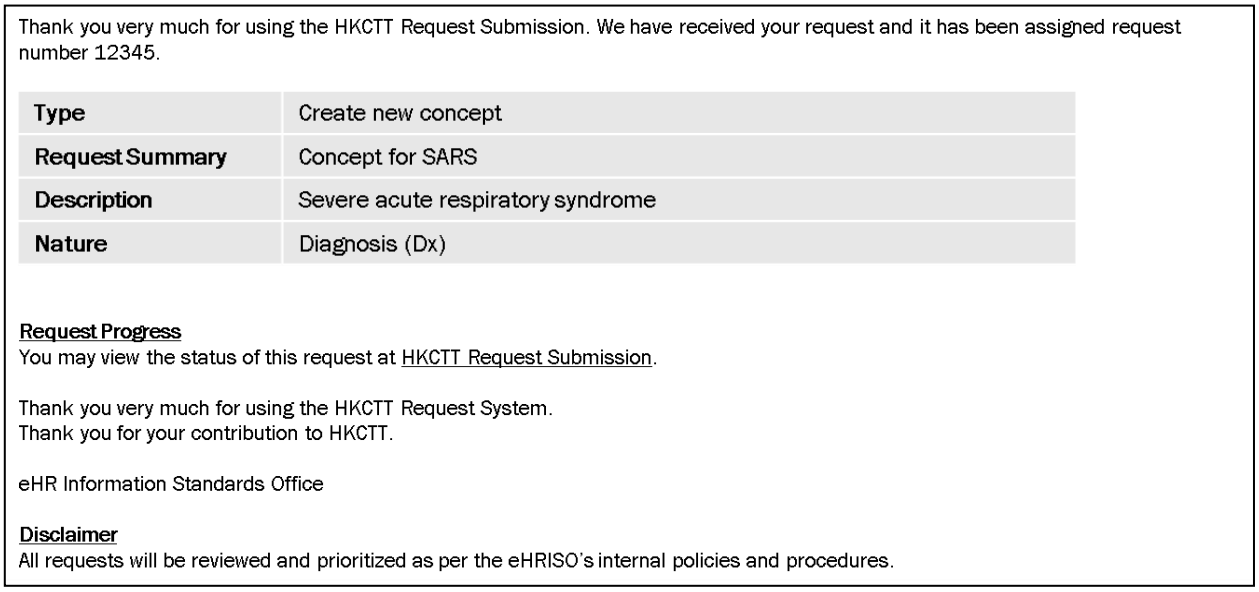


Figure 5 - Access to request submission system in eHealth



Thank you very much for using the HKCTT Request Submission. We have received your request and it has been assigned request number 12345.

Type	Create new concept
Request Summary	Concept for SARS
Description	Severe acute respiratory syndrome
Nature	Diagnosis (Dx)

Request Progress
You may view the status of this request at HKCTT Request Submission.

Thank you very much for using the HKCTT Request System.
Thank you for your contribution to HKCTT.

eHR Information Standards Office

Disclaimer
All requests will be reviewed and prioritized as per the eHRISO's internal policies and procedures.

Figure 6 - Sample of Acknowledgement of request

Request stage

The submitted requests could be assigned to the following stages:

Request stage	Definition
Submitted	Newly submitted request, pending review by eHRISO
In Progress	Request is in progress of review by eHRISO
Accepted	Request has been accepted (The requested addition or amendment will be incorporated into HKCTT content)
Rejected	Request has been rejected (The requested addition or amendment will not be incorporated into HKCTT content. Reason for rejection will be provided to requestor)

8.1.1 New addition of HKCTT term

i. Request of new HKCTT term should be made only when the requested term does not exist in the HKCTT. It is recommended for requestor to browse HKCTT in eHealth under "eHR Recognised Terminologies Search" function prior to submission, where the latest available HKCTT version would be accessible.

ii. Reference to the terminology management principles as documented in Section 4 of the current set of Editorial Guide of Hong Kong Clinical Terminology Table should be made before submission

iii. Request on term creation is available for HKCTT terms under the domain of diagnosis, procedure, laboratory test, organism and specimen. (see **Figure 8**) (Note: Request submission for the List of Registered Pharmaceutical Products is not available for Public, it is solely maintained by the Drug Office, Department of Health.)

iv. Requestor should provide mandatory information required under the relevant domain. For details, please refer to the Appendix F – Request submission requirements.

v. Requestor may withdraw any submitted requests in the 'Submit' stage. However, once the request has been promoted as 'In progress,' the request is no longer available for withdrawal as the approval process of the request has begun. All submitted requests and its details are available for review in the request summary list (see **Figure 7**).

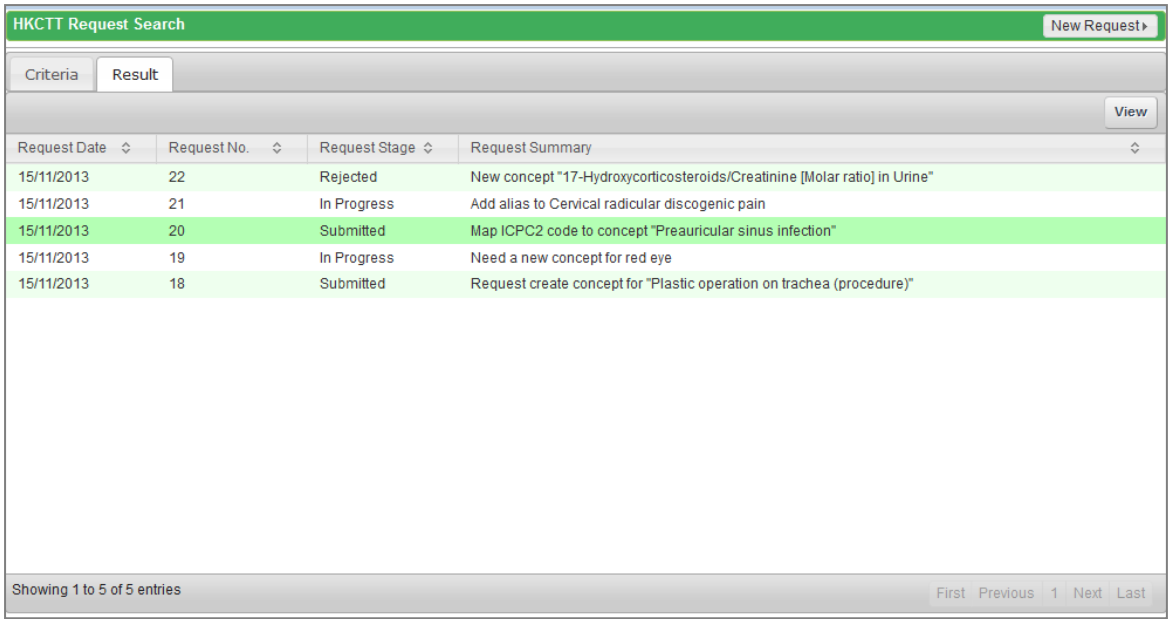


Figure 7 - Summary of request submissions in eHealth

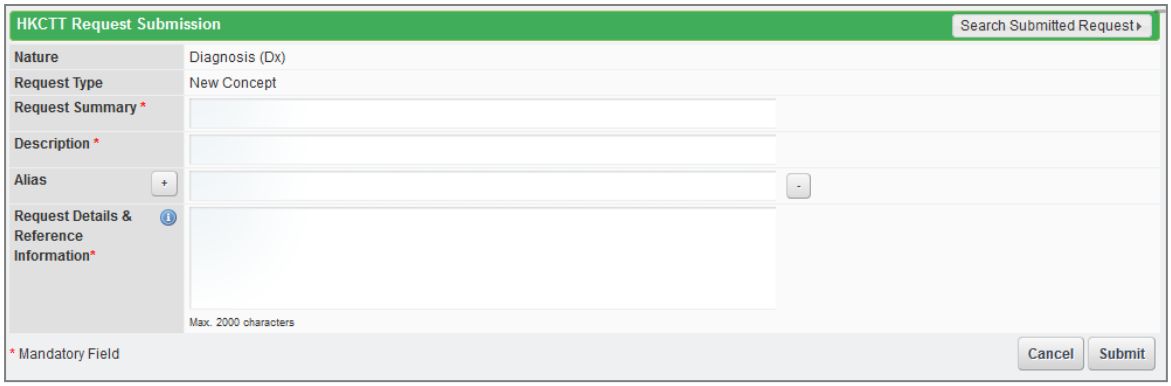


Figure 8 - New HKCTT term request for diagnosis nature in eHealth

8.1.2 Amendment of HKCTT term

i. Request of amending HKCTT term should be made only when the change(s) is deemed necessary. Before submitting the request, the requestor should check the HKCTT in eHealth under "eHR Recognised Terminologies Search" function, where the latest available HKCTT version would be accessible.

ii. Requestor should also reference to the terminology management principles as documented in Section 4 of the current set of Editorial Guide of Hong Kong Clinical Terminology Table before submission

iii. Request for amendment of HKCTT terms under the domain of problem, procedure, laboratory test, specimen and organism are accepted (see **Figure 9**). (Note: All drug data in the HKCTT are originated from the List of Registered Pharmaceutical Products which is maintained by the Drug Office, Department of Health.)

iv. Requestor should provide mandatory information required under the relevant domain. For details, please refer to the Appendix F – Request submission requirements.

v. Requestor may withdraw any submitted requests in the 'Submit' stage. However, once the request has been promoted as 'In progress', the request is no longer available for withdrawal as the approval process of the request has begun. All submitted requests and its details are available for review in the request summary list (see **Figure 7**).

