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SNOMED CT International Release - July 2016 Release Notes



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1 Introduction

1.1 Background

SNOMED CT terminology provides a common language that enables a consistent way of indexing, storing, retrieving, and aggregating clinical data across specialties and sites of care.

The International Health Terminology Standards Development Organization (IHTSDO[®]) maintains the SNOMED CT technical design, the content architecture, the SNOMED CT content (includes the concepts table, the descriptions table, the relationships table, a history table, and ICD mappings), and related technical documentation.

1.2 Purpose

This document provides a summarized description of the content changes included in the July 2016 release of SNOMED Clinical Terms[®] (SCT) International Release.

It also includes technical notes detailing the known issues which have been identified. These are content or technical issues where the root cause is understood, and the fix has been discussed and agreed, but has yet to be implemented.

This document is available as part of the July 2016 International Edition release.

1.3 Scope

This document is written for the purpose described above and is not intended to provide details of the technical specifications for SNOMED CT or encompass every change made during the release.

1.4 Audience

The audience includes National Release Centers, WHO-FIC release centers, vendors of electronic health records, terminology developers and managers who wish to have an understanding of changes that have been incorporated into the July 2016 International Edition release.

2 Content Development Activity

2.1 Summary

Continuous quality improvement and enhancement of existing content is ongoing based on requests received via the SNOMED International Request Submission System (SIRS). Over 900 requests have been successfully edited using the new Single Concept Authoring (SCA) Tool. In addition, specifically, the July 2016 International Edition release has seen a continuation of the work driven by contributions from the Kaiser Permanente Convergent Medical Terminology (CMT), Global Medical Device Nomenclature Agency (GMDNA) and Orphanet to add new content to SNOMED CT. Further, member-identified priority projects, have driven enhancements in the anatomy hierarchy, while other project-driven changes have resulted in over (to be confirmed) edits in total, including new content additions and enhancements to existing content.

2.2 New and Updated Content

- In total: 2602 new concepts were authored with an additional 2019 changes made to existing concepts.

2.2.1 Anatomy

- Over 100 new anatomy concepts have been added for representation of different sections of the prostate to support annotation for clinical imaging. The new codes are included in the DICOM subset for structured reporting.

2.2.2 Assessment Scale

- 750 requests for new assessment scales and associated concepts e.g. procedures and observables to record scores have been added.

2.2.3 Convergent Medical Terminologies (CMT)

- New concepts added continuously.

2.2.4 Dentistry

- To continue improvements in coverage of the periodontal domain, over 90 new concepts to support the Dentistry subset have been added.

2.2.4.1 Cephalometry

- 23 new concepts added for cephalometry a specialist domain for dentistry, subtypes of 698965000|Immaterial anatomical entity (body structure)

2.2.5 Diagnostic Imaging Procedures

- 48 new concepts added for cone beam CT imaging procedures;
- 23 new concepts added as site specific subtypes of 430447002|Computed tomography for radiotherapy planning (procedure)

2.2.6 LOINC

- Added 6 new concepts to support LOINC-SNOMED CT cooperation project: 1 Metadata; 1 Concept Model Attribute; 1 Technique; 1 Physiological process; 2 Measurement property.

2.2.7 Medical Devices

- The medical devices content has been updated to align with the GMDN monthly release up to an including April 2016. This

resulted in the addition of 208 new concepts. The linkage to GMDN is provided as a simple mapping file and is also current through the April 2016 GMDN monthly update. Future work will include the resolution of conceptual duplicates.

2.2.8 Organisms

- Added: 205 new concepts for microbiology reporting (in organism and finding hierarchies). These changes resulted from review of SIRS requests, NRC RefSet gap analysis (part of post closure task for the Microbiology Reporting project), and recommendation by the Organism and Infectious Disease Redesign reporting project.

2.2.9 Pharmaceutical/biologic products

- Minor maintenance only.

2.2.10 Procedures

- New subtypes of 228615008|Provision of transport (procedure) added.

2.2.11 Substances

- Minor maintenance only.

2.2.12 Disorders

- As a result of collaboration with Orphanet (<http://www.orpha.net/consor/cgi-bin/index.php>) over 500 new concepts have been created to represent rare diseases.

2.2.13 Various

Based on SIRS requests a number of new concepts were added in various hierarchies.

