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.

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.

1.2 Purpose

This document provides a summarized description of the content changes included in the January 2018 release of SNOMED Clinical Terms® (SC T) 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 alongside the January 2018 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 2018 International Edition release.

2 Content Development Activity

2.1 Summary
Continuous quality improvement and enhancement of existing content is ongoing based on requests received via the Content Request System (CRS). A review of the pre-coordination patterns that are blocking CRS tickets from progressing has commenced and will continue into 2018.

A review of requests currently in the ‘In Inception’ status in the CRS tool is underway and where it is feasible to progress a request prior to resolving the tracker issue, the request is being identified for progression. Given this work (and the pre-coordination patterns review) the number of requests in ‘In Inception’ status has decreased by over 1000. This work will continue into 2018.

The January 2018 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), World Health Organization (WHO) ICD-11 Beta and International Classification for Nursing Practice (ICNP®) to add new content to SNOMED CT.

Additionally, member-identified priority projects, have driven enhancements in the anatomy hierarchy, while other project-driven changes have resulted in new content additions and enhancements to existing content detailed below.

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**Advance Warning**

Inactivation reason of LIMITED/WAS A will no longer be allowed for any content after the January 2018 release. The WAS A association refset will not be updated thereafter.

**Background**
In 2015, a proposal was made to inactivate 159083000 |WAS A (attribute)| relationship and stop updating the 9000000000000526000|WAS A association reference set (foundation metadata concept)| at the Editorial Advisory Group.

Since these recommendations were made, 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 the decision after the January 2018 release.

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2.2 Content Quality Improvement

4979 new concepts were added

<table>
<thead>
<tr>
<th>SCT Statistics</th>
<th>New concept additions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNOMED CT Concept (SNOMED RT+CTV3)</td>
<td>4979</td>
</tr>
</tbody>
</table>
21080 changes were made to existing content

<table>
<thead>
<tr>
<th>SCT Improvement Statistics to Existing Concepts</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of changes</td>
<td>21080</td>
</tr>
<tr>
<td>Change to stated concept definition</td>
<td>7597</td>
</tr>
<tr>
<td>Change to inferred concept definition</td>
<td>15635</td>
</tr>
<tr>
<td>Change in concept definition status from Primitive to Sufficiently Defined</td>
<td>796</td>
</tr>
<tr>
<td>Description change</td>
<td>6051</td>
</tr>
<tr>
<td>Inactivated concepts</td>
<td>781</td>
</tr>
<tr>
<td>Inactivated descriptions</td>
<td>4102</td>
</tr>
<tr>
<td>Reactivated concepts</td>
<td>14</td>
</tr>
</tbody>
</table>

2.2.1 Anatomy

New anatomy concepts: 571

- 462 new lateralized body structure concepts and nearly 1000 new lateralized findings, disorders and procedures. There are over 5,000 lateralized concepts in SNOMED CT.
- 30 new concepts for 736503009 | Structure of mucous membrane of nasal cavity and/or nasal sinus (body structure) and descendants and refined the existing hierarchical relationships.
- New concepts for transplanted cardiac values and structure of vertebral column and/or spinal cord to support concept modeling from ICD-11 content.
Reviewed and updated IS A relationships for 1,255 skin structure concepts according to the new anatomy model:

- Identified and added 329 new IS A relationships.
- Inactivated 136 redundant or incorrect IS A relationships.

Updates for SEP refsets and Lateralizable body structure refset:

- 42 changes to the SE refset.
- 4 changes to the SP refset.
- 42 new members for lateralizable body structure refset and 10 inactivations.

2.2.2 Clinical finding

New concepts for clinical findings and disorders: 2005

Work completed on the following Content Projects:

- IHTSDO-418 - 84017003 | Bursitis (disorder).
- IHTSDO-772 - Suspected - findings / disorders, should be situations.
- IHTSDO-412 - Intra-operative complication.

Work commenced on the following Content Projects:

- IHTSDO-451 - Has definitional manifestation.
- IHTSDO-703 - Inactivation of 'unilateral' concepts.
- IHTSDO-614 - Rework hierarchy 441457006|Cyst (disorder)|.

Other content quality improvements:

- Remodel and fully define 63491006|Intermittent claudication (finding) and subtypes.
- Review and remodel of 128200000|Complex regional pain syndrome (disorder) and subtypes.
- 7 new laboratory finding concepts added along with 30 changes made to existing laboratory concepts.
- Revision of spinal injury content - many concepts were primitives and represented as flat list under 26738009|Spinal cord injury without spinal bone injury (disorder)|. This sub-hierarchy has been reviewed and 85 concepts have been remodeled. Most concepts have been defined based on complete, incomplete injuries and levels. These changes have also addressed the reported duplication issues.
- Remodel 3238004|Pericarditis (disorder)| and subtypes with primitive parent and changes to relationship groups where required to achieve consistency, approximately 100 concepts were remodeled.

2.2.3 Convergent Medical Terminologies (CMT)

New CMT concepts: 766

These were added across 3 domains:

- CMT Neurology
- CMT Musculoskeletal
- CMT Radiology
2.2.4 Procedure Hierarchy

New concepts for procedure hierarchy: 911

Diagnostic Imaging - approximately 363 new concepts added including:

- MRI 53
- CT 38
- Plain X-ray 15
- Fluoroscopy 73
- Imaging guided procedure (various modalities) 102
- Ultrasonography 82

Work completed on the following Content Projects:

- IHTSDO-111 - Review of hierarchy 23968004 | Colectomy (procedure) with inactivation of duplicate content, concepts remodeled with primitive parent and changes to relationship groups where required.
- IHTSDO-691 - Remodel content 243185007 | Advanced life support (procedure) and subtypes.

Other content quality improvements:

- Remodel and fully define 180081001 | Correction of congenital deformity of hand (procedure) | and its descendants.
- Fixed MRCM rule violation for 156 Evaluation procedures and removed Observable entities as values for Component Attribute.
- Care program approach - realm specific concepts inactivated from International release.

2.2.5 Collaboration/Harmonization Projects

2.2.5.1 Orphanet

As a result of collaboration with Orphanet (http://www.orpha.net/consor/cgi-bin/index.php) 12 new SNOMED CT concepts have been created to represent rare diseases in the disorder hierarchy.

2.2.5.2 ICD-11 Harmonization plan

Added 1100 concepts equivalent to ICD-11 Mortality and Morbidity Statistics (ICD-11-MMS) codes; review and additions are ongoing based on updates to ICD-11-MMS.

2.2.5.3 LOINC

105 new SNOMED CT concepts created for LOINC - SNOMED collaboration project.

2.2.5.4 International Classification for Nursing Practice (ICNP®)

74 new SNOMED CT concepts created as a requirement for the ICNP-SNOMED CT Equivalence Table.

2.2.5.5 Global Medical Device Nomenclature Agency (GMDNA)

165 new SNOMED CT concepts created in the Physical object hierarchy to support the GMDN collaboration agreement.
2.2.6 Morphologic Abnormality

New concepts added: 22

There are 8 updates for the ICD-O maps in 2018 January release.

2.2.7 Observable Entity

New concepts added: 52

Content quality improvements:

- Inactivated 704318007 |Property type (attribute)| and replaced it with 370130000 |Property (attribute)| for 162 modeled Observable entity concepts which had previously used 704318007 |Property type (attribute)|. Updated related MRGI rules and Editorial Guide.

2.2.8 Organism

New organism concepts added: 236

Changes to 29 existing concepts in the organism hierarchy.

