

SNOMED CT® Descriptive Statistics

This document provides a brief explanation of what provided with each of the following selections.

SCT statistics

Provides 2 pie chart reports describing the distribution among all first level hierarchies of:

- All active concepts in SNOMED CT
- New concepts in the SNOMED CT International Release.

Overview

Provides the following high level document related to the Descriptive Release Statistics:

- SNOMED CT Quality Evaluation Part I: Descriptive Release Statistics - Provides a high level explanation of the five tables in Table Reports as well as of some of the information provided by Data Explorer

Table Reports

Provides tables with basic descriptive statistics about content in the SNOMED CT International Release. Over time, this data will allow comparison between consecutive SNOMED CT International Releases and analysis of content trends across multiple releases. Further detail about the information provided in each table can be found in the aforementioned document - SNOMED CT Quality Evaluation Part I: Descriptive Release Statistics.

Tables provided include:

- General Release Statistics
- New Concepts
- Inactivated Concepts – Provides data only for concepts inactivated since the prior release
- Changes to Existing Concepts (counts)
- Changes to Existing Concepts (percentages)

Data Explorer

Provides additional data about; changes to existing content, new concepts or inactivated concepts. Further detail about some of the information provided in the tables can be found in the aforementioned document - SNOMED CT Quality Evaluation Part I: Descriptive Release Statistics.

Tables provided include:

- Explore data changes – Provides data on changes to existing concepts
- Explore new concepts data – Provides data on new concepts in the Release
- Explore concept inactivation data – Provides data on concepts inactivated in the Release

In addition to providing a high level overview of data changes for all hierarchies, Data Explorer allows the user to filter data (e.g., by hierarchy, concept definition status, change type, or reason for inactivation) to review specific data of interest.

After selecting a table, the interface can be formatted to display the Id (Concept Id), Term (FSN) or DefinitionStatus (concept definition status) by dragging and dropping one or all of these tabs into the left panel.

Heatmap

Count

Hierarchy

Id

Term

DefinitionStatus

ChangeType

ChangeType	Description change	FSN change	Inferred view change	Primitive to sufficiently defined change	Stated view change	Sufficiently defined to primitive change	Totals
Procedure (procedure)	65	16	111	36	274	15	1,339
Totals	65	16	111	36	274	15	1,339

Example: - Explore data changes

Selecting “Explore data changes” displays the data for “All concepts with changes in this release”. The data changes detected are limited to the choices offered by the “Changetype” drop down menu.

In this example, the application allows filtering for the 2,460 sufficiently defined concepts in the |Clinical finding (finding)| hierarchy that underwent an FSN change in the last release and displays the previous FSN alongside the new FSN. For example, the third row from the bottom in the example below indicates that the FSN for the concept 1647007 |Poisoning by primaquine (disorder)| was changed to |Poisoning caused by primaquine (disorder)|.

Heatmap

Count

Hierarchy

Id

Term

DefinitionStatus

ChangeType

ChangeType (6)

Select All Select None

Filter results

☐ Description change (4153)

☒ FSN change (3339)

☐ Inferred view change (16977)

☐ Primitive to sufficiently defined change (1373)

☐ Stated view change

OK

Hierarchy (15)

Select All Select None

Filter results

☐ Body structure (body structure) (422)

☒ Clinical finding (finding) (22543)

☐ Event (event) (42)

☐ Observable entity (observable entity) (28)

OK

Id	Term	DefinitionStatus	ChangeType	FSN change	Totals
1531000	Poisoning caused by kanamycin (disorder) -Prev.FSN: Poisoning by kanamycin (disorder)	Sufficiently defined		1	1
1647007	Poisoning caused by nitrofurantoin derivatives (disorder) -Prev.FSN: Poisoning by nitrofurantoin derivatives (disorder)	Sufficiently defined		1	1
1647007	Poisoning caused by primaquine (disorder) -Prev.FSN: Poisoning by primaquine (disorder)	Sufficiently defined		1	1
1724002	Infection caused by Crenosoma (disorder) -Prev.FSN: Infection by Crenosoma (disorder)	Sufficiently defined		1	1
1828006	Infestation caused by Gasterophilus haemorrhoidalis (disorder) -Prev.FSN: Infestation by Gasterophilus haemorrhoidalis (disorder)	Sufficiently defined		1	1

Patterns

Provides additional data about specific patterns that identify concepts which warrant editing or have a higher likelihood of warranting additional editing. While some of the patterns may include some false positives, review of the data will also allow detection of concepts that warrant editing.

Patterns include but are not limited to:

- Patterns that identify issues with the stated concept definition
- Patterns that identify issues with the inferred concept definition
- Patterns that identify issues related to intermediate primitive concepts
- Patterns that identify concepts where the FSN could be specified more clearly

After selecting RESULTS for a specific pattern, the user has additional options to sort and filter the data.



The user can select SORT BY to sort the data by Concept ID, Term (FSN), Explanation, or Semantic tag.

The data can also be filtered using:

- FILTER BY PRE-EXISTING: Drop down choices include:
 - Yes – concepts already exhibiting the pattern in the previous release (a pre-existing pattern).
 - No – concepts exhibiting the pattern for the first time this release (not a pre-existing pattern)
 - All – any concept in SNOMED CT exhibiting the pattern
- FILTER BY NEW CONCEPT: Drop down choices include:
 - Yes – concepts already exhibiting the pattern which are new concepts in SNOMED CT
 - No – concepts already exhibiting the pattern which are not new concepts in SNOMED CT
 - All – any concept in SNOMED CT exhibiting the pattern
- FILTER BY MODIFIED CONCEPT: Drop down choices include:
 - Yes – concepts that were edited in this release (modified this release)
 - No – concepts that were not edited in this release
 - All – any concept in SNOMED CT exhibiting the pattern

After sorting and filtering options have been selected, each row has 4 columns with the; Concept Id, Term, Explanation (of the pattern), and a final column that identifies the concept definition status as well as the selected filter criteria.

Example: Pattern Id 1: Redundancy isa to isa

This pattern identifies concepts where the one stated parent is an ancestor of another stated parent. Although the classifier removes the redundant parent in the inferred view, this pattern identifies concepts with this issue and the pair of redundant stated parents so that one can be removed from the stated concept definition.

Pattern: Redundancy isa to isa

Redundancy isa to isa

1327 concepts

SORT BY ▾			
FILTER BY PRE-EXISTING: ▾			
FILTER BY NEW CONCEPT: ▾			
FILTER BY MODIFIED CONCEPT: ▾			
BACK TO PATTERNS			
ConceptId	Term	Explanation	
709539001	2,4-Dihydroxybutanoic acid (substance)	Redundancy between: 42907009 Carboxylic acid (substance) and 707171009 Hydroxy fatty acid (substance)	pre-existing: yes def.status: Primitive new concept: no modified concept: no tag: substance
698870008	2-hydroxyglutaric aciduria (disorder)	Redundancy between: 16279005 Disorder of neurometabolic regulation (disorder) and 23853001 Disorder of the central nervous system (disorder)	pre-existing: yes def.status: Primitive new concept: no modified concept: no tag: disorder

The second row in the example above identifies the concept 698870008 |2-hydroxyglutaric aciduria (disorder)| as having this pattern.

The final column also further specified that this pattern already existed in a prior release and that the concept's definition status is Primitive.

For this pattern, the Explanation field also provides the additional information:

Redundancy between: 16279005|Disorder of neurometabolic regulation (disorder)| and 23853001|Disorder of the central nervous system (disorder)|

This identifies that one of these two parents is the ancestor of the other and is redundant in the stated concept definition can be removed.

A comparison between the stated view and inferred views of this concept, shows that 23853001|Disorder of the central nervous system (disorder)| is removed from the concept definition in the inferred view. This indicates that 23853001|Disorder of the central nervous system (disorder)| a redundant parent in the stated view and can be removed.

Parents

Autosomal hereditary disorder (disorder)

Disorder of neurometabolic regulation (disorder)

Disorder of the central nervous system (disorder)

2-hydroxyglutaric aciduria (disorder) ☆

SCTID: 698870008

698870008 | 2-hydroxyglutaric aciduria (disorder) |

2-hydroxyglutaric aciduria

2-hydroxyglutaric aciduria (disorder)

No attributes

Stated

The screenshot shows a web interface for a medical concept. At the top, there are tabs: Summary, Details, Diagram, Expression, Refsets, Members, and References. The 'Details' tab is active. On the right, there are buttons for 'Stated' and 'Inferred'. The main content area is divided into two sections. The top section, titled 'Parents', lists four parent concepts: 'Autosomal hereditary disorder (disorder)', 'Disorder of neurometabolic regulation (disorder)' (highlighted with a red box), 'Hereditary disorder of endocrine system (disorder)', and 'Hereditary disorder of nervous system (disorder)'. The bottom section displays the concept '2-hydroxyglutaric aciduria (disorder)' with its SCTID: 698870008 and a list of synonyms: '698870008 | 2-hydroxyglutaric aciduria (disorder)', '2-hydroxyglutaric aciduria', and '2-hydroxyglutaric aciduria (disorder)'. To the right of this section, there are two boxes: 'Finding site → Structure of central nervous system' and 'Finding site → Structure of endocrine system'.

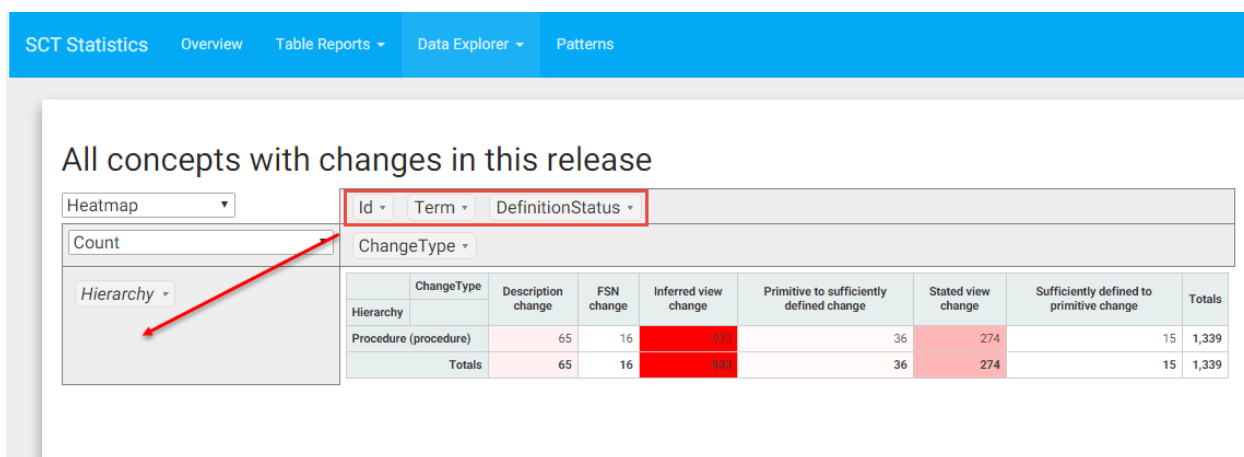
Data Explorer

Data Explorer provides three tables:

- Explore data changes – Provides data on changes to existing concepts
- Explore new concepts data – Provides data on new concepts in the Release
- Explore concept inactivation data – Provides data on concepts inactivated in the Release

The screenshot shows the 'SCT Statistics' interface. At the top, there are tabs: Overview, Table Reports, Data Explorer (highlighted with a red box), and Patterns. The 'Data Explorer' dropdown menu is open, showing three options: 'Explore changes data', 'Explore new concepts data', and 'Explore concept inactivation data'. The main content area displays the title 'SNOMED CT' and 'ative Statistics' (partially visible). Below the title, it says 'For 20160131 Release'. A paragraph of text follows: 'This viewer presents a set of descriptive measures and statistics, obtained through automated queries, with the objective of providing information on content changes and temporal trends as a measurement of progress.'

After selecting a table, the interface can be formatted to display the Id (Concept Id), Term (FSN) or concept DefinitionStatus by dragging and dropping one or all of these tabs to the left panel.



The data in each table can then be filtered (e.g., by hierarchy, concept definition status, change type, and reason for inactivation).

Example: - “All concepts with changes in this release”

The 2,460 concepts in the |Clinical finding| hierarchy that are sufficiently defined and underwent an FSN change in the last release can be filtered and the previous FSN is provided alongside the new FSN.

