

**NHS dictionary of medicines and devices (dm+d)**

**Data Model**

Release 2.0 Version 4.0

October 2024

This document is produced and maintained by NHS Business Services Authority in partnership with NHS England.

**Purpose of this document**

To provide a specification which describes the structure and content of the NHS dictionary of medicines and devices (dm+d) covering primary care and secondary care elements. This combined specification is limited to drugs that are prescribed, dispensed or administered within the healthcare environment in the NHS, medical appliances which are listed in the NHS England and Wales Drug Tariff and data associated with medicinal products that are pertinent to reimbursement by the NHS Business Services Authority.

For more information on the status of this document, please contact the dm+d help desk:

Email: dmdenquiries@nhsbsa.nhs.uk

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# Document control since 2023

Document Control prior to 2023 can be found in Appendix 1

| Date isssued | Version | Brief summary of change | Amended / Approved by |
| --- | --- | --- | --- |
| February 2023 | Release 2.0 Version 3.2 | 4.4.Virtual Medicinal Product (VMP) Attributes virtual medicinal product identifier NOTES:As part of the dm+d and SNOMED CT UK Drug Extension Enhancements work, text updated to reflect a move away from using core SNOMED CT International identifiers for VMPs and to exclusively allocating SNOMED CT Drug Extension name space identifiers (except invalid concepts are out of scope of this change) | NHSBSA |
| September 2024 | Release 2.0 Version 3.3 | Correction of typo of version number in Document Control February 2023 was R2 v3.2 not 3.1.Clarification of SNOMED ID as either “International or UK extension ID” or “UK extension ID only”.VTM ingredient added to VTM section.Correction of cardinality in table and text for VTM to VMP. A VTM can have zero to many VMPs.Addition of values Part VIIIC and Part VIIID to DT payment category values.Examples updated.Sections 4.8.6, 4.8.7 and 4.8.8 added to Ancillary files section | NHSBSA / NHS England |
| October 2024 | Release 2.0Version 4.0 | Version number corrected. Version 3.3 should have been titled version 4.0DT Payment category clarification of retired values. | NHSBSA / NHSE |

This is a controlled document. On receipt of a new version, please destroy all previous versions (unless a specified earlier version is in use throughout the project).

**Foreword**

This specification of the NHS dictionary of medicines and devices (dm+d) has been prepared jointly by NHS England and the NHS Business Services Authority (NHSBSA).

This is the specification that underpins the second release of the dm+d. This release incorporates products used within the secondary care sector (previously known as the Secondary Care Drug Dictionary) into the first release (previously known as the Primary Care Drug Dictionary).

The intellectual property rights of the NHS dm+d rest within the National Health Service.

If, for any reasons, there is found to be the need for further modifications to the design, these will be subject to the existing change control mechanism.

# Introduction

**Aim**

The aim of this document is to provide a detailed background and outline specification for the NHS dictionary of medicines and devices (dm+d) that has been developed for use in the NHS.

**Historical Policy Context for UKCPRS Programme /dm+d**

This section has been moved to Appendix 3

**dm+d — the NHS Medicines Standard**

In July 2012 the NHS dm+d was approved as an ‘Interoperability’ Standard (ISB 0052) by the Information Standards Board for Health and Social Care (ISB HaSC). The Standard is now referred to as SCCI0052.

[SCCI0052: Dictionary of medicines and devices (dm+d) - NHS England Digital](https://digital.nhs.uk/data-and-information/information-standards/information-standards-and-data-collections-including-extractions/publications-and-notifications/standards-and-collections/scci0052-dictionary-of-medicines-and-devices-dm-d)

This standard is a dictionary for medicines licensed in the UK. The Standard uses the dm+d product. The scope of the standard is currently for the National Health Service in England.

The primary purpose of the Standard is to support interoperability through facilitating the transfer of medicines information between diverse clinical systems using a common coded language by the provision of its unique identifiers (codes) and associated textual descriptions. In August 2013, the Standard was amended to include the Global Trade Item Numbers (GTIN) file as part of the main data pack, prior to this the GTINs data had been published only as a bonus file.

Please note that the BNF/ATC/DDD file, VTM Ingredient and History files do not form part of the Standard.

**The scope** **of dm+d**

In terms of product coverage, the scope of dm+d is to include individual medicinal products that are available within the NHS for the treatment or alleviation of discomfort in human patients in both primary and secondary care and personal medical devices as described below.

The original intention for the dictionary outlined by the UKCPRS programme was for it to be the single product to represent the Primary Care Drug Dictionary, the Secondary Care Drug Dictionary and the Medical Devices Dictionary. However as the scope of medical devices used in secondary care would potentially overwhelm the current content it was determined that the items for inclusion in the native dm+d XML files would be as detailed in Appendix XXII of the NHS dm+d Editorial Policy.

A second scoping aspect of the dictionary relates to the range/type of information that is associated with each entry within the dictionary. Discussions with stakeholders from within various user domains across the healthcare spectrum identified a number of requirements which overlap, or which at least are contiguous. The roles of the various stakeholders (actors) are listed in the table below. The requirements themselves were captured by the process of documenting storyboards, then deriving use cases and requirements from these.

Table 1: UKCPRS/ dm+d Actors (non-exhaustive)

|  |  |
| --- | --- |
| Patient | Referrer |
| Prescriber | Dispenser |
| Specialist/Consultant | Medication Record |
| Supplier | NHS Business Services Authority |
| Protocol writer | Administrator |
| Commissioner/Purchaser | Validator |
| Buyer | Manufacturer |
| Waste Disposer | Recycler |
| Dictionary Support Group | Clinical Decision support |
| Other Carer (PAMs, clinical support services etc.) | Researchers |

This specification avoids an All-Function Drug Dictionarywhich would aim to satisfy all of the various needs relating to medicinal products within the NHS. The construction of a comprehensive dictionary would be a major undertaking and there would be a considerable ongoing maintenance responsibility. Limiting the specification to a minimalist representation which would only specify those features of medicinal products that are commonly required by all users is also avoided since it would not be sufficient in itself to support any particular activity such as prescribing or dispensing.

For these reasons it was decided at the Programme Board that neither the minimalist nor the maximalist approach was acceptable and that the optimal product is a dictionary whose entries are described in Table 2. This approach was endorsed the NHS Information Standards Board in granting NHS ‘Fundamental’ standard status to the dictionary.

Table 2: Information elements within the scope of the NHS dictionary of medicines and devices

|  |  |
| --- | --- |
| Product Identification | Medicinal Product Names |
|  | Strength |
| Route of Administration | Pack Information |
| Price | Ingredient substances |
| Legal Status | Form |
| Units of weight, volume and strengthSupplier identity | Certain specified additive substances (excipients)Reimbursement information |

In addition the dictionary will provide the following code lists for:

* forms & routes of administration
* medicinal product suppliers
* substances encountered in medicinal products
* units of weight, volume and strength

Examples of the knowledge based information that is not to be considered are represented in Table 3.

Table 3: Knowledge-based information elements outside the dictionary scope

|  |  |
| --- | --- |
| Dose checking | Normal dose range |
| Indications | Contra-indications |
| Adverse effects | Cautions in use |
| Counselling instructions | Drug : drug interactions |
| Drug : food interactions | Cautionary label recommendations |

# General outline of requirements

### The NHS dictionary of medicines and devices

Section 4 of this document provides the specification for the NHS dictionary of medicines and devices. The dictionary has five components: Virtual Therapeutic Moiety (VTM), Virtual Medicinal Product (VMP), Actual Medicinal Product (AMP), Virtual Medicinal Product Pack (VMPP) and Actual Medicinal Product Pack (AMPP). For each entry within these five dictionary components there will be associated sets of information.

In addition to the five XML files for the dictionary components described above there are XML files for Ingredients, GTINs and a lookup file containing reference data, examples of which are forms, routes, units of measure, suppliers. Also available are supplementary files for BNF data at VMP level, VTM ingredient file and a historic data file.

The scope of the dictionary was presented in the previous section. However, since the dictionary is not expected to be exhaustive, the decision as to which products are to be included or excluded from the dictionary will be taken by the Content Committee (previously known as the Editorial Board).

The dictionary shall not provide a mapping between its entries and other medicinal product coding schemes such as READ, or PIP etc. However where it is deemed appropriate the programme will assist in facilitating mapping if possible.

This specification notes that there is a need to track changes in dictionary entries over time. Several attributes that are subject to change are specified with having ‘previous’ and ‘current’ values together with the date of change. The previous values and dates of change are to facilitate end user systems providing access to, and tracking of, previous values of attributes over time - for audit purposes. In addition dm+d codes can change to keep up with international SNOMED codes. As dm+d only allows the current and previous codes a supplementary history file is provided for VTM, VMP, Ingredients, Form, Routes, Units of Measure and Suppliers.

Periodically, entries in the dictionary will be found to be no longer relevant or valid. These entries will then be marked as invalid but will remain in place within the dictionary. Whether eventually new versions of the dictionary are allowed to omit these invalid entries is left to Editorial Policy.

### SNOMED CT Identifiers

The dictionary shall allocate unique SNOMEDCT identifiers for each entry of VTM, VMP, AMP, VMPP, AMPP, Ingredient Substances, Form, Route, Supplier and Unit of Measure. These shall either be derived from the SNOMED CT International identifiers data set where appropriate (SNOMED CT International ID), or from the NHS namespace identifier for the SNOMED CT UK drugs extension (SNOMED CT UK extension ID).

Where a SNOMED CT International identifier exists for a VTM, Ingredient, Form, Route or Unit of Measure it will be assigned. If no identifier is available then a SNOMED CT UK extension identifier will be assigned. If at a later date an international identifier is available the concept will be updated to the international identifier. Please note that it is also possible for a SNOMED CT International identifier to be no longer appropriate in which case the concept would be assigned a new UK extension identifier.

The concepts AMP, VMPP, AMPP, Supplier and from 2023 VMP[[1]](#footnote-1) will always be assigned a SNOMED UK extension identifier.

The master-file of NHS namespace concept identifiers is held by NHS England on behalf of the service and has been issued to the NHS Business Services Authority as a dm+d authoring body.

No identifiers should be re-used within the dictionary. Each SNOMEDCT identifier is represented by a 64-bit integer and therefore may be up to a maximum of 18 characters.

# 3. Ancillary support files

In addition to the main dictionary entries there is a requirement to supply and support a number of additional files whose coded entries are used by the dictionary. In particular files are required for the concepts described below (non-exhaustive).