2.2.9 Pharmaceutical / biologic product

Drugs 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.
### New hierarchies
- Basic dose form (basic dose form)
  - New concepts created (n 125)
- Dose form administration method (administration method)
  - New concepts created (n 10)
- Dose form intended site (intended site)
  - New concepts created (n 20)
- Dose form release characteristic (release characteristic)
  - New concepts created (n 5)
- Dose form transformation (transformation)
  - New concepts created (n 5)
- Pharmaceutical dose form (dose form)
  - New concepts created or remodeled (n 250)
- State of matter (state of matter)
  - New concepts created (n 5)

### New semantic tags
- (administration method)
- (basic dose form)
- (dose form)
- (intended site)
- (release characteristic)
- (state of matter)
- (transformation)

### New attribute types
- Has basic dose form
- Has concentration strength denominator unit
- Has concentration strength denominator value
- Has concentration strength numerator unit
- Has concentration strength numerator value
- Has dose form administration method
- Has dose form intended site
- Has dose form release characteristic
- Has dose form transformation
- Has state of matter
- Has ingredient
- Has precise active ingredient

### Medicinal Product (MP)
Updated 1100 existing concepts in accordance with new modeling and/or terming guidelines
- Existing concept IDs, stated parents and definition status were retained
- Missing [Has active ingredient] attributes were added; errors in existing content were corrected as they were identified

### Medicinal Product Form (MPF)
Negligible number of changes.

### Clinical Drug (CD)
Updated 3000 existing concepts changing terming from "Product containing X" to "Product containing only X"
- Note that the terming for these concepts was updated in the 2017-July release to reflect "Product containing X"; upon advice from the Working Group, we elected to notify the Member Forum, Project Group, and Working Group of the retraction/substitution rather than inactivate/replace these concepts.

### New or updated concepts to support future simple map refset development
For SNOMED CT to EDQM simple map refset:
- 741068007/SNOMED CT to European Directorate for the Quality of Medicines & HealthCare simple map reference set module (core metadata concept)
- 735233007/European Directorate for the Quality of Medicines & HealthCare simple map reference set (foundation metadata concept)

For SNOMED CT to UCUM simple map refset:
- 741814003/SNOMED CT to Unified Code for Units of Measure simple map reference set module (core metadata concept)
- 733900009/Unified Code for Units of Measure simple map reference set (foundation metadata concept)
Content maintenance including

- Content:
  - Inactivation of concepts that are missing strength denominator
  - Inactivation of concepts that refer to color
  - Inactivation of concepts containing caplet
  - Inactivation of concepts containing "controlled-release"
- Documentation created or updated:
  - Position Statement
  - Briefing Paper re: update terming for Clinical Drug concepts changing "Product containing X" to "Product containing only X"
  - Editorial Guidelines for Modeling and Terming for Dose Form related hierarchies, including identification of |Pharmaceutical dose form| concepts to be used for modeling concepts in the International Release moving forward
  - Editorial Guidelines for Modeling and Terming for Product hierarchy

2.2.10 Veterinary Extension

2 concepts were moved to the Veterinary Extension.

2.2.11 Situation with Explicit Context

Number of concepts added to Situation hierarchy: 91

Work completed on the following Content Projects:

- artf222723 - 19 new concepts for situation hierarchy to replace inactivated concepts in the event hierarchy 398033008|Death of relative (event)|.

Work commenced on the following Content Projects:

- IHTSDO-703 - The inactivation of 'unilateral' concepts with creation of lateralised replacement concepts where not already present in the terminology has commenced. This work will continue into 2018.

2.2.12 Record Artifact

New concepts added: 82. This number includes 5 new concepts for 'care plan' which replace inactivated concepts in the qualifier value hierarchy.

2.2.13 Specimen

New concepts added: 30
2.2.14 Substances

The following changes will be included in the 2018-January International Release.

| New hierarchies       | • Disposition (disposition)  
|                       |   • New concepts created (n 250)  |
| New semantic tags     | • (disposition)  |
| New attribute types   | • Has disposition  
|                       |   • Is modification of  |

Documentation created or updated including:

- Editorial Guidelines for Modeling and Terming for Substance hierarchy.
- Editorial Guidelines for Modeling and Terming for Disposition hierarchy.

Content updates include:

- Populated new Disposition hierarchy with approximately 250 new concepts as descendants of 726711005|Disposition (disposition).
- Updated terming and modeling for approximately 200 existing concepts that represent disposition groupers, making the concepts fully defined and removing stated descendants. As a result, approximately 9000 stated descendants were remodeled with new stated parents.
- Added new Has disposition attribute for approximately 4200 concepts.
- Completed review of concepts as a result of gap analysis to identify missing concepts representing hydrates, with 14 new concepts added. (Note: there were 87 new concepts added for 2017-July Release.) Three concepts were rejected (e.g. out of scope, duplicate of existing concept).

⚠️ 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.

2.3. Internal Quality Improvement

2.3.1 Case Significance Indicator

In order to align in accordance with the RF2 specification, a technical batch change was made to the case significance value for approximately 1400 descriptions.
2.3.2 Logic Profile Enhancements

Content changes have been made to support the logic profile enhancements.

New OWL expression reference set type will have OWL ontology refset and OWL axiom refset.

New attributes |Concept model object attribute| and |Concept model data property| have been added to make clear distinction between object attribute and data attribute.

All existing attributes under concept model attribute are moved under |Concept model object attribute|. The data properties in national extensions should be moved under the new attribute |Concept model data property|

- The detailed proposal can be found at https://goo.gl/pFqaq.
- The OWL refset specification document (draft) can be found at https://goo.gl/Er3n7b
- SNOMED CT Logic Profile specification (draft) can be found at https://goo.gl/Hkw3Zd

2.3.3 Dentistry Odontogram Refset

63 new concepts added to support Dentistry.

The first production release of the Odontogram Refset was made available in October 2017.

2.3.4 Machine Readable Concept Model (MRCM)

17 new changes or updates in the MRCM refsets and authoring platform.

The majority of changes were required to support development of the concept model for drugs and observable entity.

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 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_iissccRefset_ExtendedMapFull_INT_20170131.txt, which is in the Map folder under Refset, in each of the three RF2 Release Type folders.
The SNOMED CT to ICD-10 Map is released as Refset 447562003 |ICD-10 complex map reference set (foundation metadata concept)|.

2.4.1.1 Content development activity summary

The map is a directed set of relationships from SNOMED CT source concepts to ICD-10 target classification codes. The SNOMED CT source domains for the MAP are limited to subtypes of 404684003 |clinical finding|, 272379006 |event| and 243796009 |situation with explicit context|. The target classification codes are ICD-10 2016 release.

2.4.1.2 Mapped content for January 2018

The map provided for the January 2018 release has been updated, and now represents a complete map from SNOMED CT International release to ICD-10 2016 version.

- 2207 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

3 Technical notes

3.1 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 January 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>No issues found</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 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 January 2018 International edition can be found here:

<table>
<thead>
<tr>
<th>Key</th>
<th>Summary</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISRS-8</td>
<td>Additional, non-defining relationships</td>
<td>&quot;Part-of&quot; relationships are not currently maintained - they were originally defining relationships, which were changed to &quot;additional&quot; in 2005 and left in the relationship table. In 2008, when stated relationships became part of the distributed files, the stated &quot;part-of&quot; relationships were not included because they were non defining and were not available. Therefore, only inferred &quot;part-of&quot; relationships were distributed until 2005, after which they became non-defining. The Anatomy remodelling, which resolves this issue, is due for completion in future editing cycles. <strong>KNOWN ISSUE:</strong> An interim solution has been implemented, through the inclusion of the SE and SP refsets, which also to enable us to further improve our Quality Assurance processes. Please see the following page for details of the new Refsets: SEP maps and refset</td>
</tr>
</tbody>
</table>
An issue was raised as part of the work done by the development team for the updated RF2 to RF1 conversion utility. It was discovered that there were several AttributeValue records which had 2 states in the files for the same effectiveTime - one Active and one Inactive. For example:

id effectiveTime active moduleId refsetId referencedComponentId valueId
34150a2-75df-4851-bb1b-10481662c050 20170131 1 0900000000000207008 09000000000000490003 2475924014 9000000000000495008
402eff3b-0033-5802-b73e-9d95c98f4a48 20170131 0 9000000000000207008 09000000000000490003 2475924014 9000000000000495008

KNOWN ISSUE: This issue is being discussed in various forums, including the Release Advisory Group, in order to agree the best method for resolution. This will therefore be resolved in the appropriate future editing cycle, once the best approach has been determined.

