SNOMED CT February 2022 International Edition - SNOMED International Release notes

Release Date	**20220228**
Release Status	PRODUCTION
Document Version	1.0

Page At A Glance

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1. Introduction

1.1. Background

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

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 February 2022 release of SNOMED Clinical Terms® (SCT) International Release.

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

The SNOMED International Release Notes are available alongside the February 2022 International 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 February 2022 International release.

1.5. Changes to the International Edition Release Schedule

NOTICE

SNOMED International are transitioning to a more frequent (monthly) delivery schedule for the International Edition of SNOMED CT. The move towards more frequent releases of SNOMED CT will realise several benefits, including:

- The potential to be able to get content changes into the terminology in a shorter time frame.
- The fostering of better interoperability, as a result of entities being able to consume release content that is more aligned with other organizations.
- The prevention of circular dependencies that occur in longer projects, due to the move towards smaller, more manageable authoring projects.
- More automated validation services, as a result of the inherent removal of the Alpha/Beta stages in the Release cycle.

Whilst most users will continue unaffected (as they can simply continue to download the releases every 6 months as always), this transition necessarily involves a few changes to process/packages:

- The Member Release period will no longer be required within the new rapid monthly release schedules. If you would like to continue assisting in the validation efforts of SNOMED CT there are other ways in which you can help - please contact suppor t@snomed.org to find out more.
- Delta files have been removed from the release package - a Delta Generation service will be provided for those who need it. The Delta Generation Tool allows users to create their own Delta between two fixed release dates - you can find it here:
  - https://github.com/IHTSDO/delta-generator-tool/releases
- The ICD-0/ICD-10 Maps will continue to be published in each Monthly International Edition release package (in line with that month's content) for the foreseeable future, unless we experience issues with the new process in Production, and they need to be removed at a later date.

NOTE: SNOMED International worked closely with Members over the past couple of years to better understand the impact of the proposed model, and have incorporated feedback into the new processes. This was designed to prevent any adverse impact to users, however if you have any further questions or concerns please see the FAQ's here, or contact us on support@snomed.org.

2. Content Development Activity

2.1. Summary

Continuous quality improvement and enhancement of existing content is an ongoing process undertaken by SNOMED International in preparation for every release. The February 2022 International Release has seen a continuation of the work driven by contributions from: Kaiser Permanente i.e. 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 advanced via project driven initiatives summarized below. Additional work items impacting every release are updates to the SNOMED CT derived maps such as ICD-10 and ICD-O; details are 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

2.2. COVID-19

Content relating to COVID-19 can be viewed here SNOMED CT COVID-19 Related Content

Any concepts in scope for the SNOMED CT to ICD-10 mapping have been mapped and adhere to the World Health Organization current guidelines.

2.3. Concept Inactivation Changes

Please see new editorial guidance for changes to inactivation values here

Notice: Inactivation reason of LIMITED/WAS_A is not allowed for any new content inactivations after the July 2018 release. The WAS_A association refset has not been updated thereafter.

At the Editorial Advisory Group meeting in April 2019, agreement was reached to discontinue the maintenance of WAS_A relationships when inactivating concepts that have a historical association to an inactive concept. When changes are made to a historical relationship for a concept that was previously inactivated using WAS_A, effort will be made to assign a new historical relationship that facilitates traceability of the concept (e.g. DUPLICATE or AMBIGUOUS) as opposed to NON-CONFORMANCE TO EDITORIAL POLICY.

Existing WAS_A relationships will be inactivated in a future release once a plan for batch reassignment of historical relationships has been developed. Until then, SNOMED International will not continue to use or maintain WAS_A relationships.

2.4. 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 subsequent releases including February 2022.

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.

Information about the project can be found here Quality Initiative - Progress (*Please note, you may have to register for Confluence user account in order to access this link).*

2.5. Body Structure

Progress of the Anatomy Model and Plan for Further Demonstration Release

There are approximately 35,000 anatomy concepts to be modeled by different types of 'part of' relationships. The new model will enable the automatic generation of hierarchies to further improve content quality and consistency. The integumentary system (about 2000 concepts) has been modeled. The modeling of the musculoskeletal system (about 10,000 concepts) is currently in progress.

The concept model requires tooling enhancements to support nested expressions and the option of inferred relationships for transitive and reflexive attributes. We will inform the community of the schedule for the demo release when the tooling and content are ready. The demo release will help us to gather feedback to evaluate potential impact and options for future release.

2.5.1. SEP and Laterality Anatomy Reference Sets

Updated and validated release file for the lateralizable body structure reference set.

Updated and validated release files for the SEP refsets.

The updates of SEP refsets and laterality refset are enhanced by new validation rules and automations as part of the authoring process.

2.6. Clinical Finding

Notice: 'Co-occurrent and due to' pattern:

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

The Editorial Guide and all concepts that are currently modeled as 'Co-occurrent and due to' will be updated over future release cycles.

