Copy of SNOMED CT January 2019 International Edition -
SNOMED International Release notes

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<thead>
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<th>Date</th>
<th>20190131</th>
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<tbody>
<tr>
<td>Document Version</td>
<td>0.1</td>
</tr>
<tr>
<td>Release Status</td>
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1 Introduction

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.

SNOMED International 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.

Purpose
This document provides a summarized description of the content changes included in the January 2019 release of SNOMED Clinical Terms® (SC T) International Release.

It also includes technical notes detailing the known issues which have been identified and agreed to be released. 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.


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.

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 2019 International Edition release.

0 Content Development Activity

Summary

Continuous quality improvement and enhancement of existing content is an ongoing process by SNOMED International for every release. The January 2019 International Release has seen a continuation of the work driven by contributions from: Kaiser Permanente Convergent Medical Terminology (CMT), Global Medical Device Nomenclature Agency (GMDNA), Orphanet and other domain specific collaborations as well as requests received via the Content Request System (CRS). Additionally quality improvement activities are in progress for new and enhanced content through project driven initiatives which are also summarized below. Also included as work items for every release are various updates to SNOMED CT derived maps such as ICD-10 and ICD-O and details are also included in these release notes. Information about editorial decisions may be found in the SNOMED CT Editorial Guide, mapping guidance for ICD-10 can be found at this link: https://confluence.ihtsdotools.org/display/DOCICD10.

Reminder

Inactivation reason of LIMITED/WAS A is not allowed for any content after the July 2018 release. The WAS A association refset has not been updated thereafter.

Background

In 2015, a proposal was made to inactivate 159083000 |WAS A (attribute)| relationship and stop updating the 900000000000528000|WAS A association reference set (foundation metadata concept)| at the Editorial Advisory Group. Since these recommendations were approved, a formal proposal for the technical approach to batch updating the terminology was created and a notice of the proposed inactivation sent to the Community of Practice. The implementation of changes was postponed following feedback on utility for implementation and the potential impact to customers who were still using RF1.

The matter was discussed again at the meeting of the Editorial Advisory Group in Bratislava in October 2017. Since the requirements and potential issues can be addressed by deriving such information from the RF2 release format, the recommendation is to proceed with the decision for implementation after the July 2018 release.

Content Quality Improvement

<table>
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<th>New concept additions</th>
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Anatomy

New anatomy concepts: 442

Content quality improvements:

- Descriptions of 44 concepts updated to conform to the editorial guidance for the naming convention for laterality.
- The attribute 123005000 |Part of (attribute)| has been inactivated and a new attribute |Proper part of| has been added in the January 2019 release. All part of relationships are inactivated and the different part of relationships will be implemented after the revision of hierarchical relationships for anatomy content.
- Revision of hierarchical relationships for anatomy content: the project plan is to review the hierarchical relationships for anatomy content in the production against the inferred relationships from the new anatomy model. The new anatomy concept model has implemented the Description Logic features, e.g. reflective and transitive property, general concept axioms, for consistent logical modeling and inferences.
- Content review and revision are divided by body systems. There is a total of 12,458 hierarchical relationships in anatomy for review. The revision will improve classification in other hierarchies such as disorders, procedures, observables and situations. In this release, over 4,100 relationships in the musculoskeletal system in body structure and over 6,000 relationships in other hierarchies were reviewed. There are about 2,000 changes to hierarchical relationships in anatomy and concept model for disorders and procedures. Further details can be found at https://confluence.ihtsdotools.org/display/IAP/Progress+of+IS+A+revision
- Revision of nail structures - all 'nail structure' concepts are replaced by nail unit structures to avoid misinterpretation of nail plate structures. |Nail plate structure| is a skin appendage. |Nail unit structure| includes |Nail plate structure| and skin around and under the nail plate. The concept |Nail structure| and its subconcepts were inactivated. Over 60 new nail unit concepts were added. Changes were made to stated relationships for over 300 concepts with impact to inferred relationships for about 500 concepts.

Clinical finding

Advance Notice

Planned changes to ‘Co-occurrence and due to’ pattern.

During the implementation of the new Description Logic features a conflict was uncovered between the modeling of ‘Co-occurrence and due to’ and General Concept Inclusions (GCIs). This has resulted in the need to reconsider the modeling of ‘Co-occurrence and due to’ and update the Editorial Guide for this area.

There are a number of new concepts in the January 2019 release that are based upon the existing guidance for ‘Co-occurrence and due to’. The plan is to update the Editorial Guide and all concepts that are currently modeled as ‘Co-occurrence and due to’ for the July 2019 release.

New concepts for clinical findings and disorders: 2114

Quality Initiative

The Quality Initiative (QI) project is the implementation of the Quality Strategy. After a successful pilot project for the July 2018 release the next stage has been implemented for the January 2019 release.
Quality improvement tasks were deployed to improve internal structural consistency and ensure compliance with editorial policy related to the stated modeling of content. Additionally, correction or addition of defining relationships was carried out to accurately reflect current clinical knowledge and ensure the semantic reliability of descriptions associated with a concept.

The following subhierarchies of the Clinical Finding hierarchy were remodelled to the proximal primitive parent resulting in changes to inferred relationships:

- Fracture
- Bacterial infectious disease
- Disease caused by parasite
- Sexually transmitted disease
- Chronic inflammatory disease
- Aneurysm
- Arthritis
- Open wound
- Closed wound
- Bite wound
- Congenital malformation
- Protozoan infection
- Closed wound
- Viral disease
- Hernia of abdominal cavity - Structural improvement of subtypes of the concept 52515009 |Hernia of abdominal cavity (disorder)|. Further work will be undertaken in a subsequent release on the combined disorders where gangrene and/or obstruction is present due to a hernia as well as incisional hernias.
- Burn - Inactivation of burn concepts containing "with loss of body part" and "without loss of body part" approximately 161 concepts.
- Abrasion - As a result of changes made during the QI project, there are now 2 concepts which have the same preferred term.
  781488002 |Abrasion of foot (finding)
  211402004 |Abrasion of foot (disorder)
  782201009 |Abrasion (finding)|
  399963005 |Abrasion (disorder)|

  These concepts will be addressed as part the QI project for the July 2019 release.

Total count of changes for the QI project:

- Stated: A total of 12595 concepts had changes made to the Stated relationships in their models.
- Inferred: This resulted in 20012 concepts affected by inferred changes.
- Subsequent review of the Fracture hierarchy of 151 concepts identified no impact upon the previously published maps to ICD-10.
- Subsequent review of the Burn hierarchy of 375 concepts identified no impact upon the previously published maps to ICD-10.

Changes to Allergy Content

Approximately 2,000 concepts relating to hypersensitivity conditions have been remodeled to conform with new editorial guidance (excluding hypersensitivity reaction):

- Hypersensitivity/Allergy/Non-allergic hypersensitivity condition classes defined using General Concept Inclusion (GCI) axioms in order to encompass disorders, dispositions and processes (reactions).
- Propensity to adverse reaction and Allergic disposition moved from disorders to findings. The concepts were remodeled using the proximal primitive parents with a role group consisting of 719722006 |Has realization (attribute)| with value of allergic process or its subtype. The new convention for descriptions are Hypersensitivity/Allergy/Non-allergic hypersensitivity to X (finding).
- New Allergic disorder (disorder) hierarchy representing abnormal structures. The allergic disorders are modeled by associated inflammation morphology + allergic process or subtype + finding site X e.g. Allergic rhinitis.
- The contact hypersensitivity conditions have been remodeled using the new concepts for Immunoglobulin E-mediated allergic contact hypersensitivity process (qualifier value) and Non-immunoglobulin E-mediated allergic contact hypersensitivity process (qualifier value).
- New Intolerance to substance (finding) hierarchy created under Propensity to adverse reaction (finding) as a sibling of Hypersensitivity disposition (finding).
- 414029004 |Disorder of immune function (disorder)| is remodeled and defined by using a pathological process of 769247005 |Abnormal immune process (qualifier value). As a result, it subsumes allergic disorders and allergic reactions.
- Pseudoallergy condition and Pseudoallergy disposition renamed to Non-allergic hypersensitivity condition (finding) and Non-allergic hypersensitivity disposition (finding) and they have been remodeled following the new concept model.
- Inactivation of "Allergy to X" concepts where X is a modification of a base substance and replacement with Allergy to the base substance.