As SNOMED International may soon open-source this file, we may then remove it from the International Edition release package.

RESOLUTION: This was discussed with the Release AG and agreed to be removed - it is therefore now being published as a separate file in the MLDS repository.

The description id is first, with the concept id in the square brackets.

3313707012[718744009]: Revised Children's Anxiety and Depression Scale obsession compulsion subscale is active with no Acceptability map (since 20170131). 2994493012[702130007]: Isonalurane/sevoflurane recycling anaesthesia vaporizer is active with no Acceptability map (since 20170731).
3313673018[718733003]: Revised Children's Anxiety and Depression Scale Parent Version separation anxiety subscale is active with no Acceptability map (since 20170131). 2994874016[702281005]: Evacuated blood collection tube IVD, thrombin/clot activator/gel separator is active with no Acceptability map (since 20140731).
3313676014[718733001]: Revised Children's Anxiety and Depression Scale Parent Version generalized anxiety subscale is active with no Acceptability map (since 20170131). 2994770017[702290001]: Coagulation timer IVD is active with no Acceptability map (since 20140731).
3313670015[718731004]: Revised Children's Anxiety and Depression Scale Parent Version obsession compulsion subscale is active with no Acceptability map (since 20170131).
2994922018[702297000]: Non-evacuated blood collection tube IVD, clot activator is active with no Acceptability map (since 20140731).
299419015[702296009]: Non-evacuated blood collection tube IVD, sodium citrate is active with no Acceptability map (since 20140731). 2994883014[702284002]: Non-evacuated blood collection tube IVD, lithium heparin is active with no Acceptability map (since 20140731).
3313670015[718731004]: Revised Children's Anxiety and Depression Scale Parent Version obsession compulsion subscale is active with no Acceptability map (since 20170131).
2992315016[701159005]: Sevoflurane anaesthesia vaporizer is active with no Acceptability map (since 20140731).
2994916010[702295008]: Non-evacuated blood collection tube IVD, clot activator/gel separator is active with no Acceptability map (since 20140731).
2994880012[702283008]: Non-evacuated blood collection tube IVD, gel separator is active with no Acceptability map (since 20140731).
2994913019[702294007]: Syringe-blood collection tube transfer IVD is active with no Acceptability map (since 20140731). 2992279013[701146002]: Ether anaesthesia vaporizer is active with no Acceptability map (since 20170731).
2994709015[702229005]: Nephelometer IVD is active with no Acceptability map (since 20140731). 2994946013[702305000]: Microcapillary blood transfer tube IVD, sodium fluoride is active with no Acceptability map (since 20140731).
3312649018[718563007]: Revised Children's Anxiety and Depression Scale Parent Version total anxiety subscale is active with no Acceptability map (since 20170131). 2994864019[702278000]: Evacuated blood collection tube IVD, no additive/metal-free is active with no Acceptability map (since 20140731).
2994886016[702285001]: Non-evacuated blood collection tube IVD, lithium heparin/gel separator, sterile is active with no Acceptability map (since 20140731).
2994861010[702277005]: Microcapillary blood collection tube IVD, no additive is active with no Acceptability map (since 20140731). 2994898011[702289007]: Evacuated urine specimen container IVD, ethyl paraben/sodium propionate/chlorhexidine is active with no Acceptability map (since 20140731).
2994929012[702287009]: Non-evacuated blood collection tube IVD, potassium oxalate/sodium fluoride is active with no Acceptability map (since 20140731). 2994895014[702288004]: Evacuated urine specimen container IVD, boric acid (H3BO3) /sodium formate is active with no Acceptability map (since 20140731). 2994855012[702275002]: Microcapillary blood collection tube IVD, ammonium heparin is
active with no Acceptability map (since 20140731).
2994822019[702266004]; Gas chromatography analyser column IVD is active with no Acceptability map (since 20140731).
2994931018[702300005]; Non-evacuated blood collection tube IVD, lithium heparin/gel separator, non-sterile is active with no Acceptability map (since 20140731).
2994830018[702268003]; General specimen container IVD, no additive, non-sterile is active with no Acceptability map (since 20140731).
2994721016[702239003]; Blood tube mixer IVD is active with no Acceptability map (since 20140731).
2994833016[702269006]; General specimen container IVD, no additive, sterile is active with no Acceptability map (since 20140731).
2994940019[702303007]; Evacuated urine specimen container IVD, multiple preservative is active with no Acceptability map (since 20140731).
2994692014[702233006]; Sputum specimen container IVD is active with no Acceptability map (since 20140731).
2994943017[702304001]; Microcapillary blood transfer tube IVD, clot activator is active with no Acceptability map (since 20140731).
3312777016[718729008]; Revised Children’s Anxiety and Depression Scale Parent Version social phobia subscale is active with no Acceptability map (since 20170131).
2994937019[702302002]; Evacuated urine specimen container IVD, boric acid (H3BO3) is active with no Acceptability map (since 20140731).
2994952011[702244002]; Midstream urine specimen container IVD is active with no Acceptability map (since 20140731).
2992117016[701094000]; Methoxyflurane anaesthesia vaporizer is active with no Acceptability map (since 20170731).
2994794017[702258008]; High performance liquid chromatography analyser pump IVD is active with no Acceptability map (since 20140731).
2992259010[701141007]; Isoflurane anaesthesia vaporizer is active with no Acceptability map (since 20170731).
2992481019[701214006]; Enflurane anaesthesia vaporizer is active with no Acceptability map (since 20170731).
2994753013[702244006]; Sterile urine specimen container IVD is active with no Acceptability map (since 20140731).
2994798013[702256007]; Non-evacuated blood collection tube IVD, no additive is active with no Acceptability map (since 20140731).
2994901012[702290003]; Cervical cytology microscopy slide IVD is active with no Acceptability map (since 20170731).
3313222015[718688008]; Distal deletion 6p is active with no Acceptability map (since 20170731).
2991982016[701049006]; Desflurane anaesthesia vaporizer is active with no Acceptability map (since 20170731).
2982391014[701184000]; Halothane anaesthesia vaporizer is active with no Acceptability map (since 20170731).

RESOLUTION: A previous Known Issue from the July 2017 International Edition, as these were historical issues with no perceived clinical impact, and as such were designated as low priority by the SNOMED International Content Team. They were therefore fixed in the next editing cycle, and will now be released in the January 2018 International Edition.

