INTERNATIONAL HEALTH TERMINOLOGY
STANDARDS DEVELOPMENT ORGANISATION
UK Terminology Centre (UKTC)

NHS
Connecting for Health

THE CLINICAL TERMS VERSION 3 (THE READ CODES)

THE DRUG AND APPLIANCE DICTIONARY

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Purpose of this document

This document is one of a series that, taken together, describe the contents, structure and function of Clinical Terms Version 3 (The Read Codes).

This introduction is intended to provide information on Clinical Terms Version 3. It is also a guide to the other available documents each of which is updated independently. For this reason, different chapters may have different version numbers.

INFORMATION

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1. Introduction

The Read Codes Drug and Appliance Dictionary (DAAD) is a part of Clinical Terms Version 3 (CTV3). Prior to July 2006 it was updated and released each month as a separate product and also integrated with CTV3 on a six-monthly basis. In July 2006 maintenance of the monthly CTV3 DAAD ceased. The CTV3 integrated release now contains Version 3 DAAD files populated by a simple conversion of Version 2 DAAD terms to CTV3 format.

It should be noted that this data is not intended for use in live Clinical Systems and is produced merely to satisfy the Superset principle. See Section 6 of this document for further details.

The purpose of this document is to describe the contents, structure and maintenance of these CTV3 files populated by conversion of Version 2 data. For information about the previously released CTV3 DAAD files please refer to the documentation provided with those files.

UK Terminology Centre seeks to ensure that all the concepts applying to medicinal products, appliances, dressings, special food and reagents are included in the dictionary, which is part of The Clinical Terms Version 3 (The Read Codes).

A clinical knowledge base (including such information as drug use, doses, side-effects, contraindications and interactions) is not provided within the Drug and Appliance Dictionary.

2. Overview of the Dictionary

Prior to the July 2006 release the CTV3 dictionary was maintained in parallel to the other available Read Codes versions (the GP 4-byte set, the GP 5-byte set, the Unified 5-byte Version 1 set and the Unified 5-byte Version 2 set) and also incorporated all the concepts present in these other versions as either current, optional or redundant. The monthly releases of CTV3 drugs are now no longer maintained but a Version 2 to CTV3 format conversion is performed for the 6 monthly Integrated Release in order to satisfy the Superset principle for Integrated Releases. See section 7 for more details.

Wherever a term appears in *italics* in this chapter, it indicates that the term has a Read Code.

Wherever “Version 2” is mentioned, it refers to all previous versions of the Read Codes including the GP 4-byte set, the GP 5-byte set, the Unified 5-byte Version 1 set and the 5-byte Version 2 set.

2.1 Content and Structure

1. There are two top level headings (concepts) for this section of CTV3:
   Drug

Appliances + equipment

The hierarchy consists of a set of parent-child links, based on either:

- pharmacological action,
- chemical structure, or
- therapeutic use.

Examples of the CTV3 hierarchy are given in section 2.2.

2. In the hierarchy up to and including the October 08 release, brand name products where applicable are placed as children of their generically equivalent concepts. For example, *Dixarit 25micrograms tablet* is placed as a child of *Clonidine HCl 25micrograms tablet*. For data added post October 2008 the hierarchy in CTV3 will no longer show a parent-child relationship for proprietary products and their generic equivalent. The relationship between concepts will be the same as that in Version 2.

3. Prior to July 2006 products are termed in the singular, rather than the plural, e.g. *Frusemide 40mg tablet* as opposed to *Frusemide 40 mg tablets*. After this date Version 2 Editorial policy applies for concepts converted for the Integrated Release (see section 7).

4. Factual information about the products is provided via the template file (described in the document 'Clinical Terms Version 3 – Template File'). The attributes for drugs and appliance products are:

   Availability
   NHS prescribing status
   Legal category
   CSM recommendation to report adverse reactions
   Product name type
   Prescription writing recommendation

Note –this information is provided as a static file.