As the result of Allergy project requirements, the following top level groupers/Allergen classes in substance hierarchy were inactivated and their children assigned to appropriate structural and/or functional parents:

- 414052000 | Drug allergen by structure |
- 414057006 | Drug pseudoallergen |
- 414053005 | Drug allergen or pseudoallergen |
41408001 | Drug pseudoallergen by function|

Note: Other top level groupers (as specified in project Allergies-19) will be inactivated in the future releases.

Any maps from SNOMED CT to ICD-10 impacted by this Quality Initiative have been reviewed and updated.

Work commenced on the following Content Projects:

- IHTSDO-393 Diabetes Complications: The Diabetes Project Group has begun its work on reviewing the current SNOMED CT Diabetes Mellitus disorder concepts. The group is small but is truly international and each member is currently seeking to engage with diabetes specialists within their geographical zone in order to ensure international interoperability within this domain.
- IHTSDO-41 Modeling of ‘X’ in remission - Approximately 170 disorder in remission concepts can now be found in the hierarchy 765205004 | Disorder in remission (disorder) | as well as the hierarchy relating to the underlying disorder.

Other content quality improvements:

- 371598009 | Heberden's node (finding) | changed to disorder. 201827009 | Heberden's nodes with arthropathy (disorder) | inactivated. 80400009 | External hyperostosis (morphologic abnormality) | moved from under 13814009 | Hypertrophy of bone (morphologic abnormality) | to 4147007 | Mass (morphologic abnormality) | and Heberden node (disorder) remodeled. The result is that Heberden node (disorder) is no longer a subtype of 298745009 | Hypertrophy of upper limb (finding) | but is now a subtype of 416199003 | Exostosis (disorder) |
- Intrinsic vs. Extrinsic Asthma - changes made:
  - 424643009 | Immunoglobulin E-mediated allergic asthma (disorder) | removed synonym "Extrinsic asthma" as semantically non-equivalent and "refers to" 389145006 | Allergic asthma (disorder) |
  - 389145006 | Allergic asthma (disorder) | - added preferred term.
  - "Extrinsic asthma" removed synonyms "Allergic atopic asthma" and "Atopic asthma" and "refers to" 424643009 | Immunoglobulin E-mediated allergic asthma (disorder) |
  - 424643009 | Immunoglobulin E-mediated allergic asthma (disorder) | added synonyms "Allergic atopic asthma" and "Atopic asthma".
- Acquired disorder - Approximately 124 concepts were edited to continue with the work to remove the precoordinated morphology and replace with a single morphology and the occurrence "767023003 | Period of life beginning after birth and ending before death (qualifier value)" in the relationship group.
- Remodeling of Joint instability - approximately 156 concepts remodeled using approach: FSN: | Instability of X (finding) |, Is a: 404684003 | Clinical finding (finding), finding site: X body structure, relationship group: Interprets: 299444001 | Stability of X (observable entity) |/ Has interpretation: 263654008 | Abnormal (qualifier value) |
- Additions and improvements in areas of suspected/risk of bullying, abuse, and abandonment in clinical finding hierarchy.
- Inactivation of 112625008 | Cutaneous eruption (morphologic abnormality) | in favor of using 1806006 | Eruption (morphologic abnormality) | relationship grouped with a finding site, approximately 51 concepts remodeled.
- Remodeling of joint temperature-related concepts: adding parents, interprets values and sufficiently defining where appropriate.

Convergent Medical Terminologies (CMT)

New CMT concepts: 1365

The majority of these newly authored concepts are in scope for mapping to ICD-10 and from the following domains:

- CMT Ear, Nose and Throat
- CMT Genitourinary
- CMT Infectious Disease
- CMT Injuries
- CMT Ophthalmology
- CMT Skin
- CMT Musculoskeletal
**Procedure Hierarchy**

New concepts for procedure hierarchy: 393

Diagnostic imaging - 121 requests were received for new imaging procedure concepts with various imaging modalities.

- Computed tomography 26 new concepts.
- Magnetic Resonance Imaging 26 new concepts.
- X-ray 1 new concept.
- Fluoroscopy 39 new concepts.
- Ultrasound 29 new concepts.

Repair of hernia - 102 new concepts

- Laparoscopic repair of hernia 54 new concepts.
- Repair of hernia 48 new concepts.

Other content quality improvements:

- Improved representation of 305349003 [Admission to department (procedure)] in the area of pediatric specialty and dental clinics by adding additional parents where possible.
- Relationships were added to, or changed in the procedure (and physical object) hierarchies in the area of spectacles, optical vision aids, telescopes in order to sufficiently define or correct the classification of these concepts.
- Improved representation of 498579008 [Focused ultrasound ablation (procedure)] and descendants.

**Collaboration/Harmonization Projects**

**Orphanet**

As a result of collaboration with Orphanet ([http://www.orpha.net/consor/cgi-bin/index.php](http://www.orpha.net/consor/cgi-bin/index.php)) 460 new SNOMED CT concepts have been created to represent rare diseases in the disorder hierarchy. All of these concepts have been mapped to ICD-10.

**Global Medical Device Nomenclature Agency (GMDNA)**

55 new SNOMED CT concepts created and mapped in the Physical object hierarchy to support the GMDN collaboration agreement.

**Event**

New concepts added: 27

Work continued on the following Content Projects:

- IHTSDO-1071 - Continued inactivation of transport accidents; movement of all vehicle accidents to children of Transport accidents; Fully-defining some when possible and adding additional parents if appropriate.
Record Artifact

New concepts added: 61

54 new concepts added for care plan.

Organism

New organism concepts added: 326

Content quality improvements:

- 268 New concepts (Including 117 Shiga toxin producing E coli concepts) and 12 changes to the existing concepts' descriptions.
- Inactivation of 21 ambiguous concepts across multiple hierarchies which had included an animal species when referring to an Influenza virus (e.g., Myocarditis caused by avian influenza (disorder), Influenzavirus type A, avian, H5N1 strain (organism)). 6 new concepts were created in this process.
- Correction of Influenza virus descriptions: Around 350 corrections/changes were made to Influenza virus descriptions over multiple hierarchies (majority in substance hierarchy but also including disorder, procedure and organism hierarchies). Most of the changes consisted of inactivation of the erroneous description and replacement with a new correct description. In addition, two new concepts were added in the organism hierarchy.
- Application of consistent case sensitivity to organism descriptions containing "Taxon Rank": Change of the case sensitivity setting for 10282 descriptions (over 4964 concepts).
- Concepts with descriptions that include the word ‘unclassified’ were inactivated (7 concepts).
- Duplicate descriptions were identified and corrected for 11 Concepts.
- Spelling errors were corrected for 29 concepts.
- Historical associations were corrected for 32 concepts.

Pharmaceutical / biologic product

Drug model project

For further details on the planned changes in this area, please refer to the Drug Model Working Group Directory section.

Please note, you may have to register for Confluence user account in order to access this project and the relevant links below.

