# WHO Drug Dictionary Type C Update
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Thanks to the OCUG,
and TMS Focus Group
for inviting WHO-UMC
and DBMS Consulting
to Present Today

## The Old and the New formats

The new name for the Old format is B-2.

B-1 is the same format but with different inclusion criteria - Name is not unique

C is the name of the New format.

## New Format and New Focus

The Old WHO Drug Dictionary was a dictionary of names

The new is a dictionary of Medicinal Products

## Medicinal Product

A unique combination of

- Name
- Name Specifier
- Market Authorisation Holder
- Country
- Substance and Strength*
- Dosage form*

* NOT in the Medicinal Product Table!

## Benefits of C

Different products might have different properties and effects

Allows for different levels of precision - keep all available information.E.g. Name/ Name+ Country/ Name+ Country+ MAH etc

Important for some user types

## Tools for migration

Mapping of datafields Old to New, New to Old

Mapping of key descriptors

Documents describing the structures, code systems, new features etc

## Tools for Quarterly Versioning I

List of changed Drug Code (drug record number, sequence 1 and sequence 2). E.g.. when a product is coded under new salt - Ampicillin changed to Ampicillin Sodium

Medicinal Product ID listed together with old and new drug code.

## Tools for Quarterly Versioning II

List of moved Medicinal Product IDs. Used when a product is coded under new salt and an entry already existed.

Old and new Medicinal Product ID listed together with old and new drug code.

## Tools for Quarterly Versioning III

List of changed drug names.

Drug code listed together with old and new drug name.

## Tools for Quarterly Versioning IV

Changed ATC codes, and Deleted ATC codes

Drug Code, ATC code and year/quarter

Yearly ATC revision

## Tools for Quarterly Versioning V

Changed CAS numbers, and old CAS numbers

Drug Code, old and new CAS numbers

## Tools for Quarterly Versioning VI

Need for a table with Drug Code and the corresponding Medicinal Product ID?

An “additional column” in B-2

# Legacy Type B Structure in TMS

- Based on the TMS User Guide documentation and “public” domain loading scripts available from Metalink and OCUG
- Uses Drug Code, which is the concatenation of Drug_Recnr, Sequence1, Sequence2, as the DICT_CONTENT_CODE for the terms in the Classification Group from the DD table
- The Drug Name is Unique in the DD table

