SNOMED CT
(Systematized Nomenclature of Medicine Clinical Terms)

February 2019
Agenda

• What is SNOMED CT and it’s benefits
• Differences and changes between Read and SNOMED CT terms
• The new SNOMED CT code picker in EMIS Web
• New features in the Care Record
• Getting ready for the transition – actions for your organisation now
• Phased SNOMED CT implementation & functionality delivered in EMIS Web 8.2, 8.5 and 8.6
• Getting ready for EMIS Web 9.1, full SNOMED CT functionality
• Guidance and online learning resources
• Q&A
What is SNOMED CT?

SNOMED CT is the clinical vocabulary chosen to replace Read codes for all primary care clinical systems in England.

SNOMED CT is targeted to be used across the entire NHS England by 2020 (including community and secondary care).
As technology has advanced .... so has the need for a modern coding system

READ codes have served the NHS well since the 1980s for recording clinical information about patients BUT its approach is now outdated.
Benefits of SNOMED CT

The SNOMED CT coding vocabulary is:

- More extensive, more clinical specialities are now available
- Unambiguous
- Consistent in naming conventions
- Addresses shortfalls in Read coding
- Uses international terminology of clinical terms
A single vocabulary nationally across all healthcare systems
Benefits of single clinical coding

By using one clinical coding system for recording patient data:

• Provides consistency of clinical terminology across different healthcare systems

• Removes the need for re-coding content as data is transferred from one clinical system to another - reduces the possibility of losing or degrading text

• Enables more interoperability between clinical systems

• Makes data sharing, reporting, management and clinical decision easier to support improvements to patient care
What areas of EMIS Web will SNOMED CT affect?

All areas that use clinical codes – the main areas affected are:

• Care Record
• Searches and reports
• Templates
• Concepts
• Protocols
• Extract services (PDES and GPES)
• GP2GP
• Summary Care Record (SCR)
• Electronic Referral Service (eRS)
Mapping Read codes to SNOMED CT

• Read codes have been mapped in the background to their SNOMED CT equivalents already

• After transition to SNOMED CT coding, all historical data in EMIS Web will retain the Read clinical term entered at the point of entry

• Read terms use the mapped SNOMED CT term to allow searches written in SNOMED CT to work correctly over historical data

• Mapping tables have been produced by clinical experts in collaboration with the Joint GP IT Committee (JGITC)
Differences between Read and SNOMED CT
### Differences

<table>
<thead>
<tr>
<th>Read code term</th>
<th>SNOMED CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 characters</td>
<td>6 - 18 digits</td>
</tr>
<tr>
<td>Contains errors and out of date terms</td>
<td>Can be made obsolete (non-selectable) as required</td>
</tr>
<tr>
<td>Limited to 5 levels</td>
<td>Can have infinite number of children – no restrictions</td>
</tr>
<tr>
<td>Can only have 1 parent code (which has led to duplicates)</td>
<td>Can have multiple parents (no duplicates)</td>
</tr>
<tr>
<td></td>
<td>Won’t run out of codes in the right places</td>
</tr>
</tbody>
</table>
Common Read term mapping changes

- Some common terms have been mapped where the text in SNOMED CT differs from that in Read, to remove anomalies.

<table>
<thead>
<tr>
<th>Read code term</th>
<th>Maps to SNOMED CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current smoker</td>
<td>Smoker</td>
</tr>
<tr>
<td>Teetotaller</td>
<td>Non-drinker</td>
</tr>
</tbody>
</table>

- For conditions that lack a dedicated code, eg. terms ending in NOS, NEC, NOC are mostly mapped to a SNOMED CT with the same text but without the NOS/NEC/NOC.
Common Read term mapping changes

• Terms with [SO], [M], [V], [Q] and [D] are mapped as a similar term without the prefix letters

<table>
<thead>
<tr>
<th>Read code term</th>
<th>Maps to SNOMED CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>[SO] Lymph node</td>
<td>Structure of lymph node</td>
</tr>
<tr>
<td>[Q] Green stick</td>
<td>Greenstick fracture</td>
</tr>
</tbody>
</table>

• Due to term length restrictions in Read, some terms were abbreviated

<table>
<thead>
<tr>
<th>Read code term</th>
<th>Maps to SNOMED CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECG</td>
<td>Electrocardiographic monitoring</td>
</tr>
<tr>
<td>DNA hospital appointment</td>
<td>Did not attend hospital appointment</td>
</tr>
</tbody>
</table>
Common Read term mapping changes

• Descriptions and word order in SNOMED CT are more consistently constructed compared to Read

<table>
<thead>
<tr>
<th>Read code term</th>
<th>Maps to SNOMED CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nut allergy</td>
<td>Allergy to nut</td>
</tr>
<tr>
<td>Adverse reaction to penicillins</td>
<td>Penicillin adverse reaction</td>
</tr>
</tbody>
</table>

