

electronic health record

# Medication Terminology for eHR

Ms S C CHIANG

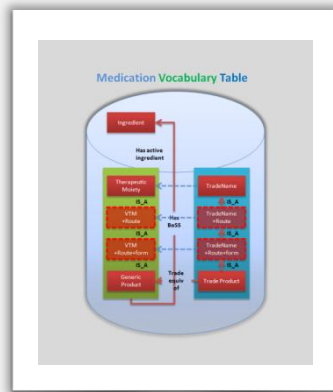
Senior Pharmacist

Hospital Authority

Preparing for Interoperability – Terminology Standards for eHR

15 Feb 2011

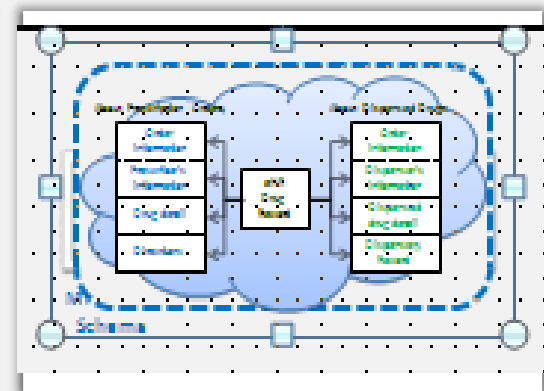
# Today's agenda on Medication Terminology for eHR



MTT Table  
Schema



Editorial rules



Sharing of eHR  
drug records

# What do we want to achieve?

## Standard Drug Terminologies

1	Standardisation of drug terminologies (talk & communicate in the same language)
2	Achieve Inter-operability locally & internationally
3	Support electronic Health Records project in HK
4	Pave way for future decision-support & public health
5	Improve quality of care and patient safety

# **How to kick start the process of building the Medication Terminology Table for Hong Kong ?**

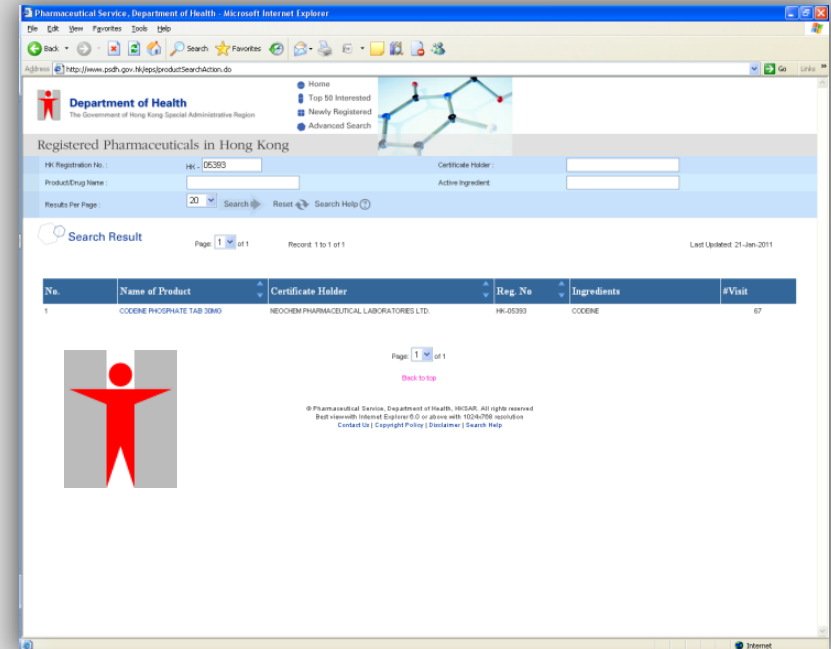
- “defining the core data sets”

# Kick start process for the Local Hong Kong Scene



## Hospital Authority Hong Kong

- Maintains a Centralised 'HA' drug database
- Contains all drugs used in HA (about 6,000)



## Department of Health, Govt of HKSAR

- Maintains the "Compendium of Pharmaceutical Products"
- Contains all registered pharmaceutical products in HK (about 20,000 - 30,000 drug items)
- Each pharmaceutical product has a unique Hong Kong Product Registration number

- A good starting for collaboration to build the HK MTT

# “defining the core data sets”


MTT

**actual medicinal product**


HK-Reg		
Product name		
Trade name		
Virtual Therapeutic Moiety		
Route		
Dose Form		
Strength		
Ingred.	Strength	unit
	UOM	unit
Manufacturer	Country	
Cert. holder		

DC-MTT Co-production  
interface

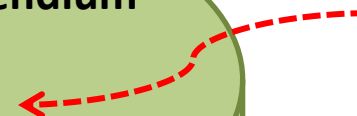
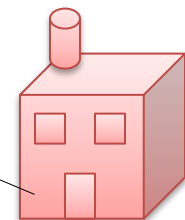
**Drug Compendium**

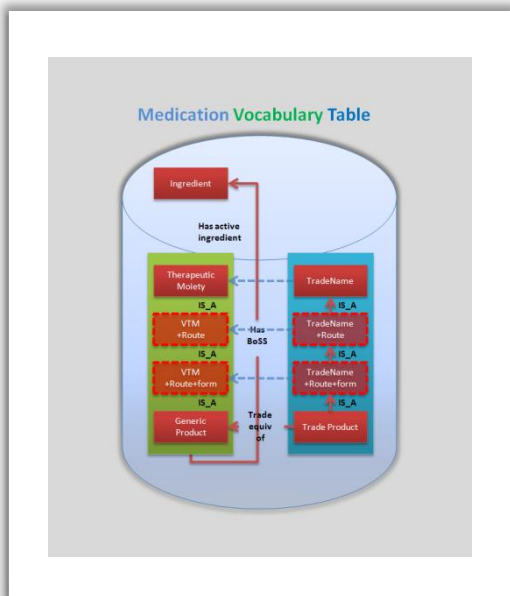


HK-Reg		
Product name		
Trade name		
Virtual Therapeutic Moiety		
Route		
Dose Form		
Strength		
Ingred.	Strength	unit
	UOM	unit
Manufacturer	Country	
Cert. holder	Legal Class.	



Certificate  
holders





# How's : the MTT Table Schema

Building the Medication Terminology Table  
basing on the SNOMED CT table schema

Ingredient

Route

Form

Therap  
Class

EDIT

TAGGING

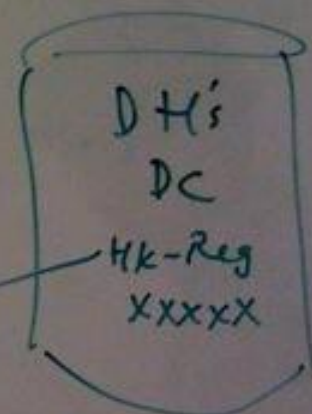
NEW

Copy (non-  
destructive)  
+ New Attribute  
(= Top down)

define Cat.  
(= Bottom up)

(I) Direct  
Inherited  
from Parents

Selective  
Inheritance



室的新  
是向 12  
替的, 請  
自己的  
更換。

Cat = Vmp

Vmp

Therap  
Class

(R) (I) (F)

(R) (I) (F)

Therap  
Class

Vtm.  
Vmp

Amp

(I) VTM

IS-A

VTm+R

(R)

(I)

na  
ooo

VTm+R+F

(F)

(R)

(I)

Inverse Assoc.

TN+R+F

(I)

(R)

(F)

TN+R

(I)

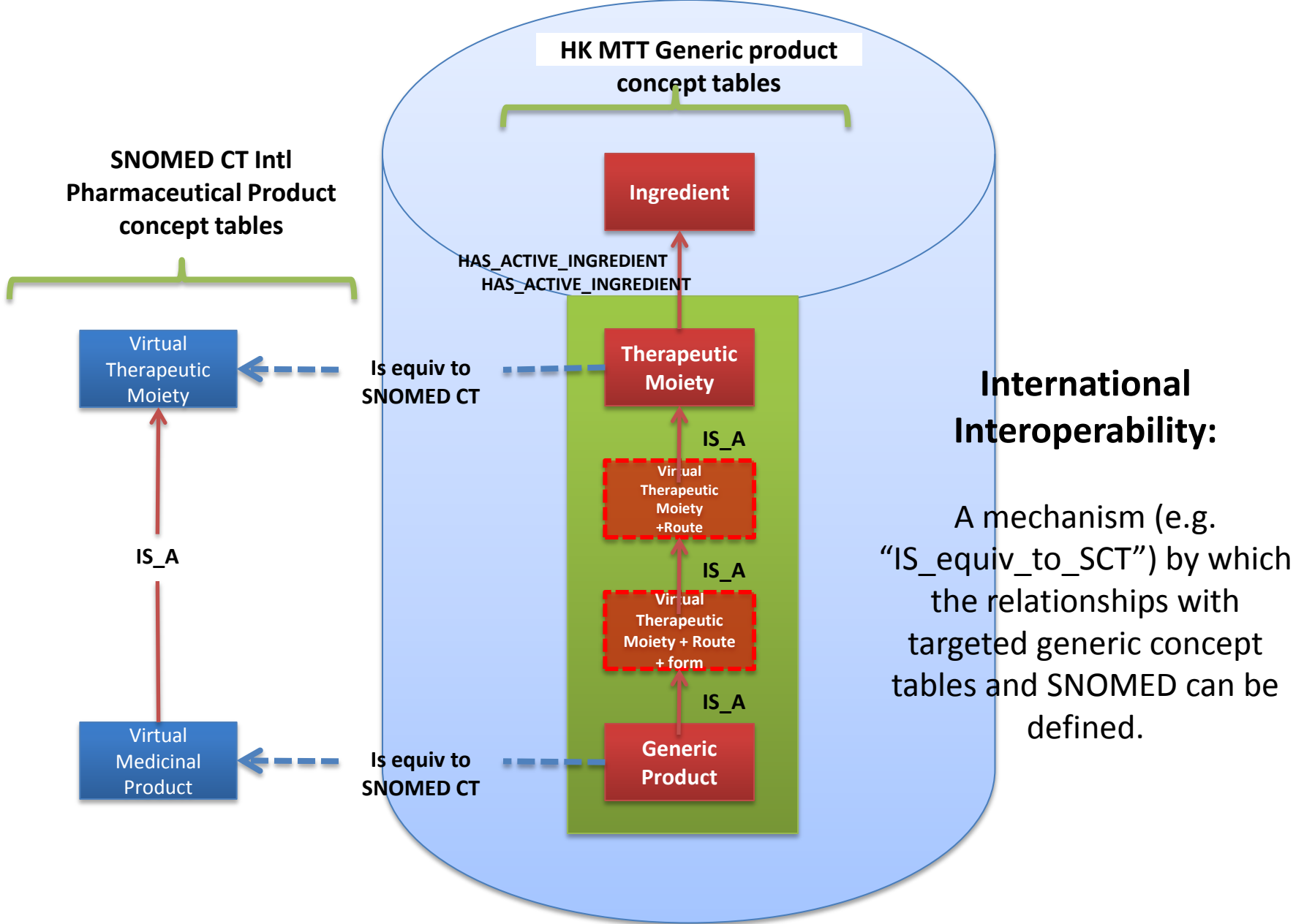
(R)

IS-A

TN

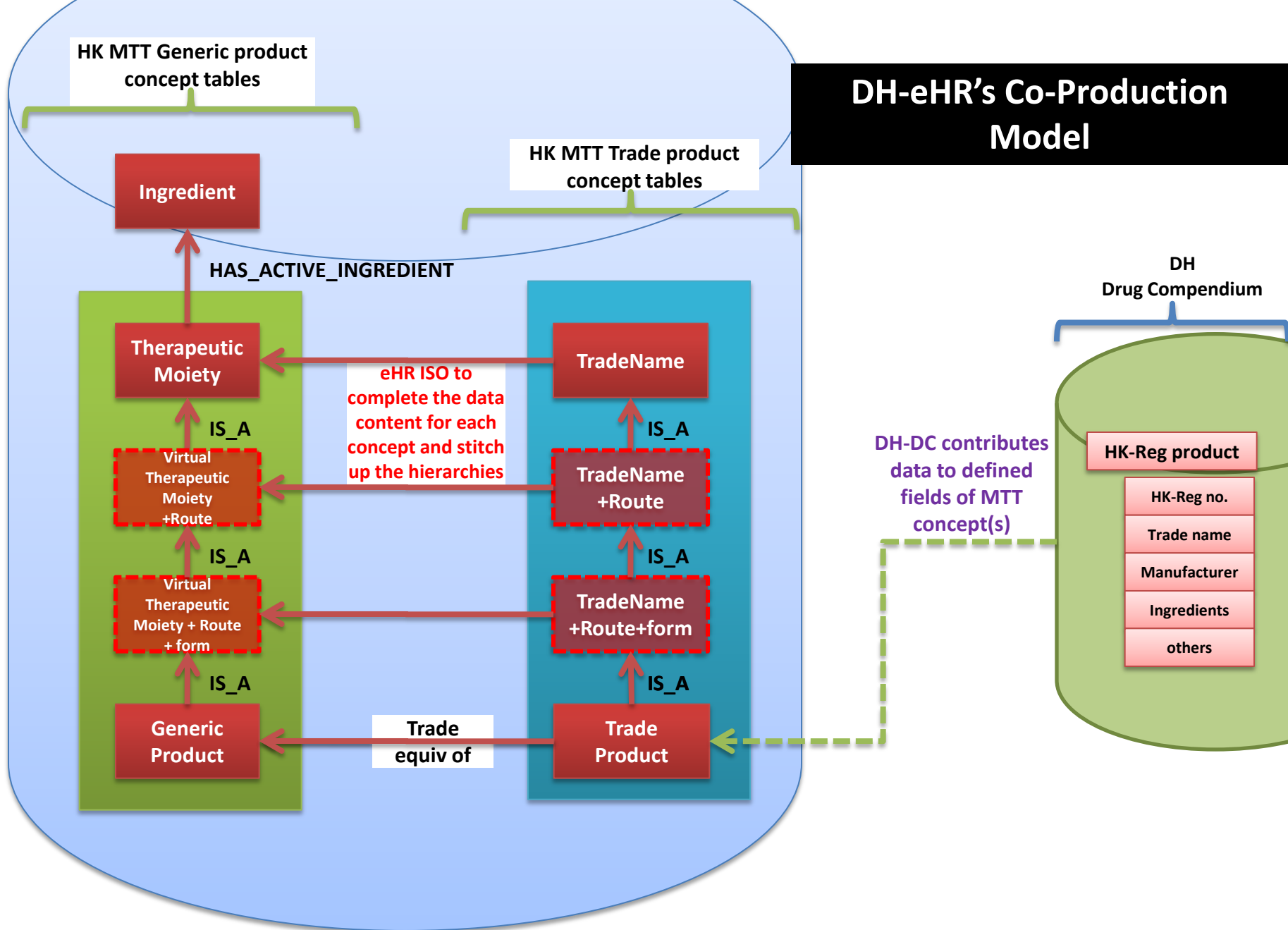
(I)





These tables and the relationships are in compliance with the SNOMED model and allows future mapping from HKMTT to SNOMED concepts.