2.3 Content Quality Improvement

2.3.1 Anatomy

- Changes made to 50 bone marrow concepts resolve the reported issue of redundant stated relationships for osteomyelitis concepts; i.e. bone marrow should not have a relationship to bone structure since bone marrow disorders are not considered to be musculoskeletal disorders.
- Changes made to over 70 concepts have fixed incorrect inferences, missing relationships and duplications. The concept model for abnormal shortening conditions by 'structure' anatomy concepts has undesirable inference results, e.g. Congenital short growth of innominate artery and Congenital short urethra are subconcepts of Congenital short trunk. The revision of the concept model has applied abnormal shortening only for 'entire' or 'part' body structures.

2.3.2 Disorders

- Modeling was updated for approximately 60 concepts with pattern [Allergy to X (disorder)] to correct an issue related to inference of more general [Causative agent] attributes. This work will continue with more concepts being updated in a similar manner for the January 2017 release.

2.3.3 Findings

- A number of changes were made as quality improvements based on SIRs requests.

2.3.4 Substances

- Minor maintenance only

2.3.5 Various

Where concepts include "Human papilloma virus" in the FSN, these have been inactivated and the FSN replaced with the new spelling of "Human papillomavirus". The current terminology for Papillomavirus as described by the International Committee on Taxonomy of Viruses (ICTV) is a single word string, i.e. Papillomavirus. Additional descriptions with 'papilloma virus' have not been inactivated; new descriptions that use 'papilloma virus' were not added where they did not already exist.

2.4 SNOMED CT derived products

2.4.1 ICD-10 map

The SNOMED CT to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (© World Health Organization 1994) 2010 Version map (SNOMED CT to ICD-10 Map) is included in the SNOMED CT International release as a Baseline. The SNOMED CT to ICD-10 Map was created to support the epidemiological, statistical and administrative reporting needs of IHTSDO member countries and WHO Collaborating Centres.

The SNOMED CT to ICD-10 Map is released in Release Format 2 (RF2) only. It is located in the file `der2_iisssccRefset_ExtendedMapFull_INT_20160731.txt`, which is in the Map folder under Refset, in each of the three RF2 Release Type folders.

The SNOMED CT to ICD-10 Map is released as Refset 447562003 [ICD-10 complex map reference set (foundation metadata concept)].

2.4.1.1 Content development activity summary

The map is a directed set of relationships from SNOMED CT source concepts to ICD-10 target classification codes. The SNOMED CT source domains for the MAP are limited to subtypes of 404684003 [clinical finding], 272379006 [event] and 243796009 [situation with explicit context]. The target classification codes are ICD-10 2010 release.

2.4.1.2 Mapped content for July 2016

The map provided for the July 2016 release has been updated, and now represents a complete map from SNOMED CT International release to ICD-10 2010 version. We would welcome feedback on any issues that users of the map may detect when using the map. Issues should be submitted via mapping@ihtsdo.org

2.4.2 ICD-9-CM map

IHTSDO produced a SNOMED CT to ICD-9-CM Epidemiological and Statistical Map with each SNOMED CT International Release. The artifact provided a map from a clinical statement expressed in SNOMED CT to a target code(s), or in some cases no target, in the ICD-9-CM classification. The SNOMED CT to ICD-9-CM Epidemiological and Statistical Map includes maps from the SNOMED CT Clinical Findings to ICD-9-CM 2012, the last updated version.

The World Health Organization stopped maintenance of ICD-9 in the 1990s when ICD-10 came into use by the WHO Member States. The United States (U.S.) National Center for Health Statistics (NCHS) is responsible for maintenance of the clinical modification (CM) of ICD-9. The last regular, annual update to ICD-9-CM code was on October 1, 2011.

In view of the legacy nature of the classification, a deprecation process has been followed, to remove the SNOMED CT to ICD-9-CM Epidemiological and Statistical Map from the International edition.

The SNOMED CT to ICD-9-CM map has therefore been deprecated without support, as of the July 2016 International edition. The Static version of the map (based on the January 2016 content) is available on the IHTSDO MLDS distribution site (<https://mlds.ihtsdo.org/#/ihtsdoReleases>), for any users who wish to access it during their transition to SNOMED CT or ICD-10-CM.



3 Technical notes

3.1 Known Issues

Known Issues are content or technical issues where the root cause is understood, and the fix has been discussed and agreed, but has yet to be implemented. This can be due to a number of reasons, from lack of capacity within the current editing cycle, to the risk of impact to the stability of SNOMED CT if the fix were to be deployed at that stage in the Product lifecycle.