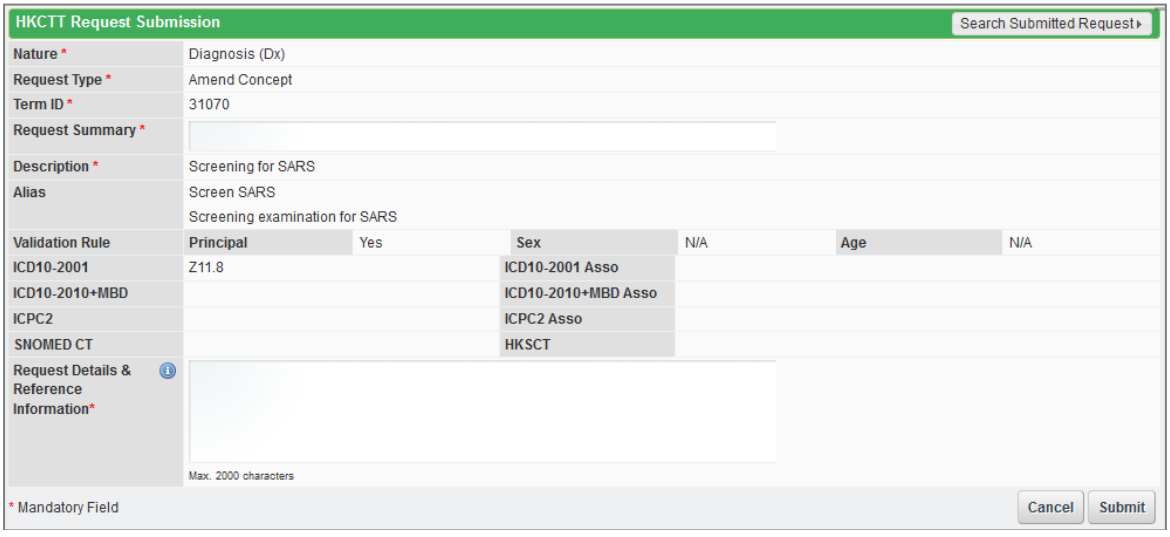


Figure 5 - Amend HKCTT term request for diagnosis nature in eHealth

8.2 PROCESSING

8.2.1 The roles and responsibilities of eHRISO are to manage any submission requests and to respond to any queries from requestor regarding submission requests. Please refer to Appendix G - Request submission workflow for details.

8.2.2 Request would be processed on the following criteria:

i. Upon submission of new HKCTT term request, the requested term is checked if it already exists in HKCTT. If a requested term is found to be semantically matching with an existing HKCTT term, the request would be declined. However, the description of the request may be added as alias to the existing HKCTT term to facilitate searching.

ii. The submitted new or amend term request would be assessed base on the terminology management principles as documented in Section 4 of 'Editorial Guide of Hong Kong Clinical Terminology Table – Overview.' Base on the established principles, the request would be assessed on its applicability and value for usage and need in HKCTT. eHRISO will review details of the request and determine the action required.

iii. Submitted request and its mapping to reference terminology will be verified. Submitted request will be cross referenced to reference terminologies, including SNOMED CT, ICD-10, ICPC-2, LOINC, GB95 and GB97. If the semantic meaning of the request submission is precisely preserved during the mapping process, the mapping is regarded as an exact match. In such case, the newly requested term will proceed to be added into HKCTT with the appropriate reference terminologies mapping. On occasions where the newly requested term does not exist in the reference terminologies, eHRISO may submit the requested term to standards development organisation, such as SNOMED International and Regenstrief Institute, for addition to the reference terminologies (For details, please refer to 'Section 9 – Submission to standards development organisation (SDO)'.)

iv. eHRISO will verify the submitted request on an individual basis. As eHRISO may seek further clarification on the request submission, it is encouraged for the requestor to maintain liaison with eHRISO.

v. Under some circumstances, eHRISO may also seek recommendation from relevant specialists or working groups where necessary. Some general guidelines have been established on the vetting of HKCTT requests, but final approval would be subject to eHRISO's decision on an individual basis of each request. The following guidelines pertain to the vetting of HKCTT request in the diagnosis and procedure nature:

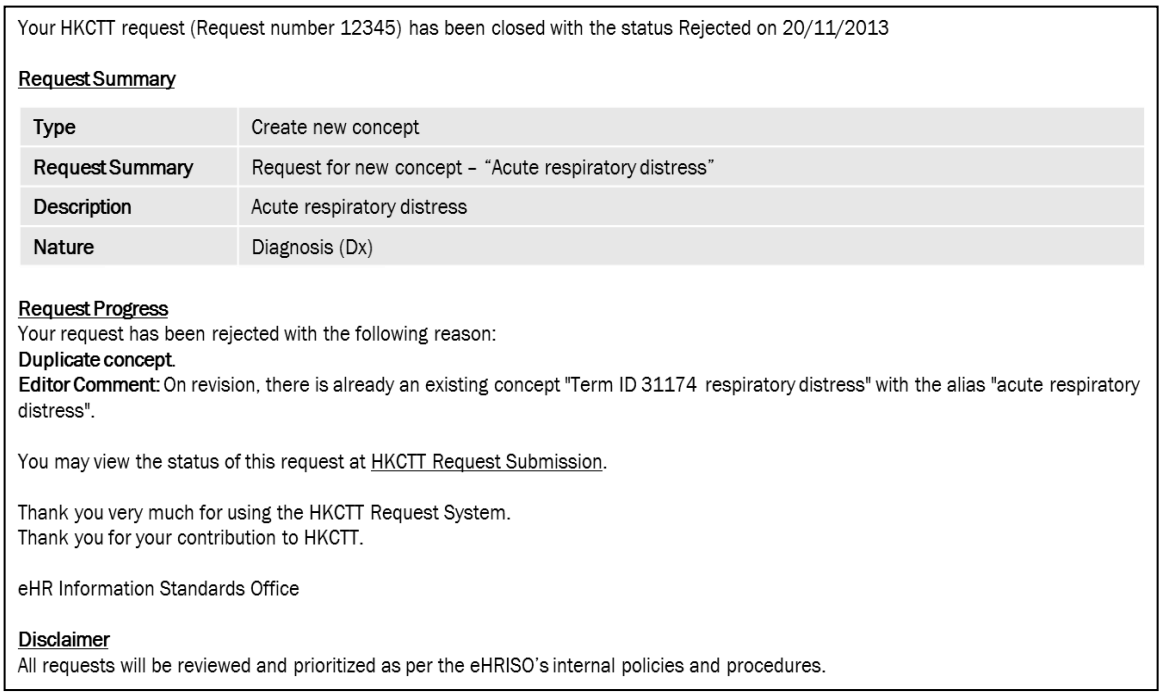
- Medical term instead of lay term
  For example, use 'intestine' instead of 'gut' (Gut can be added as alias, which is an alternative description to facilitate search of a specific term)
- Precision of the meaning of the concept definition
  For example, the concept request of 'operation on brain' would be considered as a concept with vague meaning as it did not explicit express what operation and part of the brain the procedure is involved in
- Appropriate use for local practice
  For example, the concept request of 'osteochondroplasty of femur' is invalid as this procedure is only performed at knee locally
- Anatomical and physiological plausibility of the concept
  For example, the concept request of 'Torkildsen shunt to cistern of spinal cord' is invalid as this procedure is done only for ventricle-cisterna magna (subarachnoid space), not spinal cord

8.3 APPROVAL AND FEEDBACK

8.3.1 Requestor(s) are notified via eHealth inbox when the request is closed (either accepted or rejected). If a request has been rejected, a reason and explanation will be provided to the requestor in the notification (see **Figure 10**). Requestor can review all the requests by accessing the 'HKCTT Request Submission' module in eHealth.

