SNOMED-CT - How-to guide for clinicians

Background

What is SNOMED-CT?

SNOMED-CT is an international, standardised, comprehensive, multilingual vocabulary of clinical terminology, which allows clinicians to accurately record patient data at the point of care and share information across health systems.

It is much broader than classification systems such as ICD-10. While the latter captures diagnoses only, SNOMED-CT allows description of situations, interventions, procedures, symptoms, family history, allergies, assessment and classification tools and devices as well as health conditions. Essentially anything relevant to healthcare delivery can be described using SNOMED-CT.

The SNOMED-CT concepts can be embedded into electronic health records, meaning that data can be collected consistently in any setting. It represents the combination of American Pathology SNOMED - reference terms and Read Clinical Terms. Read codes have been used in general practice in the UK since 1985, but are being superseded by SNOMED-CT.
Dr Karen Horridge, a consultant in paediatric disability, has developed video presentations on how she used SNOMED-CT to collect data in Sunderland Royal Hospital and the benefits that have resulted from this - watch these videos.

**Why should I be interested in SNOMED-CT?**

SNOMED-CT has many benefits - it allows clinicians to:

- capture data about the multi-faceted needs of their patients at each contact and follow changes over time
- share vital information consistently within and across healthcare settings
- interpret outcome data
- effectively audit their unit / department
- improve research
- assist in developing business cases
- prevent imprecise use of clinical language.

Dr Andy Spencer (former Chair of the Informatics for Quality Committee) hosted an RCPCH webinar in March 2018, which outlined reasons why it is important for clinicians to get involved with the development of SNOMED-CT concepts. It is recommended that development of the terminology sets is clinically-led to accurately represent concepts that will be used in practice. You can access the webinar and presentation slides through RCPCH Compass.

**Who is responsible for implementing SNOMED-CT?**

This is a shared responsibility between clinicians, managers, data and IT teams, and commissioners.

The 'Personalised Health and Care 2020' policy paper sets out a move to using SNOMED-CT as the single form of clinical terminology in systems in all care settings. The Information Standards Notices set out by NHS Digital act as an incentive for suppliers to output SNOMED-CT codes in applicable data sets (including the Community Services Data Set) - the care providers should ensure that their clinical system supplier conforms to this.

**What is driving adoption of SNOMED-CT and when will it be introduced?**


In England, SNOMED-CT has been implemented across Primary Care settings from April 2018. No new Read codes can be requested and system suppliers have migration plans in place. Secondary Care, Acute Care, Mental Health, Community systems, Dentistry and other systems used in the direct management of care of an individual must use SNOMED-CT as the clinical terminology from 1 April 2020.
Some systems and/or providers already allow for SNOMED-CT concepts to be captured - these can be found online through SNOMED in action.

Once terminologies have been agreed and a detailed explanatory glossary produced, clinicians will only need to capture the agreed terms whose SNOMED-CT concepts will flow 'behind the scenes' and be used for all the purposes that previous coding systems fulfilled (for example, ICD-10, HRG, PBR, etc.). Individual domains of use may choose to have clinical audits and national reports using SNOMED-CT concepts, this should minimise the burden for reporting organisations. Areas that have already been considered are the areas where novel therapies are commonly unavailable or grouped under 'not elsewhere classified'.

Will the concepts be the same for primary and secondary care? And will they be the same for adult and children's services?

The goal is that the same concepts be used across all levels of health care and in all settings to allow for accurate comparisons and analyses. SNOMED-CT is to be the coding terminology for the NHS as a whole, not just for doctors. If the concept is the same, it should be the same for everyone, there will be some uniquely paediatric conditions but generally unless the real world has named them differently they are not different in SNOMED-CT.

Specialty groups are encouraged to communicate with primary care and adult services to develop concepts appropriately and consistently.

Terminologists in the Department of Health & Social Care can assist in signposting specialty groups to terminology glossaries that have already been developed by other disciplines (ie dietetics) to ensure 'read across' and save duplication of effort.