• SNOMED CT editorial rules discourage the use of plural nouns for clarity

<table>
<thead>
<tr>
<th>Read code term</th>
<th>Maps to SNOMED CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sneeze symptoms</td>
<td>Sneeze symptom</td>
</tr>
<tr>
<td>Hip joint operations</td>
<td>Operation on hip joint</td>
</tr>
</tbody>
</table>
Common Read term mapping changes

• Read had no mechanism to enable errors to be corrected, in SNOMED CT spelling corrections have been made plus corrections can be made in the future

<table>
<thead>
<tr>
<th>Read code term</th>
<th>Maps to SNOMED CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tendonitis</td>
<td>Tendinitis</td>
</tr>
</tbody>
</table>

• Clinical terms can become outdated. SNOMED CT enables new updated clinical terms to be added

<table>
<thead>
<tr>
<th>Read code term</th>
<th>Maps to SNOMED CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cretinism</td>
<td>Congenital hypothyroidism</td>
</tr>
<tr>
<td>Glue ear</td>
<td>Chronic mucoid otitis media</td>
</tr>
</tbody>
</table>
Duplicate terms

There are a number of terms that are in Read twice (eg. Measles vaccination) – which are mapped to one SNOMED CT code.

There are also some duplicates that can have different clinical meanings, eg. Thyroid hormone tests.

Can record on patient record as either:
- an observable entity (a procedure that constitutes a finding) or
- a procedure (an activity) – allowing unambiguous selection of the correct code.
Codes moved in the hierarchy

Atrial fibrillation was a child code of Atrial fibrillation and flutter

In SNOMED CT, Atrial fibrillation is now the parent code for Atrial fibrillation and flutter
Obsolete codes

These are codes that have been made un-selectable i.e. can no longer be added to a patient’s record, for example, they can be

• Outdated
• Duplicate
• Meaning is unclear – too ambiguous – no clinical assurance map

In most cases a mapped equivalent SNOMED CT code will be available instead

If no mapped code – use SNOMED CT code hierarchy to search for a new code

**Note:** Obsolete codes will still be available for historical reporting.
Look up Read codes

NHS Digital have provided a national lookup table on their website, that you can use to find a Read code with its mapped SNOMED CT equivalent code and term.

Searching for the outdated term – cretinism – which is now mapped to Congenital hypothyroidism.

Note: Follow the link from the Support Centre
Most EMIS codes are already mapped to SNOMED CT codes

• Will remain in place if there is no equivalent SNOMED CT code

• Some codes will be retired, if a SNOMED CT code is now available
  eg. Injection given. The old EMIS code will be mapped to the new
  SNOMED CT code
Introducing the new SNOMED CT code picker in EMIS Web
The old & new code picker

- NHS number & Usual GP are now showing on the precis bar
- Filters are now displayed as separate tabs
Search for a code

Search on part name(s) or the original Read code

Number of results returned
Hierarchy - parent & child codes

On the right-hand side, the hierarchy for the selected code (concept) is displayed.

Note ➔ indicates more codes in a lower hierarchy
How to display SNOMED CT codes (per user)
SNOMED CT codes are now displayed – the Concept ID and the Description ID
View the synonyms of the selected clinical term

Use the arrow down to display the synonyms of the selected concept
View the synonyms of the selected clinical term

Synonyms are clinical equivalents of the selected term. The synonyms share the same Concept ID as the selected term, but each one has a different Description ID.
Introducing the re-designed Detailed View panels in Care Record for Problems, Investigations, Care History, Documents and Referrals
### Detailed View - Problems

#### Fracture of lateral malleolus

**Type:** Significant  
**Start Date:** 20-Feb-2012  
**End Date:** 21-May-2012  
**Read Code:** S349  
**SNOMED-CT:** 419567010

#### Linked Medication

<table>
<thead>
<tr>
<th>Consultations</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-May-2012</td>
</tr>
<tr>
<td>20-Feb-2012</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Linked Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>28-May-2012</td>
</tr>
</tbody>
</table>

#### Linked Referrals

- **28-Sep-2002**  
  - THE SURGERY  
  - WRIGHT, Derek (Dr.)