<table>
<thead>
<tr>
<th>ISRS-192</th>
<th>Concepts not using the expected attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four concepts using the 363705008</td>
<td>HAS DEFINITIONAL MANIFESTATION</td>
</tr>
<tr>
<td>This may very well be an issue with our check, as the editorial rules (old-new) I have both indicate the domain is</td>
<td>Clinical finding</td>
</tr>
<tr>
<td>I’m not sure if the rules were domain was loosened since we created our checks, or we tighten the test based on the above statement. But given these (4) are the first and only non-disorders to use this attribute, they’re for same type of concept (and from an extension). I’ll leave as an issue until confirmed as correct by the content team. My suspicion is that the definition of these should be using the Interprets/Has Interpretation attribute pair.</td>
<td></td>
</tr>
<tr>
<td>157458521001</td>
<td>1919101 Tightness of bilateral gastrocnemius muscles (finding)</td>
</tr>
<tr>
<td>157458610001</td>
<td>1919010 Tightness of left gastrocnemius muscle (finding)</td>
</tr>
<tr>
<td>157488610001</td>
<td>1919010 Tightness of right gastrocnemius muscle (finding)</td>
</tr>
<tr>
<td>159687410001</td>
<td>191100 Low back pain co-occurent with and due to bilateral sciatica (finding)</td>
</tr>
<tr>
<td>RESOLUTION: Stated Relationships for the above 4 concepts have had HAS DEFINITIONAL MANIFESTATION (363705008) inactivated in the January 2018 International Edition release</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISRS-209</th>
<th>Need termServer to prevent re-basing of Release branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is to prevent the issues we've experienced in past releases, whereby the release branch (taken at time of versioning) has been accidentally re-based by the content team against the MAIN branch, thus polluting it with new content for the next release cycle.</td>
<td></td>
</tr>
<tr>
<td>RESOLUTION: We have therefore updated the SCA to allow us to set a flag at branching time to ensure that this is not even an option.</td>
<td></td>
</tr>
<tr>
<td>2019-Jun-20</td>
<td></td>
</tr>
<tr>
<td>2017-Dec-06</td>
<td></td>
</tr>
</tbody>
</table>
**ISRS-212** MRCM Cardinality constraint failure - domain of all 272741003 [Laterality] relationships should be a descendant or self of a member of the 91723000 [Lateralizable body structure reference set]

The concept model has an "optional" rule that the domain (ie sourceConcept) of all 272741003 [Laterality] relationships should be a descendant or self of a member of the 91723000 [Lateralizable body structure reference set] (see row 4 of 'Attribute domain (edit)' and row 19 of 'Domain (edit)' sheet). There are 13 concepts (see below) that are lateralized (ie the source of a [Laterality] relationship which are not a descendant or self of a member of [Lateralizable body structure reference set].

This optional rule is intended to raise a warning, to allow the appropriate concepts to be added to the [Lateralizable body structure reference set]. This rule is optional so we need to discuss and agree whether or not to fix/address any lateralized body structures that are not in this refset.

27441005|Structure of right aorticopulmonary cushion (body structure)|
338434007|Entire right aorticopulmonary cushion (body structure)|
86300003|Structure of left aorticopulmonary cushion (body structure)|
338536007|Entire left aorticopulmonary cushion (body structure)|
361403005|Primitive left dorsal aorta (body structure)|
361404004|Primitive right dorsal aorta (body structure)|
370084000|Right lateral portion of upper third of esophagus (body structure)|
370089005|Right lateral portion of middle third of esophagus (body structure)|
370094005|Right lateral portion of lower third of esophagus (body structure)|
721984004|Structure of left visual system (body structure)|
721985003|Structure of right visual system (body structure)|
723212007|Structure of right nerve plexus (body structure)|
723213002|Structure of left nerve plexus (body structure)|

RESOLUTION: The failures of this "optional" rule are Warnings only, and therefore not critical to the use of the Lateralizable Body Structure refset. As such, they have been resolved by the SNOMED International content team during the January 2018 editing cycle, as part of the planned refinement of the editorial rules for the representation of lateralties for embryonic structures and lateral half structures.

**ISRS-218** Inactive concepts with descriptions of status 0 (RF1)

All concepts should have a fully-specified name of appropriate status. There are 10 inactive International concepts that have come through the RF2 to RF1 conversion with their attached descriptions still as status 0. Highly likely that this is an RF2 to RF1 conversion issue rather than a problem in the base RF2 data.

RESOLUTION: Firstly, the RF2 to RF1 conversion process has been refined to assign "Status 8" to the descriptions even if an inactivation indicator has not been set. Secondly, an RVF improvement ticket has been opened to identify these cases, allowing them to be resolved early in the cycle in future.

**ISRS-220** Metadata concepts without IS_A relationships (RF1)

All concepts except the Root must be children in the IS_A hierarchy. Three odd metadata concepts have crept into the release without any kind of IS_A relationship attached. These may in fact be supporting items from the International authoring environment and not even true RF2!

733929006 "General concept axiom (metadata)"
734146004 "OWL ontology namespace (metadata)"
734147008 "OWL ontology header (metadata)"

Additionally, two new concepts have been created which should have been specified in the model module, not the core module:

734866006 0 Concept attribute (foundation metadata concept) XUy1X 1
734867002 0 Expression definition status (foundation metadata concept) XUy1Y 1

RESOLUTION: RF2 to RF1 Conversion Utility refined in order to bring it in line with current RF2 definitions of metadata concepts. Modules for the relevant RF2 concepts have also been corrected accordingly in the final January 2018 Member Release package.

**ISRS-224** Re-use of Relationship ID's (RF1)

No changes are allowed to released relationships, except for the Relationship Group or Refinability fields. Is this a bug in the RF2 to RF1 conversion? Seems to be re-using relationship IDs at random from one release to the next. Will investigate further, this is just a heads up to the fact that we found 442 fails of this rule.

RESOLUTION: this has been resolved in the RF2 to RF1 conversion utility as part of the January 2018 Editing cycle.

**ISRS-233** Historical issues related to MRCM Cardinality validation

RESOLUTION: the MRCM validation tool has been updated to report issues found in current authoring cycle and published contents separately.
For the Jan 2018 International Edition, we need to add multiple new refsetDescriptor records (for 705111002 |Map correlation and origin type reference set| and 705109006 |Code). These should be similar to this (only with the International ModuleID instead of LOINC):

906cb361-895c-4f9f-b8f1-1716843770c0 20170731 1 715515008 900000000000456007 705111002 449608002 900000000000461009 0
9144910b-7654-4bd3-99a8-784c4b78d2f1 20170731 1 715515008 900000000000456007 705111002 900000000000505001 900000000000465000 1
3dbee28-ffe1-4c6b-9637-8b2981bbdb01 20170731 1 715515008 900000000000461009 2
e48daa01-777f-4b73-80f7-9e744566977 20170731 1 715515008 900000000000456007 705111002 447247004 900000000000461009 3
4a5589f4-a67e-493d-9ec7-88a91dd14503 20170731 1 715515008 900000000000456007 705111002 705116007 900000000000461009 4
38dbee28-ffe1-4c6b-9637-8b2981bbdb01 20170731 1 715515008 900000000000461009 2
e48daa01-777f-4b73-80f7-9e744566977 20170731 1 715515008 900000000000505001 900000000000465000 1
9a3d3d251-d87e-4362-92a6-25d9245b8522 20170731 1 715515008 900000000000456007 705109006 900000000000505001 900000000000465000 1
873bd3e4-1a7f-4ec5-acce-6b15e2b44a4 20170731 1 715515008 900000000000456007 705109006 900000000000444006 900000000000461009 3
17055fd-4a4-42ae-a29f-17985e2ed0f0 20170731 1 715515008 900000000000461009 4
705109006 447247004 900000000000461009 4
3d5b6959-3b96-4df0-aef7-ef5179aa54e5 20170731 1 715515008 900000000000456007 705109006 705116007 900000000000461009 5

These rows represent the refset patterns used by the LOINC reference sets, and belong in the international edition, so that they can be used for other purposes (besides just for the LOINC refsets).

RESOLUTION: Confirmed SRS and RVF had no issues with the additional records, so this ticket can be closed down without any action required.
As part of the US Edition testing, several records were found where the components had been assigned different moduleID's to the concepts to which they were connected.