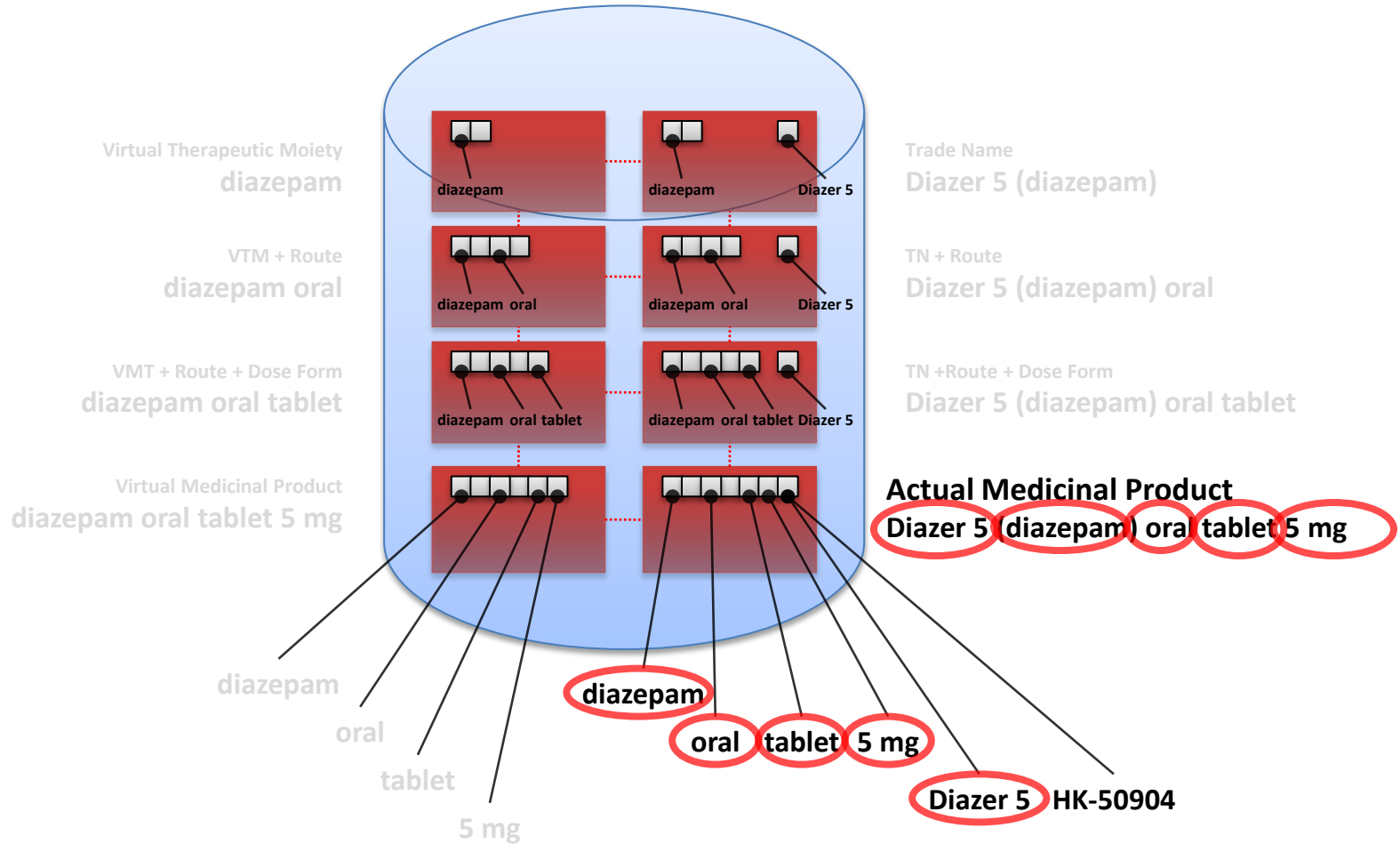
# DH-eHR's Co-Production Model



The concept tables should support the co-production mechanism from DH's Drug Compendium

# The Critical Data Elements

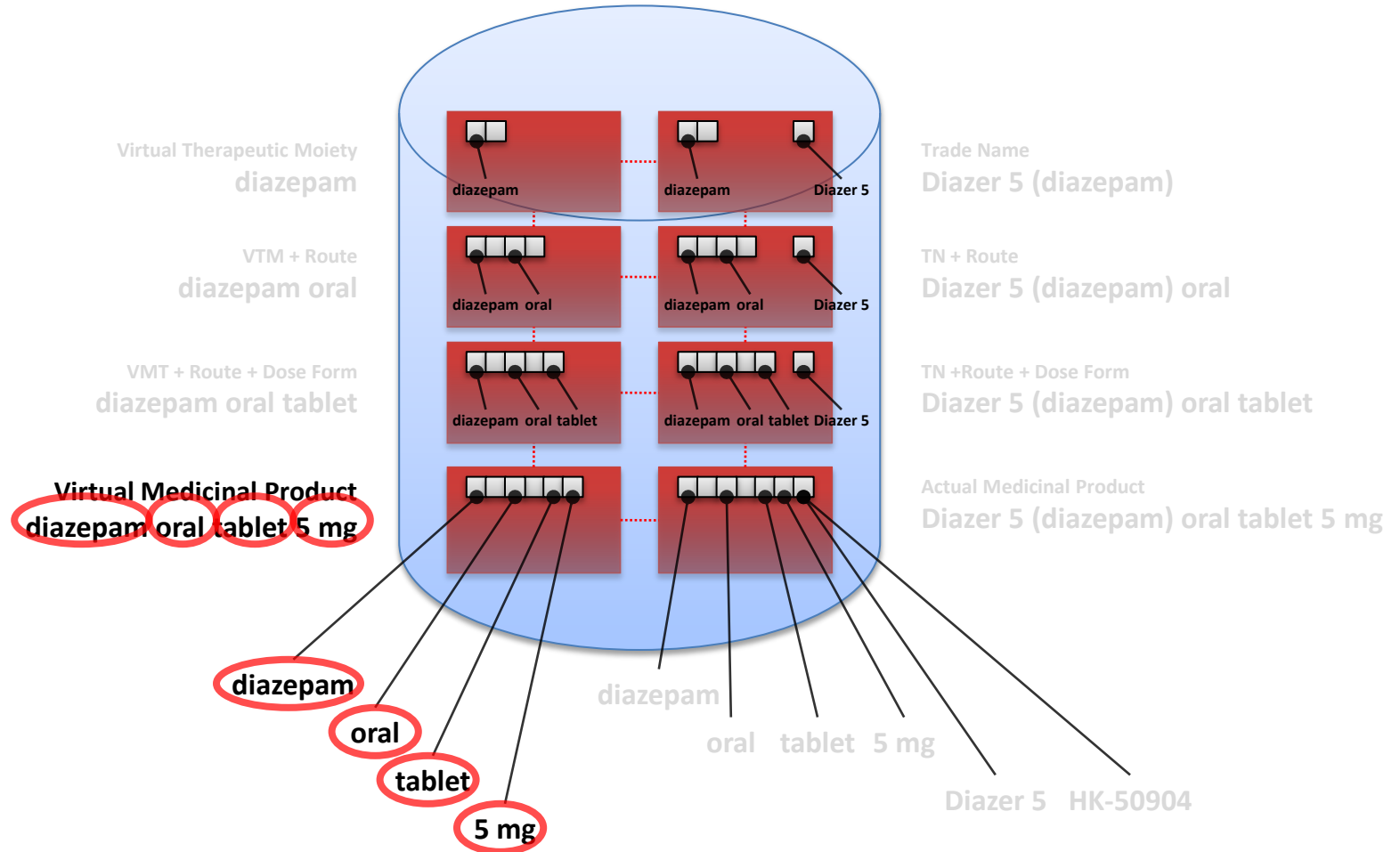
## Medication Terminology Table



HK Registration no.	Trade Name	Virtual Therapeutic Moiety (preferred term)	Route	Dose Form	Strength
50904	Diazer 5	diazepam	oral	tablet	5 mg

# The Critical Data Elements

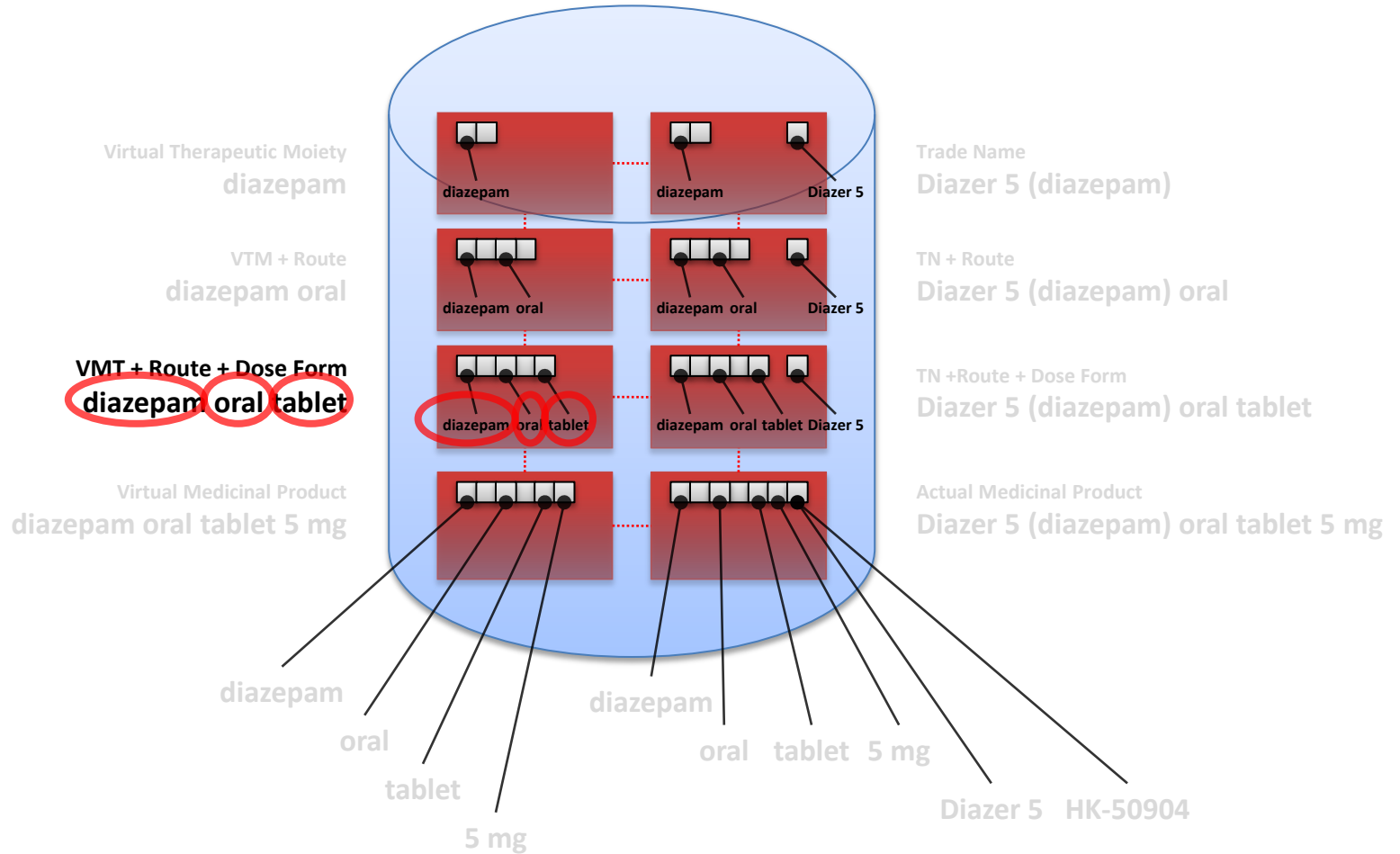
Medication Terminology Table



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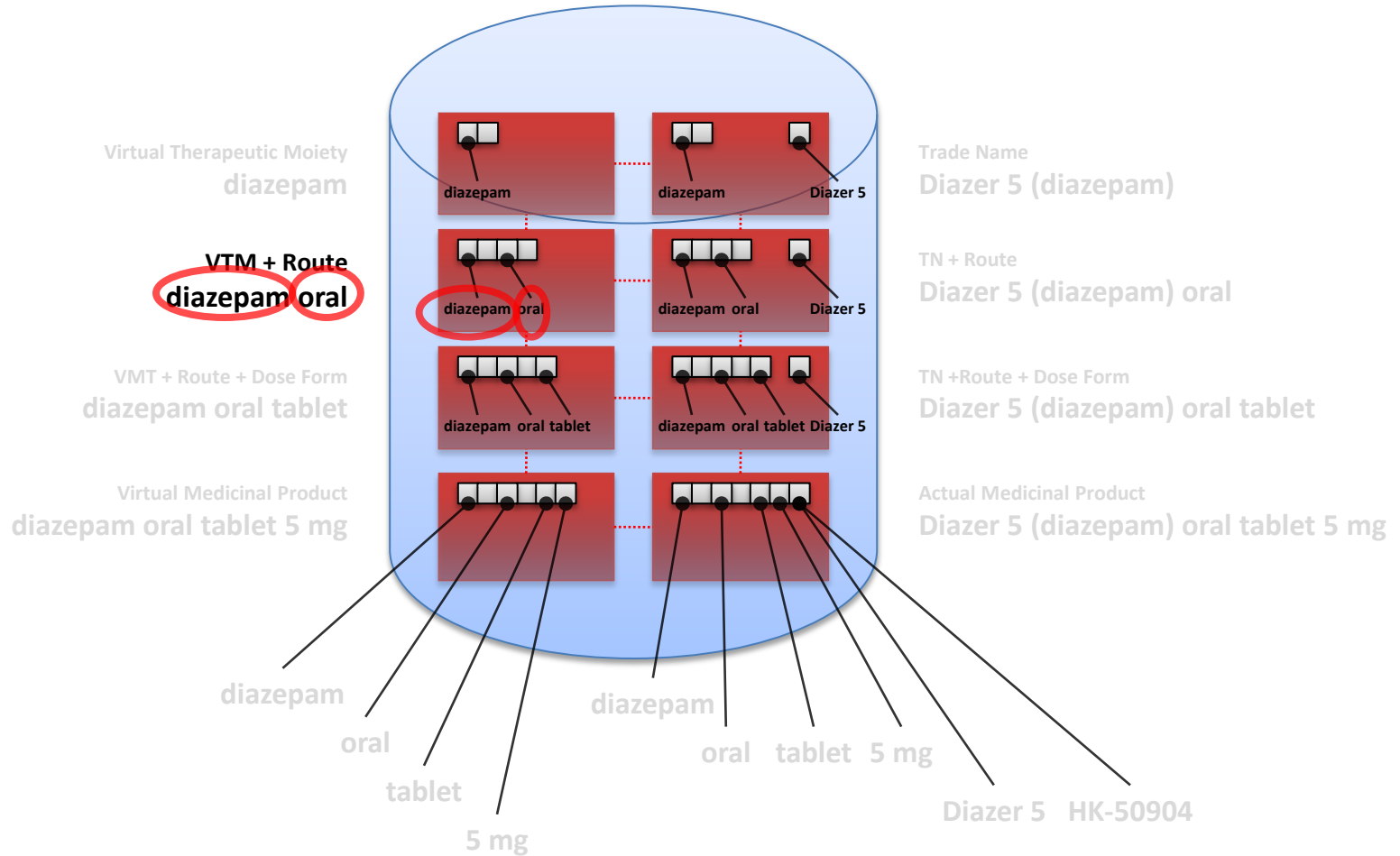
Medication Terminology Table