2.2 Examples of the CTV3 Drug and Appliance Dictionary Hierarchy

EXAMPLE 1:

Level	Read Code Term	
1	*x00xm*	*Drug*
2	*x01By*	*Drug groups primarily affecting the autonomic nervous system*
3	*x01CX*	*Sympathomimetic*
4	*x01Cy*	*Central alpha-adrenoceptor agonist*
5	*x01Cz*	*Clonidine*
6	*dm1z.*	*Clonidine HCl 25mcg tablet*

7	*dm11.*	*Dixarit 25mcg tablet*

EXAMPLE 2:

Level	Read Code Term	
1	*x00xm*	*Drug*
2	*x000L*	*Analgesics and non-steroidal anti-inflammatory drugs*
3	*dm...*	*Drugs used in migraine prophylaxis*
4	*dm1z.*	*Clonidine HCl 25mcg tablet*
5	*dm11.*	*Dixarit 25mcg tablet*

EXAMPLE 3:

Level	Read Code Term	
1	*x00xl*	*Appliances+equipment*
2	*p....*	*Appliance*
3	*x00iG*	*Catheter*
4	*p8...*	*Sterile urethral catheter*
5	*x00hq*	*Foley catheter*
6	*x00hr*	*Male Foley catheter*
7	*x00hs*	*Foley 10 mL balloon 2-way Teflon coated male catheter*
8	*x0148*	*Bard 10mL balloon 12Ch 1265LV 2-way Teflon*
		Male catheter

The indents indicate the different levels of hierarchy.

For data added post October 2008 the hierarchy in CTV3 will no longer show a parent-child relationship for proprietary products and their generic equivalent. The relationship between concepts will be the same as that in Version 2.

See also section 7.4 of this document.

2.3 Keys

The usual way for the users to access the concept they require is by means of key words which are provided by UK Terminology Centre. The main or ‘preferred term’ may be accompanied by synonymous terms which include:

- acronyms
- abbreviations
- lexical equivalents
- eponyms

The keys for generic product descriptions are generated to provide entry points to the drug entity. This means, for instance, that using the key 'digoxin' will lead to the presentation of that single term in the picking list rather than including all the digoxin

preparations as well, e.g. Digoxin 125mcg tablet, Digoxin 250mcg tablet, Digoxin 500mcg/2mL injection. The user can then move up or down the hierarchy, as required.

If a proprietary (or brand) name is entered as a key word, the full list of terms containing that name will be presented.

More than one word can be used as a key, to allow more direct access to the terms required. For example, the use of the key 'digoxin tab' will provide a listing only of the digoxin tablets.

Systems developers can generate additional keys, using the Name, Strength and Form File. A key of, for example, 'dig125tab', might then take a user directly to the term 'Digoxin 125mcg tablet'.

2.4 Maintenance and Release

Release Schedule for the V2 files that undergo V2 to V3 conversion

The pattern for the monthly releases is usually that the updating work is completed by the end of the first week of the month, allowing time for quality assurance (QA) checks before release to licensees at the start of the next month. For example, for the release on 1st March 2007 (the 'March Release'), the timetable is:

22nd January 2007	Start March Release work
13th February 2007	Completion of updating work
14th February 2007	Export of data from in-house editor
14th - 20th February 2007	Technical and author QA checks
21st February 2007	Version 2 Release signed off by NHS Connecting for Health

The updated information for the dictionary relates to new products which are available. In addition, if a product has been discontinued by the manufacturer, this information is provided.

Because of the additional transform that is required for the Version 2 data to be provided in CTV3 format it is necessary that the data included in the integrated release files is several months behind the monthly released Version 2 data.

Sources of Information

Information for the monthly updates is received directly from the manufacturers. In addition, UK Terminology Centre checks publications such as The Pharmaceutical Journal, Chemist & Druggist, Monthly Index of Medical Specialities (MIMS) and the Drug Tariff for information about product changes.

Information Checked

The information checked for each release includes:

-new products (data sheet or summary of product characteristics required, if available)
-discontinued products
-formulation changes

File format

The dictionary is released as flat ASCII files. No software is supplied by UK Terminology Centre to support these files.

3. File Descriptions

It should be noted that in July 2006 maintenance of the monthly CTV3 DAAD ceased. The CTV3 integrated release now contains Version 3 DAAD files populated by a simple conversion of Version 2 DAAD concepts to CTV3 format merely to satisfy the "Superset "principle. This data is not intended for use in live Clinical Systems.

3.1 Read Codes

The Read Codes in CTV3 remain unchanged, both in form (5 alphanumeric characters) and content (assigned Read Codes retain their meaning, though new codes are continually added). In CTV3, no hierarchical significance must be read into the code, and hierarchical analysis using only the Read Codes as the starting point is not possible, i.e. the codes themselves are meaningless. In some cases, a concept may only be present in CTV3, in which case it is known as a 'CTV3-only' concept and the Read Code starts with 'x' (or, in the case of pack sizes and supplier names, with a 'w').