Reject reasons are listed as follows:

Duplicate request	Another request on the same issue has already been submitted by another requestor.
Duplicate concept	The requested concept is duplicated with another existing HKCTT concept. For example: Facial nerve palsy • This term was declined due to duplicated concept meaning with "Seventh nerve palsy".
Inappropriate/vague concept	The meaning or description of the request is ambiguous or vague. For example: Lupus erythematosus, lupoid type • This concept was declined as Lupus erythematous does not manifest as lupoid type. Hence, the concept is inappropriate for use.
Others	Reasons would be provided for all other exception cases.



Your HKCTT request (Request number 12345) has been closed with the status Rejected on 20/11/2013

Request Summary

Type	Create new concept
Request Summary	Request for new concept – "Acute respiratory distress"
Description	Acute respiratory distress
Nature	Diagnosis (Dx)

Request Progress
Your request has been rejected with the following reason:
Duplicate concept.
Editor Comment: On revision, there is already an existing concept "Term ID 31174 respiratory distress" with the alias "acute respiratory distress".

You may view the status of this request at HKCTT Request Submission.

Thank you very much for using the HKCTT Request System.
Thank you for your contribution to HKCTT.

eHR Information Standards Office

Disclaimer
All requests will be reviewed and prioritized as per the eHRISO's internal policies and procedures.

Figure 6 - Acknowledgement for close request - Rejected

9 SUBMISSION TO STANDARDS DEVELOPMENT ORGANISATION (SDO)

9.1 INTRODUCTION

There may be some occasions where the requested term may not be readily available in the reference terminologies in which the HKCTT is cross referenced to. Since the requested term may require mapping to these reference terminologies, eHRISO may submit a request to corresponding Standards Development Organisation (SDO) for addition. The addition of the new term to SDO could contribute to the quality and practical use of international reference terminologies. Additionally, the adding of local terms to international reference terminologies would enable reuse of these terms for future mapping of HKCTT to reference terminologies. eHRISO may also submit recommendations for amendment of reference terminology content to corresponding SDO where necessary.

9.2 REQUEST TO SNOMED INTERNATIONAL

9.2.1 Some requested terms to be added into HKCTT may require mapping to SNOMED CT. Upon the circumstance where the requested term is found to be non-existent in SNOMED CT, building of mapping of the requested term using a combination of two or more existing SNOMED CT concept, known as post-coordination, may be necessary (For details on post-coordination, please refer to Section 5.2.4 in 'Editorial Guide on Hong Kong Clinical Terminology Table – Problem & Procedure.')

9.2.2 The submitted request by eHRISO would be reviewed by SNOMED International for evaluation and would be deemed as accepted, pending or rejected according to their policies. Subsequently, eHRISO would take action depending on the result of the submission. For accepted submissions, eHRISO would notify requestor of the result and may incorporate the update into HKCTT accordingly. The SNOMED mapping of existing HKCTT term may also be impacted and change could occur.

9.3 REQUEST TO REGENSTRIEF INSTITUTE

9.3.1 Some requested concepts to be added into HKCTT may require mapping to LOINC. If necessary, eHRISO may submit requests to Regenstrief Institute for request on addition or amendment of LOINC content. The Regenstrief Institute is only able to respond quickly to new requests provided that with clear information of the submission. In general, the request may have the laboratory test information about the component, property, timing aspect, system, scale and method. It is also very useful to provide the units of measure and example results of the test that is being requested.

9.3.2 The submitted request by eHRISO would be reviewed by Regenstrief Institute. Subsequently, eHRISO would take action depending on the result of the submission. For accepted submissions, eHRISO would incorporate updated release content into HKCTT accordingly. The time frame of the promotion of newly added terms into HKCTT release would be subject to eHRISO's review and evaluation.

10 MAPPING

10.1 INTRODUCTION

The eHR Sharing System provides a platform through which patient data can be shared among various HCPs. As described in the eHR Content Standards Guidebook, HCPs are recommended to transmit standard structured data (Level 3) to eHR. There are options in which HCP may consider in preparing its local data for record sharing:

10.1.1 Direct adoption of HKCTT or other recognised terminologies

It is highly recommended for HCP to adopt HKCTT or any of the recognised terminologies and incorporate it directly into its clinical systems. Patient data would be captured with HKCTT or recognised terminologies, which facilitates a seamless transmission of data to eHR without conducting any data conversion or mapping. This option allows HCP to enjoy the benefits of a fully interoperable eHR while bearing less effort than mapping their local terms to HKCTT or other recognised terminologies.

10.1.2 Mapping of local terms to HKCTT

Alternatively, HCP may also map her local terms to HKCTT and transmit patient data to eHealth as standard structured data (Level 3) if desired. HCP should be aware that mapping of local terms to HKCTT could be labour intensive and would require management and resources for the initial task and future maintenance. Accurate mapping is vital in ensuring correct patient health information is displayed such that proper patient treatment care can be provided. Mapping should always be done with caution as inaccurate mapping may introduce error or loss of meaning which may cause serious consequences. While the eHRISO could provide professional advice on mapping related issues, individual HCP has to be responsible for the mapping and the quality of the mapped data (please refer to Appendix H – Disclaimer for mapping advice).

10.2 PURPOSE OF MAPPING LOCAL TERMS TO HKCTT

The purposes of mapping local terms to HKCTT are to support health information exchange, facilitate interoperability of systems and maintain consistent and understandable recording of clinical events accessible in eHR. For some cases, mapping may be required to convert legacy data to structured data in order to facilitate compliance for data transmission.

10.3 DEFINITION OF MAPPING

Mapping is defined as 'the process of associating concepts or terms from one coding system or terminology to concepts or terms in another coding system or terminology and defining their equivalent in accordance with a documented rationale and a given purpose.'[(2)] In simpler words, mapping is linking content from one terminology or classification scheme to another [(3)]. Data maps also enable the comparison of data collected via different systems and minimise risk of costs and errors.

10.4 GENERAL PROCESS OF MAPPING

10.4.1 Identify the source and target map

It is important to clearly define the source and target map and to be familiarise with the content structure of both coding systems / terminologies.
For examples:
In ICD10, some codes have Inclusion / Exclusion notes following the main terms and that information is crucial in deriving the most appropriate mapping.

	Local Term	ICD10
1	Carbuncle in auricle	H60.0 Abscess of external ear
2	Napkin dermatitis	L22 Diaper dermatitis

In example 1 above, the local term should be mapped to H chapter (Disease of ear and mastoid process) rather than L chapter (Disease of skin).
In example 2, the local term should be mapped to L chapter (Disease of skin) rather than P chapter (Certain conditions originating in the perinatal period)

In SNOMED CT, the identifier and descriptions of a concept form only a part of its content, where the complete meaning of the concept could only be obtained by

referencing the concept definition (i.e. defining relationships) and hierarchy, for example.

	Local Term	SNOMED CT	
		Description	Hierarchy
1	Acute leukaemia	Acute leukaemia	Disorder
		Acute leukaemia	Morphologic abnormality
2	Penicillins	Broad spectrum penicillins	Substance
		Broad spectrum penicillins	Product

In example 1, if the local term refers to a disease, it should be mapped under Disorder. If the local term refers to a morphology, then it should be mapped under Morphologic abnormality.

In example 2, if the local term refers to a medication, it should be mapped under Product. If the local term refers to an allergen, then it should be mapped under Substance.

10.4.2 Delegate member to monitor and manage the mapping project

An individual or department is recommended to be solely responsible for implementing, maintaining and updating of mapping. The assigned individuals should have relevant clinical background with medical knowledge and should be familiar with various reference terminologies and attentiveness of detail to conduct mapping work.

Training should be provided for all responsible members for the creation and maintenance of mappings. Use of tools, such as spread sheets, databases, mapping tools and user guides, may help to ensure accuracy and consistency of mappings.

10.4.3 Develop and document mapping principles

A set of mapping principles should be developed to ensure consistency among the mappings. Inevitably, as mapping progresses, the established set of mapping principles may also change accordingly. Mapping process that is well documented would help to produce understandable, reproducible and useful maps. The key principle to conduct mapping should be in ‘what you see, what you get’ manner, in which no assumption should be made beyond what is given.

Local description (Source)	HKCTT description (Target)	Remarks
Open wound of ear drum	Open wound of ear drum	Correct mapping – Equivalent meaning between source map and target map
Open wound of ear drum	Open wound of ear drum, complicated	Incorrect mapping – More meaning introduced in target map

10.4.4 Starts with the popular one

As there could be a lot of terms in the local table, the HCP may consider performing mapping by phases and start mapping those most commonly used terms first.

