

# SNOMED CT Managed Service - US Edition Release Notes - September 2019



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# 1 Introduction

SNOMED CT terminology provides a common language that enables a consistent way of indexing, storing, retrieving, and aggregating clinical data across specialties and sites of care. The SNOMED CT US Edition is a combination of the full July 2019 SNOMED CT International Edition and the US Extension of SNOMED CT. The US Edition eliminates the need for implementers to manually combine the US Extension and International releases.

The International Health Terminology Standards Development Organisation (IHTSDO®), trading as 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. SNOMED CT US Edition is developed and maintained by the United States National Library of Medicine and is available to authorized Unified Medical Language System (UMLS) Metathesaurus Licensees. This material includes SNOMED CT which is used by permission of the IHTSDO. All rights reserved.

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## 1.1 Background

This document provides a summarized description of the content changes included in the [September 2019 release of the SNOMED Clinical Terms® US Edition](#).

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

This document is available as a web resource as well as alongside the September 2019 US Edition release ([https://www.nlm.nih.gov/healthit/snomedct/us\\_edition.html](https://www.nlm.nih.gov/healthit/snomedct/us_edition.html)).

## 1.2 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. These Release Notes should be used **in combination** with the [SNOMED CT July 2019 International Edition Release Notes](#).

# 2 Content Development Activity

## 2.1 Summary

The September 2019 SNOMED CT US Edition marks the fourth release with content authoring tooling and release production provided by SNOMED International Managed Service. Quality assurance of the release was completed by both NLM and SNOMED International. Additionally, in October 2017, NLM sunset the United States SNOMED CT Content Request System and migrated to the SNOMED International hosted and maintained US CRS (<https://us-request.ihtsdotools.org>).

### **Reminder**

**Inactivation reason of LIMITED/WAS A will no longer be allowed for any content after the July 2019 International (and September 2019 US Edition) release. The WAS A association refset will not be updated thereafter. The US Edition will follow the International Editorial policy. For more information see section 3.2.1 under Technical Updates.**

### 2.1.1 September 2019 US Edition of SNOMED CT Statistics

These statistics include the active content from the July 2019 International Edition and the September 2019 US Edition.

Release	Concept Count	Description Count	Relationship Count
International Edition of SNOMED CT	350830	910823	1127424
US Edition of SNOMED CT	357406	926994	1157628

## 2.2 SNOMED CT derived products

### 2.2.1 SNOMED CT to ICD-10-CM map

The purpose of the SNOMED CT to ICD-10-CM map is to support semi-automated generation of ICD-10-CM codes from clinical data encoded in SNOMED CT for reimbursement and statistical purposes. All current pre-coordinated SNOMED CT concepts from the US Edition (US Extension + International release) within three hierarchies, (Clinical findings, Events, and Situations with Explicit Context) are potentially in scope for mapping to ICD-10-CM.

The SNOMED CT to ICD-10-CM map is released in RF2 format within the US Edition, as well as a standalone download ([https://www.nlm.nih.gov/research/umls/mapping\\_projects/snomedct\\_to\\_icd10cm.html](https://www.nlm.nih.gov/research/umls/mapping_projects/snomedct_to_icd10cm.html)). The map is also available in a human readable format (tts\_icd10cmHumanReadableMap\_US1000124\_20190901.tsv) contained within a standalone download - SNOMED\_CT\_to\_ICD-10-CM\_Resources\_20190901.zip.

The SNOMED CT to ICD-10-CM map is released as Refset 6011000124106 | ICD-10-CM extended map reference set (foundation metadata concept)). The map data are in the file xder2\_iisssccRefset\_ExtendedMapSnapshot\_US1000124\_20190901.txt, which is in the Map folder under Refset in the Snapshot Release Type folder.

**PLEASE NOTE:** Starting with the 2019 March SNOMED CT US Edition (20190301) release, the SNOMED CT to ICD-10-CM map refset data will be maintained as per the SNOMED CT RF2 specifications.

Additional map refset information can be found in the SNOMED CT to ICD-10-CM Release Notes (doc\_icd10cmMapReleaseNotes\_Current-en-US\_US1000124\_20190901.pdf) found in the standalone download or online. Technical information (doc\_icd10cmMapTechnicalSpecifications\_Current-en-US\_US1000124\_20190901.pdf) for the map can also be found in the standalone download.

On March 26, 2019, there was an updated version of the map (6011000124106 | ICD-10-CM complex map reference set (foundation metadata concept)) ) was released. This updated included an appending of the previously released mapping refset data, originally pulled from the 20190301 release. The newly released version, which includes all of the previously released data, now includes 260,749 mapped records. This is now considered the baseline for the SNOMED CT to ICD-10-CM map.

### 2.2.2 Route of administration

The NLM maintained Route of administration reference set (442311000124105 | Route of administration reference set) is located in the file der2\_Refset\_Simple(Snapshot, Delta, Full)\_US1000124\_20190901.txt, which is in the Content folder under Refset, in each of the three RF2 Release Type folders. The refset contains a set of terms related to the location of administration for clinical therapeutics. The purpose of the Route of Administration refset is to define a portion of which can be used in the Drug Listing section of [Structured Product Labeling \(SPL\)](#), or for documentation and encoding of clinical information regarding substance administrations. Only concepts that are subtypes of the concept 284009009 | Route of administration value (qualifier value) are included in the refset. Please note the 442311000124105 | Route of administration reference set has been in static status since 2014 September US Edition release (20140901).

The Route of Administration concepts are now maintained as a [value set](https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1018.98/expansion) on the NLM Value Set Authority Center (VSAC) (<https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1018.98/expansion>). Users are required to have a UMLS account to access VSAC. If you don't have a UMLS account, you can request one here: <https://uts.nlm.nih.gov/license.html>

## 2.2.3 Transitive closure file

NLM provides a transitive closure script and generated transitive closure table within the SNOMED CT US Edition release. The transitive closure is the complete set of relationships between every concept and each of its super-type concepts (parents and ancestors). The transitive closure files can be used to support SQL queries when created and stored as a table in a relational database. If applied in a full release, it will contain the full history and allow for subsumption queries to be applied based on any release. The NLM transitive closure script provides a comprehensive view of all of the supertype ancestors of a concept derived by traversing all the 116680003 | is a | relationships between that concept and the root concept. The transitive closure table represents the transitive closure of the 116680003 | is a | relationships of all active concepts. NLM provides the transitive closure table in the US Edition release to provide support for easier implementation and a reference against which to check alternative algorithms.

The Transitive Closure script is located in the TransitiveClosure file within the Resources file, `tls2_TransitiveClosure_US1000124_20190901.pl`. The Transitive Closure table is located in the TransitiveClosure file within the Resources file, `res2_TransitiveClosure_US1000124_20190901.txt`. For the table, the `superTypeId` is the id of the concept playing the supertype role, set to an Identifier of a concept. The `subTypeId` - Id of the concept playing the subtype role. Set to an Identifier of a concept.

## 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.

In addition to the Known Issues reported by the IHTSDO for SNOMED CT International Edition ([SNOMED CT July 2019 International Edition - SNOMED International Release notes](#)), the following are Known Issues for the SNOMED CT US Edition that have been identified and will be resolved in the next editing and production cycle:

Key	Summary	Description
<a href="#">ISRS-589</a>	<a href="#">RVF Assertion failure: 96810a5e-d195-43ba-8685-f76b43d25782</a>	<pre>assertionUuid: "96810a5e-d195-43ba-8685-f76b43d25782", assertionText: "Active descriptions of an inactive concept should have concept non-current indicators", failureCount: 1189, firstInstances: [  {conceptId: "83874006", detail: "Active description 710291000124110 is missing concept non-current indicator"}  {conceptId: "148477008", detail: "Active description 739901000124114 is missing concept non-current indicator"}  KNOWN ISSUE: The NLM confirmed that as this is a newly highlighted area for improvement, they should be properly reviewed by the authoring team. They will therefore be resolved as part of future editing cycles.</pre>

ISRS-591	RVF Assertion failure: e658fb00-7e9a-11e1-b0c4-0800200c9a66	<p>assertionUuid: "e658fb00-7e9a-11e1-b0c4-0800200c9a66", assertionText: "Descriptions in a language refset are unique for a given concept.", failureCount: 7, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "312411000119100", detail: "CONCEPT: id=312411000119100: Concept has duplicate terms within a single language refset."}</li> <li>• {conceptId: "312411000119100", detail: "CONCEPT: id=312411000119100: Concept has duplicate terms within a single language refset."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-592	RVF Assertion failure: 03cf9850-7857-11e1-b0c4-0800200c9a66	<p>assertionUuid: "03cf9850-7857-11e1-b0c4-0800200c9a66", assertionText: "Preferred Term exists exactly once in each language refset for each concept.", failureCount: 26, firstNInstances: [</p> <p>{conceptId: "312411000119100", detail: "Concept: id=312411000119100 has duplicate language refsets for description id=692871000124115"}</p> <p>{conceptId: "314591000119101", detail: "Concept: id=314591000119101 has duplicate language refsets for description id=693411000124118"}</p> <p>KNOWN ISSUE: NLM confirmed that these issues are too minor to risk impact to the US Edition content by fixing at this late stage for this release. These issues will therefore be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-596	RVF Assertion failure: 44916964-5b78-4842-81d8-e8293ee93bea	<p>assertionUuid: "44916964-5b78-4842-81d8-e8293ee93bea", assertionText: "There must be actual changes made to previously published inferred relationships in order for them to appear in the current delta.", failureCount: 1, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "200942004", detail: "Inferred relationship: id=1652207021 is in the delta file, but no actual changes made since the previous release."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that this minor issue will be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-599	RVF Assertion failure: 57d910b4-b5c9-459e-8bae-ae0ea9035585	<p>assertionUuid: "57d910b4-b5c9-459e-8bae-ae0ea9035585", assertionText: "No active Terms contain leading or trailing spaces.", failureCount: 1, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "428191000124101", detail: "Description: id=610361000124115 has active term with leading or trailing spaces."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that this minor issue will be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-601	RVF Assertion failure: 7c406d6c-7e30-4aa1-b99d-e00b4e2d52a5	<p>assertionUuid: "7c406d6c-7e30-4aa1-b99d-e00b4e2d52a5", assertionText: "There is an equivalent definition in the en-us and en-gb language when provided.", failureCount: 241, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "440271000124109", detail: "ConceptId=440271000124109 has definition in EN-US but no equivalent found for EN-GB"}</li> <li>• {conceptId: "440291000124105", detail: "ConceptId=440291000124105 has definition in EN-US but no equivalent found for EN-GB"}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-602	DROOLS assertion failure: "A concept must have one Preferred Synonym in the US-EN dialect."	<p>testType: "DROOL_RULES", assertionText: "A concept must have one Preferred Synonym in the US-EN dialect.", failureCount: 3, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "449321000124109", detail: "A concept must have one Preferred Synonym in the US-EN dialect."}</li> <li>• {conceptId: "448851000124103", detail: "A concept must have one Preferred Synonym in the US-EN dialect."}</li> <li>• {conceptId: "449261000124108", detail: "A concept must have one Preferred Synonym in the US-EN dialect."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.</p>

ISRS-603 DROOLS assertion failure: "Active descriptions must not have the same term as another within the concept unless the language code is different. There is another description with the same term but different case."

testType: "DROOL\_RULES",  
assertionText: "Active descriptions must not have the same term as another within the concept unless the language code is different. There is another description with the same term but different case. Please remove the other description or make it inactive.",  
failureCount: 22,  
firstNInstances: [

- {conceptId: "434541000124109", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. There is another description with the same term but different case. Please remove the other description or make it inactive."}
- {conceptId: "456031000124101", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. There is another description with the same term but different case. Please remove the other description or make it inactive."}

KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.

ISRS-604 DROOLS assertion failure: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."

testType: "DROOL\_RULES",  
assertionText: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions.",  
failureCount: 16,  
firstNInstances: [

- {conceptId: "439041000124103", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "439041000124103", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "40015002", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "40015002", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "435611000124105", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "435611000124105", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "439081000124109", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "439081000124109", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "439021000124105", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "439021000124105", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "439101000124101", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "439101000124101", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "435801000124108", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "435801000124108", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "439031000124108", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}
- {conceptId: "439031000124108", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. Please remove one of the descriptions."}

KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.

ISRS-606	DROOLS assertion failure: "It is not allowed to add a subtype as a parent."	<p>testType: "DROOL_RULES", assertionText: "It is not allowed to add a subtype as a parent.", failureCount: 9, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "449831000124103", detail: "It is not allowed to add a subtype as a parent."}</li> <li>• {conceptId: "103821000119108", detail: "It is not allowed to add a subtype as a parent."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-607	DROOLS assertion failure: "An active concept should have one active preferred FSN in the GB-EN dialect."	<p>testType: "DROOL_RULES", assertionText: "An active concept should have one active preferred FSN in the GB-EN dialect.", failureCount: 5108, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "444911000124101", detail: "An active concept should have one active preferred FSN in the GB-EN dialect."}</li> <li>• {conceptId: "4161000175104", detail: "An active concept should have one active preferred FSN in the GB-EN dialect."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-608	DROOLS assertion failure: "A concept must have one Preferred Synonym in the GB-EN dialect."	<p>testType: "DROOL_RULES", assertionText: "A concept must have one Preferred Synonym in the GB-EN dialect.", failureCount: 5147, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "444911000124101", detail: "A concept must have one Preferred Synonym in the GB-EN dialect."}</li> <li>• {conceptId: "4161000175104", detail: "A concept must have one Preferred Synonym in the GB-EN dialect."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-609	DROOLS assertion failure: "Terms must not contain double, leading or trailing spaces."	<p>testType: "DROOL_RULES", assertionText: "Terms must not contain double, leading or trailing spaces.", failureCount: 1, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "428191000124101", detail: "Terms must not contain double, leading or trailing spaces."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that this minor issue will be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-610	RVF Assertion failure: d76f1430-7e9a-11e1-b0c4-0800200c9a66	<p>assertionUuid: "d76f1430-7e9a-11e1-b0c4-0800200c9a66", assertionText: "Lang refset members are active for inactive descriptions in the language refset snapshot file.", failureCount: 1, firstNInstances: [</p> <p>{conceptId: "445341000124100", detail: "MEMBER: id=d9d7919a-878a-5148-9478-3cc962a02e7a: Language refset member is active for an inactive description."}</p> <p>KNOWN ISSUE: NLM confirmed that this minor issue will be carried over as Known Issues to be fixed in future editing cycles.</p>
ISRS-612	RVF Assertion failure: 805ab37c-33fa-45aa-876b-f86365a828c8	<p>US Edition Specific failure:</p> <p>assertionUuid: "805ab37c-33fa-45aa-876b-f86365a828c8", assertionText: "Case-sensitive terms that share initial words also share caseSignificancel value.", failureCount: 1, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "181000124108", detail: "DESC: conceptId=181000124108:has terms not sharing case-sensitivity."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.</p>

ISRS-613	RVF Assertion failure: c3249e80-84f0-11e1-b0c4-0800200c9a66	<p>US Edition Specific failure:</p> <p>assertionUuid: "c3249e80-84f0-11e1-b0c4-0800200c9a66", assertionText: "Terms that contain en-us specific words are in the en-us language refset.", failureCount: 8, firstNInstances: [</p> <p>{conceptId: "785913002", detail: "DESCRIPTION: id=3769734014: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: chimaera"} {conceptId: "786846001", detail: "DESCRIPTION: id=3772654016: Synonym is preferred in en-us language refset but refers to a word that has en-gb spelling: haemophilus")</p> <p>KNOWN ISSUE: The NLM confirmed that due to the ambiguity in these potential issues, they should be properly reviewed by the authoring team. They will therefore be resolved as part of future editing cycles.</p>
ISRS-614	RVF Assertion failure: eead9964-67ce-11e7-b7e7-3c15c2c6e32e	<p>US Edition Specific failure:</p> <p>assertionUuid: "eead9964-67ce-11e7-b7e7-3c15c2c6e32e", assertionText: "There is only one active member per description per dialect in the language refset snapshot file.", failureCount: 4, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "312411000119100", detail: "Description: id=692871000124115: has multiple active language refset members for a given dialect."}</li> <li>• {conceptId: "15636001000119108", detail: "Description: id=704681000124115: has multiple active language refset members for a given dialect."}</li> <li>• {conceptId: "312411000119100", detail: "Description: id=692861000124110: has multiple active language refset members for a given dialect."}</li> <li>• {conceptId: "15636001000119108", detail: "Description: id=704691000124117: has multiple active language refset members for a given dialect."}</li> </ul> <p>KNOWN ISSUE: NLM confirmed that these minor issues will be carried over as Known Issues to be fixed in future editing cycles.</p>

17 issues

## 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 for this September 2019 US Edition. These can be issues found during the Pre-Production or Production phases of the testing of the current release, which were resolved before the final deployment of the final production release. Finally these can be issues which were reported or found during the testing phase, but which have been closed without any action taken.

In addition to the Resolved Issues reported by the IHTSDO for SNOMED CT International Edition ([SNOMED CT July 2019 International Edition - SNOMED International Release notes](#)), the following Resolved Issues for the Snomed CT September 2019 US Edition:

Key	Summary	Description	Resolved
ISRS-588	RVF Assertion failure: 89ceaf00-79b9-11e1-b0c4-0800200c9a66	<p>assertionUuid: "89ceaf00-79b9-11e1-b0c4-0800200c9a66", assertionText: "All stated relationships inactivated in current release must have been active in the previous release.", failureCount: 58, firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "430091000124101", detail: "Stated relationship: id=1694711000124123 is inactive in the current release but no active state found in the previous snapshot."}</li> <li>• {conceptId: "430401000124101", detail: "Stated relationship: id=1694721000124126 is inactive in the current release but no active state found in the previous snapshot."}</li> </ul> <p>RESOLUTION: 58 born-inactive stated relationships deleted, resolving this issue in time for the September 2019 US Edition Production release.</p>	2019-Jul-24



ISRS-593	<a href="#">RVF Assertion failure: 041dcf55-4c9c-4dd4-baa7-584eb0e53d5a</a>	<p>assertionUuid: "041dcf55-4c9c-4dd4-baa7-584eb0e53d5a", assertionText: "Concept should not have any duplicated historical association indicators.", failureCount: 1, firstNInstances: [</p> <ul style="list-style-type: none"> <li>{conceptId: "1111000119100", detail: "MEMBER: id=d581e921-ab26-5818-9ffc-935a10864383 in historical association refset member has a duplicated indicator with MEMBER id= 281c9d28-a40b-59ab-a3bf-0c823bd5b599"}</li> </ul> <p>RESOLUTION: This is a permanent whitelisted issue in the US Edition - and can be ignored permanently for all future US releases, as per <a href="#">ISRS-332</a></p>	2019-Aug-02
ISRS-594	<a href="#">RVF Assertion failure: 2ddc9a28-150d-47a4-9b0e-7dbff2efdd72</a>	<p>assertionUuid: "2ddc9a28-150d-47a4-9b0e-7dbff2efdd72", assertionText: "There is a 1:1 relationship between the id and the key values in the ASSOCIATION REFSET snapshot file.", failureCount: 1, firstNInstances: [</p> <p>{conceptId: "1111000119100", detail: "ReferencedComponentId:1111000119100 targetComponentId:52298009 and refsetId:900000000000527005 are duplicated in the association refset snapshot file."}</p> <p>RESOLUTION: This is a permanent whitelisted issue in the US Edition - and can be ignored permanently for all future US releases, as per <a href="#">ISRS-332</a></p>	2019-Jul-22
ISRS-595	<a href="#">RVF Assertion failure: 411e9840-7d08-11e1-b0c4-0800200c9a66</a>	<p>assertionUuid: "411e9840-7d08-11e1-b0c4-0800200c9a66", assertionText: "Relationship groups contain at least 2 relationships.", failureCount: 151076, firstNInstances: [</p> <ul style="list-style-type: none"> <li>{conceptId: "109006", detail: "RELATIONSHIP: id=1722705029: Relationship is in a relationship group with a single active inferred member."}</li> <li>{conceptId: "109006", detail: "RELATIONSHIP: id=9215383026: Relationship is in a relationship group with a single active inferred member."}</li> </ul> <p>RESOLUTION: NLM confirmed that these are false positives, and therefore no action is required.</p>	2019-Aug-02
ISRS-597	<a href="#">RVF Assertion failure: 4572d730-7d08-11e1-b0c4-0800200c9a66</a>	<p>assertionUuid: "4572d730-7d08-11e1-b0c4-0800200c9a66", assertionText: "No Concept has 2 inferred relationships with the same type, destination and group.", failureCount: 270, firstNInstances: [</p> <ul style="list-style-type: none"> <li>{conceptId: "124171000119105", detail: "Source id=124171000119105 has two inferred relationships with same typeid and same destinationid within a single relationship-group."}</li> <li>{conceptId: "303191000119108", detail: "Source id=303191000119108 has two inferred relationships with same typeid and same destinationid within a single relationship-group."}</li> </ul> <p>RESOLUTION: Issues fixed in time for the September 2019 US Edition release, by implementing a fix to a bug in the classifier.</p>	2019-Aug-09
ISRS-598	<a href="#">RVF Assertion failure: 5555c400-7d08-11e1-b0c4-0800200c9a66</a>	<p>assertionUuid: "5555c400-7d08-11e1-b0c4-0800200c9a66", assertionText: "All concepts have at least one stated is-a relationship.", failureCount: 357405, firstNInstances: [</p> <ul style="list-style-type: none"> <li>{conceptId: "101009", detail: "CONCEPT: id=101009: Concept does not have a stated is-a relationship."}</li> <li>{conceptId: "102002", detail: "CONCEPT: id=102002: Concept does not have a stated is-a relationship."}</li> </ul> <p>RESOLUTION: This assertion is no longer applicable (due to the replacement of stated relationships with OWL Axioms), and so will be removed from the RVF assertion groups for future releases.</p>	2019-Aug-08

ISRS-600	<a href="#">RVF Assertion failure: 5c6b6bc0-79b9-11e1-b0c4-0800200c9a66</a>	<p>assertionUuid: "5c6b6bc0-79b9-11e1-b0c4-0800200c9a66",  assertionText: "All relationships inactivated in current release must have been active in the previous release.",  failureCount: 230,  firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "200942004", detail: "Relationship: id=1652207021 should not have a new inactive state as it was inactive previously."}</li> <li>• {conceptId: "232270002", detail: "Relationship: id=43985020 is inactive but no active state found in previous release."}</li> </ul> <p>RESOLUTION: NLM confirmed that these are false positives, and therefore no action is required.</p>	2019-Aug-02
ISRS-611	<a href="#">Stated Relationships not all inactivated as expected</a>	<p>Manual validation of the Stated Relationship file shows 876 records still active in the Sept 2019 US Extension release snapshot.</p> <p>This is not expected as this is the first US release including the complete OWLExpression file, which should be replacing the Stated Relationship concept entirely.</p> <p>RESOLUTION: This is an issue specific to the US Extension, which is no longer required by the NLM. There is therefore no action required, as the US Edition naturally resolves this issue, with all Stated Relationships inactivated as expected.</p>	2019-Aug-08
ISRS-616	<a href="#">DROOLS assertion failure: "An FSN containing the word "pre-filled" must be changed to prefilled."</a>	<p>assertionText: "An FSN containing the word "pre-filled" must be changed to prefilled.",  failureCount: 24,  firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "402092005", detail: "An FSN containing the word "pre-filled" must be changed to prefilled."}</li> <li>• {conceptId: "402092005", detail: "An FSN containing the word "pre-filled" must be changed to prefilled."}</li> </ul> <p>RESOLUTION: The SNOMED International Content Team have confirmed that this is no longer a valid assertion, and can be removed from all DROOLS validation. This will be implemented shortly, and therefore no content updates are required.</p>	2019-Aug-02
ISRS-617	<a href="#">DROOLS assertion failure: "Active concepts must have at least one IS A relationship."</a>	<p>US Edition Specific failure:</p> <p>assertionText: "Active concepts must have at least one IS A relationship.",  failureCount: 1,  firstNInstances: [</p> <p>{conceptId: "138875005", detail: "Active concepts must have at least one IS A relationship."}</p> <p>RESOLUTION: SNOMED International Content Team confirmed that as this is the root concept (138875005 [SNOMED CT Concept (SNOMED RT+CTV3)] ) it is the only exception to this rule, and will therefore never have an IS_A relationship. The rule now appears to be running correctly, and so no editing changes are required - this one concept just needs to be MANUALLY WHITELISTED in all future validation runs.</p>	2019-Jul-23
ISRS-618	<a href="#">DROOLS assertion failure: "Active descriptions must not have the same term as another within the concept unless the language code is different. There is another description with the same term but different case."</a>	<p>US Edition Specific failures:</p> <p>assertionText: "Active descriptions must not have the same term as another within the concept unless the language code is different. There is another description with the same term but different case. Please remove the other description or make it inactive.",  failureCount: 688,  firstNInstances: [</p> <ul style="list-style-type: none"> <li>• {conceptId: "35655004", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. There is another description with the same term but different case. Please remove the other description or make it inactive."}</li> <li>• {conceptId: "35655004", detail: "Active descriptions must not have the same term as another within the concept unless the language code is different. There is another description with the same term but different case. Please remove the other description or make it inactive."}</li> </ul> <p>RESOLUTION: NLM confirmed that these are false positives, and therefore no action is required.</p>	2019-Aug-02

ISRS-619	New concept differences	Hi pmclaughlin / sroy	2019-Aug-02
		<p>We're seeing an 81 records discrepancy between the number of new concepts added in the July 2019 International Edition, and the number of new concepts added in the Sept 2019 US Edition. Normally the number of new Int. records + number of new US records in a cycle = number of new US Edition concepts.</p> <p>It looks like this difference is a result of donated content, which would naturally add more records into Int. Edition than the US Releases (where the pre-existing records would just be updated) - so I just wanted to double check that you donated approx. 80 records in this last editing cycle?</p> <p>RESOLVED: Confirmation that the discrepancy is related to the donated content that was promoted earlier in the editing cycle - these changes are therefore expected.</p>	
ISRS-637	Manual classification failing	<p>Versioned branch for the US Edition is now returning seeing 939 results (see <a href="#">sct2_Relationship_Delta_Classification_20190816.txt</a>) when manually classified via the API. This was almost clean (just a handful of results) for the Pre-Production release, which is identical to the latest Prod release except for a few role group changes and an ID change.</p> <p>RESOLUTION: This was proven to be a result of the classification service API not yet managing multiple effectiveTimes in the Delta files as yet - a ticket has been raised to resolve this for future releases. For this release the US Edition was classified cleanly through the SnowOwl rest API instead, proving that this inferred file is valid.</p>	2019-Aug-19

13 issues

## 3.3 Technical Updates

In addition to the Technical Updates reported in the [SNOMED CT July 2019 International Release](#), the following technical updates pertain to the US Edition:

### 3.3.1 File Changes in the September 2019 US Edition

As reported in [March 2019](#), to continue to align with the SNOMED CT International Edition, the the following changes have been implemented in this September 2019 US Edition. These changes will allow for the continued efforts towards having a zip file including only data with additional supplemental documentation and artifacts available separately.

- **Deprecation of the Documentation folder**
  - This aligns with the SNOMED CT International Edition release package which no longer includes a Documentation file.
- **Deprecation of the doc\_lcd10MapTechnicalGuideExemplars\_[date].xlsx file**
  - This follows the decision by SNOMED International, first announced with the July 2018 International Edition (see [3.3.4 - Deprecation of the Technical Guide Exemplars document from the International Edition package](#)). Going forward the file will be available from SNOMED International (<http://snomed.org/icd10map>).
- **Removal of SNOMED CT to ICD-10-CM documentation and resources from the US Edition release zip file**
  - The SNOMED CT to ICD-10-CM documentation and resources will be made available alongside the US Edition of SNOMED CT as a bundled download - SNOMED\_CT\_to\_ICD-10-CM\_Resources\_20190901.zip. The following resources will be updated and bundled together and made available with each new US Edition release:
    - doc\_lcd10cmMapReleaseNotes\_Current-en-US\_US1000124\_20190901.pdf (will be available as an online resources and in the download)
    - doc\_lcd10cmMapTechnicalGuideExemplars\_Current-en-US\_US1000124\_20190901.xlsx
    - doc\_lcd10cmMapTechnicalSpecifications\_Current-en-US\_US1000124\_20190901.pdf (will be available as an online resource and in the download)
    - t1s\_lcd10cmHumanReadableMap\_US1000124\_20190901.tsv

Any questions or comments regarding these upcoming changes can be sent to [NLM Customer Support https://support.nlm.nih.gov/](https://support.nlm.nih.gov/).

### 3.3.2 Combination of two new refsets - OWLAxiom and OWLOntology

The US Edition is following the International Edition with the changes to the Stated Relationships and two new OWL refsets.

Please see section "6.3.3. Combination of two new refsets - OWLAxiom and OWLOntology" in the [July 2019 SNOMED CT International Edition Release Notes](#) for full details of the reason behind the introduction of these new refsets. After the September 2018 Demonstration release, it was agreed to combine these two files into one "OWL Expression" file, which now contains both OWL Axiom + OWL Ontology refsets in the same file, in each section of the International Release package (Full, Snapshot and Delta):

- [sct2\\_sRefset\\_OWLExpressionFull\\_INT\\_20190731.txt](#)

- sct2\_sRefset\_OWLExpressionSnapshot\_INT\_20190731.txt
- sct2\_sRefset\_OWLExpressionDelta\_INT\_20190731.txt

The decision was taken to place the files in the "Terminology" folder in the release package (as opposed to the "Refset" folder), because these files are designed to eventually replace the Stated relationship files, and therefore contain core content which needs to be included in the Terminology folder.

### 3.3.3 IMPORTANT CHANGES in the September 2019 US Edition

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

*In the September 2019 release:*

- The International Edition and US Edition packages will include both inactive Stated Relationships plus a *complete* OWL file (combined) from July 2019 (International content) and September 2019 (US Extension content) effectiveTime onwards (ie) with NO history of OWL records that weren't included in the January 2019 International Edition and March 2019 US Edition package (as opposed to the *optional* package).
- A separate *optional* package containing an OWL (combined) Delta file, identifying which of the concepts have had modelling changes in relation to the optional package detailed in [section 3.3.3 of the International Release notes](#) ("Optional "on demand" package in addition to the January 2019 International edition").
- No support for Stated Relationships will be provided from this point onwards, however we will continue to include the inactivated Stated Relationships in future International Edition packages, until it is decided that this is no longer required.
- Anyone who isn't yet ready to move forward with OWL will therefore remain on the March 2019 US Edition until they are ready to update to OWL with the September 2019 version onwards.
- The inferred relationship file will maintain the same format and structure, though it will no longer contain all necessary and sufficient conditions. The inferred relationship file is represented in Necessary Normal Form for distribution of relationships. It is a collection of all the necessary conditions and represents a subset of the full semantics from the 2018 July release and onwards. Most users will benefit from the improvements in the inferred relationships without requiring changes to their existing systems.

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

- SNOMED DL Profile Enhancements - <https://docs.google.com/document/d/1tqNEA6S4fEF4fgj15OPabYA2E0VTz8epxvRRwczKizQ/edit?usp=sharing>
- SNOMED CT Logic Profile Specification - <http://snomed.org/lps>
- SNOMED CT OWL Guide (OWL Refsets specification) - <http://snomed.org/owl>
- Necessary Normal Form for Inferred Relationships - [https://docs.google.com/document/d/1dt0r0aetwpmwHOfiT9wt0EVukVLRvVjXYUn\\_vq-QhIM/edit?usp=sharing](https://docs.google.com/document/d/1dt0r0aetwpmwHOfiT9wt0EVukVLRvVjXYUn_vq-QhIM/edit?usp=sharing)
- Snomed OWL Toolkit - <https://github.com/IHTSDO/snomed-owl-toolkit>
- Classifying SNOMED CT using the Snomed OWL Toolkit - <https://youtu.be/-91egY9mJqA>
- Creating an OWL file containing SNOMED CT - [https://youtu.be/sfFbMMioA\\_4](https://youtu.be/sfFbMMioA_4)

### 3.3.4 RF2 package format

Similar to the International Edition, the US Edition will follow the technical specifications for RF2 packaging 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.

### 3.3.5 File Changes Expected in the March 2020 US Edition

To continue to align with the SNOMED CT International Edition, the the following changes will be implemented starting with the March 2020 US Edition. These changes will allow for the continued efforts towards having a zip file including only data with additional supplemental documentation and artifacts available separately.

- **Deprecation of the Resources folder**
  - This aligns with the SNOMED CT International Edition release package which no longer includes a Resources folder.
- **Removal of Transitive Closure resources from the US Edition release zip file**
  - The Transitive Closure resources will be made available alongside the US Edition of SNOMED CT as a bundled zip download. The following resources will be updated and bundled together and made available with each new US Edition release:
    - res2\_TransitiveClosure\_US1000124\_YYYYMMDD.txt
    - t1s2\_TransitiveClosure\_US1000124\_YYYYMMDD.pl

Any questions or comments regarding these upcoming changes can be sent to [NLM Customer Support - https://support.nlm.nih.gov/](https://support.nlm.nih.gov/)

### 3.4 Feedback and suggestions

We welcome questions, comments or suggestions to improve the quality, accuracy and usability of the SNOMED CT US Edition. Please send feedback to NLM Customer Support <https://support.nlm.nih.gov/>.

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#### Approvals

Final Version	Date	Approver	Comments
1.0		Terance Shird	
1.0		Rory Davidson	
1.0		Patrick McLaughlin	

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#### Draft Amendment History

Version	Date	Editor	Comments
0.1	21/07/2019	Andrew Atkinson	Initial draft created
1.0	19/08/2019	Patrick McLaughlin	Final Production updates