The following changes will be included in the 2019-January International Release.
### Clinical drug (CD) concepts
- PTs updated and synonyms matching FSN removed for existing concepts (n4900) in accordance with Editorial Guidelines
- Inactivated CDs that were modeled with both concentration and presentation strength; replaced with concepts containing concentration strength only (inactivated concepts n575; new concentration-only concepts n400)
- Relocated CDs that have not been sufficiently defined to be descendants of 770654000 [TEMPORARY parent for CDs that are not updated (product)]; these concepts will be sufficiently defined or inactivated in future release (n2700)
- Concepts that were not able to be mapped to dm+d but can be mapped to an RxNorm concept will be retained as primitive for the 2019-January Release in the existing location as descendants of 770654000 | TEMPORARY parent for CDs that are not updated (product). These concepts will be sufficiently defined and remodeled in a future release. (n1800)
- Concepts that cannot be mapped to either dm+d or RxNorm concept will be retained as primitive for the 2019-January Release in the existing location as descendants of 770654000 | TEMPORARY parent for CDs that are not updated (product). These concepts will be addressed in a future release. (n900)
- Editorial Guidelines updated, including diagrams showing self-grouped attributes
- Updated Member Forum Briefing Note - Implications of describing liquid dose form product concepts using presentation strength

### Demo release
- Demo release distributed in 2018-Sep included the following for Medicinal product hierarchy:
  - Updated terming per Ed Guide for existing concepts
  - MP-only (near complete set of concepts to be included in 2019-Jan Release)
  - MPF-only (near complete set of concepts to be included in 2019-Jan Release)
  - Role (subset of content to be included in 2019-Jan Release)

### Groupers based on disposition and/or structure
- Change semantic tag from (product) to (medicinal product) and updated terming for chemical element groupers (n30) in accordance with Editorial Guidelines
- Added new disposition groupers (n25)
- Added new structural groupers (n10)
- Editorial Guidelines updated for disposition, structure, and dose form intended site groupers
- PTs updated and synonyms matching FSN removed for existing concepts (n500) in accordance with Editorial Guidelines

### Liposome modifications
- Create MP-only and MPF-only concepts for liposome products
- Editorial Guidelines updated to identify these concepts as exceptions to the modification guideline

### Medicinal product "containing" (MP-containing) concepts
- Editorial Guidelines updated, including diagrams showing self-grouped attributes
- PTs updated and synonyms matching FSN removed for existing concepts (n3800) in accordance with Editorial Guidelines

### Medicinal product "only" (MP-only) concepts
- Editorial Guidelines created, including diagrams showing self-grouped attributes
- Initial deployment of MP-only concepts (n3800)

### Medicinal product form "containing" (MPF-containing) concepts
- Editorial Guidelines updated, including diagrams showing self-grouped attributes
- PTs updated and synonyms matching FSN removed for existing concepts (n2800) in accordance with Editorial Guidelines
### Medicinal product form "only" (MPF-only) concepts

- Editorial Guidelines created, including diagrams showing self-grouped attributes
- Initial deployment of MPF-only concepts (n2800)

### National Extension model

- New top level concept added (for use by national extension model but not for International Release)
  - 781405001 [Medicinal product package (product)]
- New semantic tags added (for use by national extension model but not for International Release)
  - (product name)
  - (packaged clinical drug)
  - (real clinical drug)
  - (real medicinal product)
  - (real packaged clinical drug)
  - (supplier)
- New attributes added (for use by national extension model but not for International Release)
  - 774158006 [Has product name (attribute)]
  - 774159003 [Has supplier (attribute)]
  - 774160008 [Contains clinical drug (attribute)]
  - 774161007 [Has pack size (attribute)]
  - 774163005 [Has pack size unit (attribute)]
- New hierarchies added (for use by national extension model but not for International Release)
  - 774164004 [Supplier (supplier)]
  - 774167006 [Product name (product name)]
- Editorial Guidelines created

### Role

- Created new 773830008 [Consumer product (product)] hierarchy as sibling of 763158003 [Medicinal product (product)]. Relocated descendants of 763087004 [Medicinal product categorized by therapeutic role (product)] as appropriate (e.g. Aftershave, Deodorant, Perfume) (n25)
- Inactivated role concepts representing body site or body system (e.g. Gastrointestinal drug, Genitourinary drug) (n15)
- Relocated 43747001 [Drug excipient (product)] as sibling of 763158003 [Medicinal product (product)]. Relocated descendants of 763087004 [Medicinal product categorized by therapeutic role (product)] as appropriate (e.g. Drug additive, Drug flavoring) (n15)
- Created descendants of 766941000 [Therapeutic role (role)] (n80) and remodeled corresponding descendants of 763087004 [Medicinal product categorized by therapeutic role (product)] (n80)
- Populated the following roles:
  - 43927002 [Medicinal product acting as analeptic agent (product)] (additional axiom n5)
  - 81839001 [Medicinal product acting as anticoagulant (product)] (additional axiom n25)
  - 358926001 [Medicinal product acting as antidepressant (product)] (additional axiom n10)
  - 386757008 [Medicinal product acting as antiglaucoma agent (product)] (additional axiom n20)
  - 781514000 [Medicinal product acting as antihypertensive agent (product)] (additional axiom n5)
  - 96326006 [Medicinal product acting as antiserotonin agent (product)] (additional axiom n5)
  - 15117003 [Medicinal product acting as hemostatic (product)] (additional axiom n30)
  - 61621000 [Medicinal product acting as laxative (product)] (additional axiom n120)

### Veterinary Extension

10 concepts were moved to the Veterinary Extension.

### Situation with Explicit Context
New concepts added: 50

32 new concepts were added for ‘X disease suspected.’

Additions and improvements in areas of suspected/risk of bullying, abuse, and abandonment in situation hierarchy.

22 situation concept FSNs updated in areas of organism examination and samples sent.

**Observable Entity**

56 new concepts were added.

5 laboratory observable entity concepts added based on request by two member countries; 2 observable entity concepts added in a non-laboratory area.

1 observable entity laboratory concept inactivated.

**Assessment Scale**

Addition of 11 new assessment scale concepts.

**Substances**

223 new concepts were added.

Case Sensitivity changes:

Improvement of substance concepts by updating case sensitivity based on editorial guidelines in the following areas - 5000 concepts.

- Greek alphabetical terms in substance concepts have been made case insensitive.
- Single word substances incorrectly marked case sensitive have been amended.
- For substance terms that have a single letter - either a single lower case letter or a single upper case letter - the case sensitivity has been changed so now correctly reflects this.
- Substance terms containing proper names now reflect this capitalization requirement, and quality checks have been performed on the substance hierarchy based on the file used for automated spell-checking and automated case sensitivity checking. A decision was taken to make the substance hierarchy the ‘source of truth’ for other hierarchies within SNOMED CT.
- Rule established that numbers at the beginning of substance terms can be ignored for case significance, and the case sensitivity assignment now starts with the first letter, including batch amendment of incorrect capitalization in terms that include numbers.

Changes in the substance hierarchy as the result of Allergy project requirements:

- Inactivate top level groupers/Allergen classes in substance hierarchy by reassigning their children to appropriate structural and/or functional parents.
  - 414052000 | Drug allergen by structure |
  - 414058001 | Drug pseudoallergen by function |
  - 414057006 | Drug pseudoallergen |
  - 414053005 | Drug allergen or pseudoallergen |

Changes to language acceptability
• Primarily, but not limited to, Substance terms used in the Products hierarchy, the Preferred Term in the US dialect has been made Acceptable in the GB dialect and vice versa.
• Also work completed on the removal of some dialect variations (643 concepts):
  ▪ Acceptability change of the Preferred Term (PT) in US dialect changing from Not acceptable to Acceptable as a GB synonym, and vice versa (GB PT made Acceptable as a synonym in US dialect previously Not acceptable) - 422 concepts.
  ▪ Removed a dialect variation and now the concepts have a single PT that covers both dialects - 221 concepts.