For both Stated and Inferred relationship files:

Concept: 726633004 20170731 1 900000000000207008 900000000000074008
Relationship: 6930855020 20170731 1 900000000000012004 288556008 726633004 0 116680003 900000000000011006 9000000000000451002

Concept: 726634005 20170731 1 900000000000207008 900000000000074008
Relationship: 6930853029 20170731 1 900000000000012004 255234002 726634005 0 116680003 900000000000011006 9000000000000451002
6930857028 20170731 1 900000000000012004 371881003 726634005 0 116680003 900000000000011006 9000000000000451002

For description file:

Concept: 723284001 20170131 1 900000000000012004 900000000000074008
Description: 3335274013 20170731 1 900000000000207008 723284001 en 900000000000013009 Lateralisable body structure reference set 900000000000448009

Concept: 733983009 20170731 1 900000000000012004 900000000000074008
Description: 3481613013 20170731 1 900000000000207008 733983009 en 900000000000013009 IHTSDO (International Health Terminology Standards Development Organisation) - Nursing Health Issues module 90000000000017005

Concept: 733984003 20170731 1 900000000000012004 900000000000074008
Description: 3481610011 20170731 1 900000000000207008 733984003 en 900000000000013009 IHTSDO (International Health Terminology Standards Development Organisation) - Nursing Activities module 90000000000017005

Concept: 734535006 20170731 1 900000000000012004 900000000000074008
Description: 3508979019 20170731 1 900000000000207008 734535006 en 900000000000013009 Extension Namespace 1000209 9000000000000448009

RESOLUTION: ModuleID's on the Relevant concepts/descriptions updated accordingly.

assertionUuid: "19423070-7118-43bd-98ba-6d0dc18bc619",
assertionText: "For each active FSN there is a synonym that has the same text."

firstNInstances:
conceptId: "723618002",
detail: "723618002 [Assessment using Ages and Stages Questionnaires Social-emotional second edition (procedure)]"

conceptId: "71516007",
detail: "71516007 [Product containing vitamin D>2< (medicinal product)]"

conceptId: "723616003",
detail: "723616003 [Ages and Stages Questionnaires Social-emotional second edition (assessment scale)]"

conceptId: "723617007",
detail: "723617007 [Ages and Stages Questionnaires Social-emotional second edition score (observable entity)]"

RESOLUTION: Synonyms added as required.
Stated IS_A relationship and semantic tag

Concept found incidentally after close of editing and usual validation and QA.

205802006|Oculo-palato-digital syndrome (disorder)|
IS_A 263934009|X-linked inheritance (qualifier value)|

The error did not show up in existing reports.

Also earlier in release cycle found 116224001|Complication of procedure (disorder)| with IS_A relationship to 263718001|Complication (attribute)|

An MRCM rule could be designed to pick these types of errors up, existing MRCM rules only check attributes other than (IS_A) are applied to correct domains.

Refinement to QA rules in SCA requested and reprioritised to highest priority

https://jira.ihtsdotools.org/browse/ATF-1243

RESOLUTION: Stated Relationship parent 263934009 (IS_A relationship ID 7333028021) removed for Concept ID 205802006, and replaced with new stated parent 128430005

Promote LOINC metadata into the Jan 2018 International Edition release

Several metadata concepts were accidentally not included in the July 2017 LOINC content editing cycle, and so missed the cut for the July 2017 International release.

We therefore added them in manually to the July 2017 LOINC Release - however they should reside in the International Edition, and we therefore need to promote them into the Jan 2018 International Edition.

Please see the linked LOINC-357 ticket for full details.

RESOLUTION: LOINC metadata concepts, plus refsetDescriptor records added to the January 2018 International Edition as planned.

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

assertionUuid: “89ceaf00-79b9-11e1-b0c4-0800200c9a66”,
assertionText: “All stated relationships inactivated in current release must have been active in the previous release.”,

failureCount: 1,
firstNInstances:
[ {conceptId: “205802006”,
detail: “Stated relationship: id=7333028021 is inactive in the current release but no active state found in the previous snapshot.”}],

RESOLUTION: Born inactive relationship resolved.

RVF Assertion failure: b88b9f46-4c33-4d8e-b9ab-ddb87ae3068

assertionUuid: “b88b9f46-4c33-4d8e-b9ab-ddb87ae3068”,
assertionText: “New inactive states follow active states in the ASSOCIATION REFSET snapshot file.”,

failureCount: 1,
firstNInstances:
[ {conceptId: “81003012”,
detail: “ASSOC RS: id=b409f226-de0e-4159-887d-ce79974165c4 is inactive but no active state found in the previous release.”}],

RESOLUTION: Inactive state resolved in final Production release.
ISRS-290  RVF Assertion failure: c3249e80-84f0-11e1-b0c4-0800200c9a66

assertionUuid: "c3249e80-84f0-11e1-b0c4-0800200c9a66",
assertionText: "Terms that contain en-us specific words are in the en-us language refset.",
failureCount: 11,
firstNInstances:

 quoi: [conceptId: "736535009", detail: "DESCRIPTION: id=3518059016: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: analogue"],

 quoi: [conceptId: "735528004", detail: "DESCRIPTION: id=3514776016: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: entamoeba"],

 quoi: [conceptId: "737347005", detail: "DESCRIPTION: id=3527485012: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: entamoeba"],

 quoi: [conceptId: "735516004", detail: "DESCRIPTION: id=3514737017: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: gonorrhoeae"],

 quoi: [conceptId: "762257007", detail: "DESCRIPTION: id=3636261016: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: gonorrhoeae"],

 quoi: [conceptId: "762311008", detail: "DESCRIPTION: id=3636373019: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: neurilemmoma"],

 quoi: [conceptId: "762312001", detail: "DESCRIPTION: id=3636376010: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: neurilemmoma"],

 quoi: [conceptId: "735916009", detail: "DESCRIPTION: id=3515711010: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: neuroepithelial"],

 quoi: [conceptId: "735919002", detail: "DESCRIPTION: id=3515717014: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: neuroepithelial"],

 quoi: [conceptId: "735920008", detail: "DESCRIPTION: id=3515719012: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: neuroepithelial"],

 quoi: [conceptId: "735921007", detail: "DESCRIPTION: id=3515721019: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: neuroepithelial"]

 RESOLUTION: This assertion is for warning purposes only, and in this case no action is required for the January 2018 International Edition.

2017-Nov-22

ISRS-291  RVF Assertion failure: cc9c5340-84f0-11e1-b0c4-0800200c9a66

assertionUuid: "cc9c5340-84f0-11e1-b0c4-0800200c9a66",
assertionText: "Terms that contain en-gb specific words are in the en-gb language refset.",
failureCount: 24,
firstNInstances:

 quoi: [conceptId: "737243006", detail: "DESCRIPTION: id=3527250010: Synonym is preferred in the en-gb language refset but refers to a word that has en-us spelling: fragility"],

 quoi: [conceptId: "737244000", detail: "DESCRIPTION: id=3527251014: Synonym is preferred in the en-gb language refset but refers to a word that has en-us spelling: fragility"],

 quoi: [conceptId: "734289004", detail: "DESCRIPTION: id=3503198015: Synonym is preferred in the en-gb language refset but refers to a word that has en-us spelling: gram"],

 quoi: [conceptId: "734290003", detail: "DESCRIPTION: id=3503201013: Synonym is preferred in the en-gb language refset but refers to a word that has en-us spelling: gram"],

 quoi: [conceptId: "734291004", detail: "DESCRIPTION: id=3503193012: Synonym is preferred in the en-gb language refset but refers to a word that has en-us spelling: gramm"],

 quoi: [conceptId: "734292000", detail: "DESCRIPTION: id=3503198015: Synonym is preferred in the en-gb language refset but refers to a word that has en-us spelling: gramm"]

 RESOLUTION: This assertion is for warning purposes only, and in this case no action is required for the January 2018 International Edition.

2017-Nov-21

ISRS-292  RVF Assertion failure: 0cc708af-6816-4370-91be-dba8da99d227

assertionUuid: "0cc708af-6816-4370-91be-dba8da99d227",
assertionText: "There must be actual changes made to previously published descriptions in order for them to appear in the current delta.",
failureCount: 1,
firstNInstances:

 quoi: [conceptId: "48611009", detail: "Description: id=81003012 is in the delta file, but no actual changes made since the previous release."]

 RESOLUTION: This is an expected result of the content fix, and therefore no action is required for the January 2018 International Edition.