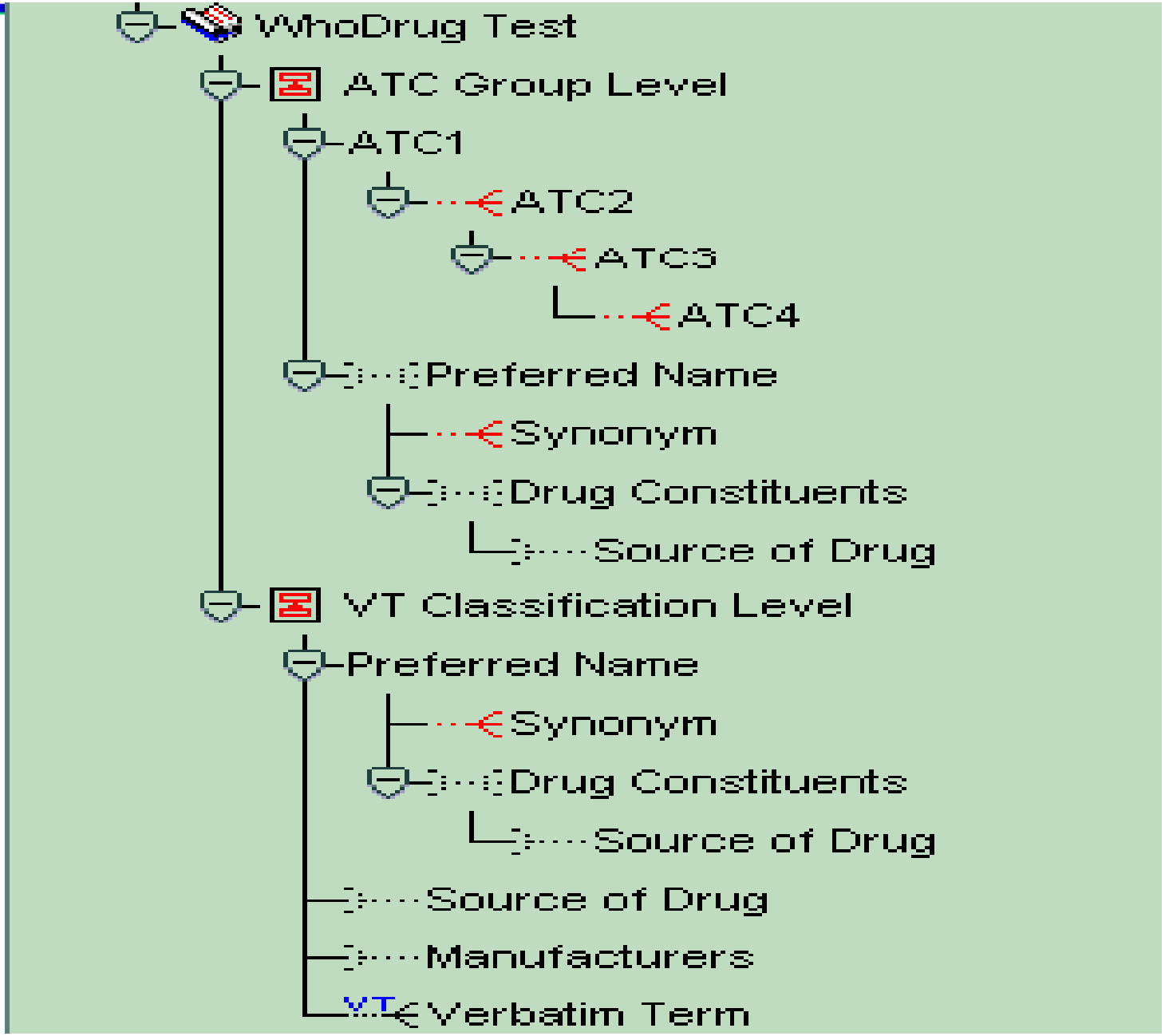
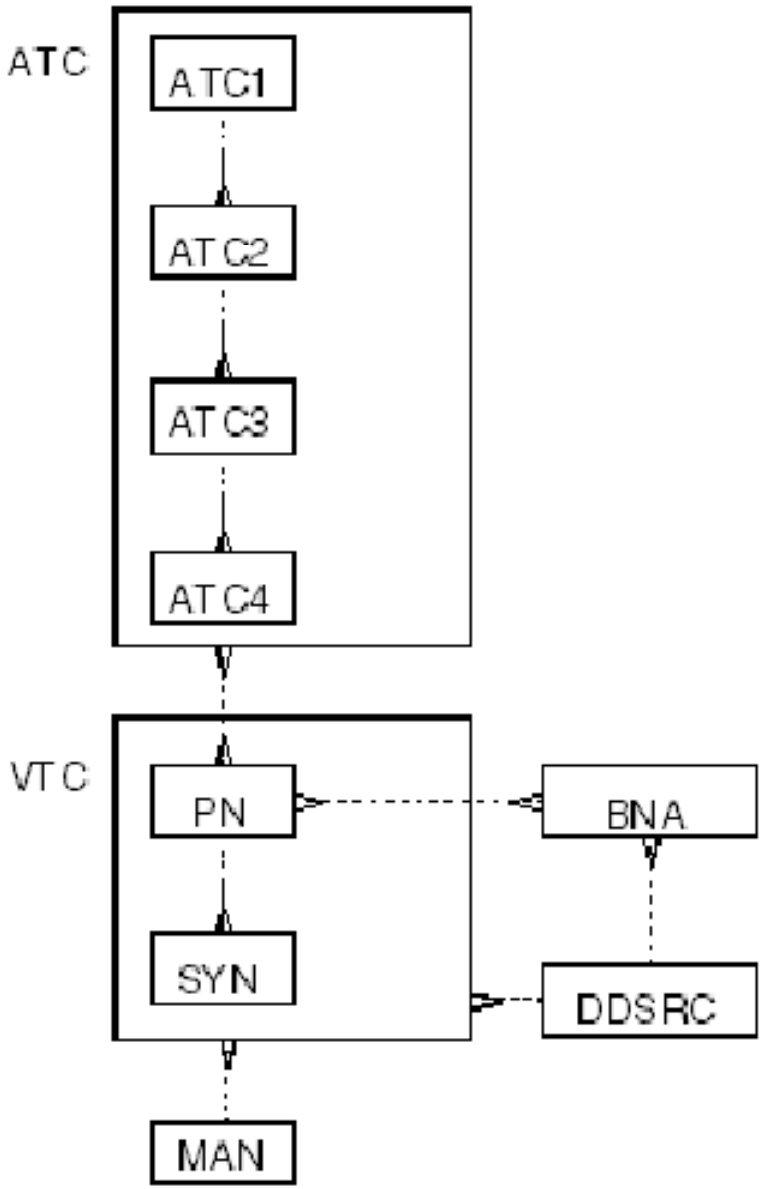