Other content quality improvements:
• Added/updated "Is modification" attribute where applicable - 630 concepts.
• Added/updated modeling for existing concepts by adding "has disposition" attribute where applicable - 540 concepts.
• Added new structural grouper concepts to model for existing content - 41 concepts.
• Update of model for existing concepts by adding missing structural parent(s) - 1500 concepts.
• Improvement of substance concepts by aligning them to the International Nonproprietary Name (INN) - 380 concepts.
• Improvement of substance concepts by removing symbols like "[" in substance terms - 30 concepts.
• Spelling changes - 25 concepts.
• Missing historical associations found for 4 concepts and issue was resolved.

⚠️ Release plans, Substance hierarchy
For further details on the planned changes in this area, please refer to the Substances project.

Please note, you may have to register for Confluence user account in order to access this project and the relevant links above.

Internal Quality Improvement

Logic Profile Enhancements

Release of partial OWL expression refset

Content updates in the OWL axiom refset:
• 185 new additional axioms for product roles.
• 20 new General Concept Inclusion (GCI) axioms.
• 1 new property axiom for "Proper part of".
• 1 inactivation of property axiom for "Part of".

A set of documentation has been developed to support the Logic Profile Enhancements:
• SNOEMED DL Profile Enhancements - https://docs.google.com/document/d/1tqNEA6s4EF4tg15OPabY2Ez2Z8epxvRRWc2KzQ/edit?usp=sharing
• SNOEMED CT Logic Profile Specification - http://snomed.org/lps
• SNOEMED CT OWL Guide (OWL Refsets specification) - http://snomed.org/owl
• Snomed OWL Toolkit - https://github.com/IHTSDO/snomed-owl-toolkit
• Classifying SNOEMED CT using the Snomed OWL Toolkit - https://youtu.be/-91egY9mJqA
• Creating an OWL file containing SNOEMED CT - https://youtu.be/sIFbMmIoA_4
Machine Readable Concept Model (MRCM)

6 new MRCM rules and 3 updates to the existing MRCM in the MRCM refsets and authoring platform were made for the January 2019 release:

- New MRCM for the new attribute 774081006 |Proper part of|
- New MRCM for new attribute 774155000 |Contains clinical drug (attribute)|
- New MRCM for new attribute 774156001 |Has pack size (attribute)|
- New MRCM for new attribute 774130002 |Has pack size unit (attribute)|
- New MRCM for new attribute 774159003 |Has supplier (attribute)|
- New MRCM for new attribute 774158006 |Has product name (attribute)|
- Inactivate MRCM for 363705008 |Has definitional manifestation (attribute)|
- Inactivate MRCM for 123005000 |Part of|
- Expand the range of 370135005 |Pathological process (attribute)| to include << 769247005 |Abnormal immune process (qualifier value)|

The further details can be found here https://confluence.ihtsdotools.org/display/IAP/MRCM+changes+in+the+January+2019+release

Definition Status

Improvements have been made to fully specified names and synonyms to clarify the intended meaning of the existing concepts for definition status. The decision to retain the existing concepts with improved descriptions was made to reduce disruption to users, though the definition status has limited logical value in SNOMED CT since the addition of the OWL Axiom Refset. The revised descriptions are consistent with the advice provided by the majority of SNOMED Modeling Advisory Group members.

The descriptions for the definition status with concept id 900000000000073002 are now:

- FSN: Sufficiently defined by necessary conditions definition status (core metadata concept)
- SYN (Preferred): Defined
- SYN (Acceptable): Sufficiently defined by necessary conditions definition status

The new fully specified name reflects that concepts with this definition status must have a set of necessary relationships that are sufficient to define the concept.

The descriptions for the definition status with concept id 900000000000074008 are now:

- FSN: Not sufficiently defined by necessary conditions definition status (core metadata concept)
- SYN (Preferred): Primitive
- SYN (Acceptable): Not sufficiently defined by necessary conditions definition status

The new fully specified name reflects that concepts with this definition status do not have a set of necessary relationships that are sufficient to define the concept.

Potential impact:

- The structural subsumption technique, based on definition status and inferred relationships, should not be used to test subsumption between SNOMED CT Expressions. This is because sufficient but not necessary relationships and other DL enhancements are not represented in the inferred relationship file. Accurate expression subsumption now requires use of the OWL refsets and a DL classifier.
- The colors and shapes used to represent concept model diagrams should follow the assigned or derived definition status.
- Some updates will be required to documentation and education materials.

SNOMED CT derived products
ICD-10 map

The SNOMED CT to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (© World Health organisation 1994) 2016 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 SNOMED International 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_ExtendedMapFull_INT_20180731.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 2016 release. As part of the ongoing quality improvement of the published maps SNOMED CT concepts mapped to code range Q90 - Q99 Chromosomal abnormalities, not elsewhere classified have been reviewed and the previously assigned map advice POSSIBLE REQUIREMENT FOR AN EXTERNAL CAUSE CODE has been removed for consistency purposes.

Mapped content for January 2019

The map provided for the January 2019 release has been updated, and now represents a complete map from SNOMED CT International release to ICD-10 2016 version.

• 2321 new concepts added

We would welcome feedback on any issues that users of the map may detect when using the map. Issues should be submitted via mapping@snomed.org

Technical Guide Exemplars

The Technical Guide Exemplars document has now been moved from the International Edition release package to a Confluence page. This page can be found as part of the ICD-10 Mapping Technical Guide (see Appendix B), which is hosted here: http://snomed.org/icd10map

ICD-O Map

There are 5 updates for the ICD-O Morphological abnormality map in January 2019 release.

SNOMED CT to OWL conversion and classification

The repository containing the toolkit enabling simple SNOMED CT to OWL conversion and classification can be found here, including documentation on its use:

https://github.com/IHTSDO/snomed-owl-toolkit

Please contact SNOMED International at support@snomed.org if you would like to provide any feedback on ways to extend and improve the new toolkit.
3 Technical notes

Known Issues

Known Issues are content or technical issues where the root cause is understood, and the resolution 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 Snomed CT July 2018 International edition, the following Known Issues were identified, and agreed to be resolved in the next editing cycle (to be published in July 2018):

<table>
<thead>
<tr>
<th>Key</th>
<th>Summary</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISRS-323</td>
<td>CaseSignificance changes to be implemented for July 2018 International Edition</td>
<td>A small percentage of the records updated for the caseSignificance changes have been identified as not having yet been resolved. Due to their relatively low impact we are proposing to retain these as Known issues for the current release, and resolve them as part of future editing cycles. [KNOWN ISSUE: The SNOMED International Content Team have confirmed that deferring these fixes to later editing cycles is the correct approach. Some of the issues have now been fixed, but others will therefore be fixed in future editing cycles.]</td>
</tr>
<tr>
<td>ISRS-391</td>
<td>Descriptions in unexpected modules</td>
<td>The following description is in the core module, whilst the related components are in the model component module: [3636048013 EDOM simple map reference set module (\text{(stated relationship is also on core, inferred is on model component...)})] [There are also 155 inactive descriptions that may be in the wrong module.] [KNOWN ISSUE: As these are historical issues, the SNOMED International Content Team have confirmed that the safest course of action is to resolve them in the next editing cycle, ready for release in the January 2019 International release.]</td>
</tr>
</tbody>
</table>

2 issues
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 2018 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 2018 International edition can be found here:

<table>
<thead>
<tr>
<th>Key</th>
<th>Summary</th>
<th>Description</th>
<th>Resolved</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISRS-316</td>
<td>Track changes for ISRS-302</td>
<td>Ticket opened to track the merge of the changes for ISRS-302 back into Main... RESOLUTION: Case significance changed for all relevant records. Rules to be continually refined going forward to prevent future issues of a similar nature.</td>
<td>2018-May-02</td>
</tr>
<tr>
<td>ISRS-321</td>
<td>July 2018 release - check and/or inactivate duplicate preferred terms on release content</td>
<td>A query was run using the following criteria: Duplicate descriptions which are active, have an active concept, are preferred in the US and where the concepts have the same semantic tag in the FSN. 41 instances of duplicate preferred terms were found. <a href="https://docs.google.com/spreadsheets/d/1J6lN5Cowxldu6BiuOe9Bv57sqnc1Ne2z2pDa5lQA/edit#gid=0">https://docs.google.com/spreadsheets/d/1J6lN5Cowxldu6BiuOe9Bv57sqnc1Ne2z2pDa5lQA/edit#gid=0</a> RESOLUTION: SNOMED CT Content Team found and fixed several PT issues as a result for the report. Alpha release spot checked and no new issues found, so ticket can be closed.</td>
<td>2018-May-31</td>
</tr>
<tr>
<td>ISRS-324</td>
<td>Clinical finding 404684003 only approved defining attributes used - planned for July 2018 International Edition</td>
<td>There are 3308 instance of 363705008</td>
<td>Has definitional manifestation being used. -- ATE -- indicates this attribute was deprecated. 90 new instances have been added for this release. There are 6 relationships using 726633004</td>
</tr>
<tr>
<td>ISRS-327</td>
<td>Minor issues in the MRCM Domain file - planned for resolution in July 2018 International Edition</td>
<td>Minor issues have been identified in the MRCM Domain file, as follows: 4c97efc0-bfb8-4afc-b3f1-d60862074973 (Administration of substance via specific route) + 7ca9ec15-74ce-488d-a250-2a3c7127f268 (Anatomical structure) - The parentDomain was omitted. 7139b12-62d-4e6e-bbe-4bd429e40c (Clinical finding) + 3013edf8-b8d4-43f8-9b80-08736e25304 (Disease) + 929e4e1-4e07-4868-88a7-072bfa20461 (Event) - The attribute [During AND/OR after] was mistakenly included in the domainTemplateForPrecoordination and domainTemplateForPostcoordination. RESOLUTION: The July 2018 International Edition includes updates to the MRCM Domain reference set file to resolve the above issues. SNOMED International content team has therefore confirmed no further action required.</td>
<td>2018-Jun-06</td>
</tr>
<tr>
<td>ISRS-362</td>
<td>Association Reference records UKTC logged the following potential issue:</td>
<td>9000000000000527005</td>
<td>SAME AS association reference set (foundation metadata concept) dev2_cRefset_AssociationFull_INT_20180131.txt - contains the following active rows (added in July 2017) where the referencedComponentId is a descriptionId and the target is a concept: 8b46ba55-944d-41d4-b730-bb7e11f3dd4 20170731 1 90000000000207008 9000000000000527005 505551013 83330001 0969184a-d05f-4224-b0ae-1d86639b14af 20170731 1 90000000000207008 9000000000000527005 138210017 83330001 The referenced component and the target should be the same class of component for all but the REFERENCES TO refset. RESOLUTION: AttributeValue records updated in time for the July 2018 International Edition</td>
</tr>
<tr>
<td>ISRS-368</td>
<td>July 2018 tracker for ISRS-298 July 2018 tracker for ISRS-298, so that we can track it without losing the logging of the Known Issue in January 2018 Release Notes.</td>
<td>RESOLUTION: All attribute value pairs in question have been inactivated.</td>
<td>2018-Jul-31</td>
</tr>
</tbody>
</table>
July 2018 tracker for ISRS-319, so that we can track it without losing the logging of the Known Issue in January 2018 Release Notes.

RESOLUTION: All MRCM Domain issues have been corrected for the July 2018 release.

ISRS-370  
RVF Assertion failure: 89ceaf00-79b9-11e1-b0c4-0800200c9a66


ISRS-371  
RVF Assertion failure: 9fb4d9a0-79b9-11e1-b0c4-0800200c9a66

RESOLUTION: Resolved in time for July 2018 Alpha release.

ISRS-372  
RVF Assertion failure: c3249e80-84f0-11e1-b0c4-0800200c9a66


ISRS-373  
RVF Assertion failure: cab60a2f-4239-4933-91d6-dc910a8ac08b


ISRS-374  
RVF Assertion failure: cc9c5340-84f0-11e1-b0c4-0800200c9a66


ISRS-375  
RVF Assertion failure: dd0d0406-7481-444a-9f04-b6fc7db49039


ISRS-376  
RVF Assertion failure: eb940ee0-7cd6-11e1-b0c4-0800200c9a66


ISRS-377  
RVF Assertion failure: eft30fb0-7856-11e1-b0c4-0800200c9a60


ISRS-378  
RVF Assertion failure: 18526d6-38c1-11e7-b336-3c15c2c6e32e

ISRS-379  RVF Assertion failure: 2aa0bea1-b1fa-4543-b277-b4392a6f864d  

testCategory: "release-type-validation"  
assertionUuid: "2aa0bea1-b1fa-4543-b277-b4392a6f864d",  
assertionText: "New inactive states follow active states in the ATTRIBUTEVALUE snapshot.",  
failureCount: 1,  
RESOLUTION: SNOMED International Content team confirmed that this is a warning only (that has been whitelisted), and so no further action is required.  

2018-May-02

ISRS-380  RVF Assertion failure: 2ddc9a28-150d-47a4-9b0e-7dbff2efdd72  

testCategory: "file-centric-validation"  
assertionUuid: "2ddc9a28-150d-47a4-9b0e-7dbff2efdd72",  
assertionText: "There is a 1:1 relationship between the id and the key values in the ASSOCIATION REFSET snapshot file.",  
failureCount: 2,  

2018-Jul-31

ISRS-381  RVF Assertion failure: 5f1a51a3-6200-4463-8799-d75998165278  

testCategory: "release-type-validation"  
assertionUuid: "5f1a51a3-6200-4463-8799-d75998165278",  
assertionText: "New inactive states follow active states in the CONCEPT snapshot.",  
failureCount: 51,  
RESOLUTION: Fixed in time for the July 2018 Alpha Release.  

2018-May-04

ISRS-382  Complete the traceability analysis for the TermServer export  
The traceability analysis for the TermServer export needs to be completed, to ensure that everything is being exported as expected with no data missing.  
RESOLUTION: analysis complete and successful, no changes required.  

2018-May-10

ISRS-384  DROOLS assertion failure: Active concept parents should not belong to more than one top-level hierarchy.  