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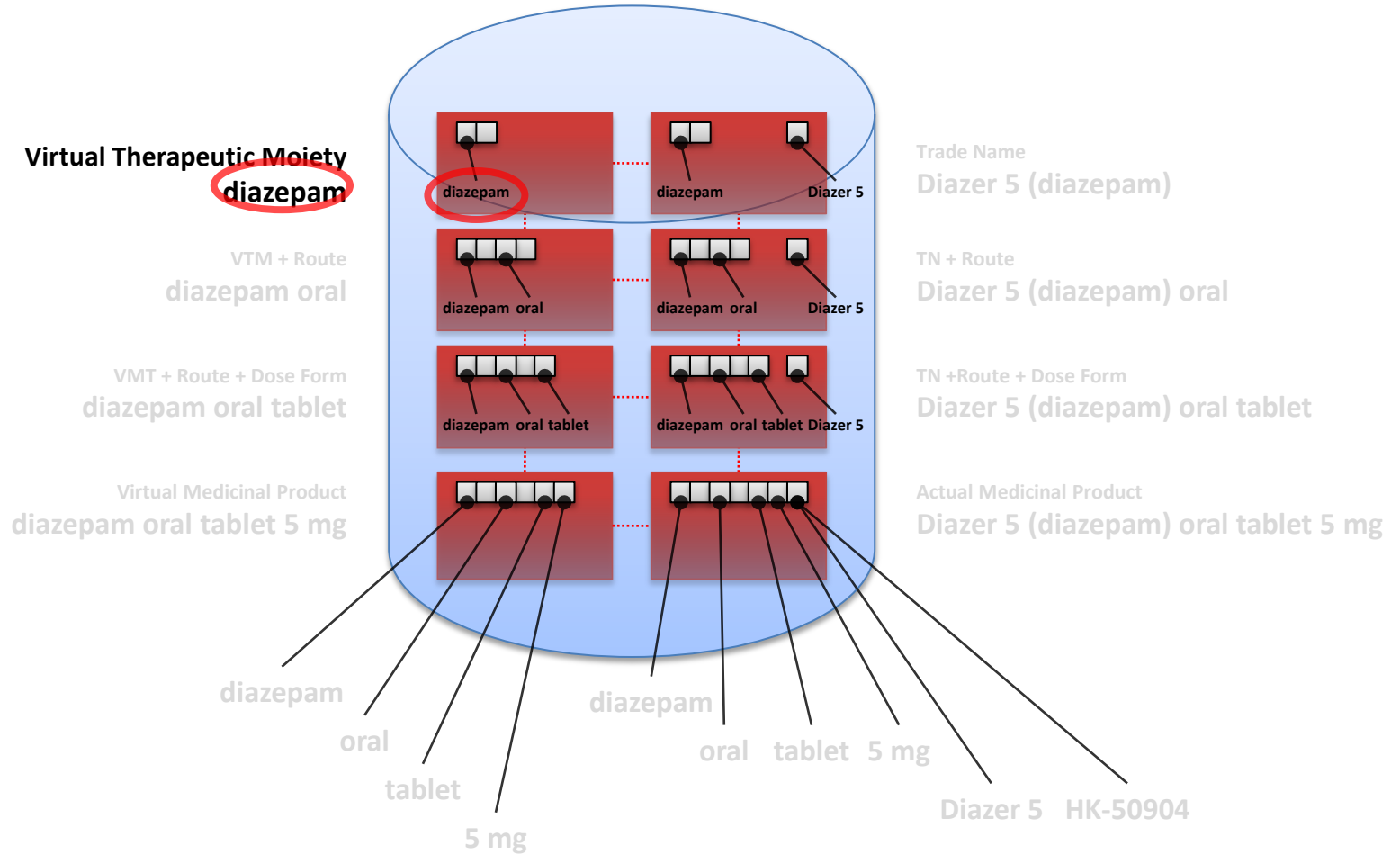
Medication Terminology Table



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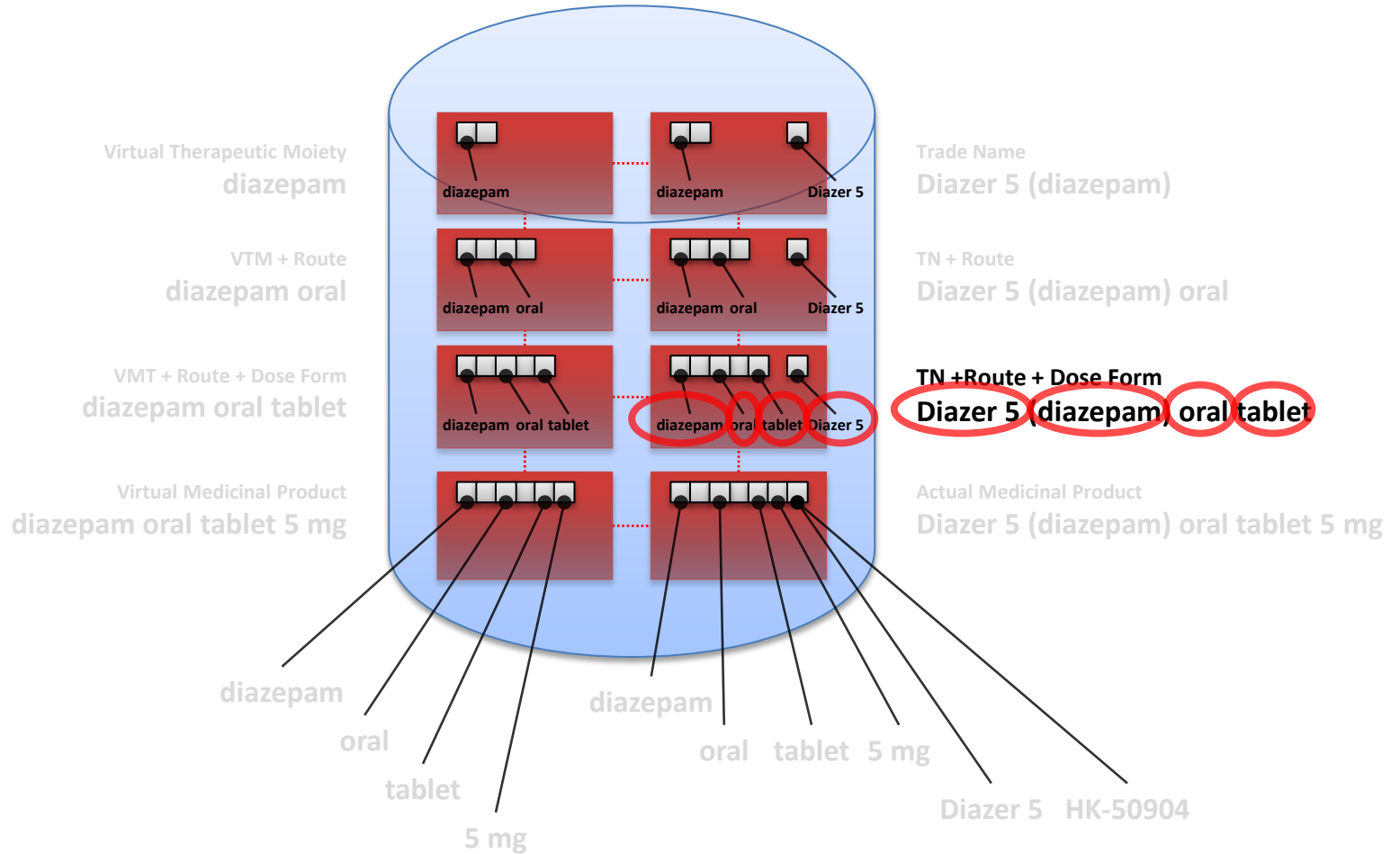
Medication Terminology Table



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# The Critical Data Elements

Medication Terminology Table

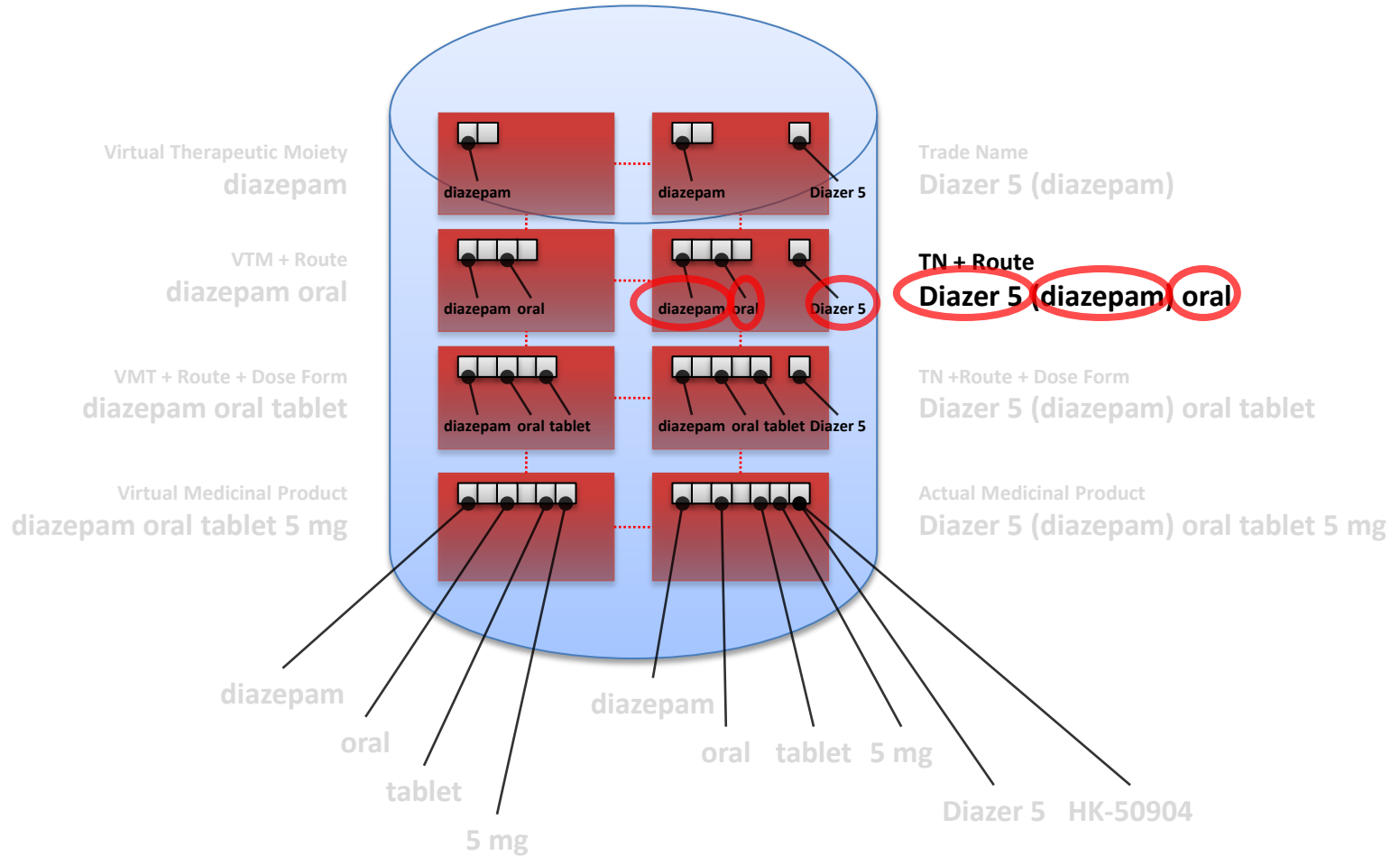


HK Registration no.	Trade Name	Virtual Therapeutic Moiety (preferred term)	Route	Dose Form	Strength
50904	Diazer 5	diazepam	oral	tablet	5 mg



# The Critical Data Elements

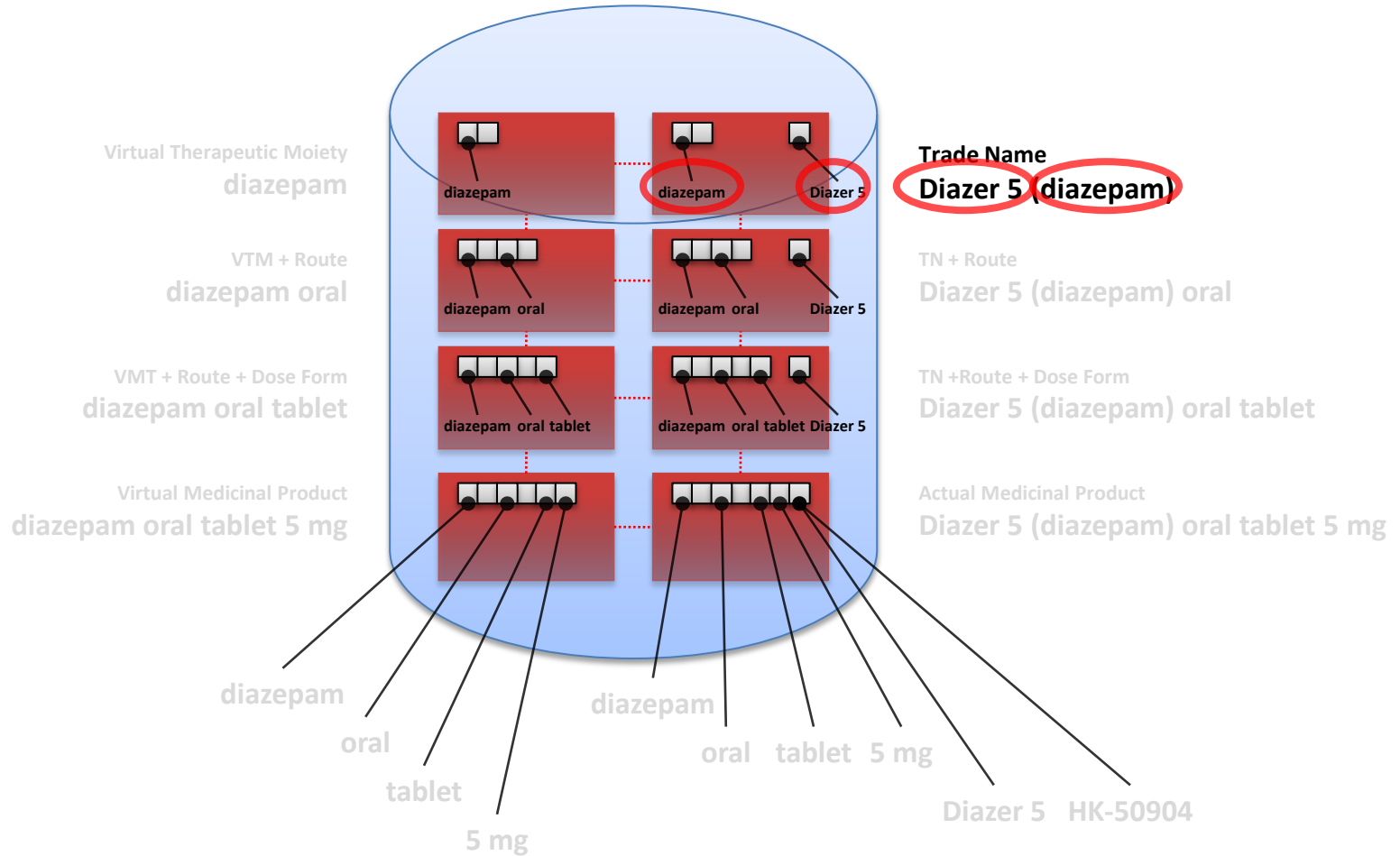
## Medication Terminology Table



HK Registration no.	Trade Name	Virtual Therapeutic Moiety (preferred term)	Route	Dose Form	Strength
50904	Diazer 5	diazepam	oral	tablet	5 mg