2.6.1. Remodel 109995007 Myelodysplastic syndrome (disorder) and Descendants

109995007 Myelodysplastic syndrome (disorder) and its 16 descendants that are defined using the neoplastic morphology 128623006 Myelodysplastic syndrome (morphologic abnormality) and its 13 descendants, have all been updated to match the ICD-O-3.2 morphologies and the WHO Blue Book terming and definitions. Concepts that are currently required for the SNOMED CT to Orphanet Simple Map have been retained and will be reviewed as part of the ongoing collaborative work with Orphanet.

2.6.2. Acquired Antithrombin Deficiency

1196942001 |Acquired antithrombin III deficiency (disorder)| was created and improvements were made to related antithrombin deficiencies.

2.6.3. Finding Related to Onset of Pain

428209001 |Finding related to onset of pain (finding)| was inactivated and existing subtypes were realigned. Parallel improvements also made to 426774001 |Pain characterized by provoking factor (finding)| subhierarchy. The modeling for other types of pain findings was improved.

2.6.4. Disorder X without Disorder Y

The vast majority of existing X without Y concepts originated from ICD-9 with the specific meaning of "X disorder without mention of Y disorder". As the phraseology indicates a lack of data about disorder Y as opposed to a specific exclusion, this type of concept has not been included in ICD-10, nor proposed for ICD-11, except in the case of "Traumatic brain injury without open intracranial wound".

Addition of new X without Y concepts may only be made under the following conditions:

1. The request for new content must be accompanied by a rationale as to the difference between "X disorder without Y disorder" and "X disorder."
2. Approval for addition is given by the Chief Terminologist.

For the most part, existing X without Y concepts will be inactivated as AMBIGUOUS with a historical MAY BE relationship to "X disorder". Exceptions to inactivation will be made on a case-by-case basis.

2.7. Procedure

2.7.1. Remodeling of 74799003 |Flap graft (procedure)| hierarchy and 256683004 |Flap (substance)| hierarchy

Work has commenced on the area of flap procedures, previously placed under 74799003 Flap graft (procedure), this concept has been inactivated and replaced with 1202017008 |Surgical procedure using flap (procedure)|. The work is still ongoing, a new model has been developed and remodeling is now in progress. Editorial Guidance is in development.

2.8. Observable Entity

2.8.1. Nutrition

374 concepts updated to include the 1003735000 |Process acts on (attribute)| attribute to ensure consistency with the Nutritional intake (observable entity) v1.0 template here (*Please note, you may have to register for Confluence user account in order to access this link).*

2.9. Specimen

2.9.1. New Content

29 new Specimen concepts were added.

2.10. Qualifier Value

2.10.1. New Content

22 new Technique qualifier value concepts were added.

2.10.2. Planned Inactivation of 260299005 |Number (qualifier value)| and Descendants

Following the deployment of the concrete domain functionality in SNOMED CT, concepts in the 260299005 |Number (qualifier value)| hierarchy are no longer necessary and plans have been made for their inactivation. To provide adequate time for any national extension or implementation affected by this change, concepts in the 260299005 |Number (qualifier value)| hierarchy will be inactivated in the January 2023 International Release.

Concepts will be inactivated with reason “Non-conformance to editorial policy” and no historical relationship or replacement concept will be provided.

Exceptions:

118586006 |Ratio (property) (qualifier value)| and descendants have been relocated to 118598001 |Property (qualifier value)| hierarchy.

272070003 |Ordinal number (qualifier value)| and descendants have been relocated to 362981000 |Qualifier value (qualifier value)| hierarchy.

A briefing note will also be distributed to selected Advisory and Project Groups.

Please contact info@snomed.org with any inquiries.

2.11. Substance

Release plans, Substance hierarchy

For further details on the planned changes in this area, please refer to Substance Project

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

2.12. Pharmaceutical/Biological Product

Drug model project

For further details on the planned changes in this area, please refer to the Drugs Project

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

2.13. Physical Object

Physical Object

For further details on the planned changes in this area, please refer to Devices Project

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

2.14. Collaboration/Harmonization Agreements

2.14.1. Orphanet

Working in collaboration with Orphanet (**http://www.orpha.net/consor/cgi-bin/index.php**), creation of new concepts for the original set of prioritized rare diseases has been completed. All of the concepts added for the Orphanet project have been mapped to ICD-10.

The Production release of the SNOMED CT to Orphanet Simple Map was published in October 2021. Work is now underway to add further content to the SNOMED CT to Orphanet Simple Map for future releases starting with the next Production release in October 2022.

2.14.2. ICD-11 Update

The February 2022 release has seen continued addition of content for this project.

