

5.3 MRCM Attribute Range Reference Set

Purpose

An [723592007 | MRCM attribute range reference set](#) allows attributes to be associated with a valid value range for a given SNOMED CT content type and rule strength. The range of each attribute is defined using an Expression Constraint. This expression constraint represents the set of concepts, expressions, or concrete values that may be used as the value of the given attribute.¹

The [723592007 | MRCM attribute range reference set](#) also provides a summary of the concept model rule associated with each attribute (including all valid domains and the given range) using an Expression Constraint representation. This attribute rule can be completely auto-generated by combining information from the [723604009 | MRCM attribute domain reference set](#) and the [723592007 | MRCM attribute range reference set](#).

Data Structure

An [723592007 | MRCM attribute range reference set](#) is structured as shown in the following table.

Field	Data type	Purpose	Mutability	Part of Primary Key
id	UID	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 T is the version with the most recent effectiveTime prior to or equal to time T.	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	SCID	Identifies the SNOMED CT module that contains this reference set member as at the specified effectiveTime. The value must be a subtype of 900000000000443000 Module (core metadata concept) within the metadata hierarchy.	YES	NO
refsetId	SCID	Identifies the reference set to which this reference set member belongs. In this case, a subtype descendant of: 723592007 MRCM attribute range reference set	NO	NO
referencedComponentId	SCID	A reference to the SNOMED CT component to be included in the reference set. A reference to the SNOMED CT attribute concept to which the range defined by this member applies.	NO	NO
rangeConstraint	string	A parsable string, which defines the valid set of values that may be used for the given attribute (identified by the referencedComponentId). If the attribute in the referencedComponentId is a subtype of 762705008 Concept model object attribute (attribute) then the rangeConstraint must be an expression constraint, which can be parsed using the ABNF rules defined by the Expression Constraint Language. If the attribute in the referencedComponentId is a subtype of 762706009 Concept model data attribute (attribute) then the rangeConstraint must be parsable using the concreteValueReplacement ABNF rule specified in the SNOMED CT Template Syntax. For example, the following rangeConstraint includes the set of all positive integers: int (>#0.)	YES	NO
attributeRule	string	An Expression Constraint that captures the domain, range and cardinality constraints for the given attribute, rule strength and content type. This string can be parsed using the ABNF syntax defined for the Expression Constraint Language. If ranges with concrete values are required, the Expression Constraint Language can be extended as described above (for rangeConstraint).	YES	NO
ruleStrengthId	SCID	A subtype of 723573005 Concept model rule strength which specifies whether the given rule is mandatory (resulting in an error) or optional (resulting in a warning).	YES	NO

content TypeId	S C TID	A subtype of 723574004 Content type which indicates the type of SNOMED CT content over which this rule applies.	Y ES	NO
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Metadata

The following metadata hierarchy supports this reference set:

- 900000000000454005 | Foundation metadata concept|
 - 900000000000455006 | Reference set|
 - 723564002 | MRCM reference set|
 - 723592007 | MRCM attribute range reference set|
 - 723562003 | MRCM attribute range international reference set|
 - 900000000000457003 | Reference set attribute|
 - 723576002 | Attribute rule|
 - 723574004 | Content type|²
 - 723593002 | All new precoordinated SNOMED CT content|
 - 723594008 | All precoordinated SNOMED CT content|
 - 723596005 | All SNOMED CT content|
 - 723595009 | All postcoordinated SNOMED CT content|
 - 723596005 | All SNOMED CT content|
 - 723575003 | Range constraint|
 - 723573005 | Concept model rule strength|
 - 723597001 | Mandatory concept model rule|
 - 723598006 | Optional concept model rule|

Footnotes

RefNotes

- If ranges including concrete values (such as integers or strings) are required, the Expression Constraint Language can be extended, as described for *rangeConstraint* in the Data Structure section on this page.
- Please note that the 723574004 | Content type| hierarchy is designed using 'universal restriction' logic. The hierarchy may therefore appear to be 'upside down'. However, it was designed in this way because if an MRCM rule applies to 723596005 | All SNOMED CT content| then it also applies to the Content Types that are a supertype of this - including 723594008 | All precoordinated SNOMED CT content| and 723595009 | All postcoordinated SNOMED CT content|.

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

The table below shows the reference set descriptor for a reference set that follows the 723592007 | MRCM attribute range reference set| pattern.

refsetId	referencedComponentId	attributeDescription	attributeType	attribute Order
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900000000000456007 Reference set descriptor	723592007 MRCM attribute range reference set	449608002 Referenced component	900000000000461009 Concept type component	0
900000000000456007 Reference set descriptor	723592007 MRCM attribute range reference set	723575003 Range constraint	707000009 SNOMED CT parsable string	1
900000000000456007 Reference set descriptor	723592007 MRCM attribute range reference set	723576002 Attribute rule	707000009 SNOMED CT parsable string	2
900000000000456007 Reference set descriptor	723592007 MRCM attribute range reference set	723573005 Concept model rule strength	900000000000461009 Concept type component	3
900000000000456007 Reference set descriptor	723592007 MRCM attribute range reference set	723574004 Content type	900000000000461009 Concept type component	4

Example Data

The table below shows some example rows from a reference set that follows the format of the 723592007 | MRCM attribute range reference set| .

refsetId	referencedComponentId	rangeConstraint	attributeRule	ruleStrengthId	contentType
723562003 MRCM attribute range international reference set	255234002 After	<< 404684003 Clinical finding (finding) OR << 71388002 Procedure (procedure)	(<< 404684003 Clinical finding (finding) OR << 272379006 Event (event)): [0..*] { [0..*] 255234002 After = (<< 404684003 Clinical finding (finding) OR << 71388002 Procedure (procedure)) }	723597001 Mandatory concept model rule	723596005 All SNOMED CT content
723562003 MRCM attribute range international reference set	408729009 Finding context	<< 410514004 Finding context value (qualifier value)	<< 413350009 Finding with explicit context (situation) : [0..*] { [0..1] 408729009 Finding context = << 410514004 Finding context value (qualifier value) }	723597001 Mandatory concept model rule	723596005 All SNOMED CT content
723562003 MRCM attribute range international reference set	272741003 Laterality	<< 182353008 Side (qualifier value)	<< 91723000 Anatomical structure (body structure) : [0..1] 272741003 Laterality = << 182353008 Side (qualifier value)	723597001 Mandatory concept model rule	723596005 All SNOMED CT content