Note that for the tables described below:

* The unique identifiers attached to the concepts shall not be tied to hierarchic position or other contexts; they shall not carry meaning.
* The unique identifiers shall not be reused after a term becomes obsolete or is superseded.
* Updates and modifications to these tables shall be subject to rigorous version control.
* SNOMEDCT identifiers are 64-bit integers and therefore may be up to a maximum of 18 characters.
* A supplementary history file is available to determine previous IDs for the Ingredient, Form, Route, Unit of Measure and Supplier look up files.
* Further information on these additional files can be found in the Technical Specification of Data Files document.

|  |  |
| --- | --- |
| Form*Look up file in dm+d core extract file* | Each entry in this code list will contain a unique identifier taken from the set of SNOMEDCT identifiers, either an International ID or a UK extension ID, and a textual description representing a form. This list shall contain entries that relate to forms as they are usually encountered in dispensing rather than in administration.Examples: oral capsule, eye drops, oral tablet, vaginal tablet, cutaneous liquid |
| route of administration*Look up file in dm+d core extract file* | Each entry in this code list will contain a unique identifier taken from the set of SNOMEDCT identifiers, either an International ID or a UK extension ID, and a textual description representing a route of administration.Examples: intramuscular, oral, nasal, rectal |
| ingredient substance*Ingredient file in dm+d core extract file* | Each entry in the code list/ingredient file will contain a unique identifier taken from the set of SNOMEDCT identifiers, either an International ID or a UK extension ID, and a textual description representing any of the following:* a substance which acts as an actual ingredient substance within medicinal products (e.g. nebivolol hydrochloride, erythromycin stearate)
* a basis of strength substance which is only available as a salt or other derivative but whose name may be used in generic prescribing. (e.g. nebivolol, erythromycin, heparin)
* an excipient from the Editorial Board defined list of interesting excipients. Please note that from October 2022 the ‘interesting excipient’ ingredient data at AMP level is no longer populated. The excipient substances remain in the ingredient file and the data fields under <AP\_INGREDIENT> remain but contain no data.
 |
| medicinal product suppliers*Look up file in dm+d core extract file* | Each entry in this code list will contain a unique SNOMEDCT UK extension identifier and a textual description of a supplier of one or more medicinal products. This code will originate from the UK extension. The supplier may or may not be the manufacturer of a medicinal product. Note: A supplier may have an invalidity flag indicating that this entry was invalid. The entry needs to be retained in case it was used prior to the detection of the error(s) which caused its invalidation. |
| units of measurement*Look up file in dm+d core extract file* | Each entry in this code list will contain a unique SNOMEDCT identifier, either an International ID or a UK extension ID, and a description or other generally recognisable representation of a unit of measurement with use within the drug dictionary. |
| ontology form & route*Look up file in dm+d core extract file* | Each entry in this code list will contain a unique code generated by the dictionary maintainer and a textual description representing a form and route.For example: capsule.oralsuspension.oralcapsulemodified-release.oralsolutioninjection.intravenoussolutioninjection.intramuscularThe form described here will represent the administration form rather than the dispensed form where these are different.The textual descriptions of form and route will be crucial to the drug ontology product that is related to the dictionary. Note: ontology form & route does not use SNOMED CT identifiers |
| GTIN*GTIN file in dm+d core extract file* | Where available all Actual Medicinal Product Packs (AMPPs) will be given a Global Trade Identification Number. |
| BNF and ATC*BNF file in dm+d bonus extract file* | Where available all VMPs will be given a British National Formulary (BNF) code, Anatomical Therapeutic Classification (ATC) code and a defined daily dose (DDD).Note: this information is no longer populated for AMPs |
| Historic Data *History file in dm+d bonus extract file* | Contains all previous identifiers for dm+d concepts that have a previous ID: VTM, VMP, Ingredients, Form, Route, Supplier, Unit of Measure. |
| VTM Ingredient*VTM ingredient file in dm+d bonus extract file* | Where available holds the link between the VTM identifier to the Ingredient identifier |

# Model and description of the NHS dictionary of medicines and devices

## 4.1 Introduction

In this design, the dictionary consists of five distinct sub-sections each section containing a set of entries. These sub-sections are:

Virtual Therapeutic Moiety (VTM)

Virtual Medicinal Product (VMP)

Actual Medicinal Product (AMP)

Virtual Medicinal Product Pack (VMPP)

Actual Medicinal Product Pack (AMPP)

These core concepts are defined below. Definitions of attributes are given in the text of the document. Further expansion of these definitions and examples of how these apply to different product types is provided in the Editorial Policy.

**Virtual Therapeutic Moiety (VTM)**

A Virtual Therapeutic Moiety (VTM) is the abstract representation of the substance(s), formulated as a medicinal product, intended by an authorising health care professional for use in the treatment of the patient.

Examples of Virtual Therapeutic Moieties:

 Atenolol

 Co-amoxiclav

Phenytoin sodium

 Doxorubicin

 Fluoruracil

 Paracetamol + Codeine + Buclizine

**Virtual Medicinal Product (VMP)**

A Virtual Medicinal Product (VMP) is an abstract concept representing the properties of one or more clinically equivalent Actual Medicinal Products, where clinical is defined as relating to the course of a disease.

Although Virtual Medicinal Product entries within the dictionary are expected to equate to prescribable products there will be a number of entries which are related to entities which cannot normally be prescribed or which cannot be represented in a way suitable for use in prescribing. For example, Norgestrel 150 microgram tablets are only encountered as a part of a combination pack and are not prescribable in any pack size in their own right. Another example is the generic representation of products containing more than two active ingredients, which do not have names based on international non-proprietary names, such as “Generic Kalten capsules”, which is not a suitable term for use in prescribing. Each Virtual Medicinal Product is therefore accompanied by a status flag which indicates its prescribing status. In most cases the Virtual Medicinal Product will equate to a generic prescribable product and the dictionary entry relating to the Virtual Medicinal Product will provide sufficient information to allow such generic prescribing.

The information relating to Virtual Medicinal Products (dose form, active ingredient(s) and strength(s), route of administration information and controlled drug information) is also intended to support aspects of decision support and general prescribing scenarios.

Examples of Virtual Medicinal Products:

Atenolol 100 mg tablets

Generic FemSeven Sequi transdermal patches

Co-amoxiclav 250mg/125mg tablets

Doxorubicin 10mg/5ml solution for injection vials

Fluorouracil 5% cream

Incontinence sheaths

**Actual Medicinal Product (AMP)**

An Actual Medicinal Product (AMP) is a single dose unit of a finished dose form (unless the product is presented as a continuous dosage form), attributable to an identified supplier that contains a specified amount of an ingredient substance.

Examples of Actual Medicinal Products:

Atenolol 100mg tablets (Almus Pharmaceuticals Ltd)

FemSeven Sequi patches (CST Pharma Ltd)

Augmentin 375mg tablets (GlaxoSmithKline UK Ltd)

Co-amoxiclav 250mg/125mg tablets (Bristol Laboratories Ltd)

Doxorubicin 10mg/5ml solution for injection Cytosafe vials (Pfizer Ltd)

Doxorubicin 10mg/5ml concentrate for solution for infusion vials (Accord-UK Ltd)

Efudix 5% cream (Viatris UK HealthcareLtd)

**Virtual Medicinal Product Pack (VMPP)**

A Virtual Medicinal Product Pack (VMPP) is an abstract concept representing the properties of one or more quantitatively equivalent AMPPs.

For every Actual Medicinal Product Pack (AMPP) there will exist a corresponding VMPP. A VMPP will have at least one AMPP and may have many AMPPs linked to it.

Examples of Virtual Medicinal Product Packs:

Atenolol 100mg tablets 28 tablet

Generic FemSeven Sequi patches 4 patch

Generic FemSeven Sequi patches 12 patch

Co-amoxiclav 250mg/125mg tablets 21 tablet

Doxorubicin 10mg/5ml solution for injection vials 1 vial

Fluorouracil 5% cream 40g

Incontinence sheaths 30 device

**Actual Medicinal Product Pack (AMPP)**

An Actual Medicinal Product Pack (AMPP) is the packaged product that is supplied for direct patient use or from which AMPs are supplied for direct patient use. It may contain multiple components each of which may or may not be an AMPP in their own right.

At this Actual Medicinal Product Pack level, the dictionary includes information that is required for prescribing, dispensing and for reimbursement, e.g. legal status, Schedule 1 information, price etc.

Examples of Actual Medicinal Product Packs:

Atenolol 100 mg tablets (Almus Pharmaceuticals Ltd) 28 tablet

FemSeven Sequi patches (CST Pharma Ltd) 4 patch

FemSeven Sequi patches (CST Pharma Ltd) 12 patch

Augmentin 375 mg tablets (GlaxoSmithKline UK Ltd) 21 tablet

Co-amoxiclav 250mg/125mg tablets (Bristol Laboratories Ltd) 21 tablet

Doxorubicin 10mg/5ml solution for injection Cytosafe vials (Pfizer Ltd) 1 vial

Efudix 5% cream (Viatris UK Healthcare Ltd) 40g

## 4.2 Model of the dictionary

Figure 2.0 below provides an overview of the information classes that constitute the dictionary and the relationships between these classes. This is followed by a textual description of each of the classes.



Figure 2.0: NHS dictionary of medicines and devices Model

The cardinality for Form is 0-1 which is a generalistion of the rule that when a VMP is a drug it is

1-1 and when it is a non-drug it will usually be empty.

## 4.3 Virtual Therapeutic Moiety

|  |
| --- |
| Definition: A Virtual Therapeutic Moiety (VTM) is the abstract representation of the substance(s), formulated as a medicinal product, intended by an authorising health care professional for use in the treatment of the patient. |
| Description: The abstract conceptual representation of the material defining a prescriber’s therapeutic intent, divorced from formulation, route, dose or strength. |
| Association*Virtual Medicinal Product* (4.4) An instance of Virtual Therapeutic Moiety may be associated with zero to many instances of Virtual Medicinal Product *Virtual Therapeutic Moiety Ingredient* (4.3.1) An instance of Virtual Therapeutic Moiety may be associated with zero to many instances of Virtual Therapeutic Moiety Ingredient. |
|  |
| Attribute Type Occurrence |
| virtual therapeutic moiety identifier | SNOMED CT International or UK extension identifier | 1 |
| Unique identifier for the Virtual Therapeutic Moiety A VTM may be linked to zero or many VMPs NOTES: 1. An identifier, once used to identify a Virtual Therapeutic Moiety and formally released, shall not at any time be:
* deleted, although it is permissible to mark it as no longer valid,
* re-used and given to any other concept
 |
| virtual therapeutic moiety identifier date | date | 0 to 1 |
| date from which the Virtual Therapeutic Moiety identifier is applicable from |
| previous VTM identifier | SNOMED CT International or UK extension Identifier | 0 to 1 |
| Previously allocated identifier for the Virtual Therapeutic Moiety  |
| invalidity flag | integer | 0 to 1 |
| Flag indicating that this dictionary entry was invalid.VALUE: 1 = InvalidNOTE: The entry needs to be retained in case it was used prior to detection of the error(s) which caused its invalidation. |
| virtual therapeutic moiety name | string  | 1 |
| A name that is used to identify the Virtual Therapeutic MoietyNOTE: A Virtual Therapeutic Moiety shall always be issued with a name |
| virtual therapeutic moiety abbreviated name | string | 0 to 1 |
| An abbreviated version of the name described above |

### 4.3.1 Virtual Therapeutic Moiety Ingredient

|  |
| --- |
| **Definition:** The Ingredient Substance of a concept in the NHS dm+d is the representation of any component that is intended to furnish a direct effect, pharmacological or other, in the diagnosis, cure, mitigation, treatment or prevention of disease or to affect the structure or any function of the body of the patient |
| Description: Information about an ingredient substance that is contained within a Virtual Therapeutic Moiety.Virtual Therapeutic Moieties representing ‘co-drugs’ or those of the format ‘X + Y’ will have more than one ingredient assigned.Examples of multiple VTM ingredient substance entries: Co-Codamol would have two entries one for paracetamol and one for codeine phosphate.Abacavir + Lamivudine + Zidovudine would have three entries one for abacavir, one for lamivudine and one for zidovudine. |
| Association*Virtual Therapeutic Moiety* (4.3)Each instance of Virtual Therapeutic moiety Ingredient shall be associated with one instance of Virtual Therapeutic Moiety. |
|  |
| Attributes Type Occurrence |
| virtual therapeutic moiety identifier | SNOMED CT International or UK extension Identifier | 1 |
| Identification of the Virtual Therapeutic Moiety to which this set of information relates. |
| ingredient substance identifier | SNOMED CT International or UK extension Identifier | 1 |
| A unique identifier for the ingredient substance. NOTE: * 1. Identifier will not be deleted, although it may be marked as no longer valid.
	2. This identifier shall be used to identify a substance that acts as an ingredient of a Virtual Therapeutic Moiety. For example Amoxicillin, Quinine sulfate, Amphotericin B liposomal.
 |

