Data Migration Subpack

Map *from* SNOMED CT, Clinical Terms Version 3 (CTV3), 5 Byte READ2

to Care Record Elements

FINAL RELEASE APRIL 2020

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(Data Standards Helpdesk: information.standards@hscic.gov.uk)

1st April 2020

Dear User

SNOMED CT, Clinical Terms Version 3 (CTV3) and 5 Byte READ (V2) to Care Record Element Map

Please find enclosed the scheduled **FINAL** April 2020 production release of the Clinical Terms Version 3 (CTV3), 5-Byte READ (V2) and SNOMED CT to Care Record Element (CRE) mapping tables. The maps are synchronised with the 29.0.0/29.0.1 production releases of SNOMED CT, and the final 21.0.0/25.0.0 releases of READ V2 and CTV3, as appropriate.

This release replaces all previous releases.

As normal, where the mapping for a given SNOMED CT, CTV3 or READ2 code has changed, several mapping rows associated with that code and having MapStatus=1 will exist in the relevant table, as well as several more with MapStatus=0. The current map for a given code is therefore to be determined according to the mechanism detailed later in this document.

Users are reminded that the CREID field will hold a zero where the source scheme code can not be mapped to any CREID.

Nature of changes since 28.0.0 (october 2019) release

Maps for 31 READ2 codes, 72 CTV3 codes and 254 SNOMED codes were changed.

Effect of READ Code and CTV3 end of maintenance (2016/18) and full withdrawal (2020):

Maintenance of the READ2 codeset itself ended with the 21.0.0 (April 2016) release; no new READ2 codes or other changes to the product will be released after that date. Maintenance of the CTV3 codeset ended with the final 25.0.0 production release (April 2018). The maps from READ2 and CTV3 to CRE types now therefore become static from this 29.0.0 release (April 2020).

The NHS Summary Care Record programme requires ongoing access to a map from SNOMED to CRE types. However, this is likely to be published in a different format going forward from October 2020, probably as a new SNOMED RF2 CREFSET.

Product Status: this release is **Deprecated with Support**.

This is the final release of this product. No further scheduled releases will occur and the content will therefore remain static. Only if required to resolve critical clinical safety issues, unscheduled updates may occur until April 2023.

Introduction

Product Purpose

- To provide a mapping from SNOMED CT, CTV3 or READ 2 codes to Care Record Element Types, or to a 'no map' identifier where no valid map is believed to exist.
- To facilitate the population of GP Summary Messages in a consistent manner

Audience

GPSS (GP Supplier System)

Product History

The first release of the READ2 and CTV3 to CRE maps occurred in October 2008 with the SNOMED to CRE map following from October 2009.

The design was approved as a 'Draft for Trial Use' in March 2012, and as a 'Supported Product' from June 2015.

The algorithm to derive the map was significantly revised in June 2019, to permit the maps to be derived from SNOMED RF2 rather than the deprecated RF1 sources. This re-engineering resulted in many maps being changed.

Product Status

This release therefore has **Deprecated With Support** status within the Product Development Lifecycle[1]. This means that:

1. Both the release format specification of the product and the method of its content preparation shall remain fixed indefinitely *unless* a significant safety risk is identified that cannot be mitigated without changing them. Where changes are deemed necessary to improve a product then a formal consultation procedure will be undertaken which may include some or all parts of the product development process and may include an option for parallel running (i.e. support for both existing and new specification).
2. NHS Digital commits to continue limited support until April 2023, after which proper product termination and data withdrawal procedures will occur. There will be no further scheduled maintenance updates of the product. Only if required to resolve critical clinical safety issues, unscheduled updates *may* occur until April 2023.
3. Quality assurance may be ongoing but the product is approved for deployment in live clinical systems, subject to standard safety assessment procedures associated with deployment of any product into a live environment
4. The commitment to release against a stable specification does not preclude continued parallel evolution of the specification and consequent

[1] http://systems.hscic.gov.uk/data/uktc/snomed/governance/lifecycle.pdf

development of improved variants which may or may not be considered as new products.

Scope

The mapping tables are from the current English releases of SNOMED CT, Clinical Terms Version 3 and READ V2 to NHS (National Health Service) Care Record Element version 3.0, as encoded in the current UK release of SNOMED CT.

For the list of CREs used see below.

Care Record Element – Level 1	Care Record Element – Level 2
Personal Demographics	
Care Events	
Documents and Correspondence	Care Professional Documentation
	Patient/Carer Correspondence
	Third Party Correspondence
Risks and Warnings	Allergies and Adverse Reactions
	Risks to Patient
	Risks to Care Professional or Third Party
Problems and Issues	
Diagnoses	
Findings	Clinical Observations and Findings
	Investigation Results
Social Context	Social and Personal Circumstances
	Services, Care Professionals and Carers
	Lifestyle
Family History	
Procedures	Treatments
	Investigations
	Administrative Procedures
	Provision of Advice and Information to Patients and Carers
Medication Record	Medication
	Medication Recommendations
Personal Preferences	

About the maps

Mapping Quality and Safe Use

Subject to further quality review and experience in the field, all data migrated using these products should be used with caution. It is **strongly recommended** that the original rubric text, Term Code and original source concept code (SNOMEDID, CTV3ID or READ code) and the mapping table version used are preserved in any migrated dataset, alongside the mapped code. Clinical decision-making from the mapped CRE type should not be undertaken without reference to the original text.