2017-Nov-23
ISRS-293  RVF Assertion failure assertionUuid: "2aa0bea1-b1fa-4543-b277-b4392a6f864d", assertionText: "New inactive states follow active states in the ATTRIBUTEVALUE snapshot.", failureCount: 3, firstNInstances: [ {conceptId: "503829013", detail: "AttributeRefsetId=0e23696e-a8d3-5624-b6ae-8def187d2c01 should not have a new inactive state as it was inactive previously."}, {conceptId: "468037015", detail: "AttributeRefsetId=1661c0fb-8fde-5edf-ae65-4612ca4a9a92 should not have a new inactive state as it was inactive previously."}, {conceptId: "81003012", detail: "AttributeRefsetId=8a033490-69d3-4227-b0d7-e73e26f13478 is inactive but no active state found in the previous snapshot."}], RESOLUTION: The record for concept 81003012 has been removed, and the failures for the other two concepts have been proven to be for warning purposes only, and therefore no action is required for these two records for the January 2018 International Edition.

ISRS-294  MRCM refset failures Validation of the January 2018 Alpha release content, using the MRCM refsets has passed. However, validation of the new MRCM refsets themselves has failed, with errors that need to be resolved before the validation of the content can be run again... RESOLUTION: MRCM refsets repaired and MRCM validation run successfully.

ISRS-295  Changes to content after validation report review RESOLUTION: After review of content changes in attached validation report, a small number were escalated to principle terminologist for review, 3 changes were made in this task RFJ-3. 1. Changed stated parent for 723830005|Keratosis follicularis, dwarfism, cerebral atrophy syndrome(disorder) to remove autosomal dominant parent 2. Changed stated parent for 205802006|Oculo-palato-digital syndrome (disorder)| to remove qualifier value as IS_A - this is logged separately https://jira.ihtsdotools.org/browse/ISRS-286 3. Reinstated synonym that was inactivated in error on 48611009|Keratosis follicularis (disorder)|

ISRS-296  2 duplicate Association Reference records The UKTC found one issue in the Association Reference set, a duplication with all fields except for the ID: 

<table>
<thead>
<tr>
<th>Concept ID</th>
<th>RF1 ID</th>
<th>RF2 ID</th>
<th>RF1 Priority</th>
<th>RF2 Priority</th>
<th>RF1 Offset</th>
<th>RF2 Offset</th>
</tr>
</thead>
<tbody>
<tr>
<td>c9973797-b81c-4ec9-b816-707d8fa96e01</td>
<td>20180 131</td>
<td>900000000000 02070008</td>
<td>90000000000 09270005</td>
<td>8835 9004</td>
<td>41632 7007</td>
<td></td>
</tr>
<tr>
<td>c9d735f4-de2f-4362-934e-8963bd553b04</td>
<td>20180 131</td>
<td>900000000000 02070008</td>
<td>90000000000 09270005</td>
<td>8835 9004</td>
<td>41632 7007</td>
<td></td>
</tr>
</tbody>
</table>

This was identified during the RF2 to RF1 conversion process - the rest of the RF1 conversion has passed their load testing.
RESOLUTION: The first record was removed (c9973797-b81c-4ec9-b816-707d8fa96e01) and the second record was retained (c9d735f4-de2f-4362-934e-8963bd553b04).
**ISRS-297**
Duplicate active references in the Anatomy structure and entire refset

The second entry is thought to be unnecessary:

<table>
<thead>
<tr>
<th>id</th>
<th>referenced Component Id</th>
<th>value1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1fd6713a-d6a3-4de5-b33f-dd85cfb075e3</td>
<td>5597008</td>
<td>Structure of retina of right eye (body structure)</td>
</tr>
<tr>
<td>6dc078a-2f70-4eb2-a7f3-7194a996b32</td>
<td>5597008</td>
<td>Structure of retina of right eye (body structure)</td>
</tr>
</tbody>
</table>

RESOLUTION: The second record was removed (6dc078a-2f70-4eb2-a7f3-7194a996b32) and the first record was retained (1fd6713a-d6a3-4de5-b33f-dd85cfb075e3).

**ISRS-299**
Possible dual lineage - 41115002|Drug-device combination product (product)

ADHA have got this coming up in a dual lineage check, but it looks OK… (they can’t access the daily build at the moment, so please verify if this is a valid issue or not).

RESOLVED: ADHA confirmed no issue - tests refactored to prevent false positives. Ticket has therefore been closed down with no action required.

**ISRS-300**
123005000 | PART OF | issues

Invalid Range concept -

| 85973 4028 | Complex or labyrinthine intercellular space (body structure) | Part of (attribute) | Cell to cell relationship, distinctive (body structure) |

Incorrect Domain -

70 relationships do not have a domain that is subtype of Anatomical structure (body structure). Specifics available upon request.

RESOLUTION: SNOMED International Content Team confirmed that these issues will be resolved as part of the overall Anatomy model refactoring, due to be completed within the next 3 years. The relevant validation tests will be whitelisted until this Anatomy remodelling is complete.
The following concepts do not appear to be lateralizable. I think I reported these in October, but in any case, no new instances.

<table>
<thead>
<tr>
<th>Concept ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>731440004</td>
<td>Entire common left pulmonary vein (body structure)</td>
</tr>
<tr>
<td>730545000</td>
<td>Entire eleventh right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>730546004</td>
<td>Entire tenth right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>730420001</td>
<td>Entire left subcardinal vein (body structure)</td>
</tr>
<tr>
<td>730555001</td>
<td>Entire right ascending lumbar vein (body structure)</td>
</tr>
<tr>
<td>730416000</td>
<td>Entire right vitelline vein (body structure)</td>
</tr>
<tr>
<td>730543007</td>
<td>Entire third right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>730466006</td>
<td>Entire left common cardinal vein (body structure)</td>
</tr>
<tr>
<td>730463003</td>
<td>Entire right anterior cardinal vein (body structure)</td>
</tr>
<tr>
<td>730548003</td>
<td>Entire eighth right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>730230008</td>
<td>Entire lower right posterior intercostal veins (body structure)</td>
</tr>
<tr>
<td>730549006</td>
<td>Entire seventh right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>730544001</td>
<td>Entire fourth right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>76033006</td>
<td>Structure of intercaval sinus (body structure)</td>
</tr>
<tr>
<td>730467002</td>
<td>Entire right common cardinal vein (body structure)</td>
</tr>
<tr>
<td>730464009</td>
<td>Entire left posterior cardinal vein (body structure)</td>
</tr>
<tr>
<td>731439001</td>
<td>Entire common right pulmonary vein (body structure)</td>
</tr>
<tr>
<td>730554002</td>
<td>Entire left ascending lumbar vein (body structure)</td>
</tr>
<tr>
<td>730551005</td>
<td>Entire fifth right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>730417009</td>
<td>Entire left vitelline vein (body structure)</td>
</tr>
<tr>
<td>277714004</td>
<td>Entire intercaval sinus (body structure)</td>
</tr>
<tr>
<td>730550006</td>
<td>Entire sixth right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>730547008</td>
<td>Entire ninth right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>730465005</td>
<td>Entire right posterior cardinal vein (body structure)</td>
</tr>
<tr>
<td>730421002</td>
<td>Entire right subcardinal vein (body structure)</td>
</tr>
<tr>
<td>730419007</td>
<td>Entire left supracardinal vein (body structure)</td>
</tr>
<tr>
<td>730542002</td>
<td>Entire second right posterior intercostal vein (body structure)</td>
</tr>
<tr>
<td>730541009</td>
<td>Entire right subcostal vein (body structure)</td>
</tr>
</tbody>
</table>

**RESOLUTION:** Relevant concepts inactivated in the Lateralizable Body Structure reference set.

**ISRS-302**  Case Sensitivity issues

- There are 449 descriptions marked as *Initial character case insensitive*, but are not Sentence case.
- There are 279 *Case insensitive*, but are not sentence case.
- There are 520 descriptions marked *Case insensitive*, but contain upper case characters.