## 4.4 Virtual Medicinal Product

|  |
| --- |
| **Definition:** A Virtual Medicinal Product (VMP) is an abstract concept representing the properties of one or more clinically equivalent Actual Medicinal Products, where clinical is defined as relating to the course of a disease. |
| **Description:** A Virtual Medicinal Product is an abstract concept representing a template of the properties which constitute one or more actual medicinal products.NOTES:1. Unless the attribute virtual product prescribing status is set to the contrary, Virtual Medicinal Products are prescribable.
2. The Virtual Medicinal Product describes a generic product without supplier or trade name information, with the exception of food supplements (see Editorial policy)
3. This is a core object.
4. To facilitate use of the dictionary, it has been decided that a Virtual Medicinal Product may consist of more than one item. E.g.: econazole 150mg pessaries and econazole 1% cream which are provided together as a combination in a pack are represented as a single VMP entry. The corresponding individual Virtual Medicinal Products will also appear as entries within the dictionary in their own right though they may not be prescribable.
 |
| Associations*Virtual Therapeutic Moiety* (4.3)An instance of Virtual Medicinal Product may be associated with zero or one instance of Virtual Therapeutic Moiety.*Form Information* (4.4.1) An instance of Virtual Medicinal Product may be associated with zero or one instance of Form Information. *Drug Route Information* (4.4.2) An instance of Virtual Medicinal Product may be associated with zero to many instances of Drug Route Information. NOTE: A Virtual Medicinal Product that is a drug will usually be associated with form and drug route information. Exceptions are detailed in the Editorial Policy and include combination packs where there is a mixture of forms (cream + pessary). *Virtual Product Ingredient* (4.4.3)An instance of Virtual Medicinal Product may be associated with zero to many instances of Virtual Product Ingredient.*Controlled Drug Prescribing Information* (4.4.4)An instance of Virtual Medicinal Product may be associated with zero to one instance of Controlled Drug Prescribing Information.*Ontology Form & Route Information* (4.4.5) An instance of Virtual Medicinal Product may be associated with zero to many instances of Ontology Form & Route Information.  |
| *Actual Medicinal Product* (4.5)An instance of a Virtual Medicinal Product may be associated with one or many AMPs.NOTES: 1. An Actual Medicinal Product inherits all of the properties described within the associated Virtual Medicinal Product.
2. It is possible for a Virtual Medicinal Product not to be manifested as any “available” product i.e. that at the present time no manufacturer or supplier is making available products with the properties described in the Virtual Medicinal Product.
 |
|  |
| Attributes Type Occurrence |
| virtual medicinal product identifier | SNOMED CT UK extension identifier | 1 |
| Unique identifier for the Virtual Medicinal Product.NOTES: 1. An identifier, once used to identify a Virtual Medicinal Product and formally released, shall not at any time be:
* Deleted, although it is permissible to mark it as no longer valid.[[2]](#footnote-2)
* Re-used and given to any other concept
1. From 2023, all valid VMP concepts were assigned a SNOMED CT UK extension identifier and no longer use international concept identifiers. Invalid concepts are not in scope of this change.
 |
| invalidity flag | integer | 0 to 1 |
| Flag indicating that this dictionary entry was invalid.VALUE: 1 = InvalidNOTE: The entry needs to be retained in case it was used prior to detection of the error(s) which caused its invalidation. |
| VTM identifier | SNOMED CT International or UK extension identifier | 0 to 1 |
| Unique identifier for the associated Virtual Therapeutic Moiety |
| virtual medicinal product identifier date | date | 0 to 1 |
| date from which the Virtual Medicinal Product identifier is applicable from |

|  |  |  |
| --- | --- | --- |
| previous product identifier | SNOMED CT International or UK extension Identifier | 0 to 1 |
| Previously allocated identifier for the Virtual Medicinal Product.  From 2023 all valid VMP concepts were assigned a SNOMED CT UK extension ID and no longer use international concept identifiers. Invalid concepts were not in scope for this change. There will be examples of VMPs where the previous product identifier is an international concept ID. |
| combination product indicator | integer (code value) | 0 to 1 |
| Flag denoting that the VMP is a combination product or is only available as a component of a combination product (i.e. not available in its own right. Examples: Combination product - Conjugated Oestrogens 1.25mg tablets and Norgestrel 150microgram tablets. Component only – Norgestrel 150microgram tablets. VALUES:1 = combination product2 = component only product (not available separately) |
| virtual medicinal product name | string | 1 |
| A name that is used to identify the Virtual Medicinal Product. NOTES: 1. The ‘long’ version of the medicinal product name
2. The Virtual Medicinal Product name may change over time.
3. If a date is supplied, this name will be used to describe the medicinal product on and subsequent to that date.
 |
| basis of preferred name  | integer (code value) | 1 |
| Basis or source of VMP name expressed as a code valueVALUES:1. Recommended International Non-proprietary Name – rINN
2. British Approved Name - BAN
3. British Approved Name (Modified) – BANM
4. International Non-proprietary Name (Modified) – INNM
5. Proposed International Non-proprietary Name – pINN
6. United States Adopted Name – USAN
7. Other
 |
| date of name applicability | date | 0 to 1 |
| Date from which the name became the preferred name for the medicinal product. |
| previous name | string | 0 to 1 |
| Long name used prior to the date provided. |
| basis of previous name  | integer (code value) | 0 to 1 |
| Basis or source of previous VMP name expressed as a code valueVALUES: as in “basis of preferred name” section above |
| reason for name change | integer (code value) | 0 to 1 |
| Reason for change of VMP text name, expressed as a code valueVALUES:1 = Replacement of temporary name2 = New approved generic name available3 = Basis of name changed4 = Other  |
| virtual medicinal product abbreviated name | string | 0 to 1 |
| An abbreviated version of the name described above. NOTES 1. This ‘short’ version of the medicinal product name may be up to 60 characters
2. Where the VMP name is already 60 characters or less, there is no requirement to provide a shortened version.
3. The rules for how name shortening will occur will be subject to editorial policy
 |
| sugar free indicator | integer | 0 to 1 |
| A flag indicating whether the medicinal product is a sugar-free formulation (see Editorial Policy for definition)VALUE: 1 = sugar free |
| gluten free indicator | integer | 0 to1 |
| A flag indicating whether the medicinal product is a gluten-free formulation (see Editorial Policy for definition)VALUE: 1 = gluten free |
| preservative free indicator | integer | 0 to 1 |
| A flag indicating whether the medicinal product is a preservative-free formulation (see Editorial Policy for definition)VALUE: 1 = preservative free |
| CFC free indicator | integer | 0 to 1 |
| A flag indicating whether the medicinal product is CFC-free (see Editorial Policy for definition)VALUE: 1 = CFC free |
| virtual medicinal product prescribing status | integer (code value) | 1 |
| Prescribing status of the product expressed as a code value.VALUES:**1 = valid as a prescribable product****2 = Invalid to prescribe in NHS primary care**3 = Not prescribable as a VMP but AMP prescribable - RETIRED**4 = never valid to prescribe as a VMP**5 = Not recommended to prescribe as a VMP - RETIRED6 = VMP not recommended to prescribe - brands not bioequivalent - RETIRED7 = VMP not recommended to prescribe - patient training required - RETIRED8 = VMP not recommended to prescribe -no published specification - RETIRED**9 = Caution – AMP level prescribing advised**NOTES: Value 3 was replaced by values 4 and 5 in 2005Value 5 was replaced by values 6 and 7 in 2008Values 6, 7 and 8 were replaced by value 9 in 2019 |
| non-availability indicator | integer (code value) | 0 to 1 |
| A flag indicating whether there are currently no available Actual Medicinal Products which correspond to this VMP.VALUES: 0 = actual products are now available (though not necessarily prescribable in primary care) but have been unavailable in the past.1 = actual products no longer availableNull = AMPs are available nowThis attribute is optional. NOTES: 1. When absent, the VMP shall be considered to have corresponding actual product(s), although these products may not be generally prescribable in primary care (see previous attribute)
2. When present with a value of ‘1’ shall indicate that the VMP has previously been available as one or more actual products but has now ceased to be. The date in the following attribute may be used to indicate when this status change occurred.
3. When present with value of ‘0’ shall indicate that the VMP has previously not been available as an actual product but which now has at least one associated product. The date in the following attribute may be used to indicate when this status change occurred
 |
| non-availability status date | date | 0 to 1 |
| Date when the value of the preceding attribute changed. |

|  |  |  |
| --- | --- | --- |
| dose form indicator | integer (code value) | 1 |
| This attribute identifies if the VMP has a unit dose form (a discrete unit dose is applicable e.g. tablet, ampoule), if it may be regarded as a continuous substance (that is a consistent physically measurable unit or sub-unit cannot be defined e.g. cream, eye drops) or if it belongs to a category of product for which unit dose form is not appropriate (catheters, colostomy bags, ACBS foods)VALUES:1 = Discrete2 = Continuous3 = Not applicableNOTE: where the dose form indicator has the value continuous or not applicable there is no requirement to populate information in unit dose form size, unit dose form unit or unit of measure. |
| unit dose form size | real | 0 to 1 |
| A numerical value |
| unit dose form units | SNOMED CT Identifier | 0 to 1 |
| The unit of measure relating to the size above |
| unit dose unit of measure | SNOMED CT Identifier | 0 to 1 |
| A description of the entity/‘thing’ that can be handled (List E Editorial Policy). |
| **Unit dose form information** is composed of the four parts above: Dose Form Indicator (DFI), unit dose form size (UDFS), unit dose form units (UDFU) and unit dose unit of measure (UOM). EXAMPLES:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **VMP**  | **DFI** | **UDFS**  | **UDFU**  | **UOM** |
| Atenolol 50mg tablets  | Discrete  | 1  | tablet  | tablet  |
| Furosemide 80mg/8ml solution for injection pre-filled syringes | Discrete | 8  | ml | pre-filled disposable injection |
| Hydrocortisone 1% cream | Continuous |  |  |  |
| Mesalazine 1g/application foam enema | Discrete  | 1 | application | application |
| Digoxin 50micrograms/ml oral solution | Continuous |  |  |  |
| Metronidazole 200mg/5ml oral suspension | Discrete | 5 | ml | spoonful |
| Amoxicillin 500mg powder for solution for injection vials | Discrete | 1 | vial | Vial |
| Chloramphenicol 0.5% eye drops | Continuous |  |  |  |
| Salbutamol 100microgram/dose dry powder inhaler | Discrete | 1 | dose | dose |
| Generic Juvela gluten free bread rolls | Not applicable |  |  |  |
| Crepe bandage BP 10cm x 4.5m | Not applicable |  |  |  |

 |

### 4.4.1 Form information

|  |
| --- |
| **Definition:** The form of a concept in the NHS dm+d is the representation of the orderable physical form of the AMP from which the concept derives.  |
| Description: Information relating the Virtual Medicinal Product to its categorical form, which is defined as the form in which it is normally dispensed. |
| Association*Virtual Medicinal Product* (4.4)Each instance of Form Information shall be associated with one instance of Virtual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| virtual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Virtual Medicinal Product to which this set of information relates. |
| form identifier | SNOMED CT International or UK extension Identifier | 1 |
| The form information shall be represented as a code taken from the associated dm+d list of medicinal product forms (List C in Editorial Policy).Examples: Effervescent tablet, Oral tablet, Oral granules, Solution for injection, Powder and solvent for suspension for injection. The form for a VMP may be not populated or may have a form of Not applicable (see Editorial policy for when these are applied). |

### 4.4.2 Route information

|  |
| --- |
| **Definition:** The Route(s) of Administration of a concept in the NHS dm+d is the representation of the place in or on the body where the product is introduced in order to achieve the desired therapeutic effect. |
| Description: Information relating the Virtual Medicinal Product to its route(s) of administration. |
| Association*Virtual Medicinal Product* (4.4)Each instance of Route Information shall be associated with one instance of Virtual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| virtual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Virtual Medicinal Product to which this set of information relates. |
| route identifier | SNOMED CT International or UK extension Identifier | 1 |
| Routes of administration are held at VMP level. For licensed products these will be licensed routes. For unlicensed preparations they may or may not be populated depending on editorial policy. The route information shall be represented as a code taken from the associated dm+d list of medicinal product routes (List D in Editorial Policy). |

