

# SNOMED International – Clinical Content requirements

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## Title

Assuring interoperation of observation results

## Version Information

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## Document review

<i>Reviewer</i>	<i>Review date</i>	<i>Comment</i>

## Statement of requirements as initially identified

**Purpose: Support full interoperation of observation test results (<<363787002|Observable entities| henceforth referred as 'Observables') employed in healthcare delivery as laboratory, pathology and genomic observation result between and within all countries worldwide with priority attention to IHTSDO member nations.**

This will be achieved by: 1)compiling a pragmatic inventory of laboratory Observables in use within healthcare delivery scenarios in all nations participating, 2)systematically extending and applying the SNOMED CT Observables concept model and SNOMED CT content to fully define those concepts and map concept identifiers to any relevant codes or terminologies identified by those members as required for their national terminology architecture, 3)maintaining and publishing a refset of classified (inferred) OWL ontology snapshots of those codes or terminologies specified by members as required for their healthcare delivery system and 4)publishing for international use free of charge the minimum refset of SNOMED CT concept and relationship identifiers necessary for those concept definitions including the relevant SNOMED CT attribute and value concepts required for those definitions

The immediate project scope will support interoperation of Observables between and within US, UK, Canada, Australia, Sweden and Norway. Inventories of laboratory, pathology and genomic Observables in current use within electronic health records for SNOMED CT, LOINC and NPU will be developed. Those inventories will define the scope of work for the initial phase which will employ and extend ontology developments already begun by the IHTSDO-LOINC technology preview and the University of Nebraska Synoptic Pathology Ontology development. The Observables project team will guide development and use of the SNOMED CT concept model to model concepts within scope and to develop additional 'grouper' concepts as necessary to support useful deployment of an ontology snapshot for each code set or terminology specified by members. For US, Canada and Australia, a LOINC OWL ontology snapshot will be supported. For UK, SNOMED CT Observables will be employed from the International release and UK extension without modification other than modelling and full definition of those concepts in scope. For the Nordic countries, an NPU OWL

*IHTSDO Content Development Fast Track Template*

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ontology snapshot will be developed after the concept inventories are completed. In all cases, OWL files will be prepared with axioms employing the term identifiers and terminology tags of the affiliated SDO (LOINC and NPU). This will support for each of these countries an OWL snapshot of their national laboratory schemes.

The ontology snapshots will be provided by SNOMED International to the member NRCs or their designees including concept IDs, relationship IDs, FSNs and preferred terms of all SNOMED CT concepts employed in the definition of snapshot concepts. These releases will be in synchronization with the usual maintenance release cycle for SNOMED CT. These snapshots will include refsets of all relevant SNOMED CT concepts and terms necessary for defining axioms in the inferred OWL ontology snapshot. The release will include an OWL publication of inferred axioms and supporting artifacts with lab concept identifiers (such as LOINC codes) and terms supplied by the affiliate SDO. Members may designate publication of snapshot material by collaborating SDOs with unrestricted use of snapshot OWL ontologies and SNOMED CT snapshot content free for legitimate non-commercial support of healthcare activities worldwide.

### Relevance to International release

The International release should contain all content developed as part of this project as the developments to SNOMED CT would be material to member data interoperation. The primary refset specifying core content for Observables should also be released internationally.

OWL ontology snapshots for related codes and terminologies would be of primary importance within their respective domains of use and should likely be published and distributed by the affiliated SDOs.

### Agreed scope statement

Statistical analysis of Observables deployment and use in the US for laboratory, pathology for 4 types of cancer and genomics confirms that 2100 Observables will be required to support the specified use cases for laboratory, pathology and genomic observation results. Since US and Canadian labs are deployed in English units, another 1700 observables will be required to model SI units which will include Sweden, Norway, UK and Australia. Based upon deployment frequencies from Nebraska preliminary work, publication of the Observables concept definitions require additional concepts from Clinical findings, Substances, Medicinal products, Body structures, Organisms, Physical forces, Attributes and Qualifiers as estimated below. Instances of attributes(SNOMED CT relationships) that will be in scope for release are limited to those developed for the Observables concept model and, of course, 116680003|Is a (attribute)|. Therefore, a total of not more than 11,000 SNOMED CT concepts across these semantic domains will be expected to define the scope of the project.

SNOMED Semantic Type	Use Case	Concept numbers
Observables	US laboratory(English units)	1700
	Laboratory(SI units)	1700
	Pathology	65/cancer type
	Genomics	35/cancer type
Body and cell structures	Path & Genomics & Lab	30/cancer type + 15
Clinical finding & situation	Pathology & Lab	15/cancer type + 25
Procedure	Pathology & Genomics & Lab	10
Specimen	Pathology & Genomics & Lab	10
Substance	Lab	450
Attributes (relationships)	Lab, Pathology and Genomics	22
Qualifier	Path & Genomics & Lab	20

## Identify additional changes

Affiliate SDO agreements, initially with LOINC and NPU, would be required to manage intellectual property rights relative to the OWL files and SNOMED CT subsets specified.

## Impact assessment

This agreement would further collaboration with SDOs central to the healthcare terminology architectures of IHTSDO members and support interoperation of critical healthcare data internationally with SNOMED CT serving a critical role.

Disseminating OWL ontologies of Observables concepts classified with SNOMED CT will expose the 'value added' features of the SNOMED CT concept model to sceptical SDOs and promote a rationale of cooperation rather than competition.

## Risk assessment

Publication of 11,000 SNOMED CT conceptIDs and associated descriptions may expose SNOMED CT material for misuse.

## Approval process

Complete	Approved sb	Approval Date
<input type="checkbox"/>	Clinical engagement team	
<input type="checkbox"/>	Global CSRM Exec	
<input type="checkbox"/>	SMT	

## Priority

- Very high
- High
- Medium
- Low

## Specify the basis for the above priority assignment

<Short justification for priority assignment, including any related timelines, policies etc>

## Proposed release publication timeline

<Release, Year>