3.2 Hierarchy

In the previous versions of the Read Codes, the hierarchy is stored in the Read Code itself, whereas in CTV3 the hierarchy is stored in a table as a sequence of parent-child links. See section 6.4 for information concerning Editorial Policy following the cessation of monthly CTV3 DAAD updates.

3.3 Optional Terms

The previous versions of the Drug and Appliance Dictionary hold terms which include the pack size (e.g. *Betnovate ointment 30g*). In the CTV3 release, this does not occur (the new term is *Betnovate ointment*). The terms with a pack size are flagged as 'optional', and placed in the hierarchy either as children or siblings of the new CTV3 terms.

Other Version 2 terms flagged as optional include the heading terms in square brackets which contain an indication of use of a drug, e.g. *CORTICOSTEROIDS [RESPIRATORY USE]*.

All concepts added after the October 2008 release will be automatically allocated a status of optional since it does not obey the rules of CTV3 and in many cases is placed in the hierarchy with a parent that would previously have been considered to be insufficiently specific.

This flag was previously known as the ‘obsolete’ flag. The name has been changed throughout CTV3 (not just within the Drug and Appliance Dictionary). It is recommended that these 'optional' concepts in the dictionary are not actively used as they do not obey the rules of CTV3.

See section 6.5 for information concerning content following the cessation of monthly CTV3 DAAD updates.

3.4 Discontinued Products

In the 4-byte and 5-byte (Versions 1 and 2) Read Codes, discontinued products will continue to be 'marked' with an asterisk in the 30-character term and the discontinued flag will be set. For the April 2009 release onwards product availabilities will no longer be maintained.

3.5 Lower-case Terms

The CTV3 terms are in lower case (apart from the first character, in most terms). In instances where characters such as 'SR' or 'XL' are used within the brand name of a product, then upper case characters will be used.

This differs from the other versions of the dictionary where the terms in higher levels of the hierarchy are in upper case, as well as product names in the terms at the lowest level.

See section 6.3 for information concerning Editorial Policy on capitalisation following the cessation of monthly CTV3 DAAD updates.

3.6 Singular Terms

Wherever possible or appropriate, the terms in CTV3 are all singular. All product descriptions, for example, are given in the singular form, e.g. *Frusemide 40mg tablet* instead of *Frusemide 40mg tablets*.

The terms from previous Read Codes versions, and their codes, are integrated into the CTV3 DAAD dictionary. For this reason, the plural terms (from other versions) and the new singular terms are considered to be the same concept and therefore retain the same Read Code. The singular term, though, is the preferred term.

See section 6.3 for information concerning Editorial Policy on plurality following the cessation of monthly CTV3 DAAD updates.

3.7 Template File

Facts about drug and appliance products are stored in the CTV3 template file.

Each attribute and each value has a Read Code. For example, the following simplified extract from the file shows how the facts about *Digoxin 125mcg tablet* are represented. Read Codes have been replaced by their preferred terms for clarity.

object	applicable_attribute	applicable_value
Digoxin 125mcg tablet	*Availability*	*Product is currently available*
Digoxin 125mcg tablet	*Legal category*	*Prescription Only Medicine*
Digoxin 125mcg tablet	*NHS prescribing status*	*NHS prescribable*
Digoxin 125mcg tablet	*CSM warning status*	*Report only serious reactions*
Digoxin 125mcg tablet	*Product name type*	*Generic name*

The characteristic_status for all these attributes is set to F (for fact) to indicate that these are facts rather than qualifiers or intrinsic characteristics of the drug.

The cardinality for each attribute is set to 1. There is always only a single value applicable for each attribute (unless the attribute is not applicable to the product in which case the attribute is not applied, as in the case of 'Prescription writing recommendation').

Descriptions of the attributes available within the dictionary are given in section 4.

See section 6.2 for information on file structure following the cessation of monthly CTV3 DAAD updates.