10.4.5 Use a mapping tool

A mapping tool will help to refine the target terms and improve the efficiency of the mapping work. It is recommended to make use of some computer tools to assist in the mapping process. Where required, the HCP may contact the eHRISO for advice. Nevertheless, all mappings (even it is done by a mapping tool) should be reviewed and confirmed by a domain expert of the clinical subject area to ensure the mapping accuracy.

10.4.6 Develop quality assurance check for mapping verification

Mapping is recommended to be validated internally by more than 1 person who has relevant clinical background and certain extent of knowledge on various clinical terminologies. It is also preferable to have the review conducted by an objective third party that has no financial or political interest with the project subsequently. HCP should develop a mechanism in ensuring the quality of the map. Depending on the use of the map, all mappings may be reviewed by different reviewers or domain experts.

HCP is recommended to verify the finalised mapping in the local system before putting it in use. HCP can upload the mapping table to the local system which will send the mapped patient data to the eHealth, and then download the data from the local system for comparing the downloaded mapped data from the local system

with the original mapping file to identify any discrepancy. This is to ensure system pitfall, which might impact on the mapping integrity, if any, could be detected before implementation.

While technological advances may aid in the automated process of creation and verification of data mapping, skilled professionals are still required to be involved in the process to ensure accuracy and quality.

10.4.7 Maintain an up-to-date source and target map set

Mappings should be updated when the source and/or target map sets are updated. HKCTT is scheduled for regular monthly update release. Additional releases may also be performed at any time and may occur more than once a month if necessary. It is crucial to keep to date with the most current versions to maintain data integrity.

10.4.8 Communicate with eHRISO

HCPs are encouraged to communicate with eHRISO on any mapping issues that require attention or to seek additional documentation for clarification. Advice might be given by eHRISO on the mapping initially performed by HCP. A disclaimer will be attached to the mapping file with advice from eHRISO, please refer to Appendix H. It is also recommended for HCP to attend relevant terminology related training to learn more about mapping and to exchange ideas with other parties.

10.5 MAPPING OF TERMINOLOGIES FOR DIAGNOSIS AND PROCEDURE

The following section outlines some general mapping principles and steps for mapping of local terms in diagnosis and procedure nature to HKCTT. HCPs are also encouraged to develop their own set of mapping guidelines base on their use case and structure of the local data schema.

10.5.1 General mapping principles

i. To fully comprehend the meaning of the local term prior to mapping to HKCTT. For example, the anatomical and physiological aspects of the diagnostic term should be clearly understood. Likewise, the approach and devices that are involved for the procedural term should be grasped fully.

ii. To conduct mapping in a manner where no further inference beyond the given patient data should be made. For example, one cannot make inference that ‘This patient has myocardial infarction’ would be equivalent to ‘This patient has angina’ as this is purely base on presentation of the patient and is beyond the context of the concept in itself.

iii. To map local terms to HKCTT from appropriate nature. In this case, local terms for diagnosis should be mapped to HKCTT in diagnosis nature while local terms for procedure should be mapped to HKCTT in procedure nature.

iv. To maintain one-to-one mapping where one local term would be mapped to one HKCTT term only. Upon circumstances where local term cannot be mapped to any of the existing HKCTT terms, HCP are encouraged to submit request for addition to eHRISO.

v. To ensure that the semantic meaning of the mapped HKCTT term is equivalent to the local term.

10.5.2 Mapping examples

i. Single mapping (one to one) between local term and HKCTT with equivalent meaning. For example, the local concept 'Non-insulin dependent diabetes mellitus' is clinically equivalent to the HKCTT concept 'Type II diabetes mellitus.'

Local code	Local description	HKCTT TermID	HKCTT Description
12346	Non-insulin dependent diabetes mellitus	3985	Type II diabetes mellitus

ii. Single mapping (one to one) between local term and HKCTT with related concepts. For example, the local concept 'other hemoglobinopathies' has no specification indicated. Thus, the HKCTT concept 'Haemoglobinopathy' would be adequate as an approximate mapping of this local term.

Local code	Local description	HKCTT TermID	HKCTT Description
12347	Other hemoglobinopathies	4512	Haemoglobinopathy

10.6 MAPPING OF LABORATORY TERMINOLOGIES

The laboratory terminologies are grouped under three HKCTT natures and one subset:

HKCTT nature	*Laboratory test*
	Organism
	Specimen
HKCTT subset	Terminology for Anatomical Pathology

The general principles of mapping the local terms to HKCTT terms in laboratory domain are listed below:

10.6.1 General mapping principles

i. To assign at least one laboratory professional to perform and manage the mapping list.
   - Mapping laboratory data to recognised terminologies (e.g. LOINC for laboratory tests) requires one possesses laboratory domain knowledge. For example, any changes in specimen, test method or reporting unit in laboratory test would lead to a new mapping. It is essential to update the laboratory data and mapping list periodically.

ii. To develop quality assurance plan.
   - It is preferable to have another laboratory professional to review the mapping to ensure the quality of mapping.
   - Use computer tools to help with the validation.

iii. To provide training for laboratory staff
   - It is recommended to equip laboratory staffs for mapping creation and maintenance. Laboratory data standardisation is a contiguous project. It requires skilled laboratory professionals to maintain and review mapping list periodically. An updated mapping list would ensure accurate data transmission, which provides an interoperable health information sharing in eHR.

10.6.2 Mapping steps

i. To identify the laboratory data that require mapping.
   - Local laboratory test codes that are for reporting laboratory test results require mapping. For example, test code for blood glucose test result should be mapped to LOINC concept.
   - Operational laboratory test codes that are for supporting internal workflow do not need mapping. For example, mapping is not required for test codes that are served as test result audit indicators. Those operational test codes do not need to be interoperable with other HCP's internally operational data for clinical care and treatment.
   - The pathological diagnosis is the key component of each anatomical pathological report. Local pathological diagnosis terms should be mapped to the HKCTT terms defined in subset "Terminology for Anatomical Pathology"

ii. To understand the definition of the HKCTT term:
   - For details on the principles of defining laboratory test, organism and specimen, please refer to Section 2 to 4 in 'Editorial Guide on Hong Kong Clinical Terminology Table – Laboratory.'

10.6.3 Example of Laboratory Test Mapping

Each LOINC concept contains six attributes -- test analyte, property, time aspect, specimen, scale of measurement and method. For example, a test using serum as specimen to detect the presence of DNA double strand antibody by immunofluorescence method is clinically equivalent to LOINC concept "DNA double strand Ab [Presence] in Serum by Immunofluorescence."

Local code	Local description	LOINC Code	LOINC Long Common Name
DNA	Anti-ds DNA	5131-8	DNA double strand Ab [Presence] in Serum by Immunofluorescence

10.6.4 Example of Organism Mapping

Each local organism description should match the HKCTT description or its defined aliases. For example, local organism code reporting "Pseudomonas maltophilia" is the alias of HKCTT organism term "Stenotrophomonas maltophilia".

Local code	Local description	HKCTT TermID	HKCTT Description	HKCTT Alias
PSEUMALT	Pseudomonas maltophilia	5001090	Stenotrophomonas maltophilia	Pseudomonas beteli Pseudomonas betle Pseudomonas maltophilia Xanthomonas maltophilia

10.6.5 Example of Specimen Mapping

Each local specimen should conceptually match to the HKCTT term. For example, local specimen "Bronchoscopic aspirate" is clinically equivalent to HKCTT specimen term "Bronchial aspirate".

Local code	Local description	HKCTT TermID	HKCTT Description	HKCTT Alias
Bron Asp	Bronchoscopic Aspirate	5700051	Bronchial aspirate	Bronchial fluid sample

10.6.6 Example of Pathological Diagnosis Mapping

Each local pathological diagnosis is composed of a body site and a diagnosis finding. For example, local term "Lung Carcinoma" should be mapped to HKCTT terms "Lung structure" and "Carcinoma".

