SNOMED CT January 2016 International Edition - IHTSDO Release notes

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Approvals

Final Version	Date	Approver	Comments
1.0	20151104	Ian Green	Final Version

Draft Amendment History

Version	Date	Editor	Comments
0.01	20151103	Monica Harry	First draft for comments
0.02	20151104	Ian Green	Revised/Additional updates

Table of Contents

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 January 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 January 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 January 2016 International Edition release.

2 Content Development Activity

2.1 Summary

The January 2016 International Edition release has seen a continuation of the work on the contributions from the Kaiser Permanente Convergent Medical Terminology (CMT), and work to incorporate content from Global Medical Device Nomenclature Agency (GMDNA) into SNOMED CT. Additionally, enhancements have been made to the anatomy hierarchy, while other project-driven changes have resulted in over 7,500 edits in total including new content additions as well as enhancements to existing content.

2.2 New and Updated Content

2.2.1 Anatomy

- To support revised concept modelling for Osteomyelitis, 45 new anatomy concepts specific to bone marrow structure have been added.
- New anatomy concepts (150 of them) have been added to replace retired ambiguous concepts, see below for details in section 2.3.1.
- To support revised concept modelling related to content tracker artifact: artf234569:   29 new body structures corresponding to specific arterial walls created, see section 2.3.2 below.

2.2.2 Assessment Scale

An additional 31 new concepts related to assessment scales including new subtypes of 445536008|Assessment using assessment scale (procedure) and 273249006|Assessment scales (assessment scale) have been edited.

2.2.3 Convergent Medical Terminologies (CMT)

Update work has been undertaken on the following domains of CMT for the January 2016 release:

1. CMT Cardiology
2. CMT Mental Health
3. CMT Neurology
4. CMT Musculoskeletal
5. CMT Hematology/Oncology
6. CMT Endocrine
7. CMT ENT, GI, Infectious Disease
8. CMT History and Family History
9. CMT Cardiology Update
10. CMT Pediatrics
11. CMT Specimen Type

2.2.4 Dentistry

To continue improvements in coverage of the periodontal domain, 44 new concepts were added; additionally 24 new cephalometry concepts have been added.

2.2.5 Diagnostic Imaging Procedures

New concepts (87 of them) have been added to the procedure hierarchy for diagnostic imaging including 11 SPECT (Single-photon emission computed tomography) CT procedures using a radioactive substance.

2.2.6 Event, Condition, Episode (ECE)

Following the editorial guidance developed by the ECE group, FSN and synonym changes were made to over 3,100 concepts to conform to the 'caused by' term pattern, e.g. infection caused by specific organism. Existing terms remain active to facilitate searching.

The revision has improved consistency in descriptions for infection, poisoning, and adverse reaction, inflammation, and infestation disorders. As part of this revision, content quality issues have been fixed for about 300 concepts; e.g. mismatches between FSN and causative agent in concept modeling, inappropriate use of plurals, spelling variations and other minor errors.

2.2.7 Functioning

Approximately 300 concepts have been added to enhance the functioning content and improve coverage.

2.2.8 LOINC - SNOMED CT Cooperation Project

Substance concepts (84 Non-human DNA, RNA, Ag, Ab, etc) were deprecated from the core international release.

2.2.9 Medical Devices

For this release 226 new concepts, have been added to the SNOMED CT Physical Object hierarchy including over 200 concepts from the latest July 2015 GMDN release.

2.2.10 Nursing Content

As part of the continuing harmonization activities between IHTSDO and ICN, 93 new concepts have been added for nursing intervention activities which are published in the SNOMED CT – ICNP Equivalency table.

2.2.11 Organisms

More than 550 new Organism concepts were created based on SIRS requests as well as a gap analysis of a number of NRC sets submitted to the Microbiology reporting project.

2.2.12 Pharmaceutical/biologic products
After review of the 19th WHO List of Essential Medicines, April 2015, 350 new Medicinal Entity and Medicinal Form concepts have been added to SNOMED CT to ensure content coverage.

2.2.13 Product Hierarchy Allergen Extracts
Several new "allergy to X" concepts were added related to Substances or products causing allergies or intolerances as Annex II to Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011, on the provision of food information to consumers. This regulation is mandatory in Europe.

2.2.14 Substances

New substance concepts (301 of them), including newly registered drugs, have been created for the Substance Hierarchy.