4. Attributes and Values

In CTV3, the provision of information relating to the products includes:

- Availability e.g. *Discontinued product*
- Legal category e.g. *Controlled Drug*
- NHS prescribing status e.g. *Not prescribable on FP10*
- CSM warning status e.g. *Report all adverse reactions*
- Product name type e.g. *Generic*
- Prescription writing recommendation e.g. *Prescribe by brand name*

	Attribute	Value	Description/anticipated use

1.	Availability	a	Product is currently available	
		b	Available only as a proprietary	This will only appear against generic product descriptions where these products are not available from a generics manufacturing company.
		c	Discontinued product	If a product has been discontinued, it is suggested that the other attributes, e.g. NHS prescribing status, legal category and CSM warning status, are not applicable.
		d	Product has been withdrawn by manufacturer	
		e	Product is temporarily unavailable	This is only used if the product is unavailable for more than two months.
		f	Availability needs to be checked	

	Attribute		**Value**	**Description/anticipated use**
2.	Legal category	a	Prescription Only Medicine	An abbreviation for this is POM. These medicines can only be supplied from pharmacies on practitioners' prescriptions.
		b	Controlled Drug	An abbreviation for this is CD.
		c	Pharmacy Medicine	An abbreviation for this is P. All medicines which are not POM and which are not included in the General Sales List are Pharmacy Medicines, and may be sold over the counter only in pharmacies under the supervision of a pharmacist.
		d	P / POM	Pack size dependent
		e	General Sales List medicine	An abbreviation for this is GSL.
		f	GSL / P	Pack size dependent
		g	GSL / P / POM	Pack size dependent
		h	CD No Register	Covers Schedule 3 drugs. One of the specifications is that records in the Controlled Drugs register need not be kept.
		i	CD Benz POM	Covers Schedule 4 drugs such as the benzodiazepine tranquillisers. Some of the restrictions applied to the Schedule 3 drugs are relaxed with these drugs. E.g. there are NO safe

				custody requirements.
		j	CD Inv P	Covers Schedule 5 drugs which are Pharmacy Medicines.
		k	CD Inv POM	Covers Schedule 5, Prescription Only Medicines.
		l	CD Inv P / POM	Covers Schedule 5, Prescription & Pharmacy Medicines.
		m	CD Anab POM	Covers Schedule 4, Part 1 drugs.
		n	See proprietary for legal category	Covers the instances where some branded presentations of a product have had their legal category changed from Prescription Only Medicine. The proprietary (or branded) product is found in the hierarchy as a child of this generic product description.
		o	Legal category not available or not applicable	This is used, for example, for the appliance products.

	Attribute		**Value**	**Description/anticipated use**
3.	NHS prescribing status	a	NHS prescribable	
		b	Not prescribable on FP10	Used for Schedule 1 items (limited list). Also used for food products and toilet preparations (cosmetics) which may not be included in Schedule 1 but have not been approved by the Advisory Committee on Borderline Substances (ACBS).
		c	NHS prescribable depending on pack	

		d	FP10 prescribable for specified conditions	For example, clobazam is not prescribable on FP10 except for epilepsy and only if the prescriber endorses the prescription with 'SLS'. Some foods and toiletries may be prescribed on FP10, for certain conditions following approval by the ACBS, and in these instances the prescriptions are endorsed with 'ACBS' by the prescriber.

	Attribute		**Value**	**Description/anticipated use**
4.	CSM warning status	a	Report all adverse reactions to the CSM	Also known as the 'black triangle' status. The Committee on Safety of Medicines (CSM) requests that **all** suspected adverse reactions for the newer drugs are reported to them.
		b	Report only serious adverse reactions to the CSM	Clinicians are asked to report the **serious** suspected reactions to established drugs.
		c	CSM warning status not applicable	Most products in the *Appliances + equipment* section of the dictionary will have this value.

	Attribute		**Value**	**Description/anticipated use**
5.	Product name type	a	Generic name	Also known as the non-proprietary or approved name. This 'flag' does **not** differentiate between those generic terms which are solely generic descriptions of a branded product and those generic terms which describe actual products available from a generics manufacturer. Not all branded drug products will have a generically 'equivalent' parent term in the hierarchy, particularly if they are multi-ingredient preparations.
		b	Brand name	Also known as the proprietary name or trade name.

	Attribute		**Value**	**Description/anticipated use**

6.	Prescription writing recommendation	a	Prescribe by brand name	Used only in the *Drugs* section of the dictionary. Applies to products (both the branded preparations and their generically 'equivalent' parent terms) where it is important that patients should be maintained on a single brand as bioavailability may vary from one brand to another or between the branded products and generics. This category includes anticonvulsants, those drugs with a narrow therapeutic index and also for modified release preparations where more than one such branded preparation is available. For products where this is not applicable, the attribute will **not** be applied.

This data is held in the template file. Post June 2006 this information is provided as a static file except for items marked with * in Version 2 (e.g. Discontinued items) where availability will be reset to Discontinued product and additional attributes removed See section 6.2

5. Using the CTV3 Drug and Appliance Dictionary in pre-CTV3 Systems

Due to the cessation of monthly maintenance of the CTV3 DAAD in July 2006 it is not recommended to migrate systems from earlier versions of Read drugs to CTV3 drugs. The Version 2 in CTV3 format data is not intended for use in live Clinical Systems and is produced merely to satisfy the Superset principle.

6. Cessation of maintenance of the CTV3 Drug and Appliance Dictionary

Further to the cessation of maintenance of the CTV3 DAAD in July 2006, all six-monthly Clinical Terms Version 3 integrated releases after this date contain a simple conversion of Version 2 DAAD terms to CTV3 format. It should be noted that this data is not intended for use in live Clinical Systems and is produced merely to satisfy the Superset principle.

6.1 The “Superset” principle

Further to advice and feedback during 1996 it was considered necessary that CTV3 should be enhanced to become a true ‘Superset’ incorporating all the material contained in previous versions of Read (namely, 4 Byte and Version 2).

Since this time all CTV3 release data has satisfied these requirements, and contains within it all codes, terms and concepts from the 4 byte set and Version 2. (see 171(Incorporation_of_Earlier_Versions)v1.0.pdf for more details).

There is therefore a requirement that the CTV3 integrated release should include all Read codes issued to date. In order to satisfy this the April 2007 integrated release and subsequent releases contain DAAD Read codes and associated terms issued as part of 4-byte and Version 2 auto-updated to form the CTV3 drugs component.

6.2 File Structure

Due to the difference in the level of granularity between Version 2 and CTV3 drugs the reduced information available necessitated certain changes to the CTV3 files issued. These changes are summarised in the table below.

File name	File status
Drugconc.v3	To continue with additions from Version 2 data. All content added post October 2008 release will be automatically allocated a status of optional
Drugdesc.v3	To continue with additions from Version 2 data for new concepts (see 6.3 re. Editorial Policy). New synonyms added to existing concepts, for example product name changes, in V2 are no longer maintained in the CTV3 format data.
Drughier.v3	To continue.
Drugkey.v3	To continue.
Drugtemp.v3	Static file from June 2006 CTV3 DAAD release. (except for items marked with * in Version 2 (e.g. discontinued items) where availability will be reset to Discontinued product and additional attributes removed). From April 2008 this file will no longer be updated.
Drugterm.v3	To continue with additions from Version 2 data (see 6.3 re. Editorial Policy).

Note - Maintenance and release of 4-byte and Version 2 (also known as 5-byte) relating to drug Read codes will continue until further notice, the release format unchanged.

6.3 Editorial Policy

Editorial Policy between Version 2 and CTV3 differs in terms of capitalisation,

plurality and word order but in terms of Read the concepts have always been considered identical.

Example:
PARACETAMOL 500mg tablets (Version 2)
Has in terms of Read always been considered to be the same as
Paracetamol 500mg tablet (CTV3)

Since the cessation of maintenance of monthly CTV3 DAAD the format for all new Version 2 derived content follows Version 2 Editorial Policy and therefore utilises full capitalisation for name and plurality for dose form. Word order for appliances where CTV3 and Version 2 differed in the past now follows Version 2 Editorial rules.

All new content added after the October 2008 release will be given the status optional since it does not obey the rules of CTV3.

6.4 Hierarchy

In the previous versions of the Read Codes, the hierarchy is stored in the Read Code itself, whereas in CTV3 the hierarchy is stored in as a sequence of parent-child links. This hierarchy is still used for the Version 2 derived data. However since the intention of the V2 to V3 conversion is to maintain the superset principle without creating significant new Version 3 only content the placement for some of the Version 2 content is at a much higher level than would have been considered appropriate pre-July 2006.

6.5 Optional and Redundant Concepts

It should also be noted that Version 2 does not have the facility to create optional (obsolete) codes. For content added post October 2008 the Version 2 to Version 3 transform will automatically allocate a status of optional to new concepts.
Version 2 does not have the facility to create redundant concepts. However the addition of Version 2 derived content may result in the need to create redundant concepts in the CTV3 format data.