Local code	Local description	HKCTT TermID	HKCTT Description	HKCTT Alias
T-2800-01-002	LUNG	8003044	Lung structure	Lung
M-80103-04-001	Carcinoma	8002572	Carcinoma	Ca Cancer Epithelial tumor, malignant Epithelial tumour, malignant Malignant epithelial tumor Malignant epithelial tumour

10.7 MAPPING OF MEDICATION TERMINOLOGIES

10.7.1 There is a nature of medication terminology in the HKCTT, which contains concepts on pharmaceutical products (also known as the Hong Kong Medication Terminology Table (MTT)). The MTT provides concepts at different levels of granularity in concept attributes in a hierarchical structure. This structure of MTT includes the following concept types:

- Virtual Therapeutic Moiety (VTM)
- Routed Virtual Therapeutic Moiety (VTM+R)
- Virtual Therapeutic Moiety Routed Dose Form (VTM+R+F)
- Virtual Medicinal Product (VMP)
- Trade Name (TN)
- Routed Trade Name (TN+R)
- Trade Name Routed Dose Form (TN+R+F)
- Actual Medicinal Product (AMP)

In addition, the MTT concepts are supported by the HKCTT Qualifier and Substance tables. For details, please refer to the ‘Editorial Guide on Hong Kong Clinical Terminology Table – Drug’.

10.7.2 Since mapping involves data manipulation and an increased risk of data loss / mapping error, the native use of HKCTT terms and codes is highly recommended to healthcare providers in order to ensure data compliance and to enjoy full interoperability.

10.7.3 Mapping local drug information to the MTT may be done at one or more of the levels depending on the data need and purposes. When deciding the level at which to map, consider the level at which the data in the local information system is set and the purpose of the local mapping. In general, medication terminologies are used for clinical activities such as prescribing and dispensing. They are also used in the documentation of history of allergy or adverse drug reactions. MTT also provides vaccine names to support documentation of immunisation records.

10.7.4 HKMTT is developed with reference to the List of Registered Pharmaceutical Products (RPP) from the Drug Office, Department of Health, HKSAR Government, and that each of the actual medicinal concept is assigned with a single HK Registration Number in the RPP. The eHRISO maintains a mapping between the RPP and the HKMTT. Mapping by healthcare providers is only recommended when the HK Registration Numbers of products are maintained as part of local drug database via which the mapping could be facilitated using the HK Registration Numbers as a common key for local drug mapping. In addition, the eHealth recognises HK Registration Numbers and the product names as recognised terminologies.

10.7.5 If neither native adoption of MTT, nor HK Registration Number is applicable at local drug database, mapping to MTT is not recommended in view of the risk of inadvertent mapping error. It is recommended that local drug record be shared in eHR compliance level 2. Healthcare provider should consider adopting the HKCTT or RPP into local drug information system in order to enhance interoperability in the future.

10.7.6 Examples of Medication Terminology Mapping:

Prescribing and Dispensing: Use HK Registration Number as a common key to identify the matching HKCTT drug record. If the local system used generic information for prescribing and dispensing, then the most suitable target concepts for mapping would be the Virtual Therapeutic Moiety Routed Dose Form (VTM+R+F) and Virtual Medicinal Product (VMP). For example:

Local drug information

HKCTT- Drug

HK Reg. No.	Local code	Local description	HK Reg. No.	HKCTT TermID	HKCTT Description
62663	DOCE01	DOCETAXEL INJECTION 20MG/0.5ML	62663	6013231	docetaxel intravenous concentrate and solvent for solution for infusion 20 mg / 0.5 mL
46231	RITU02	RITUXIMAB INJECTION 10MG/ML 50ML	46231	6016415	rituximab intravenous concentrate for solution for infusion 500 mg / 50 mL

Use HK Registration Number as common key to facilitate mapping

Allergens or Causative Agents of Adverse Drug Reaction: Use HK Registration Number as a common key to identify the matching HKCTT drug record. If the purpose of the mapping is for representation of drug names for allergy and adverse drug reaction documentation, then the Virtual Therapeutic Moiety (VTM) and Trade Name (TN) are suitable candidates for mapping. For example:

Local allergen information | HKCTT - Drug

HK Reg no.	Local code	Local description	HK Reg no.	HKCTT TermID	HKCTT Description
36031	DICL	DICLOFENAC SODIUM	**36031**	6000036	diclofenac sodium
42943	CEPH	CEPHALEXIN	**42943**	6005340	cefalexin
27421	AUGM	AUGMENTIN	**27421**	6007548	amoxicillin (as sodium) + clavulanate (as potassium)

Use HK Registration Number as common key to facilitate mapping

The following table lists out the suggested use of each concept levels, and the likely target for local terminologies mapping:

MTT concept	Prescribing	Dispensing	Administration	Alert (Allergy/ ADR)	Immunisation
Virtual Therapeutic Moiety (VTM)				√	√
Routed Virtual Therapeutic Moiety (VTM+R)				√	√
Virtual Therapeutic Moiety Routed Dose Form (VTM+R+F)	√				
Virtual Medicinal Product (VMP)	√	√	√		√
Trade Name (TN)				√	√
Routed Trade Name (TN+R)				√	√
Trade Name Routed Dose Form (TN+R+F)	√				
Actual Medicinal Product (AMP)	√	√	√		√

It is essential for HCPs and developers to review and understand how MTT concepts are coded and their equivalencies to local terminologies in order to assist in choosing the correct MTT concept levels for local mapping. For more information about MTT, please refer to the Editorial Guide on Hong Kong Clinical Terminology Table – Drug.

10.8 MAPPING OF CHINESE MEDICINE CLINICAL TERMINOLOGIES

The following section outlines some general mapping principles and steps for mapping of local terms in Chinese medicine (CM) problem, procedure and body structure nature to HKCTT. HCPs are also encouraged to develop their own set of mapping guidelines base on their use case and structure of the local data schema.

10.8.1 General mapping principles

i. To map local terms to HKCTT from appropriate nature. For example, local terms for CM problem should be mapped to HKCTT in CM problem nature while local terms for CM pattern should be mapped to HKCTT in CM pattern nature.

ii. To maintain one-to-one mapping. One local term should be mapped to one HKCTT term only.

iii. To ensure the semantic meaning of the mapped HKCTT term is equivalent to the local term. Each CM clinical term in HKCTT contains a definition and HCPs should make use of the definition for mapping.

iv. Upon circumstances where local term cannot be mapped to any of the existing HKCTT terms, HCPs are encouraged to submit request for addition to eHRISO.

10.8.2 Mapping examples

i. Single mapping (one to one) between local term and HKCTT with equivalent meaning. For example, the local concept '月經量少' is clinically equivalent to the HKCTT concept '月經過少'.

Local code	Local description	HKCTT TermID	HKCTT Description
12233	月經量少	9700172	月經過少

ii. Single mapping (one to one) between local term and HKCTT with equivalent meaning but in different Chinese characters. For example, the local concept '肺痈' is clinically equivalent to the HKCTT concept '肺癰'.

Local code	Local description	HKCTT TermID	HKCTT Description
12244	肺痈	9700011	肺癰

iii. Single mapping (one to one) between local term and the defined alias in HKCTT with equivalent meaning. For example, the local concept '絕骨' of the body structure is the defined alias of the HKCTT concept '懸鍾'.

Local code	Local description	HKCTT TermID	HKCTT Description
BS120	絕骨	9740457	懸鍾

10.9 MAPPING OF CHINESE MEDICINES TERMINOLOGIES

10.9.1 There is a nature of Chinese Medicines Medicinal Product (CM-MP) terminology in the HKCTT, which contains concepts on Chinese medicines products (also known as the Hong Kong Chinese Medicines Terminology Table (CMTT). CM-MP in the CMTT includes Decoction Pieces (DP), Chinese Medicines Granules (for dispensing) (DG) and Proprietary Chinese Medicine (pCm). Only DP and DG provides concepts at different levels of granularity in concept attributes in a hierarchical structure. This structure of CMTT includes the following concept types:

- Chinese Materia Medica (CMM, 原藥材)
- Chinese Materia Medica Processed Product (CMM-PP, 原藥材炮製品)
- Chinese Medicines Medicinal Product (CM-MP, 中藥藥用產品)
  - Decoction Pieces (DP, 飲片)
  - Chinese Medicines Granules (for dispensing) (DG, 配方顆粒)
  - Proprietary Chinese Medicine (pCm, 中成藥)*

**Concepts that are registered in DH (wit registration number)*

In addition, some CMTT concepts are supported by the CMTT Qualifier table. For details, please refer to the 'Editorial Guide on Hong Kong Clinical Terminology Table – Chinese Medicines'.

10.9.2 Since mapping involves data manipulation and an increased risk of data loss / mapping error, the native use of CMTT terms and codes is highly recommended to healthcare providers in order to ensure data compliance and to enjoy full interoperability.

10.9.3 Mapping local Chinese medicines product information to the CMTT may be done at the level of CM-MP. In general, CM-MP terminologies (e.g. 黃芪 – 飲片, 山藥 – 配方顆粒) are used for clinical activities such as prescribing and dispensing.