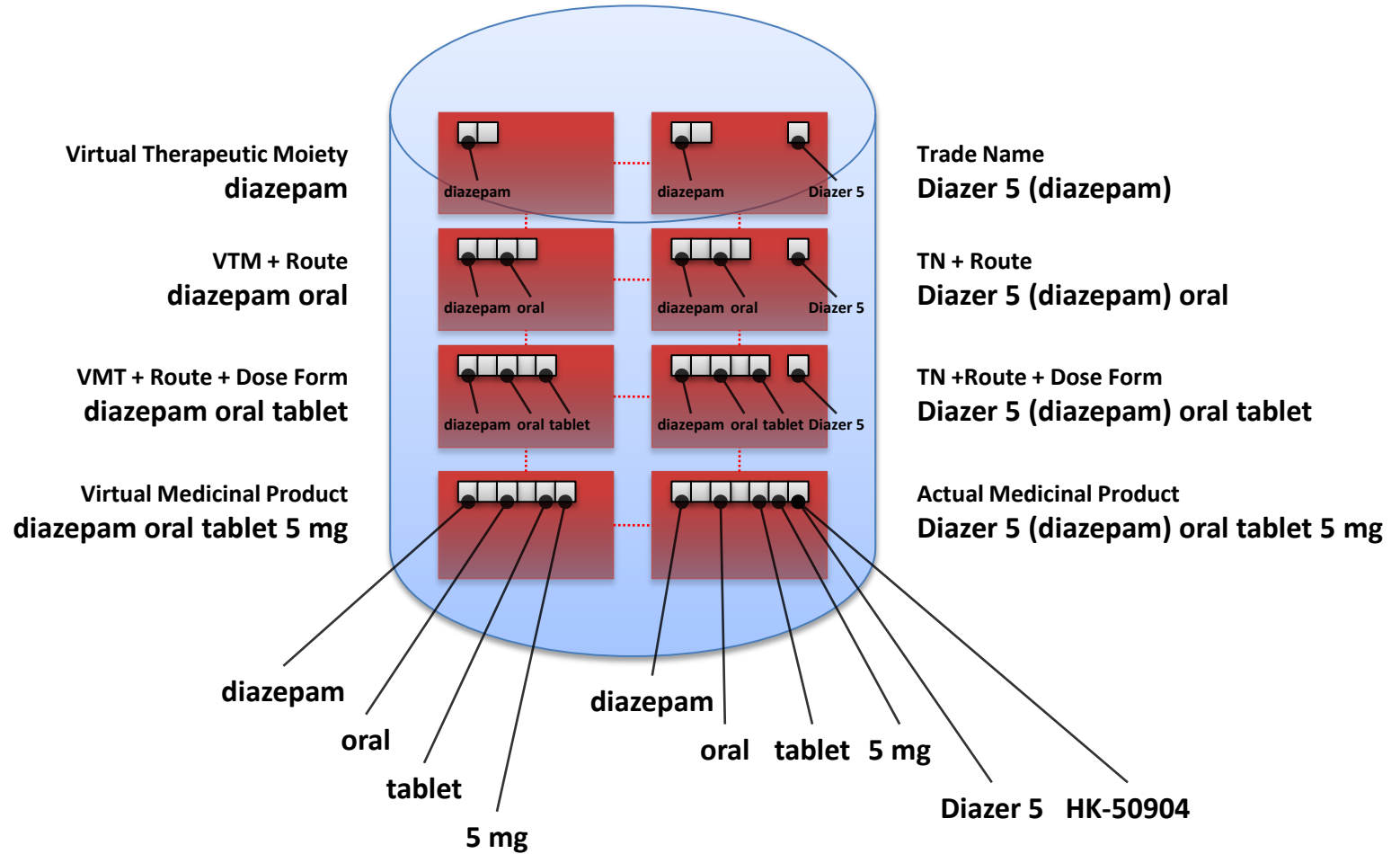
# The Critical Data Elements

Medication Terminology Table



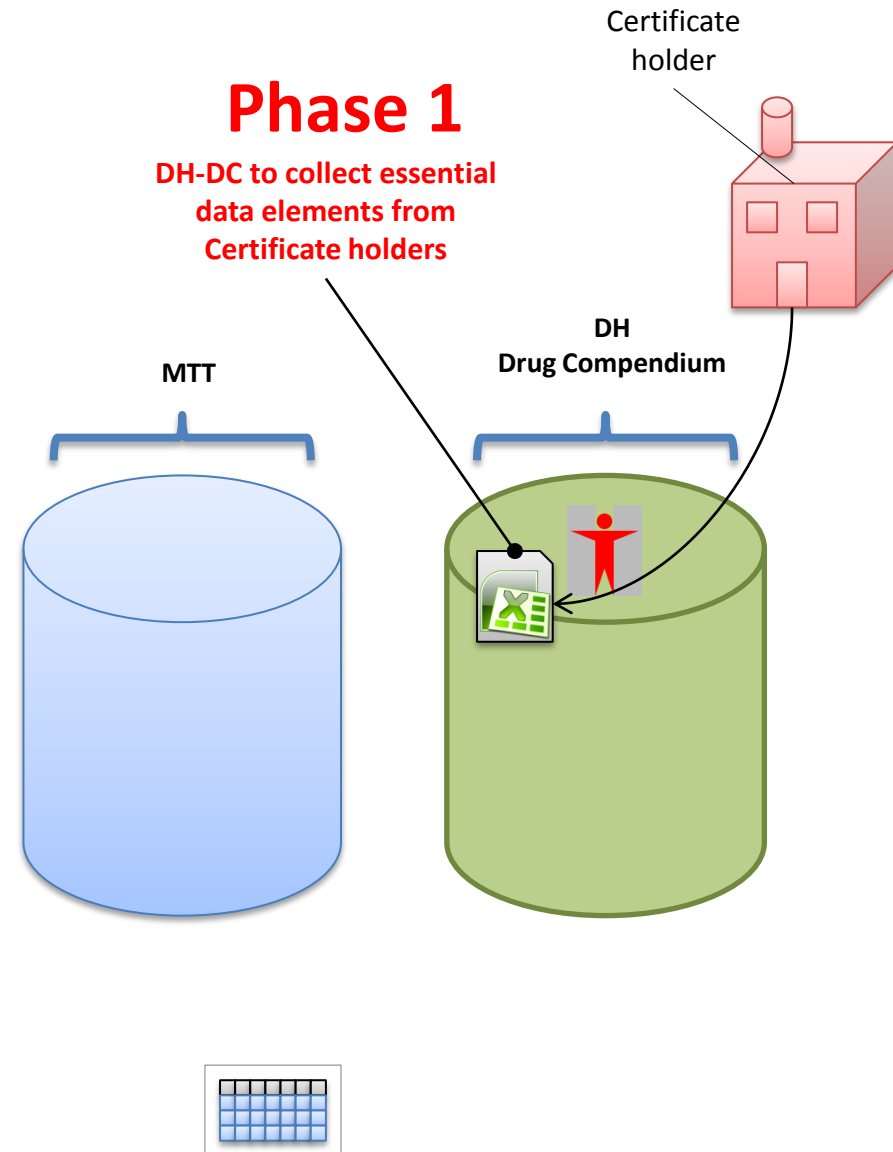
HK Registration no.	Trade Name	Virtual Therapeutic Moiety (preferred term)	Route	Dose Form	Strength
50904	Diazer 5	diazepam	oral	tablet	5 mg

## Medication Terminology Table



1

Define manual  
co-production  
data set

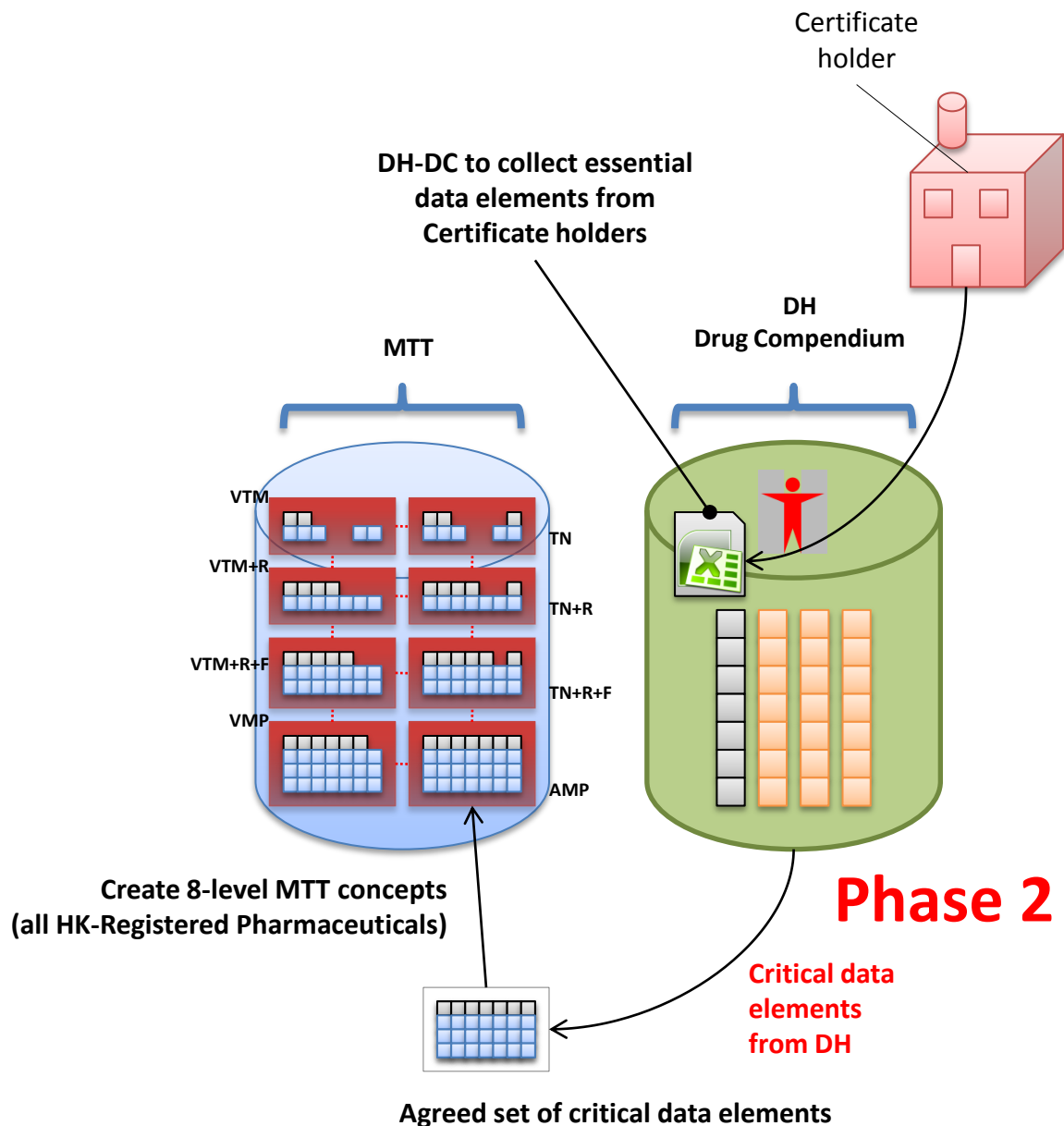


Agreed set of critical data elements

Extracted from "Update on HK Drug standards – 7<sup>th</sup> DH-HA Liaison Meeting

Phase 1 of MTT data preparation – we will be importing the entire Drug Compendium "Product Name" as its current state into AMP (no structural element yet); DH will start inviting certificate holders to review their trade names; also that DH-HA will work out an agreed set of critical data elements.

<b>1</b>	<b>Define manual co-production data set</b>
<b>2</b>	<b>Import to MTT</b>

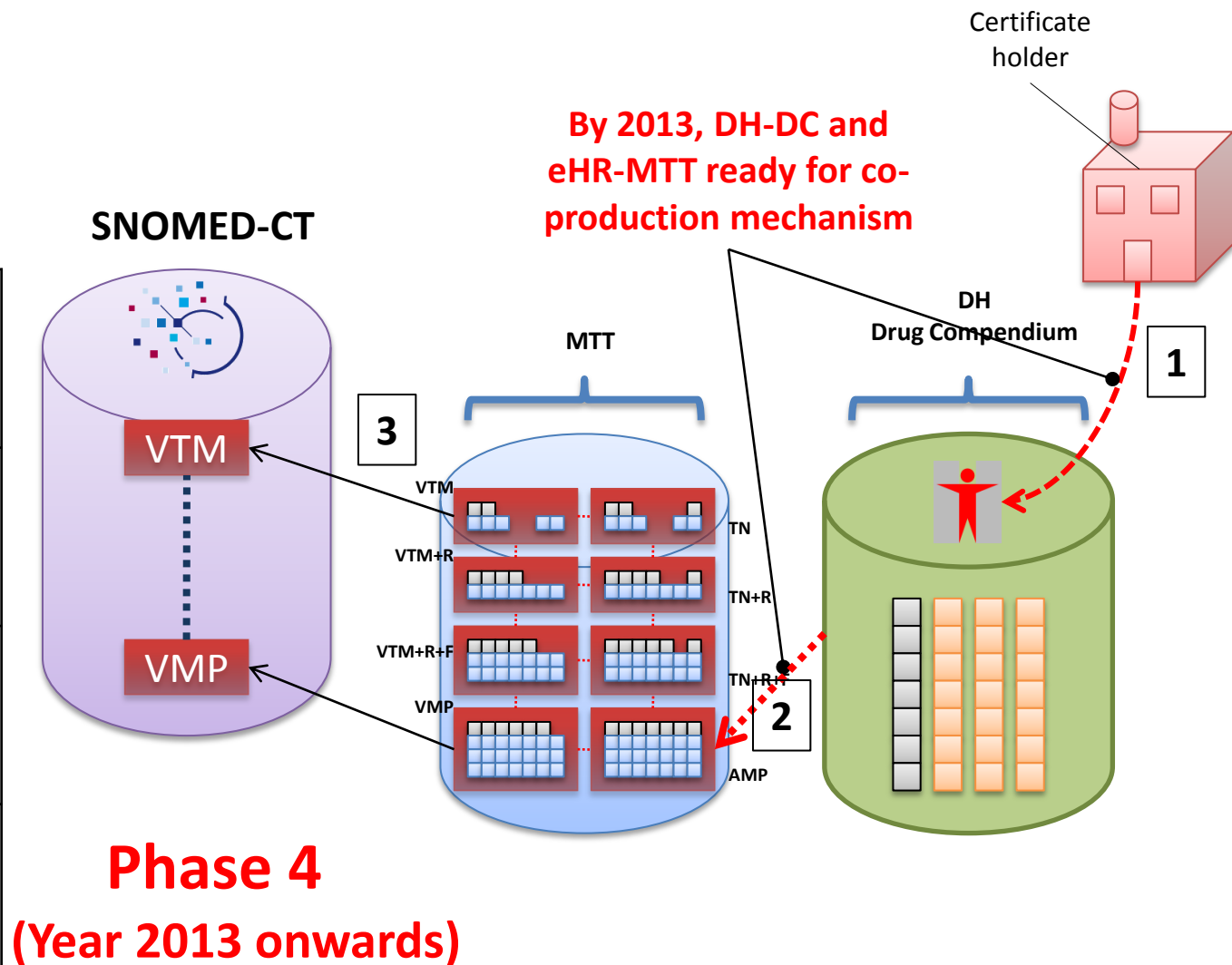


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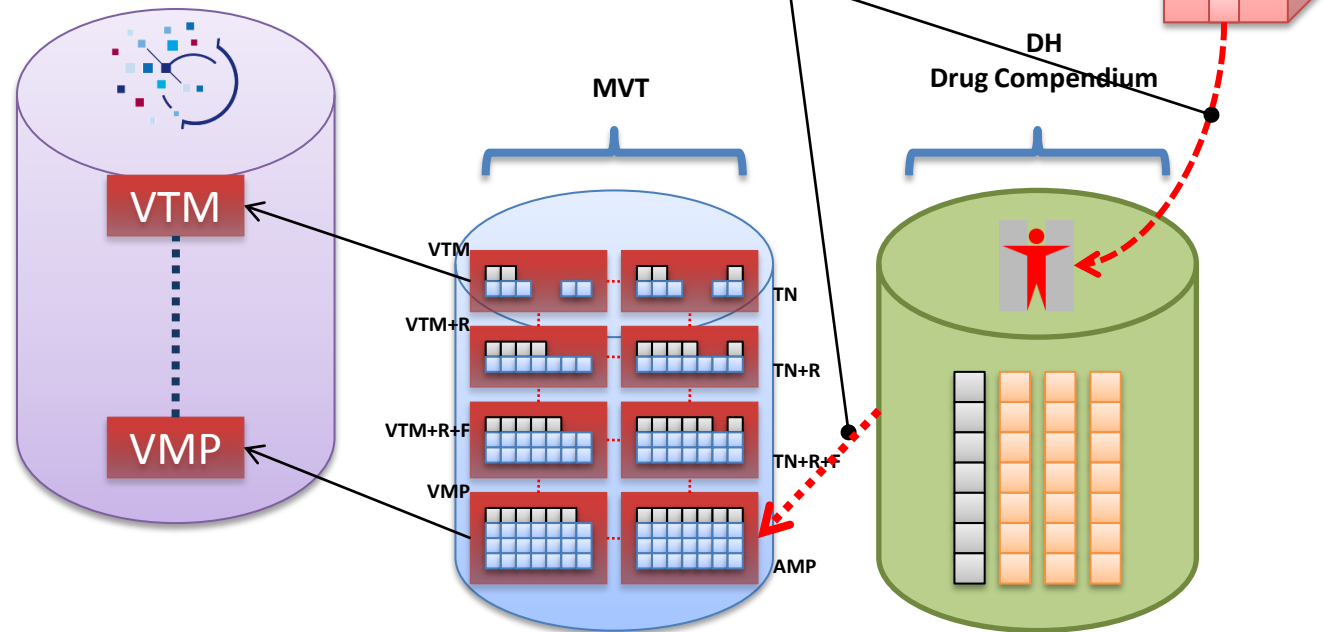
<b>1</b>	Define manual co-production data set
<b>2</b>	Import to MTT
<b>3</b>	SNOMED-CT
<b>4</b>	Full-blown co-production



DH Drug Compendium data structure and content will be ready by 2013  
all future MTT concept **should** be initiated by a newly registered product on the Drug Compendium.