For the July 2016 Release, the following Known Issues were identified, and agreed to be resolved in the next editing cycle:

Issue ID	Issue Reported	Rows affected	Resolution
ISRS-8	<p><u>Additional, Part-of relationships</u></p> <p>"Part-of" relationships are not currently maintained - they were originally defining relationships, which were changed to "additional" in 2005 and left in the relationship table. In 2008, when stated relationships became part of the distributed files, the stated "part-of" relationships were not included because</p> <ul style="list-style-type: none"> a) they were non defining, and b) they were not available. <p>Therefore, only inferred "part-of" relationships were distributed until 2005, after which they became non-defining.</p>	n/a	<p>This was originally due to be resolved as part of the Anatomy content work, which is now due for completion in 2018.</p> <p>Therefore, an interim solution has been proposed:</p> <p>"The issue has been discussed with subject-matter experts, who agree that the most effective solution would be to insert the additional relationships into the Stated relationship files, which would then be used to create the Inferred relationships files as per the normal process. This would be actioned through the Delta files, with a current effectiveTime, in order to correctly preserve the historical audit trail.</p> <p>This will mean that parties who currently classify stated relationship files will need to ensure that their process removes any non-defining relationships prior to classification."</p> <p>After discussing the proposed solution in detail with the technical teams, we have identified several potential risks with the proposed approach, and therefore need to conduct a thorough analysis before proceeding. This will necessarily include engagement with various parties, and so will take time to confirm the approach - once completed it will also require significant testing.</p> <p>We are therefore targeting the January 2017 International edition for implementation of the resolution, although this could change depending on the agreed solution.</p>

3.2 Resolved Issues

Resolved issues are Known Issues which were not fixed as part of the previous release lifecycle, but which have now been resolved in the latest release - in this case the July 2016 International Edition. They can also be issues found during the Alpha and Beta testing of the current release, which were resolved before the final deployment of the associated Member release. Finally they can be issues which were reported or found during the testing phase, but which have been closed without any action taken.

The Resolved Issues for the Snomed CT July 2016 International edition can be found here:

Key	Summary	Description	P	Reporting Entity	Reporting Stage	Status
ISRS-23	Content issue - Movements between International edition and extension Namespaces	<p>Multiple concepts were found to have moved from the International edition to the UKTC extension namespace (370137002). These movements need to be verified as valid by the content team.</p> <p>RESOLUTION: IHTSDO Content Team have confirmed on 16/05/2016 that all of the movements were valid. They subsequently confirmed that the movements were subject to the same author review process as normal concepts, and that therefore there's no requirement to validate these movements as part of the Release Process in future. This ticket can therefore be closed with no further action required.</p>	2	Internal (IHTSDO)	Pre-Alpha	RESOLVED
ISRS-22	RVF Failure (Pre-Alpha) - assertionUuid: "cc9c5340-84f0-11e1-b0c4-0800200c9a66" - Language refset issue EN-GB	<p>assertionUuid: "cc9c5340-84f0-11e1-b0c4-0800200c9a66", assertionText: "Calling procedure testing that terms that contain EN-GB language-specific words are in the same GB language refset.", failureCount: 31</p> <p>RESOLUTION: IHTSDO Content Team have confirmed on 14/05/2016 that these can safely be ignored, as they are expected errors. The content team have therefore signed them off as false positives that denote zero issues in the content, and this ticket will therefore be closed.</p>	3	Internal (IHTSDO)	Pre-Alpha	RESOLVED
ISRS-21	RVF Failure (Pre-Alpha) - assertionUuid: "6138248d-8cc8-4bc2-8043-cd609fdd640c" - Non-Capitalisation of active definition	<p>assertionUuid: "6138248d-8cc8-4bc2-8043-cd609fdd640c", assertionText: "The first letter of the active definition should be capitalized.", failureCount: 1</p> <p>RESOLUTION: IHTSDO Content Team have confirmed on 14/05/2016 that these can safely be ignored, as they are expected errors. The content team have therefore signed this off as a false positive that denote zero issues in the content, and this ticket will therefore be closed.</p>	3	Internal (IHTSDO)	Pre-Alpha	RESOLVED
ISRS-20	RVF Failure (Pre-Alpha) - assertionUuid: "6614ff12-fca2-42b7-a5da-ea26353979fe" - Invalid characters in descriptions	<p>assertionUuid: "6614ff12-fca2-42b7-a5da-ea26353979fe", assertionText: "Active description of active concept consists of valid characters.", failureCount: 2</p> <p>RESOLUTION: IHTSDO Content Team have confirmed on 14/05/2016 that these can safely be ignored, as they are expected errors. They show up as a spelling error was fixed in the FSN or similar. There will be no new FSNs with special characters created in future. The content team have therefore signed them off as false positives that denote zero issues in the content, and this ticket will therefore be closed.</p>	3	Internal (IHTSDO)	Pre-Alpha	RESOLVED



ISRS-19	RVF Failure (Pre-Alpha) - assertionUuid: "c3249e80-84f0-11e1-b0c4-0800200c9a66" - Language Refset EN-US issue	assertionUuid: "c3249e80-84f0-11e1-b0c4-0800200c9a66", assertionText: "Calling procedure testing that terms that contain EN-US language-specific words are in the same US language refset.", failureCount: 3	3	Internal (IHTSDO)	Pre-Alpha	RESOLVED
<p>RESOLUTION: IHTSDO Content Team have confirmed on 14/05/2016 that these can safely be ignored, as they are expected errors. The content team have therefore signed them off as false positives that denote zero issues in the content, and this ticket will therefore be closed.</p>						
ISRS-18	RVF Failure (Pre-Alpha) - assertionUuid: "5c37bee7-62ad-41f9-93e3-12eb4803e618" - Complex Map failure	assertionUuid: "5c37bee7-62ad-41f9-93e3-12eb4803e618", assertionText: "The current complex map refset full file contains all previously published data unchanged", failureCount: 263919	3	Internal (IHTSDO)	Pre-Alpha	RESOLVED
<p>RESOLUTION: This failure is a result of the fact that we have deprecated the Complex Map files (which only contained the now deprecated ICD-9-CM data) from the International edition package from this release onwards. The RVF is trying to compare the Complex Map files from the previous (Jan 2016) release against no files in this release, and so is failing all rows. This assertion failure can therefore be ignored with impunity - closing down the ticket.</p>						

6 issues

3.3 Technical updates

Complex map files

In line with the ICD-9-CM deprecation process described in section 2.4.2 above, the complex map files have been removed from the RF2 release package. This is because the ICD-9-CM map constituted the entirety of the complex map files, and as this map has now been deprecated, there is no longer a use case to include the complex map files. The same applies to the ICD9 CrossMaps files in the RF1 package, which have been removed for the same reason.

RF1 package

In line with the RF1 deprecation plan approved by the General Assembly in October 2015, IHTSDO will take a new approach to generating qualifying relationships in the RF1 distribution of the SNOMED CT International Edition.

The scope of qualifying relationships in the July 2016 International Edition will be limited to Lateralization Qualifying Relationships in the Body Structure hierarchy. The conversion utility will take a RF2 Laterality reference set as its input. The RF2 Laterality reference set will be available from the IHTSDO Licensing and Distribution system (MLDS). The approach also removes qualifiers not related to body structures because these cannot be reproduced algorithmically. This approach is required so that the new algorithmic derivation of RF1 files from the authoritative RF2 distribution can be run independently of IHTSDO from 2017 onwards.

File types now removed from the RF1 package

The following files will be removed from the RF1 package, as they are incompatible with the new algorithmic RF1 conversion process, which (as detailed above) needs to be self-contained going forward:

- res1_DualKeyIndex_Concepts-en-US_INT_[date].txt
- res1_DualKeyIndex_Descriptions-en-US_INT_[date].txt
- res1_WordKeyIndex_Concepts-en-US_INT_[date].txt
- res1_WordKeyIndex_Descriptions-en-US_INT_[date].txt
- res1_Canonical_Core_INT_[date].txt
- der1_CrossMaps_ICDO_INT_[date].txt
- der1_CrossMapSets_ICDO_INT_[date].txt
- der1_CrossMapTargets_ICDO_INT_[date].txt

Draft Amendment History

Version	Date	Editor	Comments
0.01	20160512	Monica Harry	First draft for review and comment
0.02	20160513	Monica Harry	Amended as per Ian's comments
0.03	20160513	Monica Harry	Content notes approved by Ian
0.04	20160516	Andrew Atkinson	Technical notes created



Approvals

Final Version	Date	Approver	Comments
1.00	20160518	Ian Green	Release Notes (including Technical notes) approved