10.9.4 For DP and DG in which the names are standardized according to the rules and references in editorial guide, each of the actual concept is assigned with a unique term ID and name. The eHRISO maintains a concept for the CM-MP (DP and DG). Mapping by healthcare providers is recommended when the names of products are maintained as part of local drug database via which the mapping could be facilitated using the names as a common key for local drug mapping. If the local name is different from the standardized name in CMTT, healthcare provider are advised to find out the standardized name with equivalent meaning according to the rules and references in editorial guide to confirm the mapping. If the healthcare provider

could not find the mapping, it is recommended that the local CMs record be shared in eHR compliance level 2.

10.9.5 For pCm, it is developed with reference to Chinese medicines products registered under the Chinese Medicines Board of the Chinese Medicine Council of Hong Kong, each of the actual concept is assigned with a single pCm Registration Number in the pCm. The eHRISO maintains a mapping between the pCm and the CMTT. Mapping by healthcare providers is only recommended when the pCm Registration Numbers of products are maintained as part of local drug database via which the mapping could be facilitated using the HK Registration Numbers as a common key for local drug mapping. In addition, the eHealth recognises pCm Registration Numbers and the product names as recognised terminologies.

10.9.6 If neither native adoption of CMTT, nor pCm Registration Number is applicable at local drug database, caution should be exercised during manual mapping of local drug code with CMTT to ensure mapping accuracy. It is also recommended that local drug record could be shared in eHR compliance level 2. Healthcare provider should consider adopting the CMTT or pCm into local drug information system in order to enhance interoperability in the future.

10.9.7 Examples of Chinese Medicines Terminology Mapping:

Prescribing and Dispensing: Use description, order type or pCm registration number as common key to facilitate the mapping of CM-MP. The standardized description could be found out according to the rules and references in editorial guide. For example:

Local drug information | HKCTT- – Chinese Medicines

pCm Reg. No.	Local code	Local description	Order type	pCm Reg. No.	HKCTT TermID	HKCTT Description	Order type
Nil	0SYA01	黃芪	中草藥	Nil	9810330	黃芪 – 飲片	飲片

For DP or DG, use descriptions and order types with equivalent meaning as common key to facilitate mapping. The standardized description could be found out according to the rules and references in editorial guide.

Local drug information | HKCTT- – Chinese Medicines

pCm Reg. No.	Local code	Local description	Order type	pCm Reg. No.	HKCTT TermID	HKCTT Description	Order type
HKC-123456	8LWD01	六味地黃丸	中成藥	HKC-123456	9815547	六味地黃丸 - 【杏林牌】丸劑	中成藥

For pCm, use pCm registration number as common key to facilitate mapping. The standardized description could be found out according to the rules and references in editorial guide

Single mapping (one to one) between local term and HKCTT with equivalent meaning but in different Chinese characters. For example, the local concept '淮山' is equivalent to the HKCTT concept '山藥'.

Local drug information

HKCTT- – Chinese Medicines

pCm Reg. No.	Local code	Local description	Order type	pCm Reg. No.	HKCTT TermID	HKCTT Description	Order type
Nil	0HSH01	淮山	配方顆粒	Nil	9811885	山藥 – 配方顆粒	配方顆粒

Use description with equivalent meaning or order type as common key to facilitate mapping. The standardized description could be found out according to the rules and references in editorial guide

11 IMPACT TO HEALTHCARE PROVIDER

For HCP who does not have any clinical information system and wishes to introduce technology to support clinical documentation, whether one will adopt the CMS On-ramp / Adaptation, or adopt a proprietary system, it is recommended that the HCP to adopt the HKCTT directly. This facilitates the HCP enjoys the benefits of standardisation, e.g. to be interoperable with the other HCPs and able to reuse the shared data, reduce implementation cost. For details, please refer back to 'Section 4 Adoption of HKCTT.'

For HCP who already has a clinical information system and wishes to directly adopt the HKCTT, it is recommended that the HCP to discuss with eHRISO and the information technology colleagues on the implementation.

If the HCP is already capturing related data, e.g. diagnosis / procedure in the current system, then consideration should be made on whether migration of the existing patient data would be required. Data migration will maintain the continuity and facilitate in reviewing/retrieving the patient data. However, it must be well planned and resources must be assigned to support both business (such as workflow changes, preparation of mapping table) and technical (such as, system enhancement) migration. Strategy should be developed if data cannot be migrated fully. If mapping of local terminology to the HKCTT is required, then the HCP should ensure the quality of the mapped data. For details, please refer back to 'Section 9 Guideline for mapping.'

Appendix A – Terms of use for the Hong Kong Clinical Terminology Table (HKCTT)

1. HKCTT is a standardised clinical terminology table which is developed with a view to supporting the share and access of information with the Electronic Health System ("eHealth") in the Hong Kong SAR.

2. HKCTT is a proprietary work. Besides works belonging to the Government and/or the Hospital Authority ("HA")("we" or "us"), HKCTT may also be mapped to and/or contain certain third party standards, classifications and terminologies ("Third Party Terminologies") as described in the list below.

3. The list of Third Party Terminologies and the related notices or terms as may be applicable may change from time to time. Such changes will be posted on the website www.ehealth.gov.hk and/or included in a file contained within the relevant version of HKCTT, or made available in any other way as we may consider appropriate. You should check out for any such changes each time before you use HKCTT, and your continued use of HKCTT will mean you have consented to such changes.

4. Your use of Third Party Terminologies must comply with any applicable terms as may be imposed by such third parties such as subscribing or joining as their affiliates or members.

5. To the extent that HKCTT is embedded within or provided together with any computer programs or modules that are licensed to you by us, your use of HKCTT is subject to the terms applicable to such licenses in addition to these terms.

6. Unless you have obtained the prior written consent from us, you must use HKCTT only for your internal or personal purposes for the collection, compilation, analysis, research, mapping and/or reporting of clinical terminology data within the Hong Kong SAR, in relation to healthcare services (e.g. supporting clinical documentation, preparation for data for sharing with eHealth, supporting interoperability of eHealth), healthcare administration (e.g. data reporting, healthcare planning and evaluation, reimbursement) or healthcare development (e.g. teaching and research).

7. You must not, nor permit or procure any third party to, deal with any intellectual property in respect of HKCTT (including the names "Hong Kong Clinical Terminology Table" and "HKCTT") in any form or manner, such as to reproduce, sell, distribute, make available, communicate, sub-license, adapt, modify, alter, reverse-engineer, create derivative work in relation to HKCTT or any part of it.

8. We do not warrant that HKCTT or any part of it:

    (i) is up-to-date, error-free, accurate or complete or will achieve any results intended by you;

    (ii) will be compatible with your IT systems, hardware and/or software;

    (iii) will always be available or operate without interruption, error or virus infection.

9. You acknowledge and agree that any liability to you and/or your patients, partners, staff, agents or sub-contractors for any loss or damage suffered in relation to the use of HKCTT (other than death or personal injury resulting from negligence) is disclaimed by us to the fullest extent permissible by law. All conditions, warranties or other terms which might be implied by law, are excluded to the fullest extent permissible, including but not limited to, any implied warranties as to title, quality, fitness for purpose or the use of reasonable skill and care in respect of the design, creation, compilation or revision of HKCTT.

10. Any reference made to HKCTT shall, unless specified, include all its versions, updates and fixes (if any) that may be provided or made available to you from time to time. To enhance consistency with the standardised clinical terminologies, we encourage you to adopt the latest versions, updates and fixes of HKCTT available. Without prejudice to Clause 9, as from the date a new version, update or fix is provided or made available, whether or not you install or incorporate the same, we shall not be liable for any loss or damage howsoever caused from the continual use of any previous version or any version without our update or fix.

11. (a) Either party may terminate the use of HKCTT by giving to the other 30 days' prior written notice.

    (b) We may terminate your use of HKCTT immediately on written notice to you if:

        (i) you are in breach of any of these terms (or any terms applicable to Third Party Terminologies or the computer programs or modules that are licensed to you by us) and fail to remedy the breach (if capable of remedy) within 14 days of the date of written notice from us informing you of the breach; or

(ii) you transfer your business or enter into partnership with others, or you suspend or cease, or threaten to cease, to carry on your business.

(c) When the use of HKCTT terminates:

(i) you must cease using HKCTT; and

(ii) you must follow the unwind procedures as instructed by us including removing all soft copies of HKCTT from your IT systems.