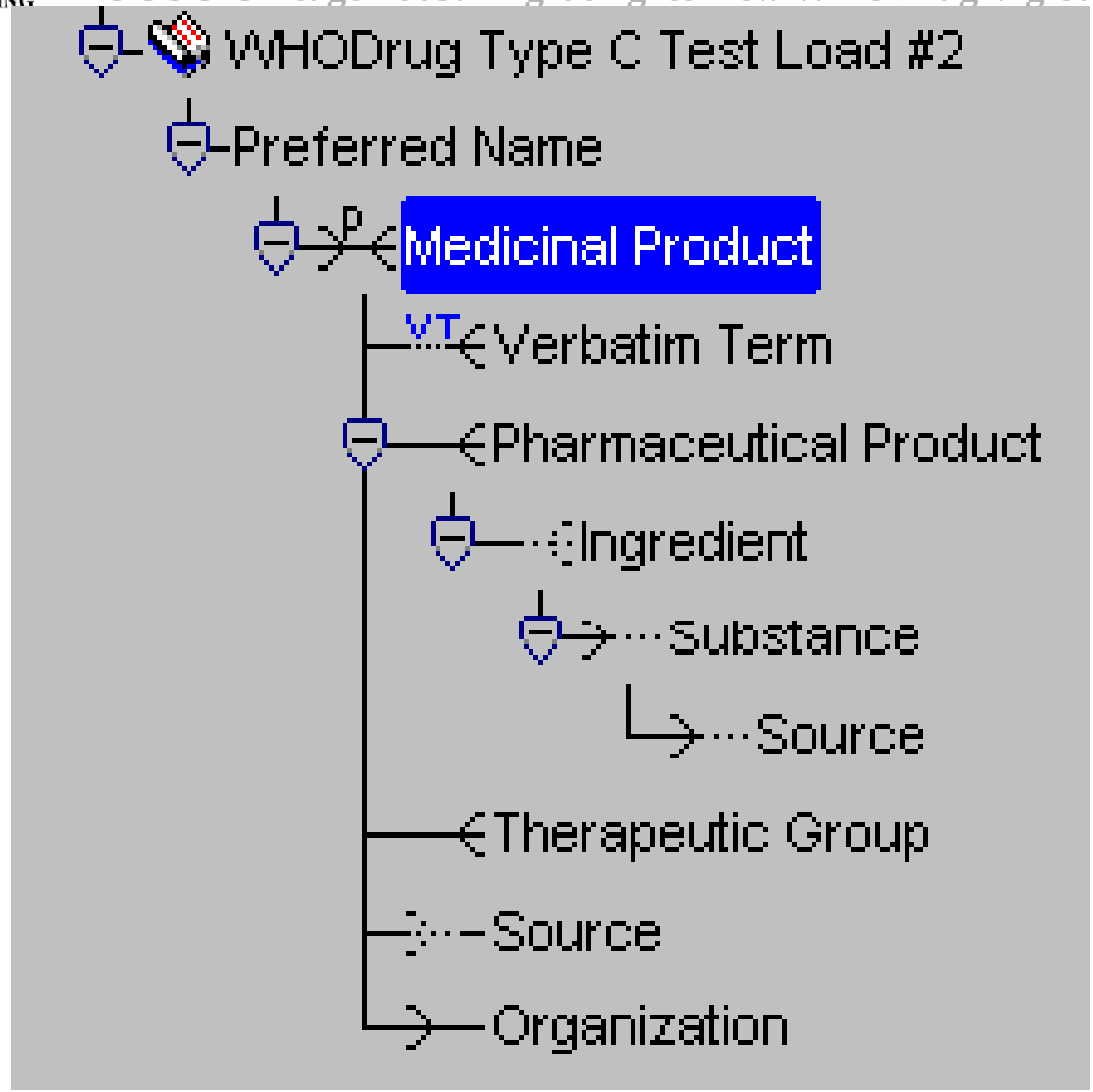