Descriptions available on request (can attach to a ticket).

**RESOLUTION:** Case significance changed for all relevant records. Rules to be continually refined in 2018 to prevent future issues of a similar nature.

**ISRS-303**  ICD-O simple map issues

- 12 members are not referencing types of 123037004 | body structure | (some are inactive concepts).
<table>
<thead>
<tr>
<th>UUID</th>
<th>Referenced ComponentId</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9ce29b5a-6fe3-5585-8d10-2b3c2dbbd6f6</td>
<td>385467009</td>
<td>Vascular procedure on axilla (procedure)</td>
<td>C7 6.1</td>
</tr>
<tr>
<td>d15e144-8cdb-5aaa-b91f-f16baa388d30</td>
<td>248032000</td>
<td>Entire transplanted endocrine pancreas (body structure)</td>
<td>C2 5.4</td>
</tr>
<tr>
<td>e0572413-db8c-5e5a-bb5b-0226c925beb9</td>
<td>310545001</td>
<td>Femoral lymph node structure (body structure)</td>
<td>C7 7.4</td>
</tr>
<tr>
<td>f09d5b3b-3968-55fa-aae8-9be845dc06b</td>
<td>279111009</td>
<td>Entire anterior part of thalamus (body structure)</td>
<td>C7 1.0</td>
</tr>
<tr>
<td>133ef002-acee-5813-ad6f-80f2953bb44</td>
<td>182462009</td>
<td>Entire plantar aponeurosis (body structure)</td>
<td>C4 9.2</td>
</tr>
<tr>
<td>1c6bb85d-740c-5004-a211-095392e07a18</td>
<td>45797004</td>
<td>Plantar digital nerves (body structure)</td>
<td>C4 7.2</td>
</tr>
<tr>
<td>23a456b3-3cea-5c08-8f22-c361a36ab688</td>
<td>280194001</td>
<td>Spinal root of accessory nerve (body structure)</td>
<td>C7 2.5</td>
</tr>
<tr>
<td>26f36a8-dcc2-535d-b091-a0327573770</td>
<td>110544004</td>
<td>Upper respiratory fluids and spaces (navigational concept)</td>
<td>C3 9.0</td>
</tr>
<tr>
<td>2b976c65-4e83-534f-9e29-b31c313edd9b</td>
<td>279158001</td>
<td>Entire femoral lymph node (body structure)</td>
<td>C7 7.4</td>
</tr>
<tr>
<td>3399f588-5582-8878-9e72-264d1ebd73be</td>
<td>21843009</td>
<td>Structure of transplanted endocrine pancreas (body structure)</td>
<td>C2 5.4</td>
</tr>
<tr>
<td>69cd1e43-a158-50ec-a9b6-89fd247d8a4d</td>
<td>181957003</td>
<td>Shafts of radius and/or ulna in combination (body structure)</td>
<td>C4 0.0</td>
</tr>
<tr>
<td>7082db7b-cd3e-5638-99ed-3595d3ed7ef8</td>
<td>64799002</td>
<td>Plantar aponeurosis structure (body structure)</td>
<td>C4 9.2</td>
</tr>
</tbody>
</table>

- 18 Topography codes are not mapped to 442083009|Anatomical or acquired body structure (body structure)|. (Most of these already identified in previous above)
<table>
<thead>
<tr>
<th>UUID</th>
<th>Referenced ComponentId</th>
<th>Vascular procedure on axilla (procedure)</th>
<th>C7 6.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>a9510718-0c03-5a06-9a6d-ae80036fafee</td>
<td>414402003</td>
<td>Hernial opening (morphologic abnormality)</td>
<td>C7 6.2</td>
</tr>
<tr>
<td>b768cbbbe-e8b0-53d9-b4c3-8fac762b373</td>
<td>78810000</td>
<td>Aberrant retinal vein (morphologic abnormality)</td>
<td>C6 9.6</td>
</tr>
<tr>
<td>bf9f1983-c730-5a7f-bcc5-93f3e97dd63</td>
<td>87100004</td>
<td>Topography unknown (body structure)</td>
<td>C8 0.9</td>
</tr>
<tr>
<td>d15e144-8cdd-5aa9-9df1-fb3aa388d30</td>
<td>248032000</td>
<td>Entire transplanted endocrine pancreas (body structure)</td>
<td>C2 5.4</td>
</tr>
<tr>
<td>d3856367-4d2a-5f15-a804-73750096653</td>
<td>69653007</td>
<td>Aberrant retinal artery (morphologic abnormality)</td>
<td>C6 9.6</td>
</tr>
<tr>
<td>e0572413-db8c-5e5a-9b50-0228c925beb9</td>
<td>310545001</td>
<td>Femoral lymph node structure (body structure)</td>
<td>C7 7.4</td>
</tr>
<tr>
<td>f09db3b-3968-55fa-aace-95e845d06b</td>
<td>279111009</td>
<td>Entire anterior part of thalamus (body structure)</td>
<td>C7 1.0</td>
</tr>
<tr>
<td>f37e9690-ee95-5233-1e7f-99ff5969ff19</td>
<td>56552006</td>
<td>Ground substance (morphologic abnormality)</td>
<td>C4 9.9</td>
</tr>
<tr>
<td>13ef002-acce-5813-ad6f-b0f52953b44</td>
<td>182462009</td>
<td>Entire plantar aponeurosis (body structure)</td>
<td>C4 9.2</td>
</tr>
<tr>
<td>1c6bb45d-740c-5004-a211-095392e07a18</td>
<td>45797004</td>
<td>Plantar digital nerves (body structure)</td>
<td>C4 7.2</td>
</tr>
<tr>
<td>23a456b3-3e5a-5c08-8f22-c361a36ab688</td>
<td>280194001</td>
<td>Spinal root of accessory nerve (body structure)</td>
<td>C7 2.5</td>
</tr>
<tr>
<td>26f36a8-dcc2-535d-b09f-1ad627573770</td>
<td>110544004</td>
<td>Upper respiratory fluids and spaces (navigational concept)</td>
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</tr>
<tr>
<td>2b978c65-4e83-534f-9e29-b31c313dddb</td>
<td>279158001</td>
<td>Entire femoral lymph node (body structure)</td>
<td>C7 7.4</td>
</tr>
<tr>
<td>339f588-5582-5878-9e72-264d1ebd13be</td>
<td>21843009</td>
<td>Structure of transplanted endocrine pancreas (body structure)</td>
<td>C2 5.4</td>
</tr>
<tr>
<td>58bda57e-b03-56dd-85a7-a518638a1a2</td>
<td>21229009</td>
<td>Topography not assigned (body structure)</td>
<td>C8 0.9</td>
</tr>
<tr>
<td>69cde43-a158-50ec-a9b6-8fd9247d8a4d</td>
<td>181957003</td>
<td>Shafts of radius and/or ulna in combination (body structure)</td>
<td>C4 0.0</td>
</tr>
<tr>
<td>7082b7b-cd5e-563b-9ed3-359fd3ed7e68</td>
<td>64799002</td>
<td>Plantar aponeurosis structure (body structure)</td>
<td>C4 9.2</td>
</tr>
</tbody>
</table>

**RESOLUTION:** All 68 members inactivated in the Simple Map snapshot accordingly.
ISRS-305  MRCM attribute range international reference set validation

rangeConstraint is immutable – the rangeConstraint value has changed for two entries

- 38cf03ea-0326-4049-b930-41728495b33e
- 762cf268-c2f6-4138-a03f-849d0b0f0f3c

This may be valid as the specs currently indicate the field is mutable. Was changed in May 2017. Please confirm if correct.
(Note the language changed from immutable to mutable – suggest the language be kept consistent across all specifications as it’s easy to miss the difference).