List of Third Party Terminologies

Please refer to the updated list on eHealth Web site -
http://www.ehealth.gov.hk/en/information_standards/ehr_information_standards_document/list_of_third_party_terminologies.html

APPENDIX B – THE LICENSING ARRANGEMENT OF HKCTT – FOR DIFFERENT MODES OF ADOPTION

Adoption mode of HKCTT	**HKCTT (CMS Extension)**			**HKCTT (ELSA)**	**HKCTT (CORE)**	**HKCTT (Testing version)**
Type of Use	HCP using CMS Adaptation	• HCP using CMS On-ramp	• HCP using CMIS On-ramp •	HCP/vendor who is using her own clinical software but wish to use the HKCTT via own system	HCPs require access HKCTT Content only	Vendors who wish to develop a clinical software or system which contains HKCTT content
Licences required	CMS Adaptation licence	• CMS On-ramp licence	• CMIS On-ramp licence	ELSA and HKCTT licence	ELSA and HKCTT licence	Agreement with Information Technology (IT) Service Provider to Establish eHealth Record Sharing System (eHealth) Connectivity and Incorporate the Hong Kong Clinical Terminology Table (HKCTT)
Items included	• HKCTT content • Searching Service • Search Panel	• HKCTT content • Searching Service • Search Panel	• HKCTT content • Searching Service • Search Panel	• HKCTT content • Searching Service for diagnosis and procedure only	• HKCTT content	• HKCTT (Testing Version) • Searching Service

APPENDIX C – HKCTT SUBSCRIBER REGISTRATION FORM

To: eHR ISO Terminology Coordinator Fax Number: 3919-2296

Hong Kong Clinical Terminology Table (HKCTT)
Subscriber Registration Form
(for non-eHR users)

1. Personal particulars

Title	Surname in English	Given names in English

Job Title / Position	Name of Institution	Contact Number

Correspondence Address	Email Address

2. Roles & responsibilities

The Contact Person has the following roles and responsibilities:-

1. To act as the liaison between the Institution and eHR ISO on HKCTT related matters;
2. To distribute materials/updates received from eHR ISO within HCP; and
3. To submit HKCTT requests/recommendations to eHR ISO via email address enquiry@ehealth.gov.hk .

Signature		**Date**	

For Official Use Only	
This registration application is	☐ Approved ☐ Not approved, reason: _____
Name of Handling staff	
Signature of Handling staff	
Date	

(01/2016)

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APPENDIX D – TIPS ON USING HKCTT

A. Tips on using HKCTT for all users

This section provides guidelines and suggestions in performing searches of HKCTT terms with keywords. [Note: Applicability in local electronic medical record systems with HKCTT (Core) adopted subject to implementation setting of individual HCP]

1. To use the lead term of the search phrase for searching
   - i.e. 'Chronic appendicitis' → Search 'appendicitis' rather than 'chronic'
   - i.e. 'Excision of sebaceous cyst' → Search 'sebaceous cyst' rather than 'excision'
2. To use truncated words to expand scope of return set
   - i.e. Search 'angio' rather than 'angiography'
   - i.e. Search 'bac sprain' rather than 'back sprain injury'
3. To pause while typing to allow search function to retrieve HKCTT content simultaneously (This may minimise typing of the whole search term before finding a match)
4. To avoid using uncommon abbreviations or terms
   - i.e. p.e.c, PE FU, jpm
5. To exclude the following words when searching:
   - Prepositions (i.e. in, of, per, with)
   - Adjectives (i.e. acute/chronic, mild/moderate/severe, wide, simple, open/close)
   - Symbols (i.e. /,&, [ ])
   - Vague terms (i.e. Nos, nec, specified and unspecified)
   - Laterality (i.e. left, right, bilateral)

6. To search with synonyms when the desired term is not found
   - i.e. ‘Ear syringing’ could also be known as ‘Irrigation of ear’

HCPs are encouraged to submit requests for addition of new concepts or alias when existing HKCTT does not have the desired concept for use. For details, please refer to Section 8 Request Submission to eHRISO of this guide.

B. Tips on adopting HKCTT in local electronic medical record system for HCP

HKCTT contains various natures to support different needs of HCPs who then can select the appropriate natures to be used in local system. This section provides you some tips on adopting HKCTT.

a. Alias
   i. Each HKCTT concept might contain 1 or more alias which is an alternate description to facilitate searching of a specific term (refer to Section 3.2.5 in Editorial Guide of Hong Kong Clinical Terminology Table – Overview).
   ii. This can be abbreviation, acronym, synonym and different naming due to lexical variations.
   iii. HCPs are strongly advised to include the alias file for adoption to assist searching of required concept in HKCTT.

b. Subset
   i. HKCTT contains all concepts that is applicable to all specialties. To facilitate adoption of a targeted group of concepts, Subsets, i.e. shortlists of concepts can be extracted from all HKCTT concepts.
   ii. HCPs can create subsets of HKCTT concepts that are frequently used or fitted for a particular purpose. For example, an HCP of solo practice might only select portion with mapping to ICPC2 for adoption. Another example is an HCP specializing in psychiatry might select only the portion related to mental and behavioural disorders for adoption.

c. Search function
    i. HCPs can consider to include algorithm such as “Did you mean” in the search function of the local system. Such algorithm helps to provide search options, broadening search field or different spelling options and in case there are typing mistakes.
    ii. Sequencing of returned results is another area that might affect users locating the required concept. Ways of sequencing, for reference, can be
        1. in alphabetical order of full description
        2. with exact match as the typed words in the search function first and then followed by partial match in alphabetical order of full description
        3. displayed by code order of the selected recognised terminology, if applicable, for example, ICPC2 codes, etc.

APPENDIX E – RECOGNISED TERMINOLOGY SUBSCRIPTION UPDATE WORK FLOW

(SNOMED CT as example)

APPENDIX F – REQUESTING UPDATES TO HKCTT

As introduced in Section 8, request submission on HKCTT to eHRISO can be made via the HKCTT Request Submission in eHealth. Information required for different requests as listed would be provided in this appendix:-

i. New concept request for Diagnosis/Procedure
ii. New concept for Laboratory test
iii. New concept for Organism
iv. New concept for Specimen
v. Concept amendment request for Diagnosis/Procedure
vi. Concept amendment for Laboratory test
vii. Concept amendment for Organism
viii. Concept amendment for Specimen

i. Information required for request of new concept– Diagnosis/Procedure

Fields (*indicate mandatory)	**Definition**
Request Summary*	• A brief summary of the request to be submitted. This is designed to facilitate searching of the request once it has been submitted. Max. 255 characters • For example, "New concept for addition – SARS with atypical pneumonia"
Description*	• The description of the term to be submitted. • For example, "Severe acute respiratory syndrome with atypical pneumonia" • Uses of acronyms and abbreviations are not allowed.
Alias	• Any other descriptions/preferred names that would facilitate searching of the submitted term • For example, "SARS - atypical pneumonia"
Request details and reference information*	• Any free text information that provides more details on the term to facilitate processing of the request. In case of acronyms or abbreviations being used, full descriptions must be provided together to avoid ambiguity or misinterpretation. Some examples have been provided:
	Diagnosis ▪ Nature of condition (inflammation, infarct, neoplasm, injury, …) ▪ Body system or site (circulatory, respiratory, digestive, nervous, …) ▪ Cause (genetic, congenital, organism, drug, trauma, post – surgery, …) ▪ Onset & course (acute, chronic, intermittent, …)
	Procedure ▪ Nature of procedure (opening, destruction, removal, fixation, imaging, …) ▪ Route & Approach (open, close, percutaneous, …) ▪ Devices & materials (endoscope, catheter, stent, laser, graft, prosthesis, …)

ii. Information required for request of new concept— Laboratory test

Fields (*indicate mandatory)	Definition
Request Summary*	• A brief summary of the request to be submitted, including the purpose of the test, reason or background information to support the submission. Max. 255 characters. • For example, “HBV DNA quantitation test for drug monitoring”
Description*	• The description of the test term to be submitted. • Abbreviation should be provided within bracket together with fully-spelled description. • For example, Hepatitis B virus (HBV)
Alias	• Any other preferred names/keywords/abbreviations that would facilitate searching of the submitted term • For example, “Hepatitis B virus surface antigen”, “HepB surface Ag”, “Hepatitis virus serology”, “HBsAg”
Test Category*	• The kind of laboratory in which this test will be performed in. • For example, “Clinical pathology laboratory”, “Haematology laboratory”, “General laboratory”
Reported Result Example*	• An example of how the test result being shown in the report.
Reference Detail & Reference Information*	• The design/ methodology/procedure of the test, result interpretation or commercial kit information if any.
Component*	• Name of the substance measured. • For example, “Glucose”, “HBV antibody”, “HBV DNA”
Property	• The characteristic or attribute of the analyte that is measured, evaluated or observed. • For example,” mass concentration”, “enzyme activity”, “mass ratio”, “time”, “substance rate”, “titre”
Time Aspect	• A measurement may be taken at a moment in time or measured over a specified time interval • For example: “spot”, “30 minutes”, “24 hour”
Specimen*	• Type of specimen being tested • For example, “serum” for clotted blood, “plasma” for EDTA blood, “body fluid”
Scale	• Scale of measurement used for the test result. • For example, “quantitative”, “qualitative”, “text description”, “ranking (1+…3+, negative…. strong positive)”
Method	• Test method for producing result • For example, “ELISA”, “staining method”,” latex”, “immunofluorescence", “PCR”, “electrophoresis”, “chromatography”