WhoDrug Test
ATC Group Level
ATC1
ATC2
ATC3
ATC4
Preferred Name
Synonym
Drug Constituents
Source of Drug
VT Classification Level
Preferred Name
Synonym
Drug Constituents
Source of Drug
Source of Drug
Manufacturers
VT
Verbatim Term

*Figure 4–3 Group levels in a sample WHO-Drug dictionary*




WHODrug Type C Test Load #2
Preferred Name
P
Medicinal Product
VT
Verbatim Term
Pharmaceutical Product
Ingredient
Substance
Source
Therapeutic Group
Source
Organization

# Mapping Process in TMS

- Since the structure of an existing TMS dictionary with coded data can not be changed, a mapping must be established to associate the existing TMS Dictionary to the new Type C data
- This involves
  - Updating the Term definition in the Classification Level
  - Mapping Drug_Code to the Medicinalprod_id
  - Creating new VTAs since the Terms are no longer Unique
  - Updating DICT_CONTENT_CODE keys where they have changed
- Even though the relation between ATCs is now at the Medicinal Product level, still relations of ATCs to Preferred Names can be established since Drug Recnr, Sequence1 and Sequence2 are provided.

# Definition of a Unique Classification Level in Type C

- TMS currently requires a Unique Term in the classification level of a dictionary, and this is also true in TMS 4.5, although an additional API to lookup terms by DICT_CONTENT_ALT_CODE as well as DICT_CONTENT_CODE should be available
- The Drug Name in the MP table is no longer Unique. Since the MP_ID represents a six part key, this key must either be logically expanded into the drug name or the MP_ID must be concatenated into the Term
- The expansion of the MP_ID into the Term will not allow autocoding of a Drug Name given without any additional details

```
SQL> desc whodrug_mp
 Name                                      Null?    Type
 ----------------------------------------- -------- ------------

 MEDICINALPROD_ID                          NOT NULL NUMBER(6)
 DRUG_RECNR                                NOT NULL VARCHAR2(6)
 SEQUENCE1                                 NOT NULL VARCHAR2(2)
 SEQUENCE2                                 NOT NULL VARCHAR2(3)
 GENERIC                                            VARCHAR2(1)
 DRUG_NAME                                 NOT NULL VARCHAR2(80)
 NAME_SPECIFIER                                     VARCHAR2(30)
 COUNTRY                                            VARCHAR2(3)
 MANUFACTURER                                       VARCHAR2(6)
 MA_HOLDER                                          VARCHAR2(6)
 SOURCE_CODE                                        VARCHAR2(3)
 SOURCE_COUNTRY                                     VARCHAR2(3)
 SOURCE_YEAR                                        VARCHAR2(3)
 PRODUCT_TYPE                                       VARCHAR2(3)
 PRODUCT_GROUP                                      NUMBER(6)
 DATE_ENTERED                                       DATE
 DATE_CHANGED                                       DATE
```