# Phase 4 (Year 2013 onwards)

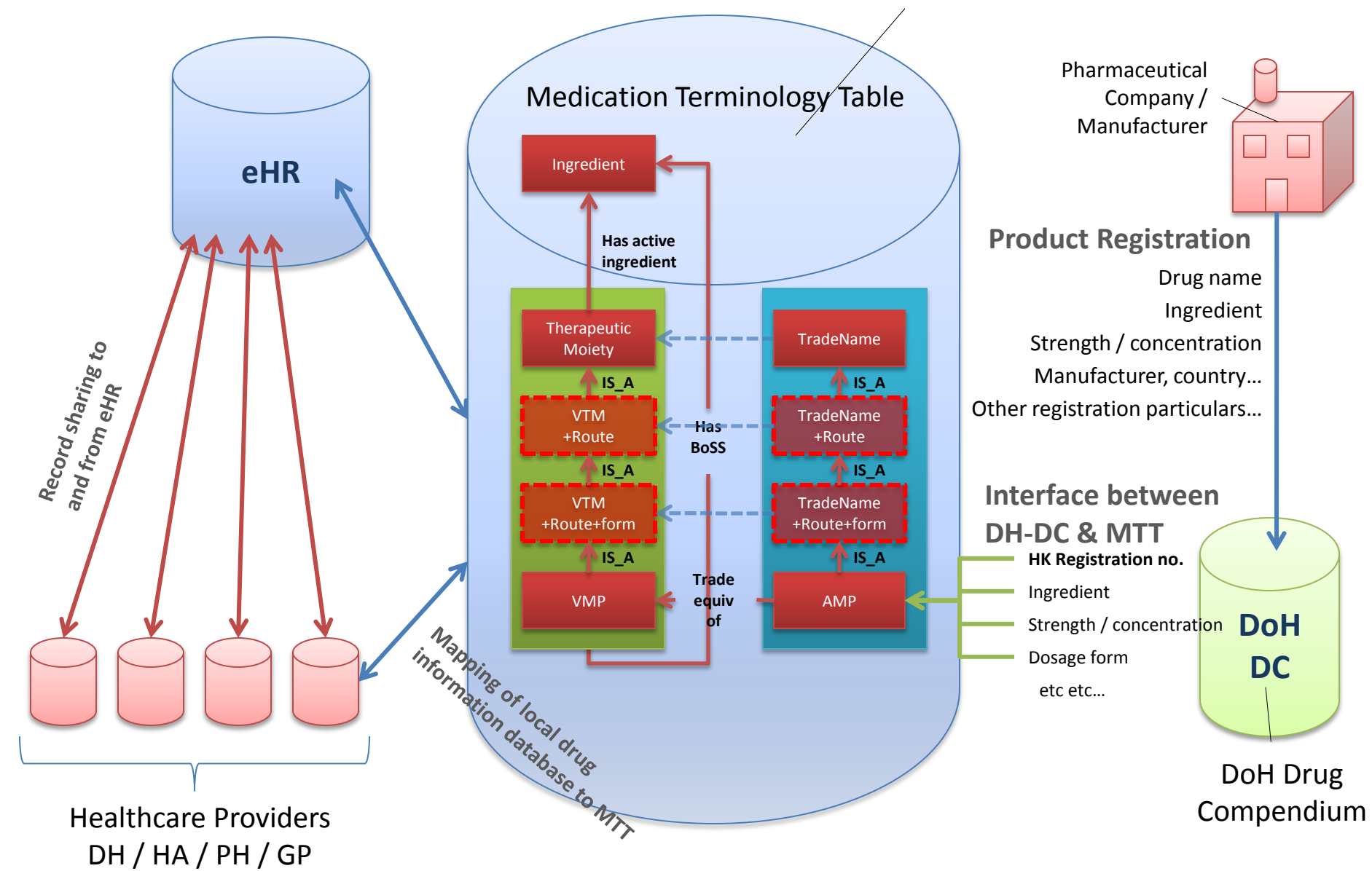
<b>1</b>	Define manual co-production data set
<b>2</b>	Import to MTT
<b>3</b>	SNOMED-CT
<b>4</b>	Full-blown co-production



DH Drug Compendium data structure and content will be ready by 2013 – all future MTT concept should be initiated by a newly registered product on the Drug Compendium.



# Local Interoperability



To achieve local interoperability...

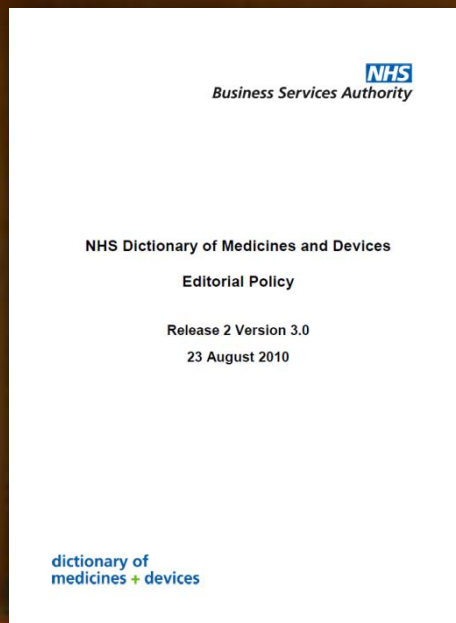
**Appendix – Route**

The HKMTT routes will be referencing, and with their definitions standard terminologies:

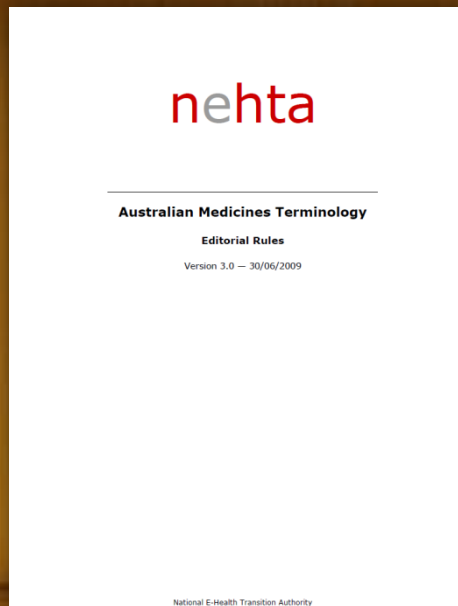
- UK NHS dm+d “Virtual Medicinal Product Route (List D) – the Directorate for the Quality of Medicines & Healthcare (EDC)
- Australian TGA Approved Terminology for Medicines – Chapter

# How's : editorial rules

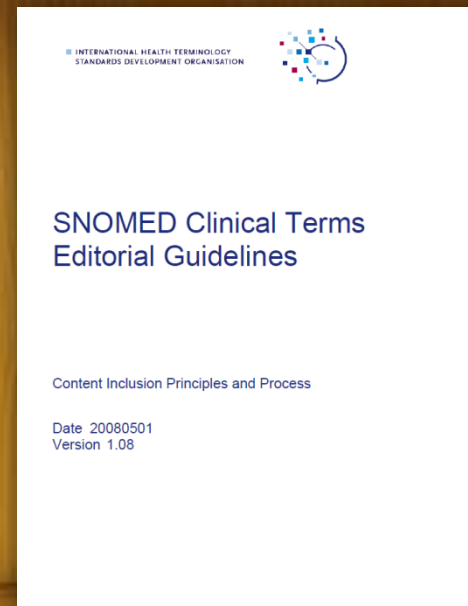
Building the Medication Terminology Table



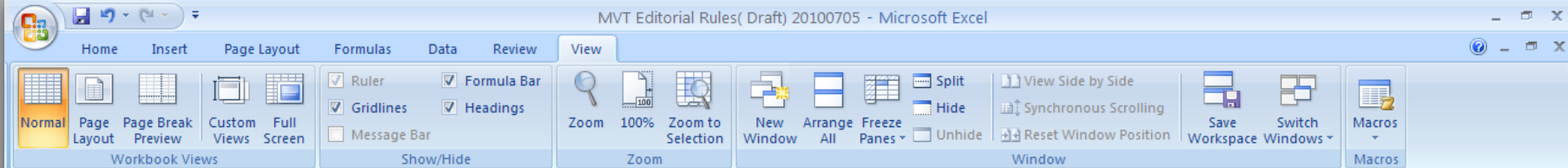
**NHS Dictionary of  
Medicines and  
Devices (dm+d)  
Editorial Policy  
August 2010**



**nehta Australian  
Medicines  
Terminology (AMT)  
Editorial Rules  
June 2009**



**SNOMED CT  
Editorial  
Guidelines  
May 2008**



The Virtual Medicinal Product Preferred Term will be derived from the actual active ingredients.								
	E	F	G	H	I	J	K	L
1	RuleID	Concept	Attribute	Section title on Draft	Constraints / Data Definition			
6	MVT-VTM-PT-1	VTM	Preferred Term	Virtual Therapeutic Moiety "Preferred Terms" Rules	All rules in "Preferred Term definition and Rules)" apply Capitalisation rules as defined in apply.			
7	MVT-VTM-PT-2	VTM	Preferred Term	Virtual Therapeutic Moiety "Preferred Terms" Rules	The Virtual Medicinal Product Preferred Term will be derived from the International Non-proprietary Names (INN), followed by other approved or clinically intuitive names.	AMT-MP-PT-2	Draft	For discussion on Ingredient Naming Conventions (Ref AMT Appendix III)
8	MVT-VTM-PT-3	VTM	Preferred Term	Virtual Therapeutic Moiety "Preferred Terms" Rules	The Virtual Medicinal Product Preferred Term will be derived from the actual active ingredients. The full name of an ingredient (including the salt) will be used in all case	AMT-MP-PT-3	Draft	
9								For discussion on naming convention of multi-ingredient
10	MVT-VTM-PT-5	VTM	Preferred Term	Virtual Therapeutic Moiety "Preferred Terms" Rules	The identification of all active ingredients is available from the Virtual Medicinal Product (VTM) "has_active_ingredient" relationship with Ingredient (substance).	AMT-MP-PT-4	Draft	AMT define vaccine and large volume parenteral products as exception that these products would use more than 3 active ingredients in the creation of names
11	MVT-VTM-PT-6	VTM	Preferred Term	Virtual Therapeutic Moiety "Preferred Terms" Rules	The sequence by which the active ingredients are displayed in the Virtual Medicinal Product Preferred Term will be based on the alphabetical order of the active ingredient's preferred term as in the "ingredient (substance) hierarchy".  This order sequence will be alphabetical, with the exception of those specified in the appendix of the Editorial Rule. Exceptions would be reviewed on a case-by-case basis.			sequence on FSN and PT should defer (by our current design, the FSN and PT are made up of the same sequence)
12	MVT-VTM-AN-1	VTM	Aliasname	Virtual Therapeutic Moiety "Aliasname" Rules	All rules in "Aliasname definition and Rules)" apply Capitalisation rules as defined in Appendix apply. The entry of Aliasnames would be optional and only be populated when it is clinically relevant; it should be constructed in the way that it does not impact the product being safely identified.	N/A	Draft	no such attribute in AMT / SNOMED / DM+D
13	MVT-VTM-AN-2	VTM	Aliasname	Virtual Therapeutic Moiety "Aliasname" Rules		N/A	Draft	no such attribute in AMT / SNOMED / DM+D
14								

Reference rule (AMT/dm+d)

Each rule documented is organised and categorised in a similar way as our reference terminology standard

Editorial rules are documented expressively

Current status of the rules

Document rules that we do not follow or differ from our reference standard

Reference rule (AMT/dm+d)

Each rule documented is organised and categorised in a similar way as our reference terminology standard

Editorial rules are documented expressively

Current status of the rules

Document rules that we do not follow or differ from our reference standard

# What information should be included in the editorial policy?

## Formal Concept Definition:

*"A VTM is the abstract representation of the active ingredient(s) or substance(s), which when formulated as a single medicinal product, and is intended for use in the treatment or prevention of disease in human."*

## Editorial rules governing the concept:

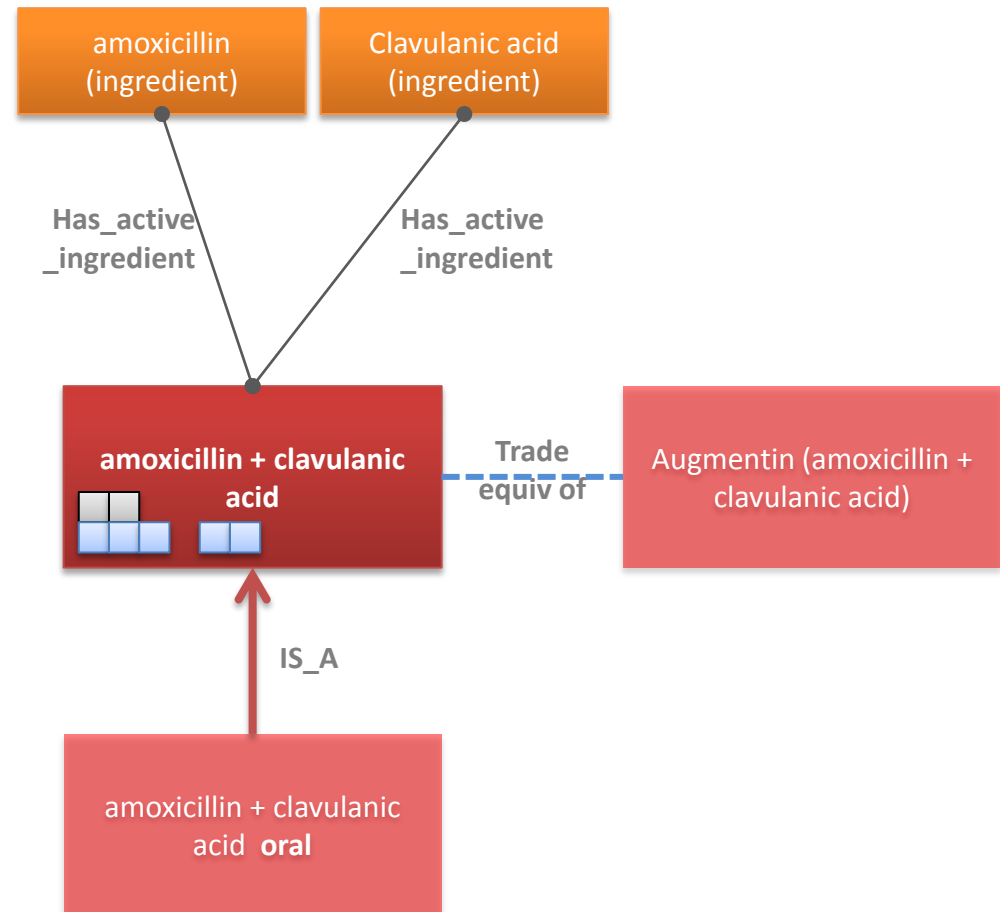
- The VTM preferred term will be derived from the International Non-proprietary Names (INN)...
- The VTM names will include all ingredients for multi-ingredient preparations...