### 4.4.3 Virtual product ingredient

|  |
| --- |
| **Definition:** The Ingredient Substance of a concept in the NHS dm+d is the representation of any component that is intended to furnish a direct effect, pharmacological or other, in the diagnosis, cure, mitigation, treatment or prevention of disease or to affect the structure or any function of the body of the patient |
| Description: Information about an ingredient substance that is contained within a Virtual Medicinal Product.This will include substances which are deemed to be ‘active’ ingredients. (Excipient information was associated with Actual Medicinal Products up until October 2022. The AMP Ingredient data fields remain but contain no data).An example of a multiple virtual product ingredient substances entry: co-amoxiclav 250mg/125mg would have two entries, one for amoxicillin 250mg, the other for clavulanic acid 125mg. |
| Association*Virtual Medicinal Product* (4.4)Each instance of Virtual Medicinal Product Ingredient shall be associated with one instance of Virtual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| virtual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Virtual Medicinal Product to which this set of information relates. |
| ingredient substance identifier | SNOMED CT International or UK extension Identifier | 1 |
| A unique identifier for the ingredient substanceNOTE: 1. Identifier will not be deleted, although it may be marked as no longer valid.
2. This identifier shall be used to identify a substance that acts as an ingredient of a Virtual Medicinal Product. For example quinine sulphate, amitriptyline hydrochloride, amoxicillin sodium, magnesium sulfate heptahydrate.
3. Ingredients may be fully specified including salts and/or level of hydration or may be more loosely described without the salt if that is appropriate, or the only information available.
 |

|  |
| --- |
| Attributes Type Occurrence |
| basis of strength substance identifier | SNOMED CT International or UK extension Identifier | 0 to 1 |
| A unique identifier for the basis of strength substance. Identification of an ingredient substance within an Ingredient Substance file where this is different to the ingredient substance identified above and where this ‘basis of strength substance (BoSS)’ is that substance upon which the pharmaceutical strength is based. EXAMPLE:Amoxicillin 250mg injection vials contain amoxicillin sodium but the strength is expressed as the quantity of amoxicillin. Amoxicillin is the ‘base’ or basis of strength substance (BoSS) and therefore the identifier for “amoxicillin” (substance, not VTM) would be put in this field.NOTE: 1. Identifier will not be deleted, although it may be marked as no longer valid.
2. This attribute is populated only if the basis of pharmaceutical strength value is set to ‘2’
 |
| basis of pharmaceutical strength | integer (code value) | 0 to 1 |
| Indicates whether the pharmaceutical strength (next attribute) is based upon the ingredient substance or ‘basis of strength substance’.VALUES1 = Based on ingredient substancestrength value is based on ingredient substance identified in the attribute ingredient substance identifier2 = Based on base substance strength value is based on ingredient substance identified in the attribute basis of strength substance identifierNOTE: This attribute is mandatory when a value is present in the attribute ‘pharmaceutical strength’ |
| pharmaceutical strengthThe amount of ingredient substance (as identified by the attribute ingredient substance identifier or basis of strength substance identifier as indicated above).This attribute indicates the quantity of the substance per defined unit of measure in the Virtual Medicinal Product (e.g. one tablet, one ml) measured by weight or volume per unit or concentration. An ingredient may be present without a strength.Pharmaceutical strength has 4 components, where a strength is provided the strength value numerator (SVN) and strength value numerator unit (SVNU) are mandatory. Strength value denominator (SVD) and strength value denominator unit (SVDU) are used to fully express ‘per’ strengths.EXAMPLES:Paracetamol 500mg tablets*Ingredient SVN SVNU SVD SVDU*Paracetamol 500 mgParacetamol 250mg/5ml oral suspension*Ingredient SVN SVNU SVD SVDU*Paracetamol 50 mg 1 mlHydrocortisone 1% cream*Ingredient SVN SVNU SVD SVDU*Hydrocortisone 10 mg 1 gFluticasone 250micrograms/dose inhaler CFC free*Ingredient SVN SVNU SVD SVDU*Fluticasone propionate 250 microgram 1 dose | 0 or 1 |
|  | strength value numerator  | real | 1[[3]](#footnote-3) |
| The numerator of the amount of ingredient substance, e.g. 25 where the strength conforms to the expression ‘25mg per 1 ml’.  |
|  | strength value numerator unit  | SNOMED CT International or UK extension identifier | 13 |
| The unit of measure associated with the previous numerator value, e.g. mg. where the strength conforms to the expression ‘25mg per 1 ml’.  |
| strength value denominator | real | 0 or 1 |
| The denominator of the amount of ingredient substance, e.g. 1 where the strength conforms to the expression ‘25mg per 1 ml’.  |
| strength value denominator unit | SNOMED CT International or UK extension identifier | 0 or 1 |
| The unit of measure associated with the previous denominator value, e.g. ml where the strength conforms to the expression ‘25mg per 1 ml’.  |

### 4.4.4 Controlled drug prescribing information

|  |
| --- |
| **Definition:** The controlled drug category will be allocated according to the Misuse of Drugs Act 1971 and the restrictions of the Misuse of Drugs Regulations. |
| Description: Information relating to Virtual Medicinal Products where these are drugs and in particular where the drug is controlled under the Misuse of Drugs Act. |
| Association*Virtual Medicinal Product* (4.4)Each instance of Controlled Drug Prescribing Information shall be associated with one instance of Virtual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| virtual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Virtual Medicinal Product to which this set of information relates. |
| controlled drug category | integer (code value) | 1 |
| If a controlled drug category change date is included in the record, this attribute shall be used to convey the category on and subsequent to that date, otherwise the category is to be interpreted as the category at the release of the current version of the dictionary. |
| Values0 = No controlled drug status1 = Schedule 1 (CD Lic)2 = Schedule 2 (CD)3 = Schedule 2 (CD Exempt Safe Custody)4 = Schedule 3 (CD No Register)5 = Schedule 3 (CD No Register Exempt Safe Custody)6 = Schedule 3 (CD No Register Phenobarbital)7 = Schedule 3 (CD No Register Temazepam)8 = Schedule 4 (CD Anab)9 = Schedule 4 (CD Benz)10 = Schedule 5 (CD Inv) |
| controlled drug category change date | date | 0 to 1 |
| date at which the category of the controlled drug changed  |
| controlled drug category prior to change date | integer (code value) | 0 to 1 |
| The prescribing/dispensing classification of a medicinal product in terms of its controlled drug status prior to this category changing. This attribute shall only be included if there is a controlled drug category change date.VALUES As in *controlled drug category* above. |

### 4.4.5 Ontology form & route information

|  |
| --- |
| Description: Information relating the VMP to its combined form and route of administration. The form is the form of the product at administration to the patient e.g. a soluble tablet will be a solution. |
| Association*Virtual Medicinal Product* (4.4)Each instance of Ontology Form & Route Information shall be associated with one instance of Virtual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| virtual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Virtual Medicinal Product to which this set of information relates. |
| virtual medicinal product form & route | integer (code value) | 1 |
| The physical conformation of the drug and its mode(s) of administration. The form-route information shall be represented as a code taken from the associated dm+d approved list of medicinal product forms and routes. This represents the ontological form and route i.e. that given at administration.EXAMPLES: tablet.oralsuspension.oralsolutioninjection.intravenoussolutioninjection.intramuscularcapsulemodified-release.oralNOTES: 1. The form aspect shall be specifically the form at administration which may be different from the form at dispensing
2. The form-route string is a text string. It will comprise of one form with zero to many descriptors and one route.
3. If a VMP has 2 routes (intravenous and intramuscular) then this VMP will have 2 virtual product form + routes: solutioninjection.intravenous and solutioninjection.intramuscular.
4. The automatic construction of the form+route description from the entries for virtual product form and virtual product route would not be reliable.
 |

## 4.5 Actual Medicinal Product

|  |
| --- |
| **Definition:** An Actual Medicinal Product (AMP) is a single dose unit of a finished form (unless the product is presented as a continuous dosage form), attributable to an identified supplier that contains a specified amount of an ingredient substance. |
| Description: An Actual Medicinal Product is a medicinal product that has been made available by a supplier. NOTES1. An instance of the Actual Medicinal Product shall provide sufficient information to uniquely identify the product but not the size of pack that the supplier makes available for dispensing.

Examples: Betnovate 0.1% cream (GlaxoSmithKline UK Ltd)Methadone 20mg/2ml solution for injection ampoules (Special Order)Allevyn Gentle dressing 10cm x 20cm (Smith & Nephew Healthcare Ltd)1. Each Actual Medicinal Product is associated with an identifiable supplier.
2. The dictionary may include AMP entries for products which are not available separately, for example Estragest TTS 50 patches which are only available as part of an Estracombi combination pack.
 |
| Associations*Virtual Medicinal Product* (4.4)Each instance of Actual Medicinal Product shall always be associated with one instance of Virtual Medicinal Product and shall ‘inherit’ from this instance of Virtual Medicinal Product all of its properties*Licensed Route* (4.5.1)Each instance of Actual Medicinal Product may be associated with zero to many instances of licensed route*Appliance Product Information* (4.5.2)Each instance of Actual Medicinal Product may be associated with zero to one instance of Appliance Product Information.*Actual Product Excipient* (4.5.3)Prior to October 2022: Each instance of Actual Medicinal Product may be associated with zero to many instances of Actual Product Excipients[[4]](#footnote-4) From October 2022: Each instance of Actual Medicinal Product is associated with zero instances of Actual Product Excipients. |
| *Actual Medicinal Product Pack.* (4.7)Each instance of Actual Medicinal Product shall be associated with one to many instances of Actual Medicinal Product Pack. |
|  |
| Attributes Type Occurrence |
| actual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Unique identifier for the Actual Medicinal Product. This code will be taken from the UK extension namespace section of SNOMED CT.NOTE: An identifier, once used to identify an Actual Medicinal Product and formally released, shall not at any time be:* Deleted, although it is permissible to mark it as no longer valid.
* re-used and given to any other concept
 |
| **invalidity flag** | **integer** | **0 to 1** |
| Flag indicating that this dictionary entry was invalid.VALUE: 1 = InvalidNOTE: The entry needs to be retained in case it was used prior to detection of the error(s) which caused its invalidation. |
| virtual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Unique identifier for the associated Virtual Medicinal Product. |
| combination product indicator | integer (code value) | 0 to 1 |
| Flag denoting that the AMP is a combination product or is only available as a component of a combination product (i.e. not available in its own right).VALUES: 1 = combination product2 = component only product |
| actual medicinal product name | string | 1 |
| The name that is used to identify the Actual Medicinal Product. NOTES: 1. The ‘long’ version of the medicinal product name
2. The Actual Medicinal Product name may change over time.
3. If a date is supplied, this name will be used to describe the medicinal product on and subsequent to that date.
 |
| date of name applicability | date | 0 to 1 |
| date from which the name became the preferred name for the Actual Medicinal Product as specified by the supplier |
| previous name | string | 0 to 1 |
| Name used prior to the date provided. This shall be the ‘long’ name as used in the attribute ‘actual medicinal product name’ |