ASCORBIC ACID NONE UNS UNSPECIFIED

BUPHENINE HYDROCHLORIDE NONE UNS UNSPECIFIED

BUPHENINE NONE UNS UNSPECIFIED

SILVER PROTEIN MILD NONE UNS UNSPECIFIED

PROPICILLIN POTASSIUM NONE UNS UNSPECIFIED

PROPICILLIN NONE UNS UNSPECIFIED

HYDRALAZINE HYDROCHLORIDE NONE UNS UNSPECIFIED

HYDRALAZINE NONE UNS UNSPECIFIED

# Defining VTAs to support TMS Autocoding

- In order to not destroy autocoding, it is necessary to load VTAs for the cases where there is one occurrence of an MP_ID for a Drug_Name. This occurs for over 75% of cases in WHODrug 1Q 2003
- The remaining cases where there are multiple occurrences of a single drug name, some simple algorithms can be used to choose an association of a single Drug_Name
  - Choose the Name Specifier of UNS
  - Choose the Country as Unspecified
- In some cases, the same Drug Name is associated with different Drug_recnr in the MP table. There should never be a VTA associated to these drugs

# Changes to Key Mappings

- The actual keys change for the Source, Organization, and Country
- Translation tables are supplied to update the keys, which can update the existing TMS Structure with tms.tms_user_mt_dictionary.UpdateContent
- These Keys were used in the existing TMS structure
  - MAN Level: Dict_content_code Company_code becomes Organization_id
  - MAN Level: Value_1 Country becomes New Country Code
  - DDSCR Level: Dict_content_code Old Source_Code becomes New Source_code
- Dict Content Code is essential for updating relationships for these levels and must be corrected.

## Sources of drugs (DDSRCE)

Source code
Source
Country code

## Source (SRCE)

SRCE.Source code (Translation table supplied)
SRCE.Source
SRCE.Country code

## Manufacturers (MAN)

Company code
Name
Country code

## Organization (ORG)

ORG.Organization_Id (Translation table supplied)
ORG.Name
ORG.Country code

## Country codes (CCODE)

Country code
Country name

## Country code (CCODE)

CCODE.Country code (Translation table supplied)
CCODE.Country name

# Mapping the Drug Code to MP_ID

- Since there is not an exact one-to-one association between Drug Code and Medicinalprod_id in the Type C structure, an additional table will be provided by the WHO-UMC which will associate the Drug Code to a single MP_ID, containing an equivalent amount of information.
- This is possible because it does contain the additional data for the MP_ID key
- The additional MP data can be loaded as new records in the dictionary update process, and they can be used in future coding.

| Drug dictionary (DD) | Medicinal + Pharmaceutic product (MP + PP) |
|---|---|
| Drug record number | MP.Drug record number |
| Sequence number 1 | MP.Sequence number 1 |
| Sequence number 2 | MP.Sequence number 2 |
| Check digit | NA |
| Designation | NA |
| Source year | MP.Source year |
| Source code | MP.Source code |
| Company code | MP.MA Holder |
| Number of ingredients | PP.Number of ingredients |
| Salt/ester code | NA |
| Year, quarter | MP.Create date |
| Drug name | MP.Drug name + Name specifier |

| ATC classification (DDA) | Therapeutic group (THG) |
|---|---|
| Drug record number | NA |
| Sequence number 1 | NA |
| Sequence number 2 | NA |
| Check digit | NA |
| ATC code | THG.ATC code |
| Year, quarter | THG.Create date |
| Official ATC code | THG.Official ATC code |

| Ingredients (ING) | Ingredient (ING) |
|---|---|
| Drug record number | NA |
| Sequence number 1 | NA |
| Sequence number 2 | NA |
| Check digit | NA |
| CAS number | SUN.CAS number |

# Impacts in TMS for Base Dictionary Update

- For the initial update, there will be a large number of reclassifications, since almost every term will change
- Many previously coded terms would have to be recoded
- Batch Validation times should be tested
- Large one time conversion cost, but ongoing, the usage of the Supported Type C structure will be simpler since the DICT_CONTENT_CODE keys will be updated at all levels.

## More information

- www.whodrugdictionary.com
- drugdictionary@who-umc.org
- sales@who-umc.org
- Electronic copies will be posted on the OCUG Intranets Site www.clinicalserver.com
- Additional copies will be available at DBMS Consulting's Booth #3 in the Exhibit Hall, along with
    - OPA 4.5 Architecture Posters
    - Flashlight giveaways