

5.2.3.5 Code to Expression Reference Set

Purpose

The 705109006 | Code to expression type reference set| is designed to enable associations between codes in another code system ([other-codes](#)) and [SNOMED CT concepts](#), where the following constraints apply:

1. Some of the [other-codes](#) cannot be mapped to an individual SNOMED CT [concept](#).
2. Licensing conditions (or other considerations) prevent addition of new SNOMED CT concepts to represent the same meaning as the [other-codes](#).
3. The [other-codes](#) can be logically defined using the [SNOMED concept model](#) to represent the same meaning ([sufficiently defined](#)) or a similar though less specific meaning ([primitive](#)).
4. Other requirements similar for those applicable to mapping may also apply including:
 - a. An indication of the degree of correlation between the [other-code](#) and the SNOMED CT expression.
 - b. An indication of whether the [other-code](#) was created before any single concept representation of that meaning in SNOMED CT or whether the single concept representation in SNOMED CT predated the creation of the association.

Data Structure

The general approach to the above requirements is to associate each of the [other-codes](#) with a representation of the same logic based definition as would have been applied to a SNOMED CT concept with that meaning. However, since the [other-code](#) are not identified by an [SCTID](#), the logical definition cannot be represented using [defining relationships](#). There are two potential approaches to this, one would be to use a general purpose description logic language (e.g. [OWL](#)) and the other is to use a [SNOMED CT expression](#) to represent each definition. The | Code to expression type reference set| is designed to support the expression-based approach.

Table 5.2.3.5-1: Code to Expression Reference Set - Data structure

Field	Data type	Purpose	Mutuable	Part of Primary Key
id	UUID	A 128 bit unsigned Integer , uniquely identifying this reference set member . Different versions of a reference set member share the same id but have different effectiveTime . This allows a reference set member to be modified or made inactive (i.e. removed from the active set) at a specified time.	NO	YES (Full /Snapshot)
effectiveTime	Time	The inclusive date or time at which this version of the identified reference set member became the current version. Note: In distribution files the effectiveTime should follow the short ISO date format (YYYYMMDD) and should not include the hours, minutes, seconds or timezone indicator. The current version of this reference set member at time <i>T</i> is the version with the most recent effectiveTime prior to or equal to time <i>T</i> .	YES	YES (Full) Optional (Snapshot)
active	Boolean	The state of the identified reference set member as at the specified effectiveTime . If active = 1 (true) the reference set member is part of the current version of the set, if active = 0 (false) the reference set member is not part of the current version of the set.	YES	NO
moduleId	SCTID	Identifies the SNOMED CT module that contains this reference set member as at the specified effectiveTime . The value must be a subtype of 90000000000043000 Module (core metadata concept) within the metadata hierarchy .	YES	NO
refsetId	SCTID	Identifies the reference set to which this reference set member belongs. In this case, a subtype descendant of: 705109006 Code to expression type reference set	NO	NO
referenceComponentId	SCTID	A reference to the SNOMED CT component to be included in the reference set . A subtype of 705113004 Terminology system identifying the code system from which the code in the mapTarget field is derived. • For example: 705114005 LOINC Code System .	NO	NO
mapSource	String	The other-code which is mapped to the SNOMED CT expression.	NO	NO

expression	String	A SNOMED CT expression that represents the meaning of the other-code . This expression may be a stated or inferred view of the definition provided that documentation of each identified reference set specifies the view provided. The expression must conform to the syntax defined in the SNOMED CT Compositional Grammar - Specification and Guide (http://snomed.org/scg).	YES	NO
definitionStatusId	SC TID	Indicates whether or not the expression contains a sufficient definition of the other-code in the mapSource field. Possible values are the following subtypes of 900000000000444006 Definition status : 90000000000074008 Not sufficiently defined by necessary conditions definition status 90000000000073002 Sufficiently defined by necessary conditions definition status	YES	NO
correlationId	SC TID	The correlation between the other-code and the SNOMED CT expression. Possible values are the following subtypes of 1193546000 Map source to map target correlation (foundation metadata concept) : 1193552004 Map source to map target correlation not specified 1193551006 Map source not mappable to map target 1193550007 Partial overlap between map source and target 1193549007 Narrow map source to broad map target 1193548004 Exact match between map source and map target 1193547009 Broad map source to narrow map target When these values are applied to this reference set type, the phrase " <i>map source</i> " refers to the other-code . and the " <i>map target</i> " refers to the SNOMED CT expression.	YES	NO
contentOriginId	SC TID	Indication of whether the concept was initially in one of the terminologies (SNOMED CT or other-codes) and added to the other as part of mapping or was in both terminologies at the outset. Values are subtypes of 705116007 Original code system source for linked content value .	YES	NO