|  |  |  |
| --- | --- | --- |
| actual medicinal product abbreviated name | string | 0 to 1 |
| An abbreviation of the AMP name (required to meet the label name use case for medicines). NOTE:1. This ‘short’ version of the medicinal product name may be up to 60 characters.
2. Where the AMP text name is already 60 characters or less, there is no requirement to provide a shortened version.
 |
| actual medicinal product description | string | 1 |
| A unique description of the AMP that is used to identify the actual medicinal product.This will consist of the following:AMP name + product order number + size + colour + (Supplier)Note: product order number, size and colour are applicable for appliances onlyExamples:Paracetamol 500mg tablets + (Galpharm International Ltd)Panadol Advance 500mg tablets + (Haelon UK Trading Ltd)Biotrol Softima Key two piece ostomy system colostomy bag with filter + 62180E + 80mm + Beige + (B. Braun Medical Ltd) |
| supplier | SNOMED CT UK extension Identifier | 1 |
| Identifies the supplier using a list of suppliers held within an associated reference file |
| flavour | integer (code value) | 0 to 1 |
| The flavour of an AMP will only be included when this is a definitional attribute of the AMP i.e. where a supplier provides 2 or more AMPs that are clinically equivalent and differentiated only by flavour |
|  EMA Additional Monitoring indicator | integer | 0 to 1 |
| Indication as to whether the product is on the list of medicinal products under additional monitoring issued by the European Medicines Agency (EMA)VALUE: 1 = EMA monitoring |
| parallel import indicator | integer | 0 to 1 |
| Flag indicating whether the AMP has been procured and imported from within the European Union. These AMPs will have a parallel import product licence - PL(PI) VALUE: 1 = Parallel Import |
| current licensing authority | integer (code value) | 1 |
| VALUES0 = None1 = Medicines - MHRA / EMA2 = Devices 3 = Unknown4 = Traditional Herbal Medicines |
| previous licensing authority | integer (code value) | 0 to 1 |
| Licensing authority prior to the date below (values as above). |
| date of change of licensing authority | date | 0 to 1 |
| date at which the licensing authority changed |
| licensing authority change reason | integer (code value) | 0 to 1 |
| A code list shall be provided which is capable of maintaining a list of reasons for change.VALUES:1 = Licence granted2 = Licence transferred3 = Withdrawn manufacturer4 = Withdrawn CHM5 = Suspended CHM6 = Discontinued/expired/lapsed7 = Reintroduced8 = No reason available |
| restrictions on availability | integer (code value) | 1 |
| Used to identify any restrictions on the availability of the AMP.VALUES:1 = None2 = Restricted availability3 = Individual patient supply4 = Imported5 = Clinical trial6 = Special7 = Extemporaneous8 = Hospital only – this value was retired in 2021 and is no longer populated 9 = Not available 10 = For Patient Safety Consideration |

### 4.5.1 Licensed route

|  |
| --- |
| Description: Information relating the AMP to associated licensed route(s) of administration. |
| Association*Actual Medicinal Product* (4.5)Each instance of Licensed Route Information shall be associated with one instance of Actual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| actual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Actual Medicinal Product to which this set of information relates. |
| licensed route | SNOMED CT International or UK extension Identifier | 1 |
| Identifies one or more routes for which the Actual Medicinal Product has been licensed.NOTE: The route or routes must correspond to, or be a subset of, the routes associated with the related Virtual Medicinal Product. |

### 4.5.2 Appliance product information

|  |
| --- |
| Description: Information relating to Actual Medicinal Products where these are appliances  |
| Association*Actual Medicinal Product* (4.5)Each instance of Appliance Product Information shall be associated with one instance of Actual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| actual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Actual Medicinal Product to which this set of information relates. |
| size/weight | string | 0 to 1 |
| Information relating to the size of an **appliance** where this information is not captured within the AMP name e.g. incontinence sheaths where the size may be expressed in mm, by description (small) or both. Where size is not captured in AMP name, size/wt will capture information. Examples:Jade Naturalflex sheath small 25mmProTRAC all silicone self adhering sheath short 24mm (small)Macrodom sheath 51mm tubeUridrop sheath with Uristrip adhesive 100mm circumference, 30mm diameterUrinary sheath 31 – 35mmNOTE: the length of this field may be up to 100 characters |
| colour | integer (code value) | 0 to 1 |
| Occasionally colour is useful in determining which of a number of optional devices is appropriate.  |
| product order number | string | 0 to 1 |
| NOTE: The length of this field may be up to 20 characters |

### 4.5.3 Actual product excipient

**IMPORTANT NOTE** from October 2022 the Actual product excipient data is no longer populated. The excipient substances remain in the ingredient file and the data fields remain but contain no data.

|  |
| --- |
| **Definition:** The excipient of a concept in the NHS dm+d is the representation of any substance other than an ‘ingredient substance’ that furnishes an effect deemed significant by the current Editorial Policy definition even though that effect may not be an event intended as a result of its inclusion in the formulated product.  |
| **Description:** Used to provide information about specific excipients contained in the Actual Medicinal Product.  |
| Association*Actual Medicinal Product* (4.5)Each instance of Actual Medicinal Product Excipients shall be associated with one instance of Actual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| actual product identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the actual medicinal product to which this set of information relates. |
| ingredient substance identifier | SNOMED CT International or UK extension Identifier | 1 |
| Identification of an excipient within the Ingredient Substance file. |
| pharmaceutical strengthThe amount of ingredient substance (excipient) in one unit of the Actual Medicinal Product measured in weight or volume per unit or concentration – expressed as a numerical value plus unit of measure as indicated belowNOTE: Only used where the strength has been specified by supplier. | 0 or 1 |
|  | numerical value | real | 1[[5]](#footnote-5) |
| The numerator of the amount of ingredient substance.  |
| unit of measurement | SNOMED CT International or UK extension Identifier | 15 |
| The unit of measure associated with the previous numerator value. |

## 4.6 Virtual Medicinal Product Pack

|  |
| --- |
| **Definition:** A Virtual Medicinal Product Pack (VMPP) is an abstract concept representing the properties of one or more quantitatively equivalent AMPPs. |
| Description: The delivery unit for a Virtual Medicinal Product.  |
| Associations *Virtual Medicinal Product* (4.4)Each instance of Virtual Medicinal Product Pack is always associated with one instance of a Virtual Medicinal Product.NOTE: The instance of Virtual Medicinal Product Pack inherits all of the properties of the associated instance of Virtual Medicinal Product. *Combination Pack Content* (4.6.1)Each instance of Virtual Medicinal Product Pack can be associated with zero to many instances of Combination Pack Content*Drug Tariff Category Information* (4.6.2) Each instance of Virtual Medicinal Product Pack may be associated with zero or one instance of Drug Tariff Category Information. |
| *Actual Medicinal Product Pack* (4.7)Each instance of Virtual Medicinal Product Pack may be associated with one to many instances of Actual Medicinal Product Pack. |
|  |
| Attributes Type Occurrence |
| virtual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Unique Identifier of the Virtual Medicinal Product Pack. This code will be taken from the NHS name space section of SNOMED CT. |
| **invalidity flag** | **integer** | **0 to 1** |
| Flag indicating that this dictionary entry was invalid.VALUE: 1 = InvalidNOTE: The entry needs to be retained in case it was used prior to detection of the error(s) which caused its invalidation. |
| virtual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Identifier used to uniquely identify the parent Virtual Medicinal Product within the dictionary. |
| virtual medicinal product pack description | string | 1 |
| The description that is used to identify the Virtual Medicinal Product Pack.This will consist of the following:VMP name + Quantity & Quantity UOM |

|  |  |  |
| --- | --- | --- |
| combination pack indicator | integer (code value) | 0 to 1 |
| Flag denoting that the virtual medicinal product pack is a combination product pack or is a only available as a component of a combination product (i.e. not available in its own right)VALUES1 = combination pack.2 = component only pack (not available separately) |
| **Virtual Medicinal Product Pack quantity** has two components - a quantity and unit of measure.It represents the amount of the Virtual Medicinal Product expressed by mass, volume, number of entities or otherwise in a container, intermediate container or package as supplied. EXAMPLES: Qty Units of measure1. tablets
2. ml

 3 vials1. gram
2. dose

 5 cartridges | 1 |
|  | Quantity | real | 1 |
| A numerical value. |
| unit of measurement | SNOMED CT International or UK extension identifier | 1 |
| The unit of measure associated with the previous number. |

### 4.6.1 Combination pack content

|  |
| --- |
| **Description:** Used to identify the component packs within a combination pack  |
| Association*Virtual Medicinal Product Pack* (*4.6*)Each instance of Combination Pack Content shall be associated with one instance of Virtual Medicinal Product Pack. |
|  |
| Attributes Type Occurrence |
| virtual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Unique identifier for the Virtual Medicinal Product Pack. |
| constituent virtual product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Identity of the component packs within a combination or multipack  |

### 4.6.2 Drug Tariff category information

|  |
| --- |
| Description: Information relating to the categorisation of drugs, appliances, chemical reagents and oxygen as provided in the Drug Tariff (England & Wales).  |
| Association*Virtual Medicinal Product Pack* (*4.6*)Each instance of Drug Tariff Category Information shall be associated with one instance of Virtual Medicinal Product Pack |
|  |
| Attributes Type Occurrence |
| virtual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Unique Identifier for the Virtual Medicinal Product Pack. |
| DT payment category | integer (code value) | 1 |
| VALUES 1. Part VIIIA category A
2. Part VIII category B - *retired*
3. Part VIIIA category C
4. Part VIII category E - *retired*
5. Part IXa
6. Part IXb
7. Part IXc
8. Part IXr
9. Part X – *see note*
10. Parts IXb & IXc
11. Part VIIIA category M
12. Part VIIIB
13. Part VIIIC
14. Part VIIID

For information NOTE:* Part VIII Category B – From 1 September 2004 the concept of Category B and all Category B products were deleted from the Drug Tariff
* Part VIII Category E – From 1 November 2011 the concept of Category E and all Category E products were deleted from the Drug Tariff
* Value 9 Part X – there are currently no VMPs in Part X of the Drug Tariff however some invalid concepts have this value assigned.
 |
| DT price | integer | 0 to 1 |
| Drug Tariff price (England & Wales) for the medicinal product pack where this is independent of brand or supplier. Price expressed as pence (Sterling). |
| DT price date | date | 0 to 1 |
| date from which price is applicable |
| DT price previous | integer | 0 to 1 |
| Drug Tariff price prior to the above date. |