2.3 Content Quality Improvement

2.3.1 Anatomy

- To remove ambiguity, 75 anatomy concepts have been retired as they do not follow the SEP model; 150 new anatomy concepts have been added to replace these ambiguous concepts. As a result of these changes, over 100 concepts modeled in both the disorder and procedure hierarchies have been updated by these new anatomy concepts.
- Addressed the issue caused by the confusion between jaw region and jaw bone. Jaw region includes jaw bone, skin, gum, teeth etc. The word 'jaw' is commonly interpreted as jaw bone. The ambiguous concepts have been retired and replaced by the concepts including 'region' in FSN and jaw region structure for concept modeling. The concepts for jaw bone remain unchanged.

2.3.2 Disorders

- Osteomyelitis disorders (150 of them) have been reviewed and remodelled.
- Rework to the modelling of the hierarchy 239954007|Soft tissue lesion of shoulder region (disorder) to remove improper inferences.
- These changes are related to the following content tracker artf222441: Concept addition: "Parasitic respiratory tract infection" - new concept added Infection of respiratory tract caused by parasite (disorder).
- Updates to existing X disease associated with AIDS concepts, including retirements and new concepts added in the pattern X disease co-occurrent with human immunodeficiency virus infection.
- These changes are related to the following content tracker artifacts: artf234569:
  - As noted above,29 new body structures corresponding to specific arterial walls created;
  - 29 concepts corresponding to the descendants of 9406001 | dissecting aneurysm of artery (disorder) | remodeled with the finding sites above and a morphology of 5399005 | dissecting hemorrhage (morphologic abnormality) |;
  - 9 concepts that contain the words "dissecting aneurysm" in the FSN retired and replaced by new concepts with FSNs of the type, Dissection of x artery (disorder);
  - 29 descendants of 9406001 | dissecting aneurysm of artery (disorder) | moved under Arterial dissection (disorder)
  - Concept ID 26845001 | dissecting aneurysm (morphologic abnormality) | retired.

2.3.3 Findings

These changes are related to the following content tracker artifacts: artf231228:

415531008|Skin AND/OR mucosa finding (finding) fast track document, review of this hierarchy and addition of a new grouper concept Lesion of skin and/or skin-associated mucous membrane (finding) with the finding site 707861009|Structure of skin and/or skin-associated mucous membrane (body structure) to distinguish the skin associated mucosal findings from all others.

2.3.4 Substances

As part of the Substance Hierarchy redesign project, 120 concepts related to therapeutic intention have been retired. Children of these concepts have been reclassified based on their chemical structure and/or their mechanism of action.

2.3.5 Revision of Infectious and Congenital Disease Content

A project to improve the consistency and quality of the Infectious disease hierarchy has begun with the remodeling of over 2000 of the estimated 6400 concepts that are subtypes of 40733004 - Infectious disease. There will be minor changes in the inferred structure of members of this hierarchy as this project proceeds, but the overall improvement to the content will provide more robust and correct inferences.

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_iissscRefset_ComplexMapFull_INT_20150731.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)|.

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.

Mapped content for January 2016

The map provided for the January 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

The SNOMED CT to the International Classification of Diseases, Ninth Revision, Clinical Modification, 2013 Version map (SNOMED CT to ICD-9-CM Map) is included in the SNOMED CT International release.

This is the last update as the SNOMED CT to ICD-9-CM map is deprecated with support effective 31 January 2016 and without support effective 31 July 2016. The map will continue to be available after the deprecation on IHTSDO's Confluence site (https://confluence.ihtsdotools.org/display/TOOLS) to 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 January 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

20160131-002
 	
*previously 20150731-009
	Part-of relationships
	
	"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
	
	    a) they were non defining, and
	
	    b) they were not available.
	
	Therefore, only inferred "part-of" relationships were distributed until 2005, after which they became non-defining.
		n/a	This is being resolved as part of a long-term fix, which is being discussed with the Terminology Release Advisory Group - currently targeted for resolution for the July 2016 International Edition release (but this needs to be agreed once the final resolution is confirmed).