Reporting and Managing Mapping Errors

Implicit in the preceding section is an acceptance that the mapping table may contain errors. **Users of the map are strongly encouraged to report any suspected mapping errors they detect** to information.standards@nhs.net and to avail themselves at the earliest opportunity of all update releases, in which such errors may be fixed.

Mapping File Format

Each of the three mapping tables is presented as a single TAB delimited file with rows terminated by CR/LF combination. The first row contains the relevant field names.

The format of the SctCreMap, Ctv3CreMap and V2CreMap release tables is as follows. The following pages provide further description of the content of the individual columns of the tables, and explain how updates to each mapping table will use the EffectiveDate and MapStatus fields to indicate changes to any mapping.

Table 1: SctCreMap table structure (SctCreMap_uk_YYYYMMDD.txt)

Column	Length	Type / Pattern	Database type	Note
MapId	38	UUID	HUGEINT (INT128)	Unique Identifier
SCT_CONCEPTID	18	STRING	VARCHAR (18)	SNOMED Concept Identifier
CREID	18	SCTID	VARCHAR (18)	SNOMED CT identifier for the Care Record Element type mapped to SCT_CONCEPTID OR '0' when no map is possible
MapStatus	1	0 | 1	TINYINT	0=Inactive 1=Active. Value 1 for all columns in alpha release
EffectiveDate	8	YYYYMMDD	DATETIME	Date as YYYYMMDD e.g. 20061218

Table 2. Ctv3CreMap table structure (Ctv3CreMap_uk_YYYYMMDD.txt)

Column	Length	Type / Pattern	Database type	Note
MapId	38	UUID	HUGEINT (INT128)	Unique Identifier
CTV3_CONCEPTID	5	STRING	VARCHAR (5)	CTV3 Concept Identifier
CREID	18	SCTID	VARCHAR (18)	SNOMED CT identifier for the Care Record Element type mapped to CTV3_CONCEPTID OR '0' when no map is possible
MapStatus	1	0 | 1	TINYINT	0=Inactive 1=Active. Value 1 for all columns in alpha release
EffectiveDate	8	YYYYMMDD	DATETIME	Date as YYYYMMDD e.g. 20061218

Table 2. V2CreMap table structure (V2CreMap_uk_YYYYMMDD.txt)

Column	Length	Type / Pattern	Database type	Note

MapId	38	UUID	HUGEINT (INT128)	Unique Identifier
V2_CONCEPTID	5	STRING	VARCHAR(5)	READ Concept Identifier
V2_TERMID	2	STRING	VARCHAR(2)	Term Code identifier
CREID	18	SCTID	VARCHAR (18)	SNOMED CT identifier for the Care Record Element type mapped to the pairing of a V2_CONCEPTID with a V2_TERMID OR '0' when no map is possible
MapStatus	1	0 | 1	TINYINT	0=Inactive 1=Active. Value 1 for all columns in alpha release
EffectiveDate	8	YYYYMMDD	DATETIME	Date as YYYYMMDD e.g. 20061218

Mapping File Column Details

MapId

A persistent globally unique (or near unique) identifier for the association of a SNOMED CT or CTV3 concept ID with the SNOMED CT identifier for a Care Record Element type (Ctv3CreMap), or the association between the pairing of a READ Code plus a Term Code with the SNOMED CT identifier for a Care Record Element type (V2CreMap)

Each MapId is a 128-bit Universally Unique Identifier (UUID / GUID) generated using the conventions of RFC-4122 and expressed in the file using the standard 38-character alphanumeric string (for details please refer to RFC-4122 at the following URL http://www.ietf.org/rfc/rfc4122.txt).

SCT_ConceptID (only in SctCreMap)

The 18-digit numeric code for a SNOMED CT concept.

CTV3_ConceptID (only in Ctv3CreMap)

The five character alphanumeric code for a 5-Byte CTV3 concept.

Note: The CTV3_ConceptID must be processed in a Case Sensitive manner.

V2_ConceptID (only in V2CreMap)

The five character code for the 5-Byte READ V2 code.

Note: The V2_ConceptID must be processed in a Case Sensitive manner.

V2_TermID (only in V2CreMap)

The 2 character code for the Read Code version 2 Term Code.

Individual READ V2 codes, such as '0…', can have multiple different terms associated with them. Each term has its own two-character term code. In many cases, the set of terms permitted for one READ code is **not** truly synonymous, and since any of the permitted terms may have actually been selected by the clinical user, the true meaning of a coded item (and, hence, its best mapping to a Care Record Element) may only be determined by reference to the combination of a particular V2_ConceptID **and** the V2_TermID actually selected.

CREID

EITHER

A SNOMED CT identifier - compliant with the SNOMED CT specification – for a Care Record Element mapped, at some point in time, to either the SCT_ConceptID (SctCreMap) or CTV3_ConceptID (Ctv3CreMap) in the same row, or to the V2_ConceptID and V2_TermID combination in the same row (V2CreMap).