- **30-Aug-2002**  
  - Patient File Attachment

#### SNOMED CT

- **Fully specified name:** Fracture of lateral malleolus (disorder)
- **Description ID:** 419567010
- **Concept ID:** 281535004
- **Preferred term:** Fracture of lateral malleolus
- **Parent(s):**
  - Disorder of ankle joint
  - Fracture of distal end of fibula
  - Joint injury
- **Synonyms:**
  - Ankle fracture - lateral malleolus
Detailed View - Investigations

- Body mass index
  - Value: 23.63 kg/m²
  - Authors: FAWELL, Caroline (Mss)
  - User: Read code: 22K
  - SNOMED CT: 300716012

- SNOMED CT
  - Fully specified name: Finding of body mass index (finding)

- Details
  - Date: 08-Jan-2018
  - Value: 23.63 kg/m²
  - Date: 26-Jul-2017
  - Value: 24.03 kg/m²
  - Date: 14-Jul-2017
  - Value: 22.24 kg/m²
  - Date: 02-Mar-1998
  - Value: 22.7

- Trend
  - Dates: 13-Aug-2006, 24.5 Body Mass Index
  - Dates: 06-Aug-2004, 24 Body Mass Index
  - Dates: 05-Jan-1996, 25.2 Body Mass Index

- Synonyms
  - Finding of BMI (body mass index)
  - Observation of body mass index

- Terms
  - Finding of body mass index

- Associated text
  - Oral symptoms are unchanged - unable to eat

- Authors
  - User: PICKERING, Laura (Dr)

- Concept IDs
  - Concept ID: 442609010
  - Concept ID: 301331008
New features

Promoting the preferred term
and
Grouping synonymous terms
Promoting the preferred term

• If a clinical term can be described by more than one term, one of these terms is marked in SNOMED CT as the **preferred term**, eg.

<table>
<thead>
<tr>
<th>SNOMED CT preferred term</th>
<th>Synonyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Otalgia</td>
<td>Ear ache</td>
</tr>
<tr>
<td></td>
<td>Earache</td>
</tr>
<tr>
<td></td>
<td>Ear pain</td>
</tr>
<tr>
<td></td>
<td>Pain in ear</td>
</tr>
</tbody>
</table>

• Select any of these synonyms to code, and EMIS Web will automatically swap to Otalgia
• Organisation setting for all users (on or off)
• Promotes data quality
Promoting the preferred term – add a code

The user has selected **ear ache** to code on the patient’s record – automatically swaps to the preferred term - **Otalgia**

Otalgia will be recorded on the patient’s record, option to still code as ear ache

EMIS Web will group all instances of Otalgia and its synonyms together
Promoting the preferred term – add a consultation

Within a consultation, clinician has selected a synonym (ear pain) which is automatically swapped for the preferred term

View the swaps
Viewing the grouped synonymous terms in Care Record

View all instances of Otalgia together (using the Detailed View panel) – irrespective of which Otalgia synonym was used to code the patient’s record.
Grouping synonymous terms - investigations

View all instances of a code with a value eg. ALT - blood measurement (preferred term) and its synonym, ALT – blood level
Phased implementation
Housekeeping jobs to do now

Recommend tidying up your organisation resources now...

Remove any items that are no longer in use, eg.
  • old employee folders
  • searches not run for the last 13 months
  • copies or copies or copies of old CIS searches

Get ready for SNOMED CT article on the Support Centre
Housekeeping jobs to do now

Searches

• Delete old searches that have not been run for 13 months
• Check and delete where applicable, searches and folders for ex-staff
  Tip: Export any searches to Excel, if you need to keep for historical records
• Add a description to searches so that the purpose of the search and the status is clear

Templates/protocols/concepts

• Deactivate or archive old/duplicate templates/protocols/concepts
Phased implementation

• SNOMED CT is being implemented into EMIS Web in phases

• Delivering additional functionality at each phase

• Gradual approach to make management of the transition as easy as possible
Phased implementation

**EMIS Web 8.2:** dual coding (Read and SNOMED CT)

**EMIS Web 8.5:** search using a SNOMED CT concept ID

**EMIS Web 8.6:** code system tags added + prepare your local resources (general release from January)

**EMIS Web 9.1:** EMIS Web fully transitions to SNOMED CT (scheduled for first of type testing in 5 pilot sites in April)

Implementation FAQs on the Support Centre
EMIS Web 8.2

To support data sent and received externally eg. data extracts, GP2GP transactions

1. In Enquiry Manager, [SNOMED CT] is displayed beside the dual coded extracts

Release notes on the Support Centre
EMIS Web 8.2

In Legacy Data Mapping (System Tools)

2. A new filter option to view which degraded codes will **automatically map to a SNOMED CT code** (in EMIS Web 9.1)

   • No action required now – but can map individually if required for a clinical decision
EMIS Web 8.2

What can you do with the rest of the degraded codes?