20160131-010 *previously 20150731-007	RF1 inactivation indicators There is one known issue that has been identified just prior to publishing - 658 concepts have been inactivated, but don't have corresponding rows in the Description Inactivation Indicator refset. As some descriptions have explicit inactivations, and others implicit, the solution to this needs to be investigated and discussed thoroughly, and so will be resolved after the July release.	658	As this was confirmed as an historical Known Issue which will not be resolved, it is now listed in the permanent Known Issues register: IHTSDO Known Issue register
20160131-020	The UKTC reported the following RF2 metadata identifiers in the RF1 release: <table><tr><td>RULEID</td><td>SCTID</td><td>DETAILS</td></tr><tr><td>547</td><td>449609005</td><td>ICD-10 map category reference set (foundation metadata concept)</td></tr><tr><td>547</td><td>447564002</td><td>Non-human simple reference set (foundation metadata concept)</td></tr><tr><td>547</td><td>700043003</td><td>Example problem list concepts reference set (foundation metadata concept)</td></tr></table> All are inactive concepts, one being marked as erroneous and thus also failing our QA rule that says it should have a REPLACED_BY relationship. That can be ignored as the concept should not be there to begin with.	3	The fix for this would have necessitated an impact to the historical audit trail for RF1. IHTSDO therefore conferred with the relevant stakeholders to see whether implementing the fix was the correct course of action. The choices were: 1. Implement the fix but adversely impact the historical audit trail 2. Do not implement the fix, preserving the audit trail The decision was taken (agreed by stakeholders and IHTSDO) to not implement the fix, as these are inactive records and therefore the UKTC confirmed zero clinical impact if they remain in the files. The impact to the audit trail would therefore have realised no benefit

| 20160131-022 | Release Validation Framework (RVF) UUID: eff30fb0-7856-11e1-b0c4-0800200c9a66

All language refset members inactivated in current snapshot must have been active in the previous release. | 2 | This was impacted by the fix implemented for issue 2016 0131-019 - the inactivated description it is now being introduced and inactivated in the same release, and therefore does not have a corresponding active description from the previous release as normally expected.

Having confirmed with stakeholders that this will not have a negative impact on the release, IHTSDO confirmed that the risk of implementing the fix so close to the Release date far outweighed the negligible benefit, and these extraneous records will therefore not be removed for the January 2016 International Edition.

Going forward, however, functionality will be introduced into the new authoring tools to enable such issues to be removed entirely from the content before the Release is packaged. |

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 January 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 - in these cases the reason for doing so is detailed in the Resolution column.

Issue ID	Issue description	Rows affected	Resolution
20160131-001	Redundant Attribute value refset membership / Paired duplicate active references RVF UUID: eff30fb0-7856-11e1-b0c4-0800200c9a60 Reference componentId & valueId pair is unique in the ATTRIBUTE VALUE snapshot. There are 328 paired duplicate active references in the AttributeValue refset (ie) all fields are identical except for the ID and the effectiveTime. (eg) 5afadba3-c225-5929-a43e-4cc8e867f49c 9f274165-39a1-531b-9213-39128e8058ae bcd6ab58-c126-56e6-a40d-084044794a53	328	The historical issues were resolved in the content for the January 2016 Edition. The RVF was also updated to white-list the historical issues.
20160131-005	RVF UUID: f636b7b0-7e9a-11e1-b0c4-0800200c9a66 Members are active for active descriptions in the language refset snapshot file.	3106	This was a result of an issue in the RVF SQL script - Fixed, tested and added into Production
20160131-006	RVF UUID: 3b2c1824-8445-410e-8ae2-d943be01c33f There are no duplicate Definition terms in the DEFINITION snapshot file. "Definition id =3078097013: Term=[An acute, unexplained episode that is frightening to the caretaker and that includes one of the following features: apnea, color change, marked change in muscle tone, choking or gagging.] is duplicate in the DEFINITION snapshot file."	3	RVF assertion fixed, tested and deployed to Production
20160131-007	RVF UUID: c2975dd5-3869-4bf7-ac75-53fd53b90144 No active term matches that of an inactive Description conceptId: 27658006, detail: "Active description id = 2154385011 and inactive description id = 1236089016 share the same term"	20	IHTSDO Content team confirmed that the relevant process has been followed, and therefore they have reactivated the most recently inactivated descriptions. The reported discrepancies here are therefore legacy issues, and these concepts have instances of these terms which are correct (i.e.) there is one FSN, one preferred term in both EN-GB and EN-US, plus one or more synonyms. The inactive/active conflicts arises due to historical activities wherein a description was inactivated and then instead of reactivating that same description, a completely new one was added. These occurred between 2002 and 2004, and so have been published in this state in all releases since that date. This is therefore a Known Issue that is marked as resolved as no action will be taken to change any of these historical issues, in order to preserve the RF2 audit trail.