Social care is also within the scope of SNOMED-CT., but the timescales are more fluid at present.

Is there an implementation plan for SNOMED-CT in the devolved nations?

The devolved nations are actively involved in SNOMED-CT appraisal and adoption, although there are no clearly published timelines. However, it is essential that there is agreement among clinicians across all parts of the UK about which concepts to use, so that sub-populations can be accurately compared across all of the UK. If there is UK-wide agreement amongst clinicians about the concepts to be used, this can be made clear in the metadata, which is available through NHS Digital.

Setting up SNOMED-CT

What are the types of concepts that need to be identified?

Concepts identified for inclusion in a SNOMED-CT terminology set should include specific health conditions, body structure, function, activities, participation and personal and environmental factors... They can be as granular as necessary.

The concepts that are applicable for a child may change along their journey of care as needs are identified more precisely. For example, a young child whose development is out of the
typical range for age may be described at the first appointment using the concept 'early developmental impairment'. When the chromosome analysis reveals a more specific diagnosis, the concept 'chomosomal condition' may then be used. Once the child starts school and has a formal education psychology assessment, the concept 'severe intellectual impairment' will more accurately and precisely define their learning needs.

All aspects can be coded as concepts. The content is to be used for the clinical record of the subject, not the clinician's activity alone. If it is currently written in the notes and analysis and retrieval is needed, then SNOMED-CT can normally be used.

**Will clinicians be expected to add or check the concept every time they see a child, or is it just final diagnosis?**

Clinicians should capture each and every need of all patients at each point of care. This will make it possible to follow the changing needs of individual patients over time, as well as understand the needs of the patient population or sub-populations.

**What if I cannot find the concept I need in the SNOMED-CT browser?**

It is likely that in developing a SNOMED-CT subset that accurately reflects the holistic needs and situations of your specific patient group that you will identify concepts that would be useful, that are not currently in the SNOMED-CT browser. You can request new concepts, as long as you have the evidence to support their inclusion. It is best to discuss with an experienced terminologist first.

Requests for new content in SNOMED-CT should be made via the Request Submission Portal (RSP).

**What happens to SNOMED-CT concepts once they are added to the electronic record?**

Reporting of diagnostic and healthcare terms that are captured by Community Services at the point of care has been mandated since October 2015 to the Children and Young People's Health Services data set (CYPHS). This evolved into the all-age Community Services Data Set (CSDS) in October 2017.

Data from all publicly funded Community Services should be reported to the CSDS. The more clinicians who report such data, the more comprehensive the analyses can be. Ultimately, once all clinicians are capturing data at all points of care, it will be possible for reports to be created that describe population health, including variations.

Once concepts are entered by the clinician into the electronic record, the data team can extract the SNOMED-CT concepts and report them each month to NHS Digital. NHS Digital then produces reports back to Trusts and Clinical Commissioning Groups.

**Are we continuing to use ICD-10?**

There are no plans for the ICD classification to disappear, certainly in the short- to medium-term.

ICD-11 implementation plans are underway; however, it is anticipated that as more records
are electronic, more efficient ways to map to the classifications will be developed.

ICD-10 is a disease classification system. The equivalent SNOMED-CT concepts can be mapped, but will only make up part of the SNOMED-CT glossary of concepts. Specialty groups should identify the ICD-10 codes that reflect their SNOMED-CT diagnostic concepts and are encouraged to identify or develop relevant SNOMED-CT concepts that describe the wider needs of their patients also.

How does SNOMED-CT link to the Emergency Care Data Set (ECDS)?

Data reporting to the EDCS has been mandated since October 2017. The ECDS contains 108 items, underpinned by SNOMED-CT concepts. There are subsets to support many areas of this, and implementation details are available online.

What are the SNOMED-CT hierarchies?

SNOMED-CT is a hierarchical terminology system. Individual concepts have 'parent' concepts and may also have 'child' or 'children' (these are essentially sub-types) concepts. These hierarchies are known as 'Is-A' relationships.