## Complete list of attributes within the concept:

VTM ConceptID; SNOMED-CT ID; VTM\_FSN; VTM\_PT; concept stage and status...etc

## Ascending, descending and attributable associations:

- VTM **has active ingredient** Ingredient (substance)
- VTM+Route **IS\_A** VTM
- TradeName **is\_trade\_equiv\_of** VTM



Editorial rules governing the concept itself as well as its relationships with other concepts.

## Formal Concept Definition

HKMTT Editorial Rules [Draft]

### 4.2 Virtual Therapeutic Moiety (VTM)

#### 4.2.1 Virtual Therapeutic Moiety Definition:

A Virtual Therapeutic Moiety (VTM) is the abstract representation of the active ingredient(s) or substance(s), which when formulated as a single medicinal product, and is intended for use in the treatment or prevent disease in human.

The Virtual Therapeutic Moiety (VTM) is the abstract conceptual representation of the material defining the prescriber's therapeutic intent, without taking into the account of more product specific information such as the dose formulation, route of administration and strength.

For example:

aspirin

ibuprofen

paracetamol

salbutamol

Multi-ingredient drugs (e.g. ) would be populated by including all individual active ingredients. The full name of an ingredient (including its salt where clinical relevant or significant) will be used in all cases. The description of the multi-ingredient drug and the order by which they are expressed would be decided by the MTT editorial team on case-by-case basis.

The Virtual Therapeutic Moiety name will derive from information on the contained active ingredient concepts, with the following knowledge or rules incorporated:

- The precise active ingredient (with salt) will be specified, where this is clinical significant or relevant, unless otherwise specified as exception;
- The virtual therapeutic moiety defines a group of products, which contain ingredient substances with the same active entity.
- All virtual therapeutic moiety will have a "has\_active\_ingredient" relationship with their active ingredient substances;

Ascending association:

- Has active ingredient Ingredient substance concept

Descending association:

- Routed Virtual Therapeutic Moiety (VTM+Route) IS\_A Virtual Therapeutic Moiety (VTM)

Version X.X

Page 19

Ascending, descending and attributable associations

eHR ISO

HKMTT Editorial Rules [Draft]

(A single VTM may be associated with one or multiple entities of VTM+Route)

- TradeName is\_trade\_equiv\_of Virtual Therapeutic Moiety

Attributes

Attribute	Properties
Virtual Therapeutic Moiety (VTM) conceptID	MTT identifier
SNOMED CT ConceptID	SNOMED CT Identifier
Virtual Therapeutic Moiety (VTM) Fully specified name	"VTM preferred term" "Virtual Therapeutic Moiety"
Virtual Therapeutic Moiety (VTM) preferred term	Copy VTM preferred term from AMP
Virtual Therapeutic Moiety (VTM) Aliasname	String (multiple entries)
Virtual Therapeutic Moiety (VTM) shortname	Copy VTM preferred term from AMP
Ingredient (multiple entries)	MTT identifier : Ingredient substance (multiple entries)
Ingredient description	Ingredient substance PT from Ingredient substance concept (multiple entries)
Allergy check flag [Y/N]	Y/N
Concept stage	[TBC] MTT concept stage
Suspend	Y/N
Last update by	userID
Last update date	dd-mm-yyyy

Complete list of attributes within the concept

Version X.X

Page 20

## Editorial rules governing the concept:

eHR ISO

HKMTT Editorial Rules [Draft]

### 4.2.2 Virtual Therapeutic Moiety Descriptions

#### 4.2.2.1 Virtual Therapeutic Moiety "Fully Specified Name" Definition

The Fully Specified Name of a Virtual Therapeutic Moiety follows the syntax:

VTM FSN = "Ingredient\_details" "(product)"

The components are described as:

Description Component	Definition
Ingredient_Details	Ingredient_details is the alphabetical list of active ingredient's preferred term. For multi-ingredient products, the VTM should be made up of the Preferred Terms of each listed ingredients, separated by a "+" sign and grouped together to form the "Ingredient_Details", which will subsequently be included as part of the VTM's FSN (see VTM-FSN-7).
(Products)	The semantic tag (Products) should be used in the FSN of all VTM concepts (see VTM-FSN-2).

#### 4.2.2.2 Virtual Therapeutic Moiety "Fully Specified Name" Rules

Rule ID	Description
MTT-VTM-FSN-1	All rules in "Fully Specified Name definition and Rules" apply. Capitalisation rules as defined in Appendix apply.
MTT-VTM-FSN-2	The Virtual Medicinal Product name will be derived from the International Non-proprietary Names (INN), followed by other approved or clinically intuitive names. Former BANs (British Approved Names) will be used for those products specified in the exception list - pending for recommendations for harmonisation to the INNs by the Editorial Committee.
MTT-VTM-FSN-3	The Virtual Medicinal Product name will be derived from the actual active ingredients. The full name of an ingredient (including the salt) will be used in all case
MTT-VTM-FSN-4	The Virtual Medicinal Product name will include all active ingredients for each multi-ingredient preparation or component of a multi-component product.
MTT-VTM-FSN-5	The Virtual Medicinal Product name will include all "inert substance" where inactive/inert ingredients are part of the multi-component products or diluents provided for the preparation of the actual administrable form of a product.
MTT-VTM-FSN-6	The identification of all active ingredients is available from the Virtual Medicinal Product (VTM) "has_active_ingredient" relationship with ingredient (substance).

eHR ISO

HKMTT Editorial Rules [Draft]

MTT-VTM-FSN-7	The sequence by which the active ingredients are displayed in the Virtual Medicinal name will be based on the alphabetical order of the active ingredient's preferred term as in the "ingredient (substance) hierarchy".  This order sequence will be alphabetical, with the exception of those specified in the appendix of the Editorial Rule. Exceptions would be reviewed on a case-by-case basis.
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#### 4.2.2.3 Virtual Therapeutic Moiety "Preferred Term" Definitions

The Preferred Term of a Virtual Therapeutic Moiety follows the syntax:

VTM FSN = "Ingredient\_details"

The components are described as:

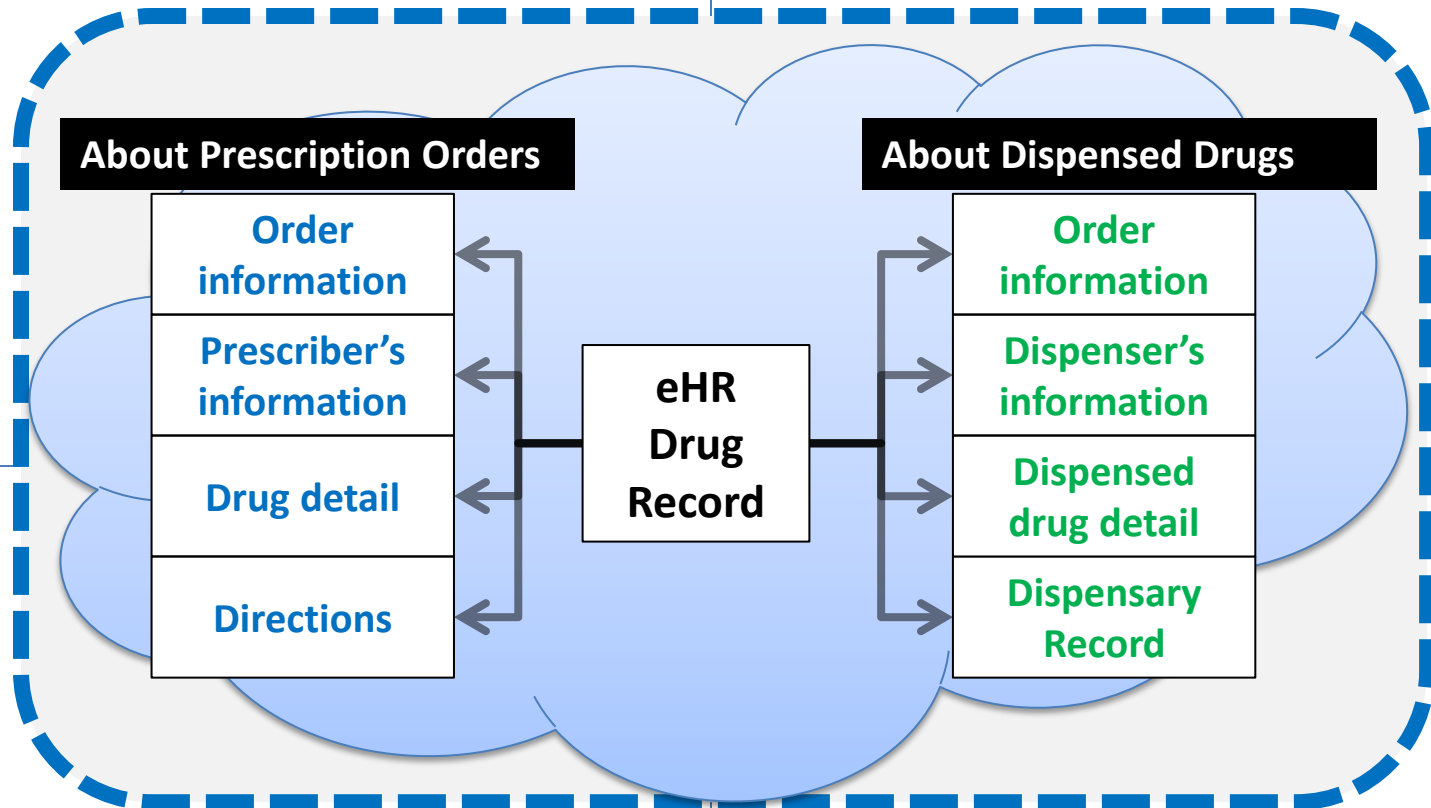
Description Component	Definition
Ingredient_Details	Ingredient_details is the alphabetical list of active ingredient's preferred term. For multi-ingredient products, the VTM should be made up of the Preferred Terms of each listed ingredients, separated by a "+" sign and grouped together to form the "Ingredient_Details", which will subsequently be included as part of the VTM's FSN (see VTM-PT-7).

#### 4.2.2.4 Virtual Therapeutic Moiety "Preferred Term" Rules

Rule ID	Description
MTT-VTM-PT-1	All rules in "Preferred Term definition and Rules" apply. Capitalisation rules as defined in apply.
MTT-VTM-PT-2	The Virtual Medicinal Product preferred term will be derived from the International Non-proprietary Names (INN), followed by other approved or clinically intuitive names. Former BANs (British Approved Names) will be used for those products specified in the exception list - pending for recommendations for harmonisation to the INNs by the Editorial Committee.
MTT-VTM-PT-3	The Virtual Medicinal Product Preferred Term will include up to three active ingredients per product; for Virtual Medicinal Products with more than three active ingredients, the MTT editorial team would attempt to create a clinically intuitive description on an individual basis, with an exception:
MTT-VTM-PT-4	The Virtual Medicinal Product name will be derived from the actual active ingredients. The full name of an ingredient (including the salt) will be used in all case
MTT-VTM-PT-5	The Virtual Medicinal Product name will include all active ingredients for each multi-ingredient preparation or component of a multi-component product.
MTT-VTM-PT-6	The Virtual Medicinal Product name will include all "inert substance" where inactive/inert ingredients are part of the multi-component products or diluents provided for the preparation of the

**Sharing  
Drug Records in eHR  
How and What ??**





In summary, the eHR drug record has two arms : Prescribing + Dispensing records

010043

診所/衛生機構  
Clinic/Institution

正體姓名  
Name (in block letters)

年齡/性別  
Age/Sex

身份證號碼  
I.D. No.

病歷號碼  
Morb. Code

診察碼  
Exam Care Status Code

身份類別 (公務員/公務員家屬、退休公務員/退休公務員家屬、\*Delete as inappropriate)  
Status (\*GS/DGS/Pen/D of Pen) \*Delete as inappropriate

其他  
Others (Please specify)

醫生處方及指示 Prescription, instructions, etc.  
(Please cross out unused space)

Amoxil 2g PO Stat 1 hr pre-op  
(For Antibiotic Prophylaxis  
Before dental procedure)

日期  
Date

DR 336 (Rev. 1/99)

Prescription Image

eHR MOE  
On-Ramp

Full interoperability

eHR  
Drug  
Record

No granular prescription info,  
scanned Rx image only

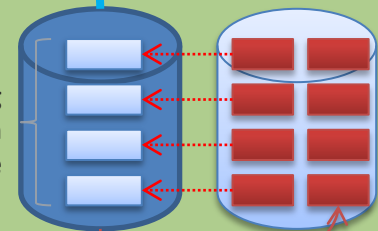
Coded information, full / partial  
interoperability

Local drug  
information  
database

non-coded text information

No mapping

Local drug  
information  
database



Mapped to MTT  
concepts

Extracted from Seminar on "Sharing Drug Records in Electronic Health Record (eHR) System – What You Need to Know"

22 & 23 Nov 2010 – There are FOUR ways to share our drug records to eHR.

Barcode: 0010043

診所/醫生機構  
Clinic/Institution

正體姓名  
Name (in block letters)

年齡/性別  
Age/Sex

高醫碼  
Morb Code

身份證號碼  
I.D. No.

Team Care Status Code

其他 (Please specify)

醫生處方及指示  
Prescription, instructions, etc.  
(Please cross out unused space)

Amoxil 2g PO Stat 1 hr pre-op  
(For Antibiotic Prophylaxis  
Before dental procedure)

日期  
Date

DR 15A (Rev. 1/95)

## Prescription Image



No granular prescription  
info, scanned Rx image only

## About Prescription Orders

Barcode: 0010043

診所/醫生機構  
Clinic/Institution

正體姓名  
Name (in block letters)

年齡/性別  
Age/Sex

高醫碼  
Morb Code

身份證號碼  
I.D. No.