iii. Information required for request of new concept— Organism

Fields (*indicate mandatory)	Definition
Request Summary*	• A brief summary of the request to be submitted. The reason or background information to support the submission. Max. 255 characters
Description*	• The description of the organism term to be submitted. Use of acronyms and abbreviations are not allowed.
Alias	• Any other preferred names/descriptions that would facilitate searching of the submitted term • For example, “Streptococcus, group D”, “ Streptococcus Lancefield group D”, “ group D streptococcus”
Request Details & Reference Information*	• Description of organism (structure, growth condition, biochemical activity.…) • Description of its genus (taxonomy…)

iv. Information required for request of new concept– – Specimen

Fields (*indicate mandatory)	Definition
Request Summary*	• A brief summary of the request to be submitted. The background information to support the submission. Max. 255 characters
Description*	• The description of the term to be submitted. Use of acronyms and abbreviations are not allowed
Alias	• Any other names/keywords/abbreviations that would facilitate searching of the submitted term • For example, “skeletal muscle specimen”, “specimen from striated muscle”
Request Details & Reference Information*	• Any free text information that provides more details on the term to facilitate processing of the request. ▪ Specimen source (body structure, morphologically abnormal structure…) ▪ Laterality (left, right) ▪ Specimen type (biopsy, swab, fluid.…) ▪ Sampling procedure (taking from surgical site.…) ▪ Device & material (catheter, stent…)

v. Information required for request of concept amendment– Diagnosis/Procedure

Fields (*indicate mandatory)	Definition
Request Summary*	• A brief summary of the request to be submitted. This is designed to facilitate searching of the request once it has been submitted. Max. 255 characters • For example, "Amend concept description – Screening for SARS"
Request details and reference information*	• Any free text information that provides more details on the concept amendment request to facilitate processing. In case of acronyms or abbreviations being used, full descriptions must be provided together to avoid ambiguity or misinterpretation.

vi. Information required for request of concept amendment – Laboratory test

Fields (*indicate mandatory)	Definition
Request Summary*	• A brief summary of the request to be submitted. This is designed to facilitate searching of the request once it has been submitted. Max. 255 characters • For example, "Amend LOINC concept mapping: HBV DNA viral load test", "Add alias: HBV DNA viral load test"
Reference Detail & Reference Information*	• Free text information to support and describe the amendment. The information provided can facilitate the request review processing.
LOINC	• LOINC concept search function for amendment related to LOINC concept mapping. It is designed to facilitate requestor to provide concept information to eHRISO for reference.

vii. Information required for request of concept amendment – Organism

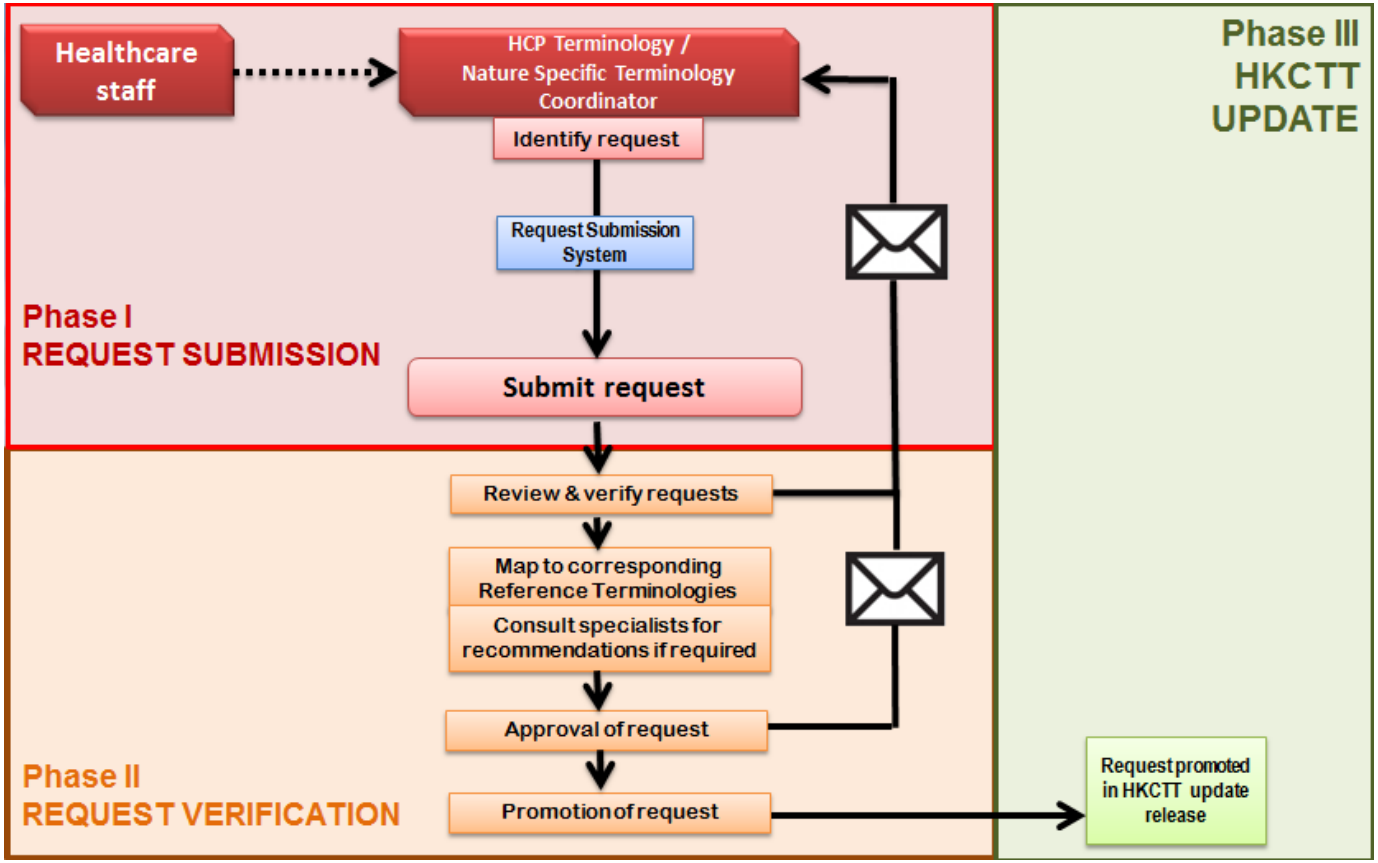
Fields (*indicate mandatory)	Definition
Request Summary*	• A brief summary of the request to be submitted. This is designed to facilitate searching of the request once it has been submitted. Max. 255 characters • For example, “Add alias: Pseudomonas putida”
Request Details & Reference Information*	• Free text information to support and describe the amendment. The information provided can facilitate the request review processing. • For example, “Add alias: Arthrobacter siderocapsulatus ”
SNOMED CT	• SNOMED CT concept search function for amendment related to SNOMED CT concept mapping. It is designed to facilitate requestor to provide concept information to eHRISO for reference.

viii. Information required for request of concept amendment - Specimen

Fields (*indicate mandatory)	Definition
Request Summary*	• A brief summary of the request to be submitted. This is designed to facilitate searching of the request once it has been submitted. Max. 255 characters • For example, “Add alias: Peritoneal dialysate sample”
Request Details & Reference Information*	• Free text information to support and describe the amendment. The information provided can facilitate the request review processing. • For example, “Add alias - returned peritoneal lavage fluid”
SNOMED CT	• SNOMED CT concept search function for amendment related to SNOMED CT concept mapping. It is designed to facilitate requestor to provide concept information to eHRISO for reference.

APPENDIX G – REQUEST SUBMISSION WORKFLOW

As introduced in section 8, request submission on HKCTT to eHRISO can be made via the HKCTT Request Submission in eHealth. Workflow of the request handling is shown below.



APPENDIX H – DISCLAIMER FOR MAPPING ADVICE

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