Metadata

The following metadata [hierarchy](#) supports this [reference set](#):

Table 5.2.3.5-2: Code to Expression Reference Set in the Metadata Hierarchy

```
900000000000454005 |Foundation metadata concept|
900000000000455006 |Reference set|
705109006 |Code to expression type reference set|
```

Reference Set Descriptor and Example Data



Notes on the tables used to show descriptors and examples

The reference set example tables on this page have been revised as follows to aid clarity and understanding:

- The first four columns which are present in all release files are not shown. The omitted columns ([id](#), [effectiveTime](#), [active](#), [moduleId](#)) are used in the same way in all referenced sets to support identification, versioning and packaging. They do not directly affect the specific features of a particular reference set or reference set type.
- Reference set columns that contain SNOMED CT identifiers are expanded to show details of the concept or description referenced by that identifier. In some cases, the term is shown in the same column using the expression syntax, in other cases an additional column with a name suffix '_term' has been added. In the standard reference set files only the identifier is present in the column and there is no added column for the term. When using reference sets, the term and other details of the component are looked up from the relevant component release files.

Descriptor template and examples

The tables below show the descriptors that define examples of [reference sets](#) that follow the 705109006 | Code to expression type reference set (foundation metadata concept)| pattern.

Table 5.2.3.5-3: Refset Descriptor rows for a Code to Expression Reference Set

refsetId	referencedComponentId (Referenced component)	attributeDescription (Attribute description)	attributeType (Attribute type)	attributeOrder (Attribute order)
900000000000456007 Reference set descriptor	705109006 Code to expression type reference set	449608002 Referenced component	900000000000461009 Concept type component	0
900000000000456007 Reference set descriptor	705109006 Code to expression type reference set	900000000000505001 Map target	900000000000465000 String	1
900000000000456007 Reference set descriptor	705109006 Code to expression type reference set	706999006 Expression	706999006 Expression	2
900000000000456007 Reference set descriptor	705109006 Code to expression type reference set 705109006 Code to expression type reference set	734867002 Expression definition status	900000000000461009 Concept type component	3
900000000000456007 Reference set descriptor	705109006 Code to expression type reference set	447247004 SNOMED CT source code to target map code correlation value	900000000000461009 Concept type component	4
900000000000456007 Reference set descriptor	705109006 Code to expression type reference set	705116007 Original code system source for linked content value	900000000000461009 Concept type component	5

Refset Examples

Table 5.2.3.5-4: Sample Content from a Code to Expression Type Reference Set

refsetId	referencedComponentId	mapSource	expression	definitionStatusId	correlationId	contentOriginId
705110001 LOINC Term to Expression reference set	705114005 LOINC Code System	48023-6	363787002: 246093002=720113009, 370134009=123029007, 246501002=702675006, 704327008=122592007, 370132008=117363000, 704319004=50863008, 704318007=705057003	900000000000073002 Sufficiently defined by necessary conditions definition status	447557004 Exact match map from SNOMED CT source code to target code	705117003 Originally in LOINC
705110001 LOINC Term to Expression reference set	705114005 LOINC Code System	51406-7	363787002: 704323007=123027009, 704321009=718500008, 704327008=122575003, 704322002=64033007, 704318007=118544000, 370132008=30766002, 704324001=706939009	900000000000073002 Sufficiently defined by necessary conditions definition status	447557004 Exact match map from SNOMED CT source code to target code	705117003 Originally in LOINC
705110001 LOINC Term to Expression reference set	705114005 LOINC Code System	51406-7	363787002: 370134009=123029007, 704327008=122592007, 704318007=118556004, 370132008=30766002, 704319004=50863008, 246093002=4546008	900000000000073002 Sufficiently defined by necessary conditions definition status	447557004 Exact match map from SNOMED CT source code to target code	705117003 Originally in LOINC
705110001 LOINC Term to Expression reference set	705114005 LOINC Code System	59878-9	363787002: 370134009=123029007, 704327008=258459007, 704318007=118556004, 246093002=273948005, 370132008=30766002, 704319004=31773000	900000000000073002 Sufficiently defined by necessary conditions definition status	447557004 Exact match map from SNOMED CT source code to target code	705117003 Originally in LOINC
705110001 LOINC Term to Expression reference set	705114005 LOINC Code System	51921-5	363787002: 704318007=118539007, 370134009=123029007, 704326004=703765007, 704327008=122592007, 370132008=30766002, 704319004=50863008, 246093002=387067003	900000000000073002 Sufficiently defined by necessary conditions definition status	447557004 Exact match map from SNOMED CT source code to target code	705117003 Originally in LOINC

Related Links

- For further information see Using LOINC with SNOMED CT: [4.2.2 LOINC Term to Expression Reference Set](#).