Team Care Status Code

其他 (Please specify)

醫生處方及指示  
Prescription, instructions, etc.  
(Please cross out unused space)

Amoxil 2g PO Stat 1 hr pre-op  
(For Antibiotic Prophylaxis  
Before dental procedure)

日期  
Date

DR 15A (Rev. 1/95)

## Prescription Image

## About Dispensed Drugs

Order  
information

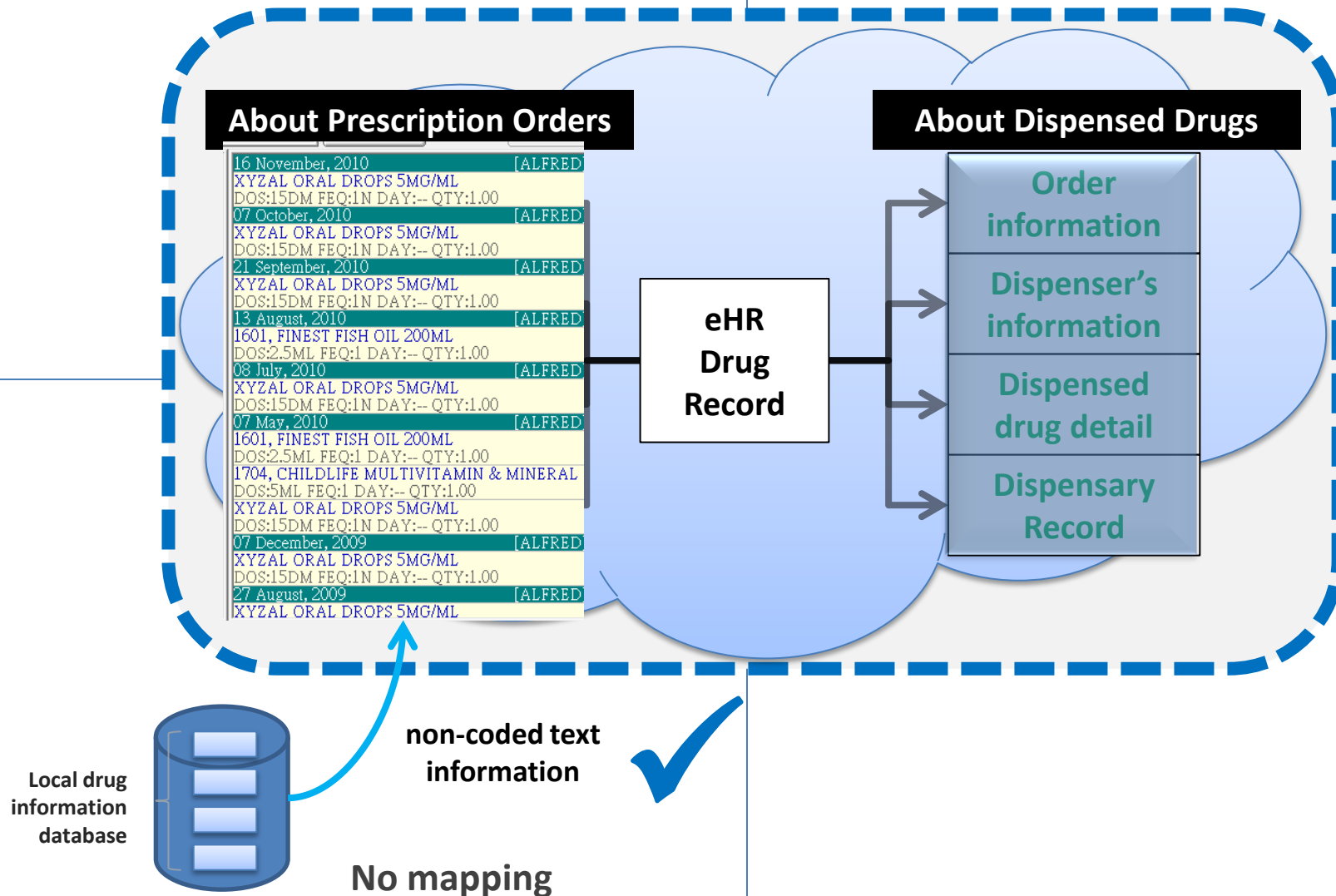
Dispenser's  
information

Dispensed  
drug detail

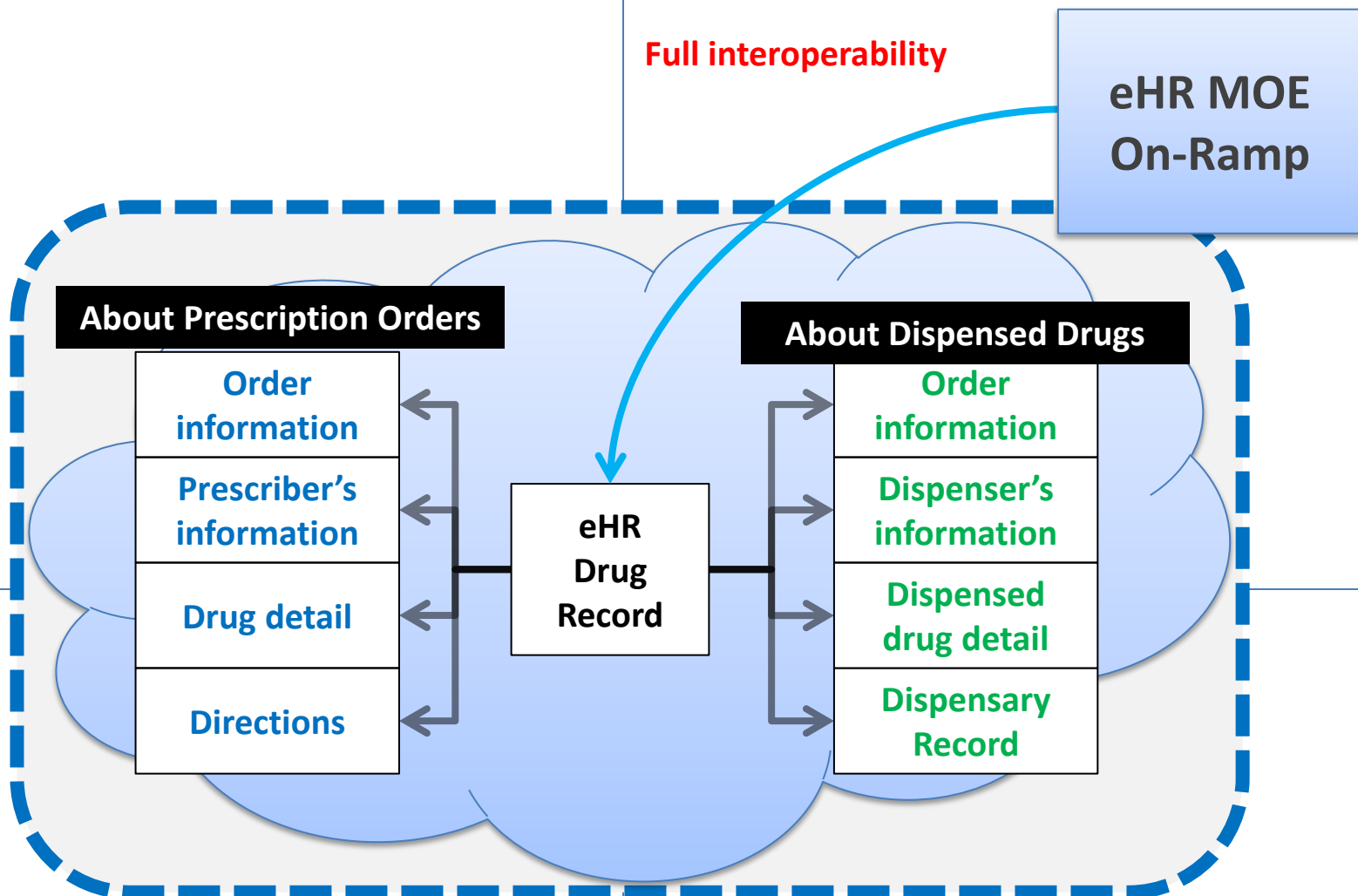
Dispensary  
Record

eHR  
Drug  
Record

In summary, the eHR drug record has two arms : Prescribing + Dispensing records



In summary, the eHR drug record has two arms : Prescribing + Dispensing records



In summary, the eHR drug record has two arms : Prescribing + Dispensing records

## About Prescription Orders

### actual medicinal product

ConceptID	HK-Reg
-----------	--------

Product name
--------------

Trade name
------------

Virtual Therapeutic Moiety
----------------------------

Route
-------

Dose Form
-----------

Extra info
------------

Strength
----------

Extra info
------------

Ingred.	Strength	unit
	UOM	unit

Manufacturer	Country
Cert. holder	Legal Class.

Prescribing unit
------------------

Dispensing unit
-----------------

Base unit
-----------

#### HKMTT Auxiliary Concepts

Therapeutic Class.
--------------------

Route
-------

Prescribing dose unit
-----------------------

Base unit
-----------

Dispensing dose unit
----------------------

Duration unit
---------------

Drug code

Trade name

Drug name

Dose form

Strength

Special properties

Order line no.

Ordered Drug

Order  
information

Prescriber's  
information

Drug detail

Directions

Dose line no.

Ordered dose  
instructions

Dose

quantity

Route

frequency

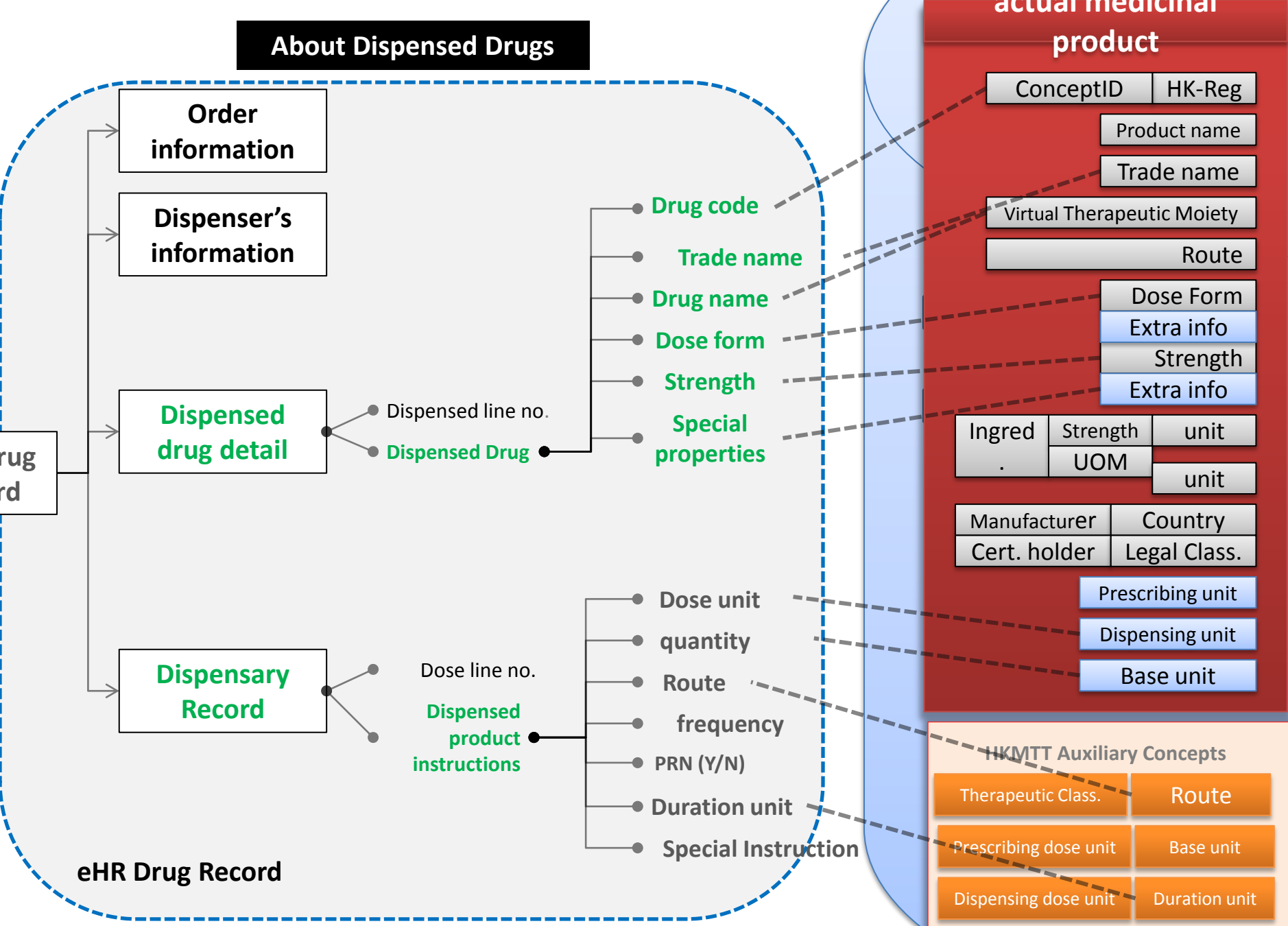
PRN (Y/N)