RESOLUTION: SNOHMCT Product support team confirmed that this is valid, and therefore no action is required. The rangeConstraint was intentionally made mutable in the [MRCM attribute range reference set] to avoid churn of UUIDs when the range of an attribute changes. With respect to the specifications including a "Mutable" column (rather than an "Immutable" column) ... this was changed consistently across all our specifications to improve the readability of this information.

2017-Dec-21

ISRS-307  RefsetDescriptor query - Attribute description not found within correct hierarchy

Attribute description values 410662002 and 900000000000444006 are not descended from "Reference set attribute". The following records are affected:

- c4de4be5-6d39-4ae8-8974-ebb1aadd0f92
- cf88d18f-d05a-407a-bea8-cd46fc79accb

RESOLUTION: Both records updated accordingly:

c4de4be5-6d39-4ae8-8974-ebb1aadd0f92 20180131 1 900000000000012004 9000000000000461009 2

20180131

cf88d18f-d05a-407a-bea8-cd46fc79accb 20180131 1 900000000000012004 9000000000000461009 3

20180131

2019-Jun-20

ISRS-308  Concept has no active FSN within its module

The following concepts belong to module 900000000000012004, but their fully-specified names in the descriptions table belong to 900000000000207008:

- 733900009
- 733929006
- 734146004
- 734147008

RESOLUTION: ModuleID's updated on relevant concepts, plus on the related Relationship records.

2019-Jun-20

ISRS-309  AttributeValue refset - Concept is mapped to wrong inactivation value

This refers to concepts in the RFI release with status 5 (Erroneous) which are mapped to valued 723277005 ("Nonconformance to editorial policy component") in the Concept inactivation indicator refset (900000000000489007). Ordinarily we would expect to see them mapped to "Erroneous component" (900000000000485001). See attached list.

RESOLUTION: Reporters confirmed that this ticket can be closed down with no action required, as the issue reported was a result of a local conversion process, and therefore has no impact on the RF2 Release package.

2017-Dec-01

ISRS-310  AttributeValue refset - Description is mapped to wrong inactivation value

Similar to the concepts with incorrect values in ISRS-309.

A number of descriptions are mapped to values other than those suggested by their RFI statuses. See attached report.

RESOLUTION: Reporters confirmed that this ticket can be closed down with no action required, as the issue reported was a result of a local conversion process, and therefore has no impact on the RF2 Release package.

2017-Dec-01

ISRS-311  Fix validation failure

([testCategory]: "file-centric-validation",
"assertionUuid": "48118153-d32a-4d1c-bfbc-23ed953e9991",
"assertionText": "There is a 1:1 relationship between the id and the immutable values in the description snapshot.",
"queryInMilliSeconds": 45132,
"failureCount": 1,
"firstNInstances": [
  {
"conceptId": "24891006", "detail": "Concept:482041016 has multiple description ids for the same term:Sodium amidotrizoate"
}]

RESOLUTION: Erroneous changes to Description snapshot reverted, so records once again are as follows: id effectiveTime active moduleId conceptId languageCode typeId term casesignificanceId

| 482041016 | 20030731 | 0 | 900000000000012004 | 24891006 | 900000000000013009 |
| 2153861015 | 20170731 | 1 | 900000000000012004 | 24891006 | 900000000000013009 |

2019-Jun-20
ISRS-313  RVF Assertion failure: d9f9a8a6-2c02-11e7-b0e7-3c15c2c6e32e
assertionText: "The FSN term should be unique in active content when case sensitivity is ignored.",
failureCount: 1,
firstNInstances:
[[conceptId: "406004001",
detail: "FSN=cdE haplotype (finding) concept=406004001: FSN term is not unique in description snapshot when case is ignored"]]
RESOLVED: SNOMED CT Content team confirmed that these variations are valid, and this ticket can therefore be closed down without any action required
2017-Dec-08

ISRS-314  RVF Assertion failure: 0cc708af-6816-4370-91be-dba8da99d227
assertionUuid: "0cc708af-6816-4370-91be-dba8da99d227",
assertionText: "There must be actual changes made to previously published descriptions in order for them to appear in the current delta.",
failureCount: 9,
firstNInstances:
[[conceptId: "48611009",
detail: "Description: id=81003012 is in the delta file, but no actual changes made since the previous release."]],
[[conceptId: "406757009",
detail: "Description: id=2158402015 is in the delta file, but no actual changes made since the previous release."]],
[[conceptId: "409708007",
detail: "Description: id=2471470016 is in the delta file, but no actual changes made since the previous release."]],
[[conceptId: "160436004",
detail: "Description: id=2666134019 is in the delta file, but no actual changes made since the previous release."]],
[[conceptId: "160447006",
detail: "Description: id=2666604013 is in the delta file, but no actual changes made since the previous release."]],
[[conceptId: "160452001",
detail: "Description: id=2666609015 is in the delta file, but no actual changes made since the previous release."]],
[[conceptId: "160457007",
detail: "Description: id=2666614016 is in the delta file, but no actual changes made since the previous release."]],
[[conceptId: "160442000",
detail: "Description: id=2666928013 is in the delta file, but no actual changes made since the previous release."]],
[[conceptId: "160430005",
detail: "Description: id=2667273015 is in the delta file, but no actual changes made since the previous release."]]
RESOLUTION: This is an expected result of the content fix, and therefore no action is required for the January 2018 International Edition.
2017-Dec-15

ISRS-320  Erroneous description identified for concept 1086561000119100
An erroneous preferred term has been identified on concept:
1086561000119100[Hemorrhage of duodenum co-occurrence and due to diverticulosis (disorder)]
This duplicates the preferred term on concept:
1086571000119106[Hemorrhage of ileum co-occurrence and due to diverticulosis (disorder)]
RESOLUTION: Removed 2 invalid descriptions (3512606011 + 3512607019) due to status of erroneous (not inactivated, completely removed as otherwise these would have been born inactive as they were new to the January 2018 International Edition), and replaced them with 2 new descriptions (3658075016 + 3083724012)
2018-Jan-29

ISRS-322  Erroneous description identified for concept 259720006
An erroneous preferred term has been identified on concept:
259720006[Substance with white blood cell enzyme mechanism of action (substance)]
RESOLUTION: Description 3520664018 inactivated with a status of erroneous, and Description 3658178016 added as a new description (preferred term)
2018-Jan-29

43 issues
3.3 Technical updates

### 3.3.1 Association Reference set naming convention

The naming convention of the Association Reference file is being improved for the January 2018 International Edition.

It will no longer be named using this convention:

'der2_cRefset_AssociationReferenceSnapshot_INT_[date].txt'

Instead it will be named as follows:

'der2_cRefset_AssociationSnapshot_INT_[date].txt'

Therefore, the three files in the January 2018 International Edition release package will be called:

- der2_cRefset_AssociationDelta_INT_20180131.txt
- der2_cRefset_AssociationFull_INT_20180131.txt
- der2_cRefset_AssociationSnapshot_INT_20180131.txt

### 3.3.2 RF2 package naming convention

In order to differentiate between the different versions of the Production release package, the fourth element in the naming convention of will now state "MEMBER" for Member releases, and "PRODUCTION" for the final Public releases.

Thus the Member release published on 31st December 2017 for the January 2018 International Edition will be called:

SnomedCT_InternationalRF2_MEMBER_20180131T120000Z.zip

Whilst the Public release published on 31st January 2018 for the January 2018 International Edition will be called:

SnomedCT_InternationalRF2_PRODUCTION_20180131T120000Z.zip

### 3.3.3 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.

3.3.4 Early visibility of impending change in the July 2018 International edition

Please see the following page for details of all upcoming changes planned for July 2018 and beyond: January 2020 Early Visibility Release Notices - Planned changes to upcoming SNOMED International Release packages

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