• Our advice is to see if you can map them to a Read code now, which in turn will then be mapped to a SNOMED CT code when you receive EMIS Web 9.1
• May need clinical guidance from a member of your team
• Practice’s decision what to do with local degraded codes
EMIS Web 8.5

As national specifications 2018-19 (eg GPES, QOF) have been published using SNOMED CT concept ID codes

1. Detailed View pane update
   View the mapped SNOMED CT concept ID (previously the SNOMED CT description ID was displayed)

Release notes on the Support Centre
2. Find mapped Read codes using a SNOMED CT concept ID

Example:
Asthma has a SNOMED CT concept ID, 195967001

In the search results, there are five Read code terms mapped to this one SNOMED CT concept ID.
3. Display SNOMED CT concept IDs in the code picker

In the code picker screen options, you can view SNOMED CT concept IDs in place of Read codes.

Note: this is for reference only. You cannot add SNOMED CT codes into a Read system.
EMIS Web 8.6, 8.7 or 8.8

- Code system tags added to every resource
- Indicates which coding system clinical codes were added from - Read, SNOMED CT or N/A (no clinical codes added)
- Displayed in either the **Details** or **General** tab depending on the module

In Population Manager

In other modules
Your local resources

Such as….

searches, reports, templates, concepts, protocols, clinical templates, document templates, triggers, recall schedules, care record filters

Will all my local resources that were created using Read coding still continue to work when we transition to SNOMED CT coding?

Yes. You do not need to re-author your local resources when your practice receives EMIS Web 9.1, as they will continue to work using the Read code hierarchy.
Your local resources

Can I edit or copy my existing local resource that contain Read code hierarchies and add new SNOMED CT codes?

No. EMIS Web cannot support resources that use a mix of both Read and SNOMED CT code hierarchies. Therefore, any resource that supported a Read code hierarchy before EMIS Web 9.1 will be ‘locked’ into this Read code hierarchy after EMIS Web 9.1, and will be subject to editing and copying restrictions.

If my local resources contain no clinical codes are they affected by the editing and copying restrictions?

No. For easy of reference, these resources will have the code system tag – N/A.
Why have editing and copying been restricted?

Clinical codes used in resources work in one of two ways:

As a single code i.e. a search that checks specifically for a single code
These codes can be mapped to a single SNOMED CT code

OR

As part of a code hierarchy eg. a search that checks for a code plus any of its dependent child codes
Although Read codes map to a SNOMED CT code, the code hierarchies can be structured very differently
Read code v SNOMED CT hierarchies

An example of those code hierarchies differences is Atrial fibrillation and flutter.

In a Read code hierarchy is a parent code of both Atrial fibrillation and Atrial flutter.

Compare the position of the coloured arrows in the Read code hierarchy to how they show in the respective SNOMED CT code hierarchies.
Read code v SNOMED CT hierarchies

• The differences in Read code hierarchies and SNOMED CT code hierarchies applies to thousands of clinical codes

• If we allowed editing/copying of locally created resources written using Read code hierarchies, it would be unsafe to add new codes that use a SNOMED CT code hierarchy

• EMIS Web can’t support resources that use a mix of both Read code hierarchies and SNOMED CT code hierarchies

• All EMIS authored library resources and items will be converted to use SNOMED CT code hierarchies
Preparation suggestions

From EMIS Web 8.6 onwards to when you receive 9.1

Consider a review

• Local searches, reports, concepts, triggers, document templates or filters that contain any clinical codes

• Local clinical templates or library item templates that contain code hierarchy components

Consider prioritising and concentrate on particular types of local resource that are most frequently used in your practice

Different potential preparation options, depending upon the resource type
Preparation guidance

It’s your practice’s decision to do some or all of this preparation work – what works best for your organisation:

Two options:

1. **If your practice chooses not to do any of the suggested preparation work:**
   - All your local resources will still continue to work when you receive EMIS Web 9.1 including those that contain clinical codes
   - They will run using Read code hierarchies
   - Those with Read code hierarchies will be “locked” (no editing or copying allowed)
   - When these resources require updating over time – you will need to recreate using SNOMED CT code hierarchies
Preparation guidance

2. If your practice chooses to do some or all of your local resources preparation:

• Consider prioritising and concentrating on particular types of local resource that are most frequently used in your practice eg.
  • clinical templates that are used for consultations
  • complex searches with multiple rules and features

• Plan and record the work you do as a reference
Support Centre guidance

There are different preparation options, depending upon the resource type. For each type of resource a Support Centre page with

- Guidance and preparation tips for the resource type
- A summary table indicating the behaviour of the resource from EMIS Web 9.1

Using clinical templates as an example…..
Preparation suggestions for clinical templates

How to find the clinical templates or library items that you won’t be able to update once you’ve received EMIS Web 9.1

<table>
<thead>
<tr>
<th>Type of template/library item created before EMIS Web 9.1</th>
<th>Code system tag in EMIS Web 9.1</th>
<th>Run</th>
<th>View</th>
<th>Edit</th>
<th>Copy</th>