2.14.3. Cancer Synoptic Reporting

New concepts added for the February 2022 release:

- Radial location of primary malignant neoplasm in excised breast specimen (observable entity)
- Presence of macroscopic perforation of colon by primary malignant neoplasm of colon (observable entity)
- Near complete (qualifier value)
- Excised mesorectum sample (specimen)

Cancer synoptic reports are used by many member countries to record pathology examination of cancer specimens including the College of American Pathologists (US and Canada), Royal College of Pathology (UK), Royal College of Pathology Australasia (Australia, New Zealand), PALGA (The Netherlands), Swedish Society of Pathology, and others.

For more information about this project, please see Cancer Synoptic Reporting Clinical Project Group (*Please note, you may have to register for Confluence user account in order to access this link).*

2.15. Internal Quality Improvement

2.15.1. Replacement of the Stated Relationship files with the OWL Axiom refset files

A set of documentation has been developed to support the Logic Profile Enhancements. (*Please note, you may have to register for Confluence user account in order to access the links below.)*

- SNOMED DL Profile Enhancements
- SNOMED CT Logic Profile Specification
- SNOMED CT OWL Guide (OWL Refsets specification)
- 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/sfFbMMioA_4

For any questions, please contact SNOMED International at support@snomed.org with “OWL Axiom refset files implementation question” in the subject line.

2.15.2. Machine Readable Concept Model (MRCM) Changes

Details for forthcoming changes can be reviewed here (*Please note, you may have to register for Confluence user account in order to access this project and the relevant links above).*

2.15.2.1. Advance Notice of Cardinality Changes Scheduled for July 2022 Release

All historical content issues where two or more finding sites were included in a single role group have been resolved in the International release as part of the QI project.

There are two MRCM rules for finding site to accommodate the historical content. One MRCM is applicable to all content, it allows more than one finding site in a role group. The other MRCM is only applicable for 'All new precoordinated SNOMED CT content'.

The existing MRCM rules will be updated to only allow at most one finding site in a role group from the July 2022 release.

This early notice is intended to provide additional time for content updates in national extensions.

2.16. SNOMED CT derived products

2.16.1. ICD-10 map

The SNOMED CT to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (© World Health Organization 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 Centers.

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_20200731.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)|.

2.16.2. 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.

Mapped content for February 2022

The map provided for the February 2022 release has been updated, and now represents a complete map from SNOMED CT International release to ICD-10 2016 version.

- 484 newly authored concepts have been added and mapped.
- The SNOMED to ICD-O (morphology) map has had a total of 3 concepts added as a result of the ICD-O 3.2 review or added due to CRS requests.

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

2.16.3. 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

2.16.4. 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

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 current SNOMED CT International edition, the following Known Issues were identified, and agreed to be resolved in future editing cycles:

key	summary	description

⚠ Jira project doesn't exist or you don't have permission to view it.

View these issues in Jira

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. 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 current Snomed CT International edition can be found here:

key	summary	description	resolved

⚠ Jira project doesn't exist or you don't have permission to view it.

View these issues in Jira

3.3. Technical updates

3.3.1. 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 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
- 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.

Configuration file in the RF2 package, containing Release Metadata

A new file has been included since the July 2020 International Edition, containing metadata about the Release package itself. This has been created in conjunction with feedback from the community, and as such initially contains the following fields:

- effectiveTime
- languageRefset(s)
- humanReadableLanguageRefset(s)
- licenceStatement

The file is in .JSON format, to ensure that it is both machine-readable and human-readable, and is named "**release_package_information.json**".

The metadata will be extended and refined going forward, in order to ensure that it contains the most useful information possible. If you have any ideas about any other useful information to include, please send them to info@snomed.org, along with a business case explaining how the information would benefit stakeholders. Please be aware that this use case will then be assessed by SNOMED International, and the new metadata will only be included in the configuration file if the business case is strong enough.

3.3.2. Early visibility of impending changes in the upcoming 2022 Monthly International Edition releases

Please see the following page for details of all upcoming changes planned for 2022:

- https://confluence.ihtsdotools.org/display/RMT/2022+Early+Visibility+Release+Notice+-+Planned+changes+to+upcoming+SNOMED+International+Release+packages

3.3.3. 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 @

- https://confluence.ihtsdotools.org/display/RMT/SNOMED+CT+February+2022+International+Edition+-+SNOMED+International+Release+notes

Approvals

Final Version	Date	Approver	Comments
1.0	28 Feb 2022	Rory Davidson	Approved
1.0	24 Feb 2022	Monica Harry	Approved
1.0	28 Feb 2022	Kelly Kuru	Approved

Draft Amendment History

Version	Date	Editor	Comments
0.1	01 Feb 2022	Andrew Atkinson	First draft for review and comment
0.2	16 Feb 2022	Maria Braithwaite	Initial content updates
0.3	24 Feb 2022	Maria Braithwaite	Final Content changes
1.0	28 Feb 2022	Andrew Atkinson	Final Production changes