Duration

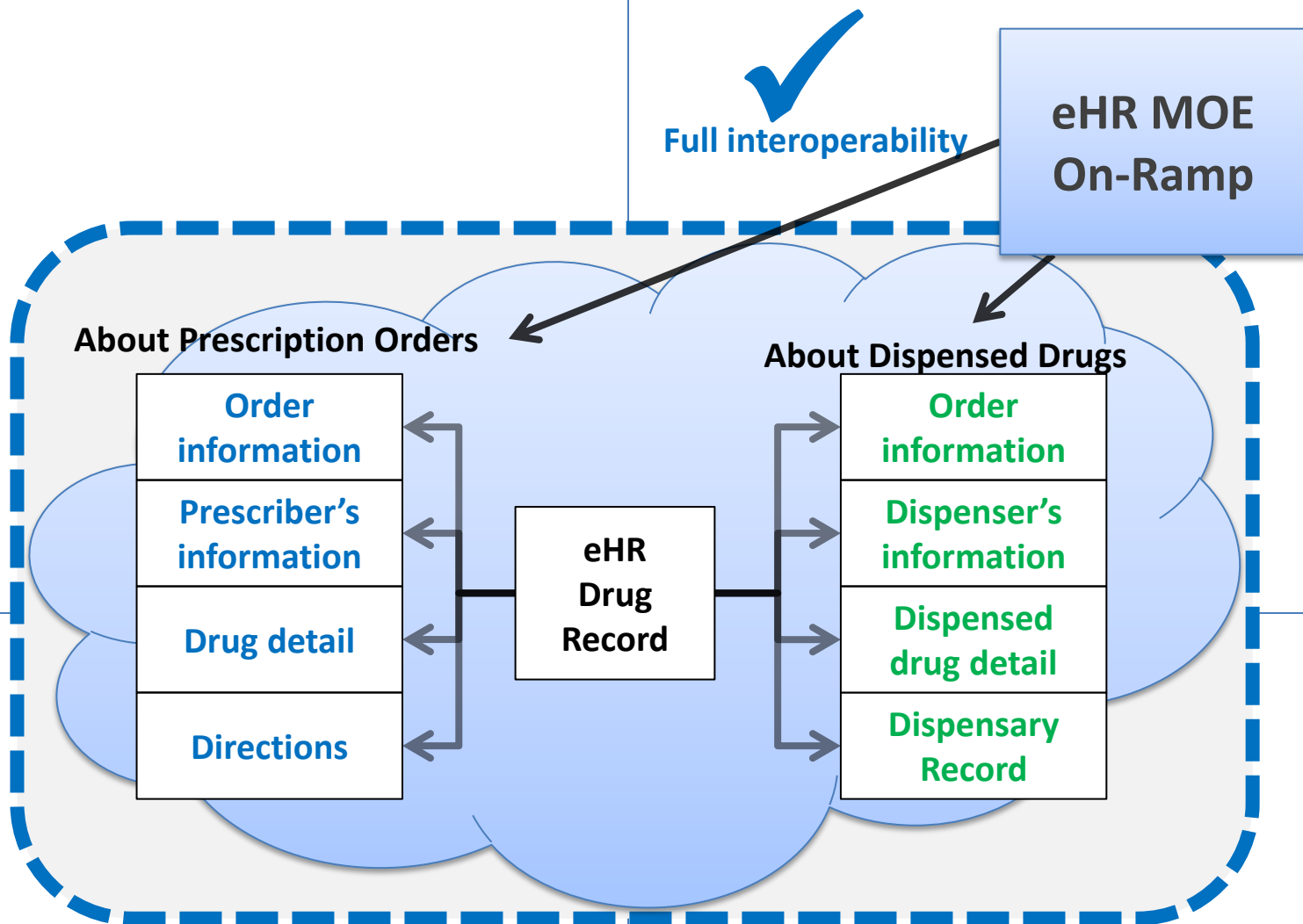
Special Instruction

eHR Drug Record

HKMTT provides standard terminologies to support eHR prescribing records

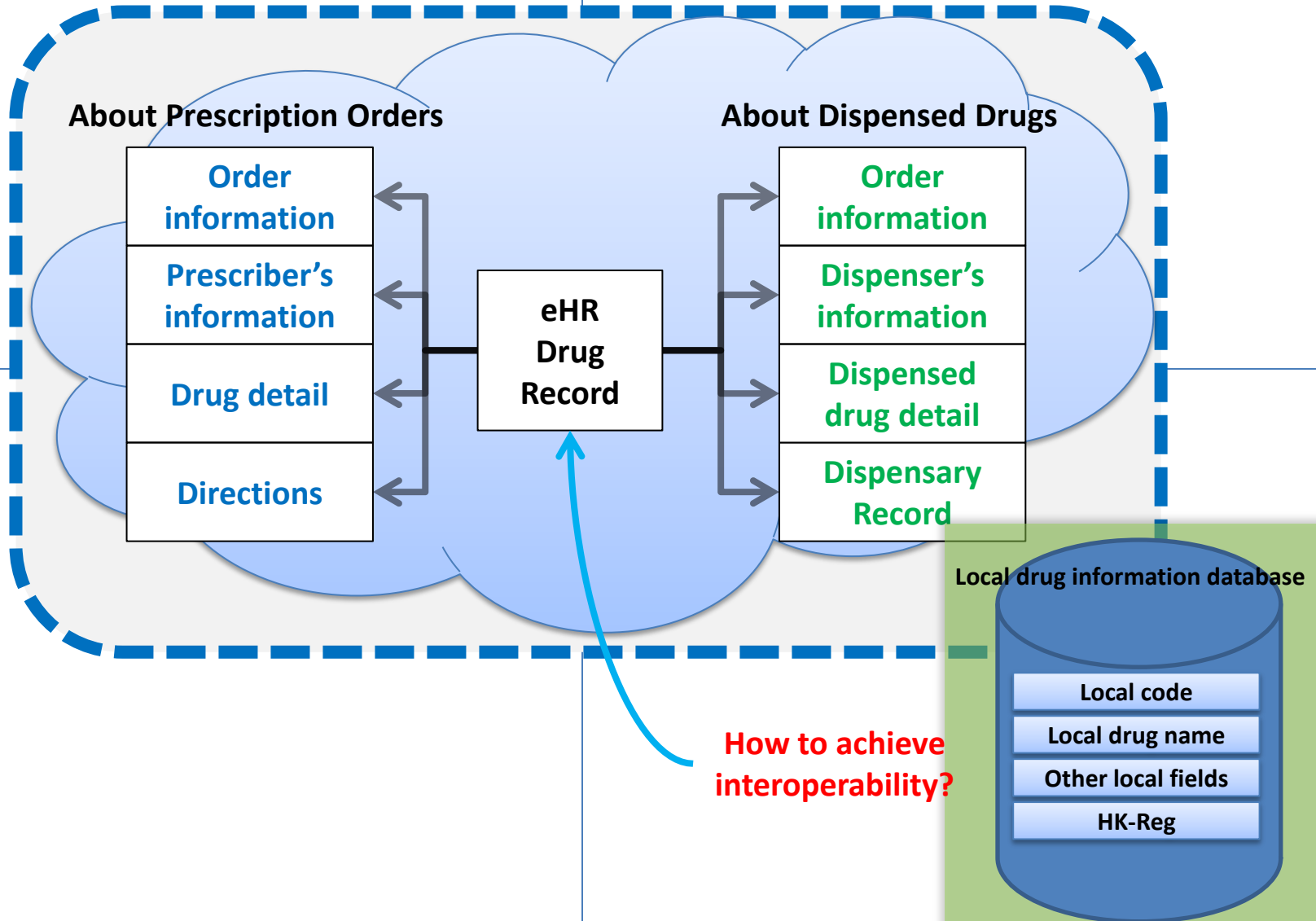


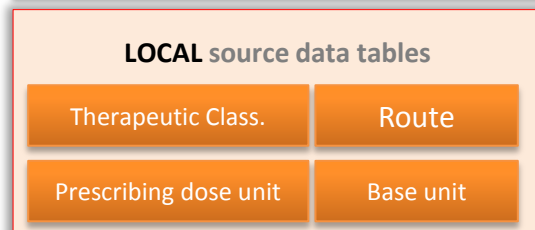
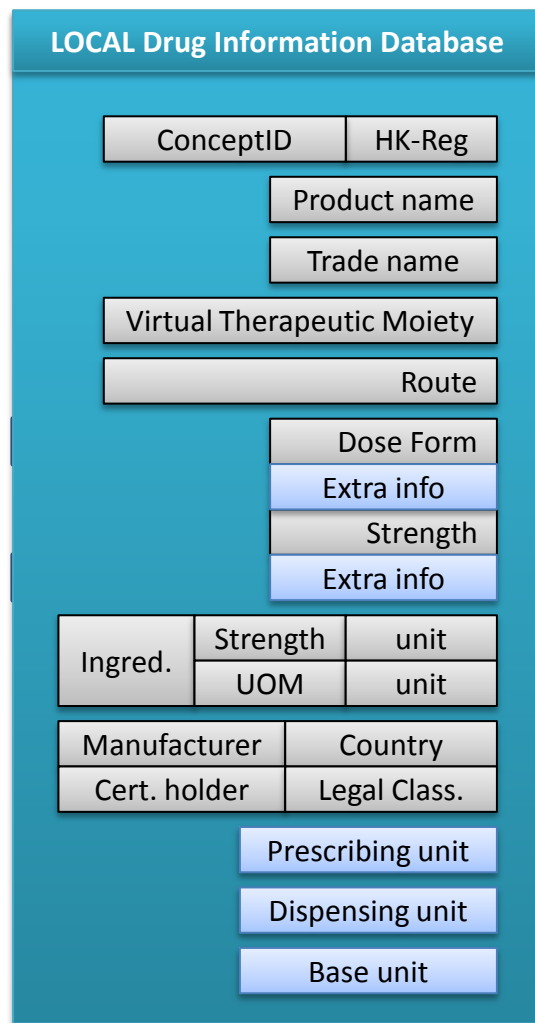
HKMTT provides standard terminologies to support eHR dispensing records



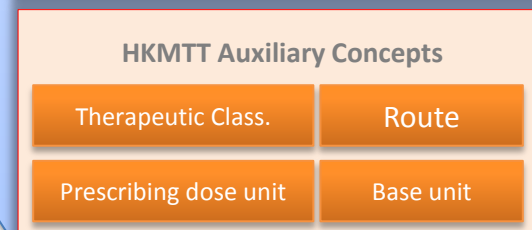
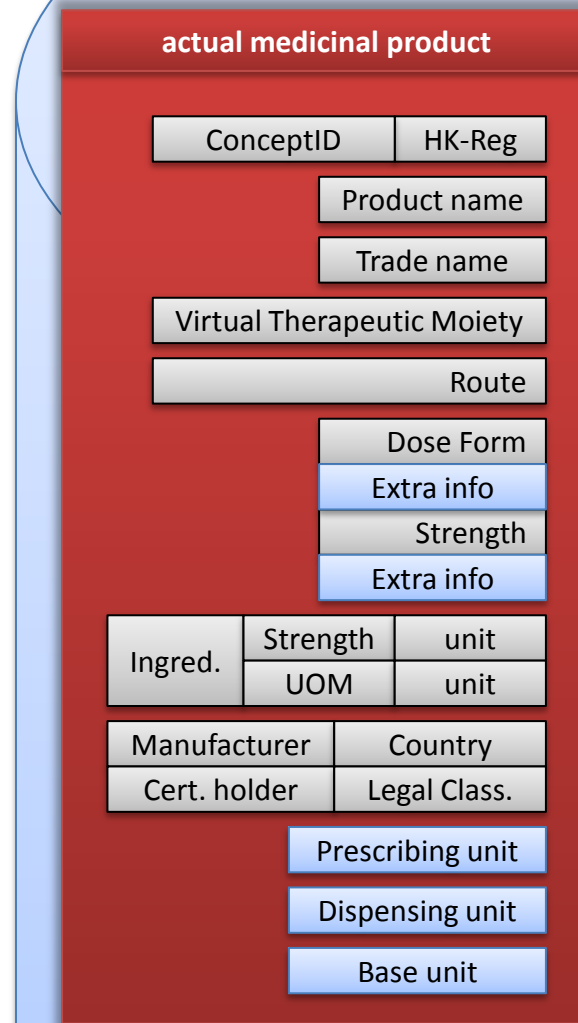
So every drug record data components submitted by CMS OnRamp will be in FULL COMPLIANCE with eHR MTT standard format





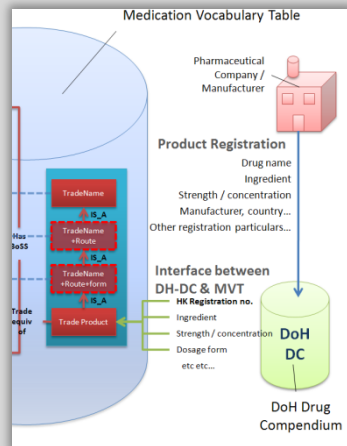


=



By defining the eHR record content components that is supported by HKMTT, we define the “RECOMMENDED DATA ELEMENTS” that should also be maintained by local drug information database, in order to support drug record-sharing.

# The Plan



develop  
**Co-Production Mechanisms**

HK reg.	Actual Medicinal Product	Routed Trade Name
51979	Ancobon (5-fluorouracil) oral capsule 500 mg	Ancobon (5-fluorouracil) oral capsule 500 mg
41418	Acyclovir Stada (acyclovir) topical cream 5 %	Acyclovir Stada (acyclovir) topical cream 5 %
47049	Zovirax Cold Sore Cream (acyclovir) topical cream 5 %	Zovirax Cold Sore Cream (acyclovir) topical cream 5 %
17375	Zovirax (acyclovir) eye ointment 3 %	Zovirax (acyclovir) eye ointment 3 %
44713	Cusiviral (acyclovir) eye ointment 3 %	Cusiviral (acyclovir) eye ointment 3 %
44957	Super-E (d-alpha-tocopherol) oral capsule 200 international unit	Super-E (d-alpha-tocopherol) oral capsule 200 international unit
45083	Ametop (amethocaine) topical gel 4 %	Ametop (amethocaine) topical gel 4 %
39546	Amoxycillin (Bright Future) oral capsule 250 mg	Amoxycillin (Bright Future) oral capsule 250 mg
41459	APT Amoxycillin (amoxycillin (as trihydrate)) oral capsule 250 mg	APT Amoxycillin (amoxycillin (as trihydrate)) oral capsule 250 mg
59660	Blackmores Vit D3 (cholecalciferol) oral capsule 1000 international unit	Blackmores Vit D3 (cholecalciferol) oral capsule 1000 international unit
55341	Novorapid (insulin aspart human) subcutaneous injection, cartridge 100 international unit / 1 ml	Novorapid (insulin aspart human) subcutaneous injection, cartridge 100 international unit / 1 ml
05569	Trental (oxpentifylline) oral controlled-release tablet 400 mg	Trental (oxpentifylline) oral controlled-release tablet 400 mg
33470	Predfoam (prednisolone (as sodium metasulphobenzoate)) rectal foam 20 mg / 1 application	Predfoam (prednisolone (as sodium metasulphobenzoate)) rectal foam 20 mg / 1 application
52336	Infloran (lactobacillus acidophilus + bifidobacterium bifidum) oral capsule	Infloran (lactobacillus acidophilus + bifidobacterium bifidum) oral capsule
52336	Infloran (lactobacillus acidophilus + bifidobacterium bifidum) oral capsule	Infloran (lactobacillus acidophilus + bifidobacterium bifidum) oral capsule
47289	Nicotinell (nicotine) buccal chewing gum (polacrillex) 2 mg (fruit)	Nicotinell (nicotine) buccal chewing gum (polacrillex) 2 mg (fruit)
08615	Flamazine (sulphadiazine silver) topical cream 1 %	Flamazine (sulphadiazine silver) topical cream 1 %
31278	Dermaize (sulphadiazine silver) topical cream 1 %	Dermaize (sulphadiazine silver) topical cream 1 %
37804	Bruderma (sulphadiazine silver) topical cream 1 %	Bruderma (sulphadiazine silver) topical cream 1 %
35575	Solmucol 100 (acetylcysteine) oral granules 100 mg / sachet	Solmucol 100 (acetylcysteine) oral granules 100 mg / sachet
45131	Fluimucil (acetylcysteine) oral granules 100 mg / sachet	Fluimucil (acetylcysteine) oral granules 100 mg / sachet
49037	Mutamso (acetylcysteine) oral granules 100 mg / sachet	Mutamso (acetylcysteine) oral granules 100 mg / sachet
45130	Fluimucil (acetylcysteine) oral granules 200 mg / sachet	Fluimucil (acetylcysteine) oral granules 200 mg / sachet
35739	Solmucol 600 (acetylcysteine) oral granules 600 mg / sachet	Solmucol 600 (acetylcysteine) oral granules 600 mg / sachet
43391	Fluimucil A (acetylcysteine) oral granules (sugar-free) 100 mg / sachet	Fluimucil A (acetylcysteine) oral granules (sugar-free) 100 mg / sachet
43411	Fluimucil A (acetylcysteine) oral granules (sugar-free) 200 mg / sachet	Fluimucil A (acetylcysteine) oral granules (sugar-free) 200 mg / sachet

prepare  
**MTT Data Content**

**Appendix - Route**

The MVT routes will be referencing, and with their definitions extracted from the following:

- UK NHS shared National Medication Product Review (NMPS) - the NMPS route extracts of European Medicines for the Supply of Medicines to Hospitals (EMSH) Standard Series
- Australian TGA Approved Nomenclature for Medicines - Chapter 2 - Australian Approved Terms for Use in the Completion of Applications for Registration or Listing of Therapeutic Goods
- WHOCC - Routes of Administration
- US Food and Drug Administration (FDA) Center for Drug Evaluation and Research (CDER) Data Standard Manual (Data Standard Manual) - Routes of Administration

**Table - MVT Routes List**

Route	Definition
Oral	Route pertaining to the mouth cavity
Rectal	Route pertaining to the rectum or a rectum
Eye	Administration into the eye
Intradermal	Administration to the inside, open, or over the skin surface
Intramuscular	Administration into the muscle
Intravenous	The effective or administration in a vein or vein
Intrathecal	Taking into the large by breathing through the nasal or oral respiratory route for use or directly effect
Intra-articular	Within an artery or artery
Intra-arterial	Within a joint or inside the cavity of a joint
Intracardiac	Within the heart
Intracranial	Within the tissues of the larger intracranial parts, but not including cerebral administration or application to the brain
Intracutaneous	Within the cavity of a hollow organ, as that of the cavity
Intraperitoneal	Within or into a cavity
Intravascular	Within the structure of the vein
Intravital	Within the veins
Intravital	Into or within the living parts separating the articulating surfaces of bones
Intravital	Administration within the system
Intravital	Intravital therapy into a natural space
Intravital	Within the brain
Intravital	Within the substance of the wall of an organ
Intravital	Within or into the substance of an organ

compile  
**Editorial Policies**

**Hong Kong Medication Vocabulary Table**

**Editorial Rules**

010043

診所/衛生機構  
Clinic/Institution

正體姓名  
Name (in block letters)

年齡/性別  
Age/Sex

身份證號碼  
I.D. No.

疾病碼  
Morb. Code

診察碼  
Exam Care Status Code

身份類別 (公務員/公務員家屬、退休公務員/退休公務員家屬) \*Delete as inappropriate.  
Status (\*GS/DGS/Pen/D of Pen) \*Delete as inappropriate.

其他  
Others (Please specify)

醫生處方及指示 Prescription, instructions, etc.  
(Please cross out unused space)

Amoxil 2g PO Stat 1 hr pre-op  
(For Antibiotic Prophylaxis  
Before dental procedure)

日期  
Date

DR 336 (Rev. 1/8/09)

Prescription Image

eHR MOE  
On-Ramp

Full interoperability

eHR  
Drug  
Record

No granular prescription info,  
scanned Rx image only

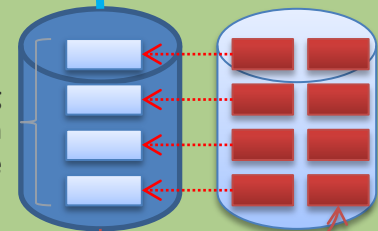
Coded information, full / partial  
interoperability

Local drug  
information  
database

non-coded text information

No mapping

Local drug  
information  
database



Mapped to MTT  
concepts

Different ways to achieve drug data sharing in eHR

# Long term benefits on interoperability

- Decision support checking
  - Drug allergies, duplication
- Epidemiology studies
  - Use of drug categories on health outcome
- Syndromal surveillance
  - Use of particular drug patterns
  - Antibiotic utilisation patterns