For example, searching on the NHS Digital SNOMED-CT browser for the concept 'Respiratory Tract Infection' identifies 'parent' and 'children' concepts - 'Acute respiratory infection' 'Is-A' 'Disorder of respiratory system'.

Development of SNOMED-CT specialty subsets

How can I get involved?

RCPCH specialty groups are currently working to produce SNOMED-CT concepts relevant to their special interest. Different groups are at different stages in the development of concepts. The first step to get involved is to contact your specialty group.

These specialty groups may wish to consider examining and/or working with adult equivalent groups or looking at primary care queries for Quality and Outcomes Framework (QOF). These may help find the right areas of SNOMED-CT, even if you then need to focus on your area.

What has already been produced for SNOMED-CT?

Comprehensive SNOMED-CT concepts already exist. We do not want to duplicate efforts. General terminology has already been produced - search for existing concepts through the SNOMED-CT browser. The aim of the specialty groups' work is to build on work already done and produce more specific subsets.

The Paediatric Disability explanatory glossary was developed with input from general paediatricians, community paediatricians and disable children, with input from allied health professionals and parent / carer representatives. It includes 'high level' concepts across the breadth of paediatrics, with concepts in the field of paediatric disability at a more granular level.
Find out what is already included in the Paediatric Disability Glossary.

**How does my specialty get help from a UK terminologist to develop a SNOMED-CT subset?**

Subsets can be requested through the Request Submission Portal (RSP), which is the best way to raise a formal requirement. NHS Digital can provide support depending upon the scale and purpose of the request.

The terminology service may charge fees for assistance in projects - this should be considered if you apply for funding to assist in your work.

**I'm busy - how can I prioritise this work when I do not have dedicated time in my job description?**

The reward of developing terminology sets will pay off in the long term. Having accurate concepts will allow for clinicians to provide more effective care delivery. Management should support their staff to engage in this work.

**How can I generate interest among specialty group members?**

We have found there to be considerable appetite and willingness to get involved in SNOMED-CT work from RCPCH and specialty group members. We recommend circulating an e-flyer amongst your members to prompt individuals to volunteer their time to engage with SNOMED-CT concept development.

**How many people should be involved in the SNOMED-CT steering group for each specialty group?**

There is no set number of clinicians who should be involved in each working group. What matters more is that all aspects are represented - consideration should be given to including parents and young people, where possible.

The development group for the Explanatory Glossary of Paediatric terms included paediatricians, allied health professionals and parent / carer representatives.

**Do we need to meet face-to-face to create concept lists?**

It is best to set up an email group and to progress the work electronically. Telephone conferences, webinars or face-to-face meetings are most useful to discuss and agree. The final list of concepts to be included in the subset should be agreed by a terminologist.

It is important that groups set a timeline at the outset, so that work progresses, building on work that has already been done, rather than starting from scratch.

The concepts should be recorded in Microsoft Excel.
Specialty groups can access free meeting space within RCPCH offices on an annual basis. SNOMED-CT should discuss this option with their specialty group Chair if it is necessary to meet face-to-face.

**How many concepts is too many? How many is too few?**

SNOMED-CT coding allows for synonyms to be assigned to each concept; therefore, agreement must be reached on the general title for the concept.

It is recommended that not too many concepts are produced. Unless truly breaking new ground, if your subset has more than 20% new content, you may have missed content which already exists but it is described differently in SNOMED-CT. This is based on previous experience with many domains of practice.

For any concepts where meaning may be ambiguous, it is helpful to produce a glossary, with definitions for each concept. Please see the Explanatory Glossary of Paediatric Disability terms for an example of what should be included. Developing training materials to aid consistency of use may also be helpful.

It may be helpful to put the concepts into a hierarchy - by considering the patient journey from first presentation, when the needs described may be at a higher level than later on, when more precise diagnoses and descriptions should be possible.