<table>
<thead>
<tr>
<th>conceptId</th>
<th>componentId</th>
<th>message</th>
<th>severity</th>
<th>ignorePublishedCheck</th>
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</thead>
<tbody>
<tr>
<td>126162007</td>
<td>126162007</td>
<td>Active concept parents should not belong to more than one top-level hierarchy.</td>
<td>ERROR</td>
<td>TRUE</td>
</tr>
</tbody>
</table>

126162007 [Substance with androgen receptor agonist mechanism of action (substance)]  

<table>
<thead>
<tr>
<th>conceptId</th>
<th>componentId</th>
<th>message</th>
<th>severity</th>
<th>ignorePublishedCheck</th>
</tr>
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<tr>
<td>767549002</td>
<td>767549002</td>
<td>Active concept parents should not belong to more than one top-level hierarchy.</td>
<td>ERROR</td>
<td>TRUE</td>
</tr>
</tbody>
</table>

767549002 [Traumatic volar dislocation (morphologic abnormality)]  


2018-Jul-31

ISRS-385  DROOLS assertion failure: An active concept must not have two relationships with the same type, target and group. The duplicate can be an inactive relationship that should be reactivated, or an unreleased new relationship that should be deleted.  
The following records failed with the message "An active concept must not have two relationships with the same type, target and group. The duplicate can be an inactive relationship that should be reactivated, or an unreleased new relationship that should be deleted. Please review the following relationship:"

<table>
<thead>
<tr>
<th>conceptId</th>
<th>componentId</th>
<th>relationship</th>
<th>Notes</th>
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<tr>
<td>238703005</td>
<td>9373510024</td>
<td></td>
<td>4298611021. Confirmed issue</td>
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<td>414662006</td>
<td>9373489025</td>
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<td>4329018028. Confirmed issue</td>
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<td>314780006</td>
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<td>208008</td>
<td>9373475024</td>
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<td>4346285023. Confirmed issue</td>
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<td>24285001</td>
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<td>4358219021. Confirmed issue</td>
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<tr>
<td>89478006</td>
<td>9373501027</td>
<td></td>
<td>4376036026. The rest need checking</td>
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<td>404159002</td>
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2018-Jul-31
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<tr>
<td>412539001</td>
<td>6976012021</td>
<td>4589196025.</td>
<td></td>
</tr>
<tr>
<td>398663003</td>
<td>6979784023</td>
<td>4589437027.</td>
<td></td>
</tr>
<tr>
<td>699225003</td>
<td>9373485020</td>
<td>4775022023.</td>
<td></td>
</tr>
<tr>
<td>707135008</td>
<td>5951632029</td>
<td>5283497020.</td>
<td></td>
</tr>
<tr>
<td>707135008</td>
<td>5283497020</td>
<td>5951632029.</td>
<td></td>
</tr>
</tbody>
</table>
Also see the spreadsheet here: https://docs.google.com/spreadsheets/d/1IVRHnSuY_JnhyNc2HpDZeN66gsF26U1TkDf7g9ICY/diaghg=0

RESOLUTION: All issues fixed in time for the first Alpha release being published, and so all issues resolved in time for the July 2018 International Edition.

### ISRS-390

**Concepts in an unexpected module**

Concepts on core module (only with descriptions+relationships). Should be on 900000000000012004 |model component|

<table>
<thead>
<tr>
<th>ISRS-390</th>
<th>Concepts in an unexpected module</th>
<th>2018-May-31</th>
</tr>
</thead>
<tbody>
<tr>
<td>719715003</td>
<td>Relative to part of (attribute)</td>
<td>2018-May-31</td>
</tr>
<tr>
<td>719722006</td>
<td>Has realization (attribute)</td>
<td>2018-May-31</td>
</tr>
</tbody>
</table>

**RESOLUTION:** Reporting body confirmed via email that these potential errors were based on the old Jan 2018 version, and the latest version looked fine. This ticket can therefore be closed down with no action required.

### ISRS-395

**RVF Assertion failure:**

assertionUUid: "44916964-5b78-4842-81d8-e8293ee93bea"
assertionText: "There must be actual changes made to previously published inferred relationships in order for them to appear in the current delta."
failureCount: 3, firstNInstances:

| [conceptId: 425630003], detail: "Inferred relationship: id=3187444026 is in the delta file, but no actual changes made since the previous release."] |
| [conceptId: 425630003], detail: "Inferred relationship: id=3192499027 is in the delta file, but no actual changes made since the previous release."] |
| [conceptId: 425630003], detail: "Inferred relationship: id=3574321020 is in the delta file, but no actual changes made since the previous release." |

**RESOLUTION:** SNOMED International Content Team confirmed that these are warnings only, and can therefore be closed down with no action required.

### ISRS-396

**RVF Assertion failure:**

assertionUUid: "c82246bab-1a37-4bc5-8653-554c9ce82c6b"

**RESOLUTION:** SNOMED International Content Team confirmed that these are warnings only, and can therefore be closed down with no action required.

---

5661000124106 9373483029 6049730023.
721656007 6752174029 6752172025.
721656007 6752172025 6752174029.
724847001 9373502028 694492022.
734031008 9389910028 7104590020.
51174006 4480377021 9373483029.
699225003 4775022023 9373485020.
41462006 4329018028 9373489025.
5661000124106 6049730023 9373483029.
699225003 4775022023 9373485020.
41462006 4329018028 9373489025.
403515007 4520971028 9373493020.
45796007 4435797028 9373494025.
40419002 4421140225 9373495029.
78631004 4441345029 9373501027.
428876001 4515268025 9373500026.
89478006 4376036026 9373502023.
91268007 4442482024 9373503029.
239089006 4483110226 9373506021.
246982001 4496708022 9373508022.
11256005 4500650227 9373509025.
238703007 4428611021 9373510024.
24285001 4358219021 9373511023.
assertionText: “Active preferred terms for active concepts are unique in the same hierarchy”,

failureCount: 10,

firstNInstances:

  - conceptId: "26239002", detail: “Preferred term=Football is duplicated in hierarchy (physical object)”
  - conceptId: "413494002", detail: “Preferred term=Football is duplicated in hierarchy (physical object)”
  - conceptId: "46625003", detail: “Preferred term=Suppository is duplicated in hierarchy (physical object)”
  - conceptId: "706493001", detail: “Preferred term=Suppository is duplicated in hierarchy (physical object)”
  - conceptId: "228181005", detail: “Preferred term=Suspenders is duplicated in hierarchy (physical object)”
  - conceptId: "415686002", detail: “Preferred term=Suspenders is duplicated in hierarchy (physical object)”
  - conceptId: "258682000", detail: “Preferred term=g is duplicated in hierarchy (qualifier value)”
  - conceptId: "422112002", detail: “Preferred term=g is duplicated in hierarchy (qualifier value)”
  - conceptId: "282120005", detail: “Preferred term=gal is duplicated in hierarchy (qualifier value)”
  - conceptId: "422049005", detail: “Preferred term=gal is duplicated in hierarchy (qualifier value)”

RESOLUTION: The SNOMED International Content team have investigated these potential duplicates and confirmed that they are all valid terms. These potential issues have therefore been whitelisted, and can be safely ignored with no action currently required.

**ISRS-398**

**Inferred relationship missing from the SRS release package (but available on MAIn in the termServer)**

One new inferred relationship is being returned when classifying locally, but is missing from the Release files:

```sql
1 253305008 255399007 2 246454002 900000000000011006 900000000000451002
```

That relationship is present in the authoring platform browser on MAIn but missing from the dailybuild browser.

**RESOLUTION:** Relationship now present in the inferred file for the July 2018 Member Release:

2018-Jul-31

**ISRS-399**

**Failure to Publish International release package**

This issue is related to the new Owl refsets. Part of the code is looking for SCT files to publish scids, and the SNOMED International technical team have confirmed that an update to the SRS is required in order to resolve this issue.

**error msg:**

Request /publish raised: For input string: "8164a2fc-cac3-4b54-9d9e-f9c597a115ea"

SNOMED International technical team to fix in SRS-575

**RESOLUTION:** Fixed and deployed to Production, and verified successfully using July 2018 Member Release package on 29th June 2018

2018-Jun-29

**ISRS-400**

**Synonyms created as TextDefinitions**

<table>
<thead>
<tr>
<th>id</th>
<th>conceptId</th>
<th>term</th>
</tr>
</thead>
<tbody>
<tr>
<td>3656246013</td>
<td>437411000124102</td>
<td>Increase in sodium content of the diet compared to the assessed baseline intake of sodium for the individual.</td>
</tr>
<tr>
<td>3656247016</td>
<td>437291000124108</td>
<td>Increase in copper content of the diet compared to the assessed baseline intake of copper for the individual.</td>
</tr>
</tbody>
</table>

2018-Jul-31
Increase in potassium content of the diet compared to the assessed baseline intake of potassium for the individual.