## 4.7 Actual Medicinal Product Pack

|  |
| --- |
| **Definition:** An Actual Medicinal Product Pack (AMPP) is the packaged product that is supplied for direct patient use or from which AMPs are supplied for direct patient use. It may contain multiple components each of which may or may not be an AMPP in their own right. |
| Description: An Actual Medicinal Product Pack contains information concerning a medicinal product that has been made available by a manufacturer and/or supplier as a packaged entity.  |
| Associations *Actual Medicinal Product* (4.5)Each instance of Actual Medicinal Product Pack shall be associated with one instance of Actual Medicinal Product and shall ‘inherit’ from this instance of Actual Medicinal Product all of its properties.*Virtual Medicinal Product* *Pack* (4.6)Each instance of Actual Medicinal Product Pack shall be associated with one instance of Virtual Medicinal Product Pack and shall ‘inherit’ from this instance of Virtual Medicinal Product Pack all of its properties.*Product Prescribing Information* (4.7.1)Each instance of Actual Medicinal Product Pack shall be associated with zero to one instance of Product Prescribing Information.*Appliance Pack Information* (4.7.2)Each instance of Actual Medicinal Product Pack shall be associated with zero to one instance of Appliance Pack Information.*Reimbursement Information* (4.7.3)Each instance of Actual Medicinal Product Pack shall be associated with zero to one instance of Reimbursement Information.*Medicinal Product Price* (4.7.4)Each instance of Actual Medicinal Product Pack shall be associated with one instance of Medicinal Product Price. *Combination Pack Content* (4.7.5)Each instance of Actual Medicinal Product Pack may be associated with zero to many instances of Combination Pack Content |
|  |
| Attributes Type Occurrence |
| actual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Unique identifier for the Actual Medicinal Product Pack. This code will be taken from the NHS namespace section of SNOMED-CT |
| **invalidity flag** | **integer** | **0 to 1** |
| Flag indicating that this dictionary entry was invalid.VALUE: 1 = InvalidNOTE: The entry needs to be retained in case it was used prior to detection of the error(s) which caused its invalidation. |
| virtual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Unique identifier for the parent instance of Virtual Medicinal Product Pack. |
| actual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Unique identifier for the parent instance of Actual Medicinal Product. |
| actual medicinal product pack description | String | 1 |
| The description that is used to identify the Actual Medicinal Product Pack.This will consist of the following:AMP name + product order number + size + colour + (Supplier) + VMPP quantity + VMPP quantity unit of measure + subpack information + pack order numberNOTE: product order number, size, colour and pack order number are applicable for appliances only.Examples:Paracetamol 500mg tablets + (Almus Pharmaceuticals Ltd) + 100 + tablet + 10 x 10Paracetamol 500mg tablets + (Genus Pharmaceuticals Ltd) + 100 + tabletBiotrol Softima colostomy bag with filter + 044030E + 30mm + Beige + (B.Braun Medical Ltd) + 30 + deviceCoaguChek XS PT testing strips + (Roche Diagnostics) + 24 + strip + 04625358CoaguChek XS PT testing strips + (Roche Diagnostics) + 48 + strip + 04625315 |
| sub-pack information | string | 0 to 1 |
| Information about the composition of medicinal products that are composed of the same product packed in subpacks.NOTE: the length of this field may be up to 30 charactersExamples:- a number of separate strips of tablets: 2 x 14 tablets- a number of tubes of tablets: 3 x 20 tablets- a number of gluten-free bread rolls |
| combination pack indicator | integer (code value) | 0 to 1 |
| Flag denoting that the AMPP is a combination product pack or that the pack is only available as a component pack of a combination product pack (ie not available in its own right).VALUE: 1 = combination pack2 = component only pack |

|  |  |  |
| --- | --- | --- |
| Legal category  | integer (code value) | 1 |
| Status with regards to the legal category of the medicinal product pack VALUES1 = general sales list (GSL)2 = pharmacy medicine (P)3 = prescription only medicine (POM)4 = not applicableNOTE: the value not applicable is used for all non-medicine packs e.g. appliances , ACBS products |
| Discontinued flag | integer (code value) | 0 to 1 |
| Flag used to indicate that the pack type has been discontinued by the supplierVALUE: 0 = reinstated1 = discontinuednull = never been discontinuedNOTE: When the value is null this means that the pack is available and always has been available. When the value is 1 the pack has been discontinued. If a discontinued pack should be made available again (reinstated) then it would have a value = 0.  |
| Discontinued flag change date | date  | 0 to 1 |
| date when the discontinued flag above last changed its value |

### 4.7.1 Product prescribing information

|  |
| --- |
| Description: Information relating to the prescribing of Actual Medicinal Product Packs under NHS Primary Care Terms of Service. This information is required in the act of prescribing but is also important within dispensing, administration and the reimbursement of fee domains. |
| Association *Actual Medicinal Product Pack* (4.7)Each instance of Product Prescribing Information shall be associated with one instance of Actual Medicinal Product Pack. |
|  |
| Attributes Type Occurrence |
| actual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Actual Medicinal Product Pack to which this set of information relates. |

|  |  |  |
| --- | --- | --- |
| schedule 2 indicator | integer | 0 to 1 |
| Indication as to whether the actual product pack is included in Part XVIIIB of the Drug Tariff (England & Wales) as being prescribable for specific classes of patient for a specific purpose.VALUE: 1 = schedule 2 NOTE: Schedule 2 was previously known as Schedule 11 |
| schedule 1 indicator | integer | 0 to 1 |
| Indication as to whether the actual product pack is included in Part XVIIIA of the Drug Tariff (England & Wales) i.e. Schedule 1.VALUE: 1 = schedule 1NOTE: Schedule 1 was previously known as Schedule 10 |
| hospital indicator | integer | 0 to 1 |
| Indication as to whether this item relates to a pack that is only to be made available through hospital prescribing.VALUE: 1 = hospital only pack |
| ACBS Indicator | integer | 0 to 1 |
| Indication as to whether the item is included in Part XV (Borderline Substances) of the Drug Tariff (England & Wales).VALUE: 1 = ACBS product |
| personally administered indicator | integer | 0 to 1 |
| Indication as to whether the item, when personally administered by the prescriber, attracts a fee in the Drug Tariff (England & Wales). VALUE: 1 = attracts an administration fee |
| FP10 MDA Prescription | integer | 0 to 1 |
| Indication as to whether the drug can be prescribed, and consequently dispensed, in instalments on FP10MDA (Drug Tariff England & Wales)VALUE: 1 = FP10 MDA |
| nursing formulary indicator  | integer | 0 to 1 |
| Indication as to whether the actual product pack is included in Part XVIIB(i) of the Drug Tariff (England & Wales) as being prescribable by nursing formulary nursesVALUE: 1 = nurse formulary |
| nurse extended formulary indicator | integer | 0 to 1 |
| From 30 April 2006 the Nurse Prescribers’ Extended Formulary was discontinued.This flag was previously used to Indicate as to whether the actual product pack was included in Part XVIIB(ii) of the Drug Tariff (England & Wales) as being prescribable by extended nursing formulary nurses prior to 1 May 2006VALUE: 1 = nurse extended formulary |
| dental formulary indicator  | integer | 0 to 1 |
| Indication as to whether the actual product pack is included in Part XVIIA of the Drug Tariff (England & Wales) as being prescribable by dentistVALUE: 1 = dental formulary |

### 4.7.2 Appliance pack information

|  |
| --- |
| Description: Information relating to Actual Medicinal Product Packs where these contain appliances  |
| Association*Actual Medicinal Product Pack* (4.7)Each instance of Appliance Pack Information shall be associated with one instance of Actual Medicinal Product Pack. |
|  |
| Attributes Type Occurrence |
| actual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Actual Medicinal Product Pack to which this set of information relates. |
| appliance reimbursement status | integer (code value) | 1 |
| Indication as to whether the appliance is allowed for reimbursement purposes.VALUES0 = Not allowed (not in NHS England and Wales Drug Tariff)1 = Allowed (in NHS England and Wales Drug Tariff) |
| appliance reimbursement status date | date | 0 to 1 |
| Date from which the appliance reimbursement status became effective. If absent the date shall be taken as from the issue of the current version of the dictionary. |
| appliance reimbursement previous status | integer (code value) |  0 to 1 |
| Indication as to the reimbursement status for the appliance prior to the above dateVALUES0 = Not allowed (not in NHS England and Wales Drug Tariff)1 = Allowed (in NHS England and Wales Drug Tariff) |
| pack order number | string | 0 to 1 |
| Certain appliances are associated with order numbers within the NHS England and Wales Drug Tariff. NOTE: the length of this field may be up to 20 characters |

### 4.7.3 Reimbursement information

|  |
| --- |
| Description: Information relating to financial reimbursement to dispensing contractors in England based on the NHS England and Wales Drug Tariff and NHSBSA pricing rules.NOTE: The information within this file will relate particularly to drugs and reagents. |
| Association*Actual Medicinal Product Pack* (4.7)Each instance of Drug Pack Reimbursement Information shall be associated with one instance of Actual Medicinal Product Pack. |
|  |
| Attributes Type Occurrence |
| actual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Identifier used to uniquely identify the Actual Medicinal Product Pack within the dictionary. |
| prescription charges | integer | 0 to 1 |
| The number of standard prescription charges attracted when this type of product pack is dispensed. |
| dispensing fees | integer | 0 to 1 |
|  Number of standard dispensing fees associated with the pack. |
| broken bulk indicator | integer | 0 to 1 |
| Indication as to whether the pack is or is not eligible for broken bulk claims.VALUE: 1 = eligible for broken bulk claim |
| limited stability indicator | integer |  |
| The Drug Tariff no longer identifies products for this purpose. Therefore this indicator is nolonger populated in dm+d. The data field will persist but remains blank. |
| calendar pack indicator | integer | 0 to 1 |
| Indication as to whether the pack is a calendar pack VALUE 1 = calendar pack |
| special container indicator | integer (code value) | 0 to 1 |
| Used to indicate a special container as defined in the Drug Tariff (England & Wales) Part II clause 10B.VALUES:1. = special container
2. = sub-pack is a special container
 |

|  |  |  |
| --- | --- | --- |
| Discount Not Deducted indicator | integer (code value) | 0 to 1 |
| This indicates whether the product has been identified as a product that has not received discount and as such when reimbursed no discount deduction is applied automatically or where the contractor has to endorse the prescription if no discount has been received. Reference Drug Tariff (England and Wales) – Part IIVALUES:1 = discount not deducted - automatic2 = discount not deducted – endorsement required |
| FP34 D prescription item | integer | 0 to 1 |
| Indication as to whether the drug is allowed to be prescribed as a “Bulk vaccine” on personal administration claims under the Drug Tariff (England & Wales)VALUE: 1 = allowed as a bulk vaccine |

### 4.7.4 Medicinal product price

|  |
| --- |
| Description: Information relating to the price (indicative only) charged for an Actual Medicinal Product Pack. |
| Association*Actual* *Medicinal Product Pack* (4.7)Each instance of Actual Medicinal Product Price shall be associated with one instance of Actual Medicinal Product Pack. |
|  |
| Attributes Type Occurrence |
| actual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the actual medicinal product pack to which this set of information relates. |
| price | integer | 0 to 1 |
| Cost in pence (sterling) (indicative only) for the medicinal product pack. |
| date of price validity | date | 0 to 1 |
| date from which price is applicable |
| price prior to change date | integer | 0 to 1 |
| Cost in pence (indicative only) prior to the above date. |
| price basis flag | integer (code value) | 1 |
| Identifies where there is an indicative NHS price or the reason why the price field above has no valueVALUES:1 = NHS indicative price2 = No price available (used where no price information is currently available)3 = No price – product centrally funded (examples like certain childhood vaccines)4 = No price – priced when manufactured (specials and extemporaneous prepared items) |

### 4.7.5 Combination pack content

|  |
| --- |
| **Description:** Used to identify the component packs within an actual combination pack  |
| Association*Actual Medicinal Product Pack* (4.7)Each instance of Combination Pack Content shall be associated with one instance of actual Medicinal Product Pack. |
|  |
| Attributes Type Occurrence |
| actual medicinal product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Unique identifier for the actual Medicinal Product Pack. |
| constituent actual product pack identifier | SNOMED CT UK extension Identifier | 1 |
| Identity of the component packs within a combination or multipack  |

## 4.8 Ancillary dictionary file structures

In addition to the main ‘five box’ dictionary, there are a number of other structures which hold information which can be referenced by the dictionary. The ‘look-up’ file structures presented in this section are a sub-set of those used by the dictionary and are chosen for particular attention since they do not have the simple structure shown below:

**Property\_Value\_ID**

**Physical data type:** DictionaryID

**Allow NULLs:** Not allowed

**Property\_Name**

**Physical data type:** Name100

**Allow NULLs:** Not allowed

### 4.8.1 Ingredient substance file

|  |
| --- |
| Description: Used to describe the substances which may act as ingredients of medicinal products.NOTE: Within the file of ingredient substances will be entries relating to the following:* Complete substances which act as actual ingredients of medicinal products. For example: heparin sodium, cyclizine lactate (as distinct from heparin and cyclizine), dexamethasone sodium phosphate. This class of substances may or may not be a salt or other type of derivative.
* Basis of strength substances (BoSS) which may or may not be available as actual ingredients. For example, heparin, cyclizine, dexamethasone, dexamethasone sodium.
* Excipients - A specified list of ‘interesting’ excipients (those that may have a biological action) providing the excipient is declared on the SPC. Please note Excipient data is no longer populated at AMP level but excipient ingredients remain in the Ingredient substance file.
 |
|  |
| Attributes Type Occurrence |
| ingredient substance identifier | SNOMED CT International or UK extension Identifier | 1 |
| Identification of the ingredient substance within the Ingredient Substance file.  |
| ingredient substance identifier date | date | 0 to 1 |
| Date from which the ingredient substance identifier is applicable from. |
| previous ingredient substance identifier | SNOMED CT International or UK extension Identifier | 0 to 1 |
| Previous Identifier for the Ingredient Substance. |

|  |  |  |
| --- | --- | --- |
| ingredient substance name | string | 1 |
| Pharmaceutical product designation in the form of a name.NOTES: 1. The name should be an official name.
2. The length of this field will be up to 255 characters
 |
| **invalidity flag** | **integer** | **0 to 1** |
| Flag indicating that this dictionary entry was invalid.VALUE: 1 = InvalidNOTE: The entry needs to be retained in case it was used prior to detection of the error(s) which caused its invalidation. |