**How can a group reach consensus on agreeing a list of SNOMED-CT concepts?**

Groups may struggle to agree on coding when there are multiple terms / ways of defining a condition. However, it is important that consensus is reached. This can be achieved by ensuring multidisciplinary input, considering best available evidence and consulting a SNOMED-CT terminologist, who can signpost to work already done in the field.

Ideally, the proposed concepts should be shared for consultation with clinicians via the specialty group membership. Different concepts may be used by different clinicians across the country, these need to be picked up within the SNOMED-CT terminology set to ensure that description and coding is consistent. The consultation period should last for 12 weeks.

Ideally, clinicians should test the draft concepts in practice. This will demonstrate whether any concepts are redundant and what new concepts need to be added.

**How long does it take to create a list of concepts?**

If novel content is required, and for formal subset publication, allow at least 6-12 months from the point at which your content is fairly defined.

If you need to mandate through an Information Standards Notice, a further year is likely. If developing a standard to mandate, please find more information from NHS Digital or contact: standards.assurance@nhs.net

**We've created a list of concepts - what next?**

You should contact NHS Digital to ensure that your terms are incorporated into SNOMED-CT.
NHS Digital and SNOMED International will assign a SNOMED-CT number to each concept, once they have been agreed and finalised by your group.

**What happens if my specialty group does not get involved with SNOMED-CT before the deadline?**

SNOMED-CT will be introduced whether specialty groups engage or not.

If specialty groups do not produce a subset of concepts, then they will struggle to accurately describe and code patient data in the future. They will have to retrospectively add concepts into the SNOMED-CT system.

A properly planned and tested list of SNOMED-CT concepts will allow for data to be correctly captured straight away.

It will be possible for concepts to be added at a later date, so no need to panic if the concepts aren't fully developed by 2020. However, any specific screen designs may be more challenging later.

**Maintaining SNOMED-CT concepts**

**How does SNOMED-CT link to the work of NHS currencies / payment models?**

From September 2017, the Pricing Team at NHS England began working with experts and specialty groups to develop currencies for community healthcare. These currencies have been developed to focus on the needs of people in five areas: children and young people, long term conditions, frailty, single episodes of care and the last year of life.

From July 2018, these currencies are being tested using the nationally mandated Community Services Data Set (CSDS). All of the currencies use SNOMED-CT codes for the various measures and outcomes they use in line with NHS Digital standards.

If you would like more information on the currency development work or would be interested in testing, please contact england.communitycurrencies@nhs.net.

**How can the RCPCH support development of terminology subsets?**

RCPCH will support specialty groups in the following capacity:

- promoting the importance of specialty groups engaging in SNOMED-CT
- connecting interested individuals to specialty groups / steering groups
- producing a webinar for members
- collating useful resources for clinicians / signposting to other organisations
- sharing best practice from specialty groups that have successfully produced SNOMED-CT terminology subsets
- advice from members of the RCPCH Informatics for Quality Committee.

RCPCH support will come from the RCPCH Informatics for Quality Committee and the
Top tips for successfully implementing SNOMED-CT

1. **Communication with other groups** - don't duplicate efforts; use the concepts that already exist in the Explanatory Glossary of Paediatric terms
2. Engaged and **passionate clinical leadership** to drive forward
3. Making a plan with **realistic timescales** - drive progress forward and share developments with other group members
4. **Multi-disciplinary consultation** - make sure concepts are accurate
5. Making use of existing **resources and contacts**

- **3.** Horridge, K. et al. (2016) 'Prospective pilots of routine data capture by paediatricians in clinics and validation of the Disabilities Complexity Scale', Developmental Medicine & Child Neurology, 58(6), pp.581-588

External links
- SNOMED-CT browser
- SNOMED-CT document and resource library
- NHS Digital SNOMED-CT implementation plan
- NHS Digital education and training resources
- SNOMED-CT in action
- SNOMED-CT Request Submission Portal