Any cranial somatic dysfunction resulting in abnormal dural membrane tensions.

An arch formed by the medial margin of the cartilages of false ribs and one true rib (seventh rib to the tenth rib).

Foods and liquids that are transparent and liquid at body temperature. (Source: Nutrition Care Manual, Academy of Nutrition and Dietetics 2013).

Increase or decrease in biotin content of the diet. Treatment for conditions resulting from inadequate or excessive biotin intake. (Source: Dietary Reference Intakes: Vitamins; USDA Food and Nutrition Center).

Increase or decrease in niacin content of the diet. Treatment for prevention of pellagra. (Source: Dietary Reference Intakes: Vitamins; USDA Food and Nutrition Center).

Increase or decrease in pantothenic acid content of the diet. (Source: Dietary Reference Intakes: Vitamins; USDA Food and Nutrition Center).

Replace normal consistency foods with those that are blended, whipped or mashed to a "pudding-like" texture. Treatment for chewing and swallowing problems. (Source: Nutrition Care Manual, Academy of Nutrition and Dietetics 2013).

RESOLUTION: Synonyms inactivated with a status of erroneous and replaced with a new definition.

ISRS-401 Descriptions with unexpected Case Sensitivity

The descriptions (attached) were found to have unexpected case sensitivity. Most aren't sentence case, but tagged as case insensitive.

The last three descriptions are case insensitive, but include an uppercase character mid term. The first two, could be argued to be sentence case:

1,2-Dimethoxybenzene

5-Hydroxytryptamine-3-receptor antagonist product

But "Dopamine receptor D2 antagonist product" – seems more significant...

RESOLUTION: SNOMED International content team confirmed only one change required: 766793008 |Product containing dopamine receptor D2 antagonist (product)| Description 3662648017 changed from ci to cl.

ISRS-403 RVF Assertion failure: eff30f0b-7856-11e1-b0c4-0800200c9a66

assertionUuid: "eff30f0b-7856-11e1-b0c4-0800200c9a66",
assertionText: "All language refset members inactivated in current snapshot must have been active in the previous release.",
failureCount: 22,

RESOLUTION: SNOMED International Content team confirmed that these are just warnings, and therefore no action is required.

ISRS-404 RVF Assertion failure: 2b193a88-8dab-4d19-b995-b556ed59398d

assertionUuid: "2b193a88-8dab-4d19-b995-b556ed59398d",
assertionText: "New inactive states follow active states in the DESCRIPTION snapshot.",
failureCount: 11

firstNInstances:

{conceptId: "437411000124102", detail: "DESCRIPTION: id=3656246013 is inactive but no active state found in the previous snapshot."},
{conceptId: "437291000124108", detail: "DESCRIPTION: id=3656247016 is inactive but no active state found in the previous snapshot."},
{conceptId: "437391000124102", detail: "DESCRIPTION: id=435741000124103 is foods and liquids that are transparent and liquid at body temperature. (Source: Nutrition Care Manual, Academy of Nutrition and Dietetics 2013)."},
{conceptId: "43751000124101", detail: "DESCRIPTION: id=3656248014 is inactive but no active state found in the previous snapshot."},
{conceptId: "417704008", detail: "DESCRIPTION: id=3671678013 is inactive but no active state found in the previous snapshot."},
ISRS-406  Born inactive records created as a result of Alpha feedback fixes
There are 11 born inactive synonyms, plus 22 related born inactive language refsets records. (see attached files for details)

ISRS-407  MRCM Validation report results
The MRCM validation report was run against the final version of the July 2018 Beta release - for both Stated only + Stated and Inferred reports. The former was clean, the latter highlighted a couple of potential issues.
Unable to embed resource: stated-inferred.zip of type application/zip
Unable to embed resource: stated.zip of type application/zip
RESOLUTION: The SNOMED International content team confirmed that the decision made back in November 2017 (whereby only new inferred issues will be resolved immediately, with historical issues such as these being fixed asap in future release cycles) still stands, and therefore no action is required for the July 2018 International Edition. 2018-Jun-13

ISRS-408  Unexpected ICD-10 Map records in Delta file
13 concepts were deleted (rather than inactivated) during the last editing cycle, as they had only been created within the same cycle. This action was correct as otherwise the inactivations would have caused unwanted born inactive records. The map files therefore need to be updated accordingly in order to remove the records from the ICD-10 map files:

- 763757001
- 763756005
- 763732006
- 763731004
- 763730003
- 763729008
- 763496006
- 763497002
- 763495005
- 763494009
- 763107000
- 763060003
- 765003000

RESOLUTION: 19 records were actually removed from the updated ICD-10 map Delta, post-Beta release. This includes the 13 expected removals (above), plus 6 additional removals as a result of other issues found in the validation of the files. This means that the final Member and Production release packages will not contain the following 19 records that existed in the Alpha/Beta release packages:

<table>
<thead>
<tr>
<th>id</th>
<th>effectiveTime</th>
<th>active</th>
<th>moduleId</th>
<th>refsetId</th>
<th>referencedComponentId</th>
<th>mapGroup</th>
<th>mapPriority</th>
<th>mapRule</th>
<th>mapAdvice</th>
<th>mapTarget</th>
<th>correlationId</th>
<th>mapCategoryId</th>
</tr>
</thead>
<tbody>
<tr>
<td>7922c709-41e7-5625-9078-a532420616ded</td>
<td>20180731</td>
<td>1</td>
<td>449080006</td>
<td>447562003</td>
<td>763495005</td>
<td>1</td>
<td>TRUE</td>
<td>ALWAYS</td>
<td>Q37.9</td>
<td>Q37.9</td>
<td>447561005</td>
<td>447637006</td>
</tr>
<tr>
<td>a0358150-9775-5c54-97dc-3d50ac69b290</td>
<td>20180731</td>
<td>1</td>
<td>449080006</td>
<td>447562003</td>
<td>765003000</td>
<td>1</td>
<td>TRUE</td>
<td>MAP SOURCE CONCEPT CANNOT BE CLASSIFIED WITH AVAILABLE DATA</td>
<td>447561005</td>
<td>447638001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d1fdb3f0-8f4e-5e3a-a0eb-db02436fca26</td>
<td>20180731</td>
<td>1</td>
<td>449080006</td>
<td>447562003</td>
<td>763497002</td>
<td>1</td>
<td>TRUE</td>
<td>ALWAYS</td>
<td>Q35.9</td>
<td>Q35.9</td>
<td>447561005</td>
<td>447637006</td>
</tr>
<tr>
<td>97ec3e01-865a-54b4-8c76-12f8725c771</td>
<td>20180731</td>
<td>1</td>
<td>449080006</td>
<td>447562003</td>
<td>763731004</td>
<td>1</td>
<td>TRUE</td>
<td>ALWAYS</td>
<td>Q35.9</td>
<td>Q35.9</td>
<td>447561005</td>
<td>447637006</td>
</tr>
</tbody>
</table>
a63c02e3-5663-5bdb-9cb0-7ae0a432d907 20180731 1 449080006 447562003 763372006 1 1 TRUE ALWAYS Q35.9 Q35.9 447561005 447637006 5b9e979b-b8b2-5d8f-b463-3736f9b9cb67 20180731 1 449080006 447562003 763756005 1 1 TRUE ALWAYS Q35.9 Q35.9 447561005 447637006 3112f09b-9eae-5964-a0fc-8dcf5b4d4cb2 20180731 1 449080006 447562003 763496006 1 1 TRUE ALWAYS Q35.9 Q35.9 447561005 447637006 0fd8418e-b9e4-5e65-895f-c7d32557b848 20180731 0 449080006 447562003 293689001 1 1 TRUE ALWAYS Z88.8 Z88.8 447561005 447637006