OR

A zero, in cases where the SNOMED CT, CTV3 or V2 code in question was, at some point in time, believed to have no valid mapping to any Care Record Element.

EffectiveDate

The date from which the MapStatus value against the row holds true: A given MapStatus for a mapping (as uniquely identified by a MapId) holds true indefinitely from the EffectiveDate unless and until superseded by a subsequent update release in which the same MapId appears but with a more recent value in the EffectiveDate field.

In the mapping file the date is represented in the ISO standard separator free from YYYYMMDD (e.g. “20061218”)

MapStatus

The status of a mapping, as described in the table definitions. Normally:

0=Inactive

1=Active

Preparation and Use of the Mapping File

Preparation

The mappings from SNOMED CT, CTV3 or READ V2 to Care Record Elements will change over time, mainly as new concept codes are added to those schemes, but also when the mapping for a given concept is changed to a different Care Record Element.

In keeping with a general move to 'state valid' rather than 'snapshot' releases of its terminology mapping artefacts, the SNOMED/V2/CTV3 to CRE mapping files as distributed support tracking of all historical changes to the maps: they are therefore not mapping tables per se, but the union or superset of all versions of the relevant mapping tables ever published. The mappings valid at any specific point in time must be extracted from the tables, as described below using the Ctv3CreMap table as the exemplar:

Where the mapping for a given CTV3_ConceptID has changed over time, the distributed Ctv3CreMap table will contain multiple rows relating to that CTV3_ConceptID, associating it with more than one different CREID. Each pairing of a CTV3_ConceptID with a CREID will be uniquely identified by a MAPID, and there may be more than one row for each MAPID.

At any given point in time, **all but one** MAPID relating to a particular CTV3_ConceptID should be 'inactive' ie of all rows relating to a particular MAPID, the most recently added will have MapStatus value 0 (inactive); earlier rows with MapStatus value 1 are disregarded, because they are overridden by the most recently dated row.

One and only one MAPID for each CTV3_ConceptID will exist where the most recently added row [MAX(EffectiveDate) AND EffectiveDate < Now()] has MapStatus 1 (active). This MAPID therefore identifies the correct mapping for that CTV3_ConceptID to a CREID, at the timepoint Now().

Therefore, on receiving an updated release of the mapping table, either as a complete table or as a change set only, the revised combination of all updated rows and all pre-existing rows should be re-processed to determine which maps are now active.

Using the mapping files

The following query illustrates how the current map for a specific CTV3_ConceptID can be retrieved from the ctv3cremap table as distributed:

```
SELECT CREID FROM Ctv3CreMap AS Map
WHERE Map. CTV3_ConceptID ='<CTV3ID>'
AND Map.MapStatus>0 AND Map.EffectiveDate=
        (SELECT MAX(LatestMap.EffectiveDate) AS LatestDate
        FROM Ctv3CreMap AS LatestMap
        WHERE LatestMap.MapId=Map.MapId
        AND LatestMap.EffectiveDate<='<Date as YYYYMMDD>')
```

This dynamic approach, in which CRE mappings are computed 'just in time'using a query such as shown above, may be preferable in future possible contexts where new versions of the released mapping table contain mapping changes that are forward dated, ie that do not come into effect until some date in the future, after the table has gone live.

For practical purposes in the near-term, however, it may be more efficient to use a pre-generated view of the current map for all codes, based on the query below, followed by a simplified follow-on look-up query on the derived table for individual mappings.

The following query can be applied to extract (e.g. into a separate table) all map rows that are active at a given date:

```
SELECT * FROM Ctv3CreMap As Map
WHERE Map.MapStatus>0 AND Map.EffectiveDate=
        (SELECT MAX(LatestMap.EffectiveDate) AS LatestDate
        FROM Ctv3CreMap As LatestMap
        WHERE LatestMap.MapId=Map.MapId
        AND LatestMap.EffectiveDate<='<Date as YYYYMMDD>')
```

Note: The database must treat CTV3_ConceptID as Case Sensitive. The code "65a0." has a different meaning from "65A0.".

The corresponding queries for the V2CreMap table are shown below:

Dynamic querying

```
SELECT CREID FROM V2CreMap AS Map
WHERE Map. V2_ConceptID ='<READCODE>' AND  Map.V2_TermID='<TERMCODE>'
AND Map.MapStatus>0 AND Map.EffectiveDate=
        (SELECT MAX(LatestMap.EffectiveDate) AS LatestDate
        FROM V2CreMap AS LatestMap
        WHERE LatestMap.MapId=Map.MapId
        AND LatestMap.EffectiveDate<='<Date as YYYYMMDD>')
```

Pre-generated extract

```
SELECT * FROM V2CreMap As Map
WHERE Map.MapStatus>0 AND Map.EffectiveDate=
        (SELECT MAX(LatestMap.EffectiveDate) AS LatestDate
        FROM V2CreMap As LatestMap
        WHERE LatestMap.MapId=Map.MapId
        AND LatestMap.EffectiveDate<='<Date as YYYYMMDD>')
```