20160131-008	RVF UUID: c3249e80-84f0-11e1-b0c4-0800200c9a66 Calling procedure testing that terms that contain EN-US language-specific words are in the same US language refset. "DESCRIPTION: id=3298781015: Synonym is prefered in US Language refset but refers to a word has en-gb spelling: gonorrhoeae"	8	This is a known issue from the July 2015 release, which the IHTSDO content team have confirmed to be a result of valid authoring (where, for example, the term is an organism or has latin spelling with no variance between EN-GB or EN-US). This is therefore a Known Issue that is marked as resolved as no action will be taken to change any of these valid terms - instead, a change will be made to the RVF in order to whitelist these issues for future releases.
20160131-009	RVF UUID: cc9c5340-84f0-11e1-b0c4-0800200c9a66 Calling procedure testing that terms that contain EN-GB language-specific words are in the same GB language refset. DESCRIPTION: id=3287824019: Synonym is prefered in the GB Language refset but refers to a word has en-us spelling: check	19	This is a known issue from the July 2015 release, which the IHTSDO content team have confirmed to be a result of valid authoring (where, for example, the term is an organism or has latin spelling with no variance between EN-GB or EN-US). This is therefore a Known Issue that is marked as resolved as no action will be taken to change any of these valid terms - instead, a change will be made to the RVF in order to whitelist these issues for future releases.
20160131-011 *previously 20150731-034	The 2015-07-31 Module Dependency file has changed the line break formats from CR+LF (Windows-like, used by your other files) to LF only (Unix-like). Could you please change the format back to CR+LF in the next release for consistency?	n/a	RVF assertion added in order to ensure that these control characters are not included going forward. Manual checks were also made to verify this.
20160131-012	Ignored data from module '449080006' found in Module Dependency snapshot file. This is basically saying that the MDRS data in the Snapshot file includes rows that it shouldn't — the Snapshot is of link and thus should only contain data from the module 900000000000207008 and modules that it depends on, as stated in the MDRS - the only one is 900000000000012004. Loading from the distributed Snapshot data (but computing the actual rows from the MDRS info) and loading from the Full data (and also, obviously, computing the actual rows from the MDRS info) produces the same number of concepts, descriptions, relationships and associated axioms for the classifier.	1	This is an historical issue, that IHTSDO will look at resolving as part of the holistic strategy regarding derivative products such as maps. However no action is required for now, as it clearly states in the TIG that this dependency is not transitive, and therefore needs to be explicitly stated in both cases: link "Dependencies are not transitive and this means that dependencies cannot be inferred from a chain of dependencies. If module-A depends on module-B and module-B depends on module-C, the dependency of module-A on module-C must still be stated explicitly." link
20160131-013	There are two descriptions, both for the same concept, which have been retired on the SNOMED CT Core module, but the descriptions were on the SNOMED CT Model Component module and should have been (need to be) retired on that module. The description rows are: 71336013 20160131 0 900000000000207008 42752001 en 900000000000013009 Caused by 900000000000020002 71337016 20160131 0 900000000000207008 42752001 en 900000000000013009 DT 900000000000017005 These should have been: 71336013 20160131 0 900000000000012004 42752001 en 900000000000013009 Caused by 900000000000020002 71337016 20160131 0 900000000000012004 42752001 en 900000000000013009 DT 900000000000017005	2	Issue found with the provided input files - amended accordingly, re-imported the data and tested - resolved for Member release.
20160131-014	Record missing from full release Descriptions file. Seemingly an encoding problem. The terms of the following five descriptions differ slightly in the Full data: 2772867016, 2785992017, 2795232011, 2795346013, 2819810010.	5	This was an isolated issue with external stakeholders' encoding - resolved.