ISRS-411  Trailing spaces in MRCM file records

In the course of reviewing some reports of trailing spaces in Descriptions (which turned out to be non-issues), we found a couple of examples in the MRCMAttributeRange snapshot file, where trailing spaces are evident in the attributeRule field (though the second record is dubious as the spaces are between the parentheses):

<table>
<thead>
<tr>
<th>ISRS-411</th>
<th>Trailing spaces in MRCM file records</th>
</tr>
</thead>
<tbody>
<tr>
<td>d6c20749-3934-4097-b5b2-a1b9a9cf89f4 20170731 1 900000000000012004 723362003 726542003</td>
<td>&quot;Its domain is given as &lt;&lt; ^ 723264001</td>
</tr>
<tr>
<td>d6c20749-3934-4097-b5b2-a1b9a9cf89f4 20170731 1 900000000000012004 723362003 726542003</td>
<td>RESOLUTION: The first record (d6c20749-3934-4097-b5b2-a1b9a9cf89f4) has been fixed, by removing the trailing spaces from both RangeConstraint and AttributeRule fields. The second record (e8ec5f5c-a9e0-4241-912d-8ea9331cce91) has spaces between the parenthesis and not at the end of the record, and are therefore intentionally in order to make it easier to read. The SNOMED International EPS team therefore confirmed that no action is required for this record.</td>
</tr>
</tbody>
</table>

ISRS-412  Classification service update

The classification service needs to be updated to read the refined naming convention of the new OWL Axiom file, in order to correctly create the inferred relationships.

RESOLUTION: The classification service was updated twice, once to include the new OWL Axiom file, and once to resolve an issue found in the course of this ticket with the underlying Java code. The final Member Release build for July 2018 had the expected inferred relationship results, matching those in the termServer.

ISRS-413  MRCM constraint issues

As part of discussions with the community, the following issue was identified with the Lateralizable body structure MRCM domain constraint:

"Its domain is given as << ^ 723264001 |Lateralizable body structure reference set| (founder metadata concept) throughout the constraint, i.e. identify all the members of 723264001 (^), and then add in all the subtypes (<<)). So, whilst the refset distinguishes between 85562004 | Hand structure (genunely lateralizable) and, for example, 78791008 | Structure of right hand (already lateralized and therefore no longer actually lateralizable), the domain template for post-coordination would suggest otherwise."

RESOLUTION: The SNOMED International EPS team updated the MRCM Domain Reference Set file as follows:

- Record 'eb0bedb1-991a-4697-9ab-e1c5bd4d27'
Technical updates

RF2 package format

For future reference, the RF2 package convention dictates that it contains all relevant files, regardless of whether or not there is content to be included in each particular release. Therefore, the package contains a mixture of files which contain both header rows and content data, and also files that are intentionally left blank (including only a header record). The reason that these files are not removed from the package is to draw a clear distinction between

1. ...files that have been deprecated (and therefore removed from the package completely), due to the content no longer being relevant to RF2 in this or future releases, and
2. ...files that just happen to contain no data in this particular release (and are therefore included in the package but left blank, with only a header record), but are still relevant to RF2, and could therefore potentially contain data in future releases.

This allows users to easily distinguish between files that have purposefully been removed or not, as otherwise if files in option 2 above were left out of the package it could be interpreted as an error, rather than an intentional lack of content in that release.

Combination of two new refsets - OWL Axiom and OWLOntology

Please see section "2.3.1 Logic Profile Enhancements" above for full details of the reason behind the introduction of these new refsets. After the September 2018 Demonstration release, it was agreed to combine these two files into one "OWL Expression" file, which now contains both OWL Axiom + OWL Ontology refsets in the same file, in each section of the International Release package (Full, Snapshot and Delta):

- sct2_sRefset/owlExpressionFull_INT_20190131.txt
- sct2_sRefset/owlExpressionSnapshot_INT_20190131.txt
- sct2_sRefset/owlExpressionDelta_INT_20190131.txt

The decision was taken to place the files in the "Terminology" folder in the release package (as opposed to the "Refset" folder), because these files are designed to eventually replace the Stated relationship files (in July 2019), and therefore contain core content which needs to be included in the Terminology folder.
Replacement of OWL conversion script with a link to the open source directory

In January 2017 the original OWL conversion script (a.k.a. the “Spackman OWL script”) was removed from the International Edition package, and has since been published as a separate artefact alongside each Release.

Because this script does not recognize the two new OWL refsets (see section 3.3.2 of these Release Notes), the Terminology Release Advisory Group has determined that the script should no longer be distributed.

Going forward, Release Notes will now include a link to the new open source OWL conversion toolkit that can be found in the following repository (including documentation on its use):

https://github.com/IHTSDO/snomed-owl-toolkit

Please contact SNOMED International at support@snomed.org if you would like to provide any feedback on ways to extend and improve the new toolkit.


The Terminology Release Advisory Group has confirmed that there should be no impact from removing this almost entirely static document from the International Edition release package, and hosting it instead in a Confluence Page. From the July 2018 International release then, we will deprecate this file (doc_lod10MapTechnicalGuideExemplars_[date].xlsx) from the Release package, and instead provide a link in the Release Notes to the new Confluence Page. Please see section 2.4.1.3 above for the relevant link.

Early visibility of impending change in the January 2019 International edition

Please see the following page for details of all upcoming changes planned for January 2019 and beyond: Early Visibility - Planned changes to upcoming SNOMED International Release packages
IMPORTANT CHANGE in the July 2019 International Edition

Replacement of the Stated Relationship files with the new OWL Axiom refset files

In the January 2019 release, the stated relationship file will be replaced by the OWL Axiom refset files, that will include all logical definitions and other features specified in the SNOMED CT logic profile specification. The stated relationship file will NOT be included in the international release; however, it may still be available on request to support migration to the OWL Axiom refset.

The inferred relationship file will maintain the same format and structure, though it will no longer contain all necessary and sufficient conditions. The inferred relationship file is represented in Necessary Normal Form for distribution of relationships. It is a collection of all the necessary conditions and represents a subset of the full semantics from the 2018 July release and onwards. Most users will benefit from the improvements in the inferred relationships without requiring changes to their existing systems.

A set of documentations has been developed to support the Logic Profile Enhancements.

- SNOMED DL Profile Enhancements - https://docs.google.com/document/d/1tqNEA6S4EF4fgj15OPabYA2e0VTz8expvXRWczKizQ/edit?usp=sharing
- SNOMED CT Logic Profile Specification - http://snomed.org/lps
- SNOMED CT OWL Guide (OWL Refsets specification) - http://snomed.org/owl
- Necessary Normal Form for Inferred Relationships - https://docs.google.com/document/d/1dt0r0aetwpwHlT9wt0EvukVRlVvJXUN_vq-QhiM/edit?usp=sharing
- Snomed OWL Toolkit - https://github.com/IHTSDO/snomed-owl-toolkit
- Classifying SNOMED CT using the Snomed OWL Toolkit - https://youtu.be/-91egY9mJqA
- Creating an OWL file containing SNOMED CT - https://youtu.be/sfFbMMloA_4

Document links

All links provide information that is correct and current at the time of this Release. Updated versions may be available at a later date, but if so these will need to be requested from the relevant SNOMED International teams.

NOTE: To access any of the links in the pdf document, please visit the Release Notes online here: