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## NRC Frequently Asked Questions

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# 1. Introduction

## Background

Countries that become new Members of SNOMED International can find themselves challenged when standing up their National Release Centre. Absorbing all of the onboarding material, in parallel with navigating internal pressure and uncertainty can magnify this challenge which, if it persists, creates significant headwinds for implementation.

The intention of this FAQ guide is to act as a supplement to existing onboarding materials, and to provide a quick reference to common questions that many new Members face. It can also provide guidance in terms of where a new NRC should focus its efforts given each country's unique needs, while assisting with internal and external communications.

## Topics

The following topics are covered by these frequently asked questions:

- [Terminology Usage](#)
- [Regulation](#)
- [SNOMED Usage](#)
- [Hospital vs Primary Care](#)
- [Mapping](#)
- [Updating Terminology](#)
- [Subsets of SNOMED](#)
- [National Release Center](#)
- [Medical Coders](#)
- [Medical Personnel Use](#)
- [Training](#)
- [Technical Questions](#)

## 2. Terminology Usage

### Questions

- [What terminologies/classifications are being utilized in clinical health care settings?](#)
- [What is the basis for the decision to choose each of the terminologies?](#)
- [When did SNOMED CT come into use?](#)

#### 2.1 What terminologies/classifications are being utilized in clinical health care settings?

The terminologies and classifications being utilized varies from country to country. Here are some examples:

SETTING	DIAGNOSIS	PROCEDURES
<b>CLINICAL: PRIMARY CARE</b>	SNOMED CT, ICPC2	SNOMED CT
<b>CLINICAL: INPATIENT PHYSICIANS/NURSING/ DIETICIANS</b>	SNOMED CT, ICD-10	SNOMED CT, CPT, NPR
<b>CLINICAL LABORATORY/ IMAGING</b>	SNOMED CT	SNOMED CT, OPCS-4, DICOM
<b>REIMBURSEMENT</b>	ICD-10, DRG	SNOMED CT, OPCS-4, CPT
<b>REIMBURSEMENT</b>	SNOMED CT, ICD-10, DRG	SNOMED CT, OPCS-4, MeDDRA
<b>RESEARCH</b>	SNOMED CT, ICD-10	SNOMED CT, OPCS-4
<b>BIG DATA</b>	SNOMED CT, ICD-10	SNOMED CT, OPCS-4

#### 2.2 What is the basis for the decision to choose each of the terminologies?

The reasons to choose a specific terminology for each clinical healthcare setting will vary from Member to Member. The following factors may be considered:

- The clinical scope and degree of fit-for-purpose.
- The ability to use the codes to support a range of use cases, such as data sharing between providers, data analytics for clinical decision making, clinical research, population health management, statistical reporting and reimbursement purposes.
- Existing or future national standards or legislation.
- Support for national infrastructure projects, such as national health records, cross-sector data interoperability, clinical registries, or reporting.

#### 2.3 When did SNOMED CT come into use?

SNOMED CT was created in 1999 by the merging of SNOMED RT (developed by the College of American Pathologists (CAP) and the Clinical Terms Version 3 (CTV3/Read codes). In 2003, SNOMED CT was made available for use in the United States through the National Library of Medicine (NLM). And in 2007, SNOMED CT was transferred from the CAP to the International Health Terminology Standards Development Organisation (IHTSDO). Since then, SNOMED CT has been implemented in over 80 countries. National SNOMED CT extensions are available in many member countries including Spain, Argentina, Australia, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Ireland, Jamaica, Netherlands, New Zealand, Norway, Singapore, Sweden, Switzerland, UK, US and Uruguay. In 2017 IHTSDO adopted the trading name SNOMED International.

## 3. Regulation

### Questions

- [Is the use of SNOMED CT in the clinical setting mandatory for clinical documentation?](#)
- [What is the regulatory process to implement the choice of terminologies in healthcare organizations?](#)
- [Why do countries choose SNOMED CT?](#)

#### 3.1. Is the use of SNOMED CT in the clinical setting mandatory for clinical documentation?

National policies are in place to endorse the use of SNOMED CT in several countries, including Australia, Canada, England, India, Netherlands, Singapore, Sweden and the United States. The United States has mandated the use of SNOMED CT for various standardized health data classes and elements for nationwide interoperable health information exchange. The United Kingdom has mandated the use of SNOMED CT through a process linked to funding routes. In Singapore and Australia, SNOMED CT is used in the national EHR. And in New Zealand SNOMED is required by the Health Information Standards Organisation (HISO) as a standard for the health and disability system.

#### 3.2. What is the regulatory process to implement the choice of terminologies in healthcare organizations?

In countries where SNOMED CT has been regulated, SNOMED CT is implemented through a process of mandation that is linked to funding. The process usually includes some form of minimum requirements, testing and/or software certification.

#### 3.3. Why do countries choose SNOMED CT?

SNOMED CT has become the preferred clinical terminology in many countries, for the following reasons:

- The breadth and depth of clinical content that covers a wide range of clinical areas and specialties.
- Its broad adoption and acceptance globally speaks to the quality and usefulness across geographic regions and use cases.
- Its suitability as a common reference terminology for data interoperability between healthcare providers, healthcare organisations, geographic regions and countries.
- Its ability to be customized to support local concepts and language requirements.
- Its ability to support sophisticated data analytics for clinical decision making, population health and clinical research.
- Its formal foundation in Description Logic which enables more consistent and high quality authoring and validation of clinical content.
- SNOMED International's effective strategic alliances with other standards organizations allows for alignment of standards and tools.
  - For example, the mappings available between SNOMED CT and a range of other code systems include ICD-10, MedDRA, Orphanet, GMDN. More information on maps can be found at <https://www.snomed.org/maps>.
  - SNOMED International has an active program of partnering with international standards development organizations, professional clinical bodies and commercial organizations. More information on maps can be found at <https://www.snomed.org/our-partnerships>.
- Its regular release and clinical review processes, which enable continual clinical review, feedback and addition of new clinical content.

## 4. SNOMED Usage

### Questions

- Is SNOMED CT used for research and analytics?
- Is only SNOMED CT used for documentation or is an additional classification (ICD) as well? If so, when do you use each language?

#### 4.1. Is SNOMED CT used for research and analytics?

Yes - SNOMED CT is widely used for research and data analytics. For example:

- OHDSI (Observational Health Data Sciences and Informatics)
- HPO (Human Phenotype Ontology)
- Malaysia's MyHarmony system

#### 4.2. Is only SNOMED CT used for documentation or is an additional classification (ICD) as well? If so, when do you use each language?

SNOMED CT can be used for both clinical purposes and reporting purposes – e.g. for trend analysis, healthcare service management, and population health.

Classifications, such as ICD, tend to be used for statistical reporting and other purposes which require codes to be aggregated into only a single category.

SNOMED CT's maps to ICD allow clinical data to be recorded in detail in the health record for direct patient care, and then aggregated into ICD categories for statistical reporting.

## 5. Hospital vs. Primary Care

### 5.1. Does SNOMED CT allow organizations who own both hospitals and primary care clinics to use SNOMED CT in the same way across the different settings?

Yes – organizations that control both primary care and hospitals can use SNOMED CT in a consistent way across both settings.

## 6. Mapping

### Questions

- Are organizations using official SNOMED mappings satisfied with these mapping
- What resources were needed to test and fix the mappings?
- Were there many gaps found?

#### 6.1. Are organisations using official SNOMED mappings satisfied with these mapping?

Yes – we have had no negative feedback.

#### 6.2. What resources were needed to test and fix the mappings?

Mappings are reviewed and updated by national classifications and coding teams.

#### 6.3. Were there many gaps found?

None that we are aware of.



## 7. Updating Terminology

### Questions

- How often is there a national update and is it mandatory for all organizations to update at the same time? Do all organizations update automatically as soon as an update is published?
- Who is responsible for the updates? The NRC?
- Are the end users notified that there is an update or is it an ongoing background process?

#### 7.1. How often is there a national update and is it mandatory for all organizations to update at the same time? Do all organizations update automatically as soon as an update is published?

International updates are currently published every month. Members who have a national edition usually update their edition at least every 6 months, although this can vary. Organisations within the Member country/territory may update their local implementations at different frequencies, depending on national agreements.

#### 7.2. Who is responsible for the updates? The NRC?

The Member NRC is responsible for making international and national updates to SNOMED CT available. If there is no operating NRC then updates are available from the international MLDS (Member Licencing and Distribution Service). Healthcare organisations are responsible for their local implementation updates. SNOMED International recommends updating to the newest version of the International Release within 180 days of its publication.

#### 7.3. Are the end users notified that there is an update or is it an ongoing background process?

This depends on the vendor system. There are examples of both.

## 8. Subsets of SNOMED

### Questions

- Do the users use the full scope of SNOMED CT or subsets?
- Is the subset chosen by each organization or is it on a national level?
- How do users get access to the full catalog when needed (if they cannot find their needs within the subset)?
- How are subsets managed?

#### 8.1. Do the users use the full scope of SNOMED CT or subsets?

We recommend that each specific clinical purpose uses only a subset of SNOMED CT. This will increase the quality of the resulting patient data, by protecting the user from selecting concepts with inappropriate clinical meanings.

#### 8.2. Is the subset chosen by each organization or is it on a national level?

There are examples of both. This depends on the use case. Often a broad subset is chosen at the national level (e.g. any subtype of |Clinical finding|) and then a narrower subset is chosen for a specific clinical use case (e.g. only cardiology-related subtypes of |Clinical finding|).

#### 8.3. How do users get access to the full catalog when needed (if they cannot find their needs within the subset)?

This depends on the vendor system, and how it is configured. Some systems allow users to suggest new codes to be added when a gap in the subset is identified.

#### 8.4. How are subsets managed?

a) Who creates/maintains subsets? What is his/her role in the organization?

Subsets may be created at the international, national or vendor levels. It is recommended that subset creation is a collaboration between clinicians, terminologists and information modellers. Incorporating these 3 professional roles in the creation and review of a subset, increases the likelihood of it being fit-for-purpose.

b) How many different subsets are managed?

In the UK they manage 230 subsets at the national level. In other countries this may be more or less.

c) What are the criteria for creating new subsets? Are they only created by profession (i.e.: orthopedics, pediatrics, ophthalmology etc.)

There are a range of different criteria for creating new subsets, including specialty specific subsets, care-setting specific subsets, clinical use cases, and vendor specific subsets.

d) What is the procedure for updating subsets? Requesting additions? Notification of additions?

Normally there is some form of editorial board that meets virtually and may have responsibility for a number of subsets, or subsets where they are defined by a query specification, that are simply updated and the changes reviewed by the central team. Additions to a subset may be requested by the end user – some systems provide a content request mechanism within the software.

e) How much maintenance does this process involve?

This depends on the type of subset, and how it is defined initially. Subsets defined using a query (e.g. all subtypes of |Cardiovascular finding|) generally require less maintenance. However all subsets should be reviewed when upgrading to a new version of SNOMED CT.

f) How often are there changes in the subset lists?

This varies depending on the subject matter.

g) If there are centrally managed subsets: how is the process carried out- technical aspects, implementation aspects, training aspects, operative aspects.

This varies depending on the approach adopted.

## 9. National Release Centre (NRC)

### Questions

- [What qualifications do NRC staff have?](#)
- [Do NRCs manage the preferred terms? synonyms? post coordination? translation?](#)

#### 9.1. What qualifications do NRC staff have?

Normally NRC staff have a range of backgrounds. SNOMED CT authors usually have a clinical background. Other staff typically have technical backgrounds of various types.

#### 9.2. Do NRCs manage the preferred terms? synonyms? post coordination? translation?

This varies between NRCs. NRCs who manage an extension either (a) adopt an existing language reference set and extend with language preferences for any new concepts, or (b) maintain a national language reference set with preferred terms and synonyms, as required. NRCs in non-English speaking countries will often manage any national translation requirements. Post coordination tends to be managed by the local implementations.

## 10. Medical Coders

### Questions

- What is the role of the clinical coder in an organization?
- What terminology do coders work with? Are the coders dedicated to only one terminology?
- Do coders have a role in auditing the SNOMED-to-ICD mapping processes?
- Are the coding processes all automated and mapped automatically between SNOMED and ICD/reimbursement catalogs or does the coder have to actually code?
- When code discrepancies are found by the coder, does she have to get physicians to co-sign on all changes done by the coder?

#### 10.1 What is the role of the clinical coder in an organization?

Clinical coders review the coded data in the EHR or clinical notes, and provide a definitive discharge diagnosis. A coder will use all knowledge in the clinical notes to define the required classification code(s).

#### 10.2. What terminology do coders work with? Are the coders dedicated to only one terminology?

Coders can work with a range of terminologies, including ICD-10, OPCS-4 and SNOMED CT. However, because SNOMED CT is designed for use by clinicians, a clinician will typically record the diagnosis as a SNOMED CT concept, and this will be mapped to a classification (e.g. ICD-10) by a coder (with the help of the default maps).

#### 10.3. Do coders have a role in auditing the SNOMED-to-ICD mapping processes?

Coders can provide feedback on the SNOMED-to-ICD mapping.

#### 10.4. Are the coding processes all automated and mapped automatically between SNOMED and ICD/reimbursement catalogs or does the coder have to actually code?

In many cases, the coding process to generate ICD codes from SNOMED CT codes is semi-automated. The maps define a default code, which is reviewed and agreed/changed by the coder.

#### 10.5. When code discrepancies are found by the coder, do they have to get physicians to co-sign on all changes done by the coder?

This will be dependent on the organization, but in most cases the coder has autonomy to make the required changes.

## 11. Medical Personnel Use

### Questions

- How often does a physician have difficulty finding his preferred diagnoses?
- When notified by users on difficulty finding the diagnoses, how often are these difficulties indeed real or just a lack of proficiency in the new terminology?
- What are the processes to report difficulties or the need for additional updates?
- Are physicians exposed to the other terminologies other than SNOMED CT?
- Are the physicians exposed to all the hierarchies and relations in SNOMED CT or just the actual diagnosis terms?

#### 11.1. How often does a physician have difficulty finding his preferred diagnoses?

This will vary depending on the search functionality of the vendor system. Systems that include all relevant diagnosis concepts and allow searching over any acceptable synonym for these concepts usually have the best match rate.

#### 11.2. When notified by users on difficulty finding the diagnoses, how often are these difficulties indeed real or just a lack of proficiency in the new terminology?

This is unknown to us, as this information would be fed back to individual vendors, or through vendor user groups.

#### 11.3. What are the processes to report difficulties or the need for additional updates?

This is vendor specific. Some vendor products provide a feedback mechanism to suggest additions to a vendor-supported subset. Often this will simply require a new code to be added to the subset. In other cases, a content request may need to be submitted to the NRC or SNOMED International.

#### 11.4. Are physicians exposed to the other terminologies other than SNOMED CT?

This will vary depending on the system. However, clinician only need to see the descriptions, not the specific terminologies or codes used. The details of which terminology is being used is often hidden.

#### 11.5. Are the physicians exposed to all the hierarchies and relations in SNOMED CT or just the actual diagnosis terms?

This will vary depending on the system. Normally clinicians will only see the diagnosis term – however the hierarchies and relationships may be used in searching for the concept or adding default values in other fields (e.g. body location).

## 12. Training

### 12.1. How should training be planned when implementing SNOMED CT?

We recommend that one or more people from the NRC or implementation team undergo training with SNOMED International (visit <https://courses.ihtsdotools.org> to enrol). These people should then provide local training to the implementation team that is appropriate for each role within the team (e.g. clinician, software developer, implementer).

## 13. Technical Questions

### Questions

- [General Questions](#)
- [Managing Terminologies in an Organization](#)
- [Mapping](#)
- [Search Engines](#)
- [Managing the Preferred Terms](#)

### 13.1 General Questions

#### a) Are there more than one EMR in each organization?

This varies between organisations. Some organisations may have a variety of EMRS or a mixture of electronic and paper records.

#### b) Is SNOMED CT implemented into all computer systems or only in the clinical file?

This varies between organisations.

#### c) What are the technical challenges in managing multiple terminologies?

Different hardware, different software, a variety of technically skilled staff for support, different release cycles, managing dependencies between them, mapping, resources, migration plans and interoperability.

#### d) What processes were needed to audit and reconcile the transfer from one terminology to another?

Technical mapping (if possible) needs to be clinically reviewed for accuracy. This takes time and resources. This is especially difficult if multiple terminologies are still maintained concurrently.

#### e) When migrating a system to SNOMED CT should the historical data be mapped to SNOMED CT?

This decision is usually made by the local organisation. The recommended approach is to map historical clinical data to SNOMED CT (for data analysis purposes), but retain the original codes (for medico-legal purposes).

### 13.2. Managing Terminologies in an Organization

#### a) Is there one platform to manage all different terminology releases?

All SNOMED CT releases are usually managed in a single terminology service. Some terminology services support multiple code system releases.

#### b) In what platform does SNOMED International manage SNOMED CT?

SNOMED International uses SnowStorm – a SNOMED CT terminology service built on Elasticsearch, with a focus on performance and enterprise scalability. See <http://github.com/IHTSDO/snowstorm>.



c) Should the SNOMED CT code be incorporated into the diagnosis list in an EMR or should there be a reference from within the EMR to the external platform managing the terminology?

We recommend that SNOMED CT concept identifiers are stored directly in the EMR.

d) If the terminology is managed on an external platform, how often is this updated and sent to the live clinical systems?

The frequency with which the terminology is updated varies from system to system, so different organisations may be using different versions of SNOMED CT.

e) Are all organizations implementing the terminology in the same way?

No. Different system suppliers use different formats for storing and processing SNOMED CT.

### 13.3. Mapping

a) Is there an automatic mapping from SNOMED CT to ICD-10?

The maps from SNOMED CT to ICD-10 are semi-automatic.

b) Is there 100% mapping to ICD-10 or are there terms that have not been successfully mapped?

Only domains of SNOMED CT which overlap in meaning with those of ICD-10 will be mapped. Due to differences in granularity, purpose and rubrics, assignment of a mapping equivalence between the SNOMED CT source and ICD-10 target code is usually not appropriate. Instead, the ICD-10 map will link a SNOMED CT source concept to the ICD-10 code which contains the meaning of the SNOMED CT concept as conceptualized by ICD-10.

All pre-coordinated concepts issued by SNOMED International within the current international release of SNOMED CT with active status within the following SNOMED CT domains may be mapped:

- Clinical finding (disorders and findings) Concept.id 404684003 and descendants
- Event Concept.id 272379006 and descendants
- Situation with explicit context Concept.id 243796009 and descendants

c) In the clinical systems and in the administrative systems are both SNOMED and ICD codes saved or does each system use only one language?

This depends on the system. We recommend that clinical systems collect SNOMED CT codes, and then use the map to suggest suitable ICD codes, which can subsequently be recorded.

### 13.4. Search Engines

a) Is the search engine built in as part of the EMR or is there a link to an external search engine?

Vendor solutions have their own search functionality built in.

b) If it is built into the EMR, have you seen discrepancies in the coding results in different EMR's?

No discrepancies – however, there are differences in the order in which search results are returned and displayed.

c) What are the characteristics of the embedded search engines? Is there a difference in the user experience in different institutions?

See above

d) Is the search in free language? Is it able to search abbreviations?

This varies between systems, and depends on whether abbreviations have been added to the terminology. Typically, systems require a minimum of three characters for most searches – however, this is defined within a vendor system.

e) Are there monitoring systems in place to analyze what terms are searched and what results were chosen?

This is vendor specific.

## 13.5. Managing the Preferred Terms

a) Does a terminology service analyze and remember common uses on the level of the specific user or does the user have to create the common hit list?

Some vendor solutions implement a “favourites” list, which can either be system-defined, user-defined or learnt from common usage.