###

### 4.8.2 Form

|  |
| --- |
| Description: Used to describe the form associated with medicines. |
|  |
| Attributes Type Occurrence |
| form identifier | SNOMED CT International or UK extension Identifier | 1 |
| Identification of the Form.  |
| form identifier date | date | 0 to 1 |
| Date at which the identifier became valid.  |
| previous form identifier | SNOMED CT International or UK extension Identifier | 0 to 1 |
| Previous Identifier for the formulation |
| form name | string | 1 |
| Name used to describe the formulation. |

### 4.8.3 Route

|  |
| --- |
| Description: Used to describe the Routes of Administration of medicinal products in the drug dictionary |
|  |
| Attributes Type Occurrence |
| drug route identifier | SNOMED CT International or UK extension Identifier | 1 |
| Identification of the route.  |
| route identifier change date | date | 0 to 1 |
| Date at which the identifier became valid.  |
| previous drug route identifier | SNOMED CT International or UK extension Identifier | 0 to 1 |
| Previous Identifier for the drug route |
| route name | string | 1 |
| Name used to describe the route of administration. |

### 4.8.4 Supplier

|  |
| --- |
| Description: Used to identify suppliers of medicinal products |
|  |
| Attributes Type Occurrence |
| supplier identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the medicinal product supplier.  |
| invalidity flag | integer | 0 to 1 |
| Flag indicating that this dictionary entry was invalidVALUE: 1 = Invalid Entry NOTE: The entry needs to be retained in case it was used prior to detection of the error(s) which caused its validation. |
| supplier identifier change date | date | 0 to 1 |
| Date at which the identifier became valid.  |
| **previous supplier identifier** | **SNOMED CT UK extension Identifier** | **0 to 1** |
| Previous Identifier for the supplier |
| **supplier name** | **string** | **0 to 1** |
| Name used to describe the supplier |

* + 1. Unit of measure

|  |
| --- |
| Description: Used to describe the unit of measure within the drug dictionary |
|  |
| Attributes Type Occurrence |
| unit of measure identifier | SNOMED CT International or UK extension Identifier | 1 |
| Identification of the unit of measure.  |
|  unit of measure identifier change date | date | 0 to 1 |
| Date at which the identifier became valid.  |
| **previous unit of measure identifier** | **SNOMED CT International or UK extension Identifier** | **0 to 1** |
| Previous Identifier for the unit of measure |
| **unit of measure name** | **string** | **0 to 1** |
| Name used to describe the unit of measure |

### Global Trade Identification Number (GTIN)

Note: Further information can be found in Appendix XVIII of the NHS dm+d Editorial Policy

|  |
| --- |
| Definition: The GTIN is a globally unique number used to identify trade items, products or services. |
| Description: Used to uniquely identify actual medicinal product packs usually by scanning the barcode on the medication pack which is encoded with its GTIN. |
| Association*Actual Medicinal Product Pack* (4.7) An instance of GTIN data will be associated with one instance of Actual Medicinal Product Pack. Note: an AMPP may be associated with more than one GTIN |
|  |
| Attribute Type Occurrence |
| actual medicinal product pack identifier | SNOMED CT UK extension identifier | 1 |
| Identification of the Actual Medicinal Product Pack to which the GTIN relates |
| GTIN | Integer 14 | 1 |
| The GTIN code this is an integer usually 13 or 14 digits long. |
| start date | date | 1 |
| The start date when the link between the GTIN and the actual medicinal product pack was valid from. |
| end date | Date | 0 to 1 |
| The end date when the link between the GTIN and the actual medicinal product pack was valid until. If there is no date (end date is null) then the GTIN is the current GTIN for the actual medicinal product pack |

### BNF, ATC and DDD

|  |
| --- |
| Description: British National Formulary (BNF), Anatomical Therapeutic Classification (ATC) and defined daily dose (DDD) information relating to VMPs.Note: AMP links to BNF and ATC codes were removed from the dm+d data 4th April 2022. |
| Association*Virtual Medicinal Product* (4.4) Each instance of BNF data shall be associated with one instance of Virtual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| virtual medicinal product identifier | SNOMED CT UK extension Identifier | 1 |
| Identification of the Virtual Medicinal Product to which the BNF relates |
| BNF | string | 0 to 1 |
| Although the BNF is an 8 digit integer it has leading zeros which will be lost if the data type were an integer, therefore it is recommend to have a data type of string. |
| ATC | string | 0 to 1 |
| ATC is the World Health Organisations (WHO) Anatomical Therapeutic Chemical (ATC) classification system. The ATC code is an alpha numeric code that can be up to 7 characters long. |
| DDD | real | 0 to 1 |
| The World Health Organisations (WHO) Defined Daily Dose (DDD), this is the value of the Defined Daily Dose which can be any positive decimal value e.g. 0.5, 1, 13.3, etc. |
| DDD unit of measure | SNOMED CT International or UK extension Identifier | 0 to 1 |
| The unit of measure that is associated with the World Health Organisations (WHO) Defined Daily Dose (DDD).  |

### Historical Data files

dm+d codes can change to keep up to date with SNOMED CT International codes. The dm+d data model only allows one current and one previous codes to be published. If a code changes more than once the previous code will be replaced by the current code. This means the ‘first’ previous code will be ‘lost’. The potential ‘lose’ of codes only occurs for the following dm+d concepts: VTM, VMP, Ingredients, Form, Routes, Units of Measure and Suppliers.

The use case for the history data is to be used to identify what the current code is for any codes received for the dm+d concepts listed above.

### Virtual Therapeutic Moiety History

|  |
| --- |
| **Description:** Contains all previous codes for VTMs |
| Associations*Virtual Therapeutic Moiety* (4.3)An instance of Virtual Therapeutic Moiety History may be associated with one or more instance of Virtual Therapeutic Moiety. |
|  |
| Attributes Type Occurrence |
| current identifier | SNOMED CT International or UK extension Identifier | 1 |
| The identifier of the current virtual therapeutic moiety. |
| previous identifier | SNOMED CT International or UK extension Identifier | 1 |
| A previous identifier that used to be a current virtual therapeutic moiety identifier. |
| start date | Date | 1 |
| The start date that the previous identifier was the current identifier for virtual therapeutic moiety. |
| end date | Date | 0 to 1 |
| The end date that the previous identifier stopped being the current identifier for virtual therapeutic moiety. If the end date is not populated (end date is null) then the previous identifier is still the current identifier, and the previous and current identifiers will be the same. |

### Virtual Medicinal Product History

|  |
| --- |
| **Description:** Contains all previous codes for VMPs |
| Associations*Virtual Medicinal Product* (4.4)An instance of Virtual Medicinal Product History may be associated with one or more instance of Virtual Medicinal Product. |
|  |
| Attributes Type Occurrence |
| current identifier | SNOMED CT UK extension Identifier | 1 |
| The identifier of the current virtual medicinal product. |
| previous identifier | SNOMED CT International or UK extension Identifier | 1 |
| A previous identifier that used to be a current virtual medicinal product identifier.From 2023 all valid VMP concepts were assigned a SNOMED CT UK extension ID and no longer use International identifiers. Invalid concepts were not in scope for this change. There will be examples of VMPs where the previous identifier is an International ID. |
| start date | Date | 1 |
| The start date that the previous identifier was the current identifier for virtual medicinal product. |
| end date | Date | 0 to 1 |
| The end date that the previous identifier stopped being the current identifier for virtual medicinal product. If the end date is not populated (end date is null) then the previous identifier is still the current identifier, and the previous and current identifiers will be the same. |

### Ingredient History

|  |
| --- |
| **Description:** Contains all previous codes for Ingredient substances |
| Associations*Ingredient Substance* (4.8.1)An instance of Ingredient History may be associated with one or more instance of Ingredient Substance. |
|  |
| Attributes Type Occurrence |
| current identifier | SNOMED CT International or UK extension Identifier | 1 |
| The identifier of the current Ingredient Substance. |
| previous identifier | SNOMED CT International or UK extension Identifier | 1 |
| A previous identifier that used to be a current Ingredient Substance identifier. |
| start date | Date | 1 |
| The start date that the previous identifier was the current identifier for Ingredient Substance. |
| end date | Date | 0 to 1 |
| The end date that the previous identifier stopped being the current identifier for Ingredient Substance. If the end date is not populated (end date is null) then the previous identifier is still the current identifier, and the previous and current identifiers will be the same. |

### Supplier History

|  |
| --- |
| **Description:** Contains all previous codes for Suppliers |
| Associations*Supplier* (4.8.4)An instance of Supplier History may be associated with one or more instance of Supplier. |
|  |
| Attributes Type Occurrence |
| current identifier | SNOMED CT UK extension Identifier | 1 |
| The identifier of the current Supplier. |
| previous identifier | SNOMED CT UK extension Identifier | 1 |
| A previous identifier that used to be a current Supplier identifier. |
| start date | Date | 1 |
| The start date that the previous identifier was the current identifier for Supplier. |
| end date | Date | 0 to 1 |
| The end date that the previous identifier stopped being the current Supplier identifier. If the end date is not populated (end date is null) then the previous identifier is still the current identifier, and the previous and current identifiers will be the same. |

### Form History

|  |
| --- |
| **Description:** Contains all previous codes for dosage forms |
| Associations*Form* (4.8.2)An instance of Form History may be associated with one or more instance of Form. |
|  |
| Attributes Type Occurrence |
| current identifier | SNOMED CT International or UK extension Identifier | 1 |
| The identifier of the current Form. |
| previous identifier | SNOMED CT International or UK extension Identifier | 1 |
| A previous identifier that used to be a current Form identifier. |
| start date | Date | 1 |
| The start date that the previous identifier was the current identifier for Form. |
| end date | Date | 0 to 1 |
| The end date that the previous identifier stopped being the current Form identifier. If the end date is not populated (end date is null) then the previous identifier is still the current identifier, and the previous and current identifiers will be the same. |

### Route History

|  |
| --- |
| **Description:** Contains all previous codes for routes of administration |
| Associations*Route* (4.8.3)An instance of Route History may be associated with one or more instance of Route. |
|  |
| Attributes Type Occurrence |
| current identifier | SNOMED CT International or UK extension Identifier | 1 |
| The identifier of the current Route. |
| previous identifier | SNOMED CT International or UK extension Identifier | 1 |
| A previous identifier that used to be a current Route identifier. |
| start date | Date | 1 |
| The start date that the previous identifier was the current identifier for Route. |
| end date | Date | 0 to 1 |
| The end date that the previous identifier stopped being the current Route identifier. If the end date is not populated (end date is null) then the previous identifier is still the current identifier, and the previous and current identifiers will be the same. |

### Unit of Measure History

|  |
| --- |
| **Description:** Contains all previous codes for a unit of measure |
| Associations*Unit of Measure* (4.8.5)An instance of Unit of Measure History may be associated with one or more instance of Unit of Measure. |
|  |
| Attributes Type Occurrence |
| current identifier | SNOMED CT International or UK extension Identifier | 1 |
| The identifier of the current Unit of Measure. |
| previous identifier | SNOMED CT International or UK extension Identifier | 1 |
| A previous identifier that used to be a current Unit of Measure identifier. |
| start date | Date | 1 |
| The start date that the previous identifier was the current identifier for Unit of Measure. |
| end date | Date | 0 to 1 |
| The end date that the previous identifier stopped being the current Unit of Measure identifier. If the end date is not populated (end date is null) then the previous identifier is still the current identifier, and the previous and current identifiers will be the same. |

# Appendix 1 – Document Control prior to 2023

| Version | Date issued | Brief summary of change | Amended / Approved by |
| --- | --- | --- | --- |
| Release 1 | September 2000 | Final Draft Document of A Data Model for use in the specification of a UK Dictionary of Medicinal Products | T Marley |
|  | 2 August 2001 | Interim development working document | T Marley |
| Development Version 1.0 | 14 November 2001 | Development working document | T Marley |
|  | November 2001 | Amended to reflect PCDD Prototype | T Marley |
| Development Version 1.0 | 13 February 2002 | A Data Model for use in the Development of a Primary care Drug DictionaryFirst draft following Primary Care Use Case testing | T Marley |
| Development Version 1.1 | 27 February 2002 | amended following comments from project team | T Marley |
| Development Version 1.1 | 8 March 2002 | further amendments | T Marley |
| Development Version 1.2 | 21 March 2002 | ‘Frozen data model’ for development of PCDD | T Marley / PPA |
| Release 1.0 Version 1.0 | 31 December 2002 | Primary Care Drug Dictionary Data Model | T Marley / PPA |
| Release 1.0 Version 2.0 | 14 March 2003 | Amended following change controlled modifications to model | T Marley / PPA |
| 0.1 | 22 October 2003 | First draft of harmonised PCDD/SCDD model for discussion by UKCPRS Harmonisation Team | T Marley |
| Release 2.0 Version 0.1 | 19 November 2003 | Draft containing changes provided by Kerry Frenz and resulting from harmonisation meeting.  | T Marley |
| Release 2.0 Version 0.2 | 28 November 2003 | Released to Harmonisation Team for Q/A | D Tutcher |
| Release 2.0 Version 0.3 | January 2004 | Amended in light of comments, d/w DT & PF and released for further QA by Harmonisation Team | Adel /Synapse |
| Release 2.0Version 0.4 | January 2004 | Edited following QA by Harmonisation team | Adel /Synapse |
| Release 2.0Version 0.4 | 4th February 2004 | Further editing in conjunction with KF/AM & PF then issued to Harmonisation Team | Adel / Synapse  |
| Release 2.0Version 0.5 | 9th February 2004 | Comments from Harmonisation team added | Adel / Synapse |
| Release 2.0Version 0.6 | 9th February 2004 | Final Draft posted on web | Adel / Synapse |
| Release 2.0Version 1.0 | November 2004 | Changes to bring draft into line with Editorial Policy July 2004 | Adel / Synapse |
| Release 2.0Version 2.0 | December 2004 | Version 2.0 to reflect change of extract (tag names of schedule 10 & 11 attributes changes to schedule 1 & 2) | PPA |
| Release 2.0 Version 3.0 | 20 January 2006 | New extract version to include VTM previous identifier and dateInclusion of Drug Tariff Payment category M in list of values | PPA |
| Release 2.0 Version 3.0 | 1 April 2006 | All references to Prescription Pricing Authority (PPA) amended to NHS Business Services Authority (NHSBSA)Restrictions on availability and licensing authority change reason at AMP level renumbered to match extract | NHSBSA |
| Release 2.0 Version 3.0 | 20 December 2006 | Matched to Technical Specification of xml filesUpdating of field values to reflect Editorial Policy | NHSBSA |
| Release 2.0 Version 3.0 | 20 November 2007 | Updating of field and attribute values to reflect Editorial Policy | NHSBSA |
| Release 2.0 Version 3.0 | 13 October 2008 | Updating of field and attribute values to reflect Editorial Policy | NHSBSA |
| Release 2.0 Version 3.0 | 17 August 2010 | Updating of field and attribute values to reflect Editorial Policy | NHSBSA |
| 08 March 2012 | Release 2.0 Version 3.0 | Updating of product examples throughout e.g. where pharmaceutical manufacturers no longer exist, descriptions have been updated accordingly.Current Licensing authority, minor change to text describing the values. | NHSBSA |
| 09 August 2013 | Release 2.0 Version 3.0 | CHM Monitoring indicator changed to EMA Additional Monitoring indicator.Inclusion of relevant GTIN information to reflect Editorial Policy.Limited stability indicator field will remain but no longer populated in dm+d. | NHSBSA |
| May 2015 | Release 2.0 Version 3.1 | dm+d help desk e-mail updateddm+d – the NHS Medicines Standard section updated with reference to the Standardisation Committee for Care InformationAttribute VMP prescribing status, additional value 8 added for VMP not recommended to prescribe –no published specificationAttribute VMPP Drug Tariff Payment Category, additional value 12 added for Part VIIIB and Part VIII category A, C and M descriptions updated to state Part VIIIAAnnex I - Partition of document control with information prior to 2012 now located in Annex I towards the end of the document. | NHSBSA |

# Appendix 2 – Change Control

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| --- |
| **Release 1.0 Primary Care Drug Dictionary** |
| **Version** | **Date issued** | **Change controlled modification to model** |
| 1.0 | 31 December 2002 | n/a |
| 2.0 | 14 March 2003 | * Inclusion of non-availability indicator and non-availability status date at VMP level
* Inclusion of invalidity flag at VMP, AMP, VMPP, AMPP, supplier and ingredient level
* Addition of value ‘not discontinued’ at discontinued flag AMPP level
 |

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| --- |
| **Release 2.0 NHS dictionary of medicines and devices** |
| **Version** | **Date issued** | **Change Controlled Modification to Model** |
| 1.0 | November 2004 | * Inclusion of Virtual Therapeutic Moiety (VTM)
* Cardinality – VMP to AMP, VMP to VMPP and VMPP to AMPP to have cardinality of 1 to 1 to many
* Prescribing status – replacement of not prescribable as a VMP but AMP prescribable with 2 new values never valid and not recommended to prescribe as a VMP
* Ingredient strength – to break strength of ingredients down to most elemental structure
* CSM Monitoring – moving of CSM monitoring flag from AMPP level to AMP level
* Product availability – removal of availability status and change reason (AMP) and 3 values of dispensing status (AMPP). Inclusion of previous licensing authority, date and reason plus restrictions on availability at AMP. Renaming of dispensing status as legal status plus inclusion of not applicable value.
* Parallel Import flag – inclusion of a flag identifying AMP is a parallel imported drug
* Appliance information – moving size and colour from AMPP to AMP level. Creating a new attribute Product order number at AMP level
* Price basis flag – identifies NHS indicative price or the reason for no value
* Unit Dose Form – providing unit dose form information at VMP level
* Combination pack information to be provided at AMP and AMPP level
* Description – this will be provided for each AMP, VMPP and AMPP
 |
| 2.0 | December 2004 | * Change of Tag name for schedule 10 & 11 attributes to schedule 1 & 2
 |
| 3.0 | 20 January 2006 | * Inclusion of previous VTM identifier and date
 |
| 3.0 | 20 November 2007 | * Reference to CSM amended to CHM
* Licensing authority values amended to reflect Editorial Policy
 |
| 3.0 | 13 October 2008 | * Prescribing status – replacement of ‘Not Recommended To Prescribe As A VMP’ with 2 new values.
 |
| 3.0 | 17 August 2010 | * Prescribing status – replacement of ‘Invalid as a prescribable product’ with ‘Invalid to prescribe in NHS primary care’
 |
| 3.0 | 08 March 2012 | * Current Licensing authority – Firstly, Medicines – MHRA changed to Medicines – MHRA/EMA and secondly, Devices – MHRA changed to Devices.
 |
| 3.0 | 08 August 2013 | * Actual Medicinal Product level CHM Monitoring indicator updated to EMA Additional Monitoring indicator
* AMPP Product Prescribing Information, update of GTIN Indicator field and attribute values
* Reimbursement information, limited stability indicator field will remain but is no longer populated in line with the Drug Tariff no longer identifying these products
 |

# Appendix 3 – Historical Policy Context

The Information Strategy for the NHS, set out in Information for Health (IfH) recognised the lack of a common/standardised vocabulary of clinical products, which would provide interoperability between diverse clinical systems and the potential knowledge sources required for decision support. It stated (3.21)

“There is a lack of standardisation in the UK in describing medicines, appliances and medical devices, in how such descriptions are organised, and in linking knowledge required for decision support to these descriptions.”

And continued (3.22)

“Work will begin on a national project to develop the UK Standard Clinical Products Reference Source (UKCPRS), bringing together all existing initiatives associated with the coding of drugs etc.”

There was a clear recognition in Information for Health (3.6) that this work

“is most sensibly done on a national basis, but must engage the relevant stakeholders…..”.

and it also emphasised the need to consolidate the development of all health information content standards within a single work programme, and to institute an approval mechanism through the establishment of the Information Standards Board.

The requirement for a national identifier for drug products in particular was recently reinforced by the Audit Commission report into medicines management in secondary care, A Spoonful of Sugar, which made the following recommendation

 “A standard national system for coding medicines across the NHS is required.”

The UK Clincal Products Reference Source (UKCPRS) programme aims to deliver a standard electronic vocabulary (terminology) and identifiers for clinical products (medicines, appliances and personal medical devices). This dictionary of medicines and devices (dm+d) will facilitate electronic transfer of data on clinical products between systems and provide a route by which knowledge to assist decision making can be accessed for the relevant product.

The successful implementation of the dm+d underpins a number of the key objectives outlined in the drive to deliver an ‘information aware’ National Health Service focused on the patient at its centre. These include:

Providing an integral component of electronic health records

Inter-sector clinical messaging

Electronic transfer of Electronic Patient Records (EPRs) by GP’s

Electronic transfer of prescriptions (ETP) between GP, Community Pharmacy and NHS Business Services Authority (NHSBSA)

Data aggregation for performance assessment, Clinical Governance and management from clinical systems

National Care Record Service (NCRS)

Interoperability between decision support systems

**The UKCPRS Development Process for dm+d**

Phase 1 of the project identified the benefits of adopting a ‘federal’ approach to this initiative, an approach which is diagramatically represented in Figure 1. This approach aims to deliver the dm+d through a collaborative approach between those organisations producing its individual elements: the Primary Care Drug Dictionary, the Secondary Care Drug Dictionary and the Medical Devices Dictionary. Within Phase 2, the aim has been to extend the design of the Primary Care Dictionary to cover Secondary Care.

Knowledge database

(local public sector).

Knowledge database

(commercial sector)

Snomed CT Core

NHS dictionary

of medicines

and devices

Medical Device

Dictionary

Primary Care Drug

Dictionary

Secondary Care

Drug Dictionary

Figure 1: The UKCPRS Federal Model for dm+d

1. In 2023 all VMPs with the exception of invalid concepts were updated to a UK extension. There will therefore be many VMPs with a Previous VMP ID that is an International ID. [↑](#footnote-ref-1)
2. This is subject to Editorial Policy. For example, a policy may be adopted whereby after a certain period the entry is omitted from a new issue of the dictionary. However, for safety reasons the same code shall not be re-used to represent different products no matter how long its period of non-use. [↑](#footnote-ref-2)
3. Mandatory if pharmaceutical strength provided. [↑](#footnote-ref-3)
4. In October 2022 all Actual product excipients were removed from the data fields and are now no longer populated. [↑](#footnote-ref-4)
5. Mandatory if pharmaceutical strength provided. [↑](#footnote-ref-5)