20160131-015	Description is mapped to wrong inactivation value. Descriptions with Limited status in RF1 that have been allocated to the "Concept Retired" refset 900000000000495008.DESCRIPTION ID's: (eg) 3084107017 3084181018 3084184014	32	The TIG states : "Note: This value should not be used in future releases as Limited status Concepts are now inactive. However, this value may appear on retrospective data in a full release." IHTSDO have therefore worked in line with our regulations for current concepts, but old historical ones may continue to come through with old limited status - we therefore need to deal with these if they arise in the future. The historical issues themselves however will not be targeted for fixes, due both to IHTSDO policy of not changing history, and to the impending deprecation of RF1.
20160131-016	Past record missing from release (Full description file). Five of these instances are accounted for in issue 20160131-014. The other is description 146253011, dated 20080731, whose term appears to have suffered different encoding errors in successive releases.	6	There was a policy at the time of allowing minor lexical changes, and so this was fixed in subsequent releases. IHTSDO policy now is to never change history, and so these records will not be amended.
20160131-017	Changes to immutable fields. The usual changing around of relationship group numbers in Relationship file. This was also reported in the stated relationship file.	934	Again this is an historical issue, and so IHTSDO will not be changing the historical audit trail. Even if this weren't the case, the TIG states that the fields are mutable, and so these changes are valid.
20160131-018	Relationship not present in RF1. Cases where the relationship group number differs between RF2 and RF1. Example RF1 ids include 6441253022, 6235486028 and 6434693026. This issue also causes Relationships not present in RF2. Incorporates the above, but mostly refers to otherwise identical relationships whose ids happen to differ. This may have implications for migration from RF1 to RF2.	1248	The RF1 package was re-built with the relationships synchronised.
20160131-019	IHTSDO content team found an issue with a new description for the new concept 712806004 | Salmonella Enteritidis phage type 14b (organism). The erroneous description stated "Salmonella Enteritidis pt 4b" instead of "Salmonella Enteritidis pt 14b".	1	This was resolved by inactivating the erroneous description, and creating a new description containing the corrected wording.
20160131-021	UTF-8 Encoding issue in Production Database is causing 1 record to be corrupted in the TextDefintion files	1	IHTSDO agreed the course of action to take the TS exported final release, use it as an input into the SRS, FIX that 1 record (in all 3 files), and run a JustPackage on the SRS to create the final release package.
20160131-023	The UKTC, as part of their Pre-Production testing, reported that in the RF2 attributeValue Snapshot file, description 3285554017 has been allocated to the "Erroneous component" refset 900000000000485001, though its RF1 status is 1 when it should be 5.	1	This issue was fixed and the new RF1 package re-built - the issue is therefore resolved for the Member release.
20150731-006	Content issue with the following concepts not being synonymous:Content issue with the following concepts treated as synonymous when they are not: 268300003 | Klinefelter's syndrome - male with more than two X chromosomes (disorder) 38804009 | Turner syndrome (disorder)	2	This was addressed by the content team in the January 2016 content editing cycle.
5c6b6bc0-79b9-11e1-b0c4-0800200c9a66	All relationships inactivated in current release must have been active in the previous release. RELATIONSHIP: id=2534609022: Inferred Relationship Id is inactivated in current release, yet was already inactive in previous release.	2	Inactive relationship changing moduleId is a valid action, as they need to be maintained and cannot be interpreted as an inactivation of an inactive relationship. The validation rule has been updated to allow for this unusual situation.
c2975dd5-3869-4bf7-ac75-53fd53b90144	No active term matches that of an inactive Description. Active description id = 2154862018 and inactive description id = 1236610011 share the same term	2	This is a historical anomaly, 1 of the terms is active, the others inactive. The validation rule has now been amended to only raise this if the active term is new in the release.

6614ff12-fca2-42b7-a5da-ea26353979fe	Active description of active concept consists of valid characters. DESCRIPTION ID=3047221015: FSN=Polymethyl methacrylate microspheres 20%/bovine collagen 3.5% injection solution prefilled syringe (product) contains invalid character.	2	% is a valid character - the validation rule has therefore been updated to allow for this.
673cf38a-a913-4e0e-be32-356ac433ede8	The current Simple refset full file contains all previously published data unchanged. Simple Refset: id=7ad69f5b-a246-58ed-90f2-653056c3710d is in prior full file, but not in current full file.	15750	The VTM and VMP subsets have been transitioned into separate files, which are available on request.
8e70ea3e-c4dd-4ae3-8b75-0f0567e42f70	Gender rules must be in alphabetical order in extended map refset ExtendedMap: id=9ca33f24-1e31-5faa-a4ef-0ad711e9fd97: Gender mapRules out of order	4	This has been addressed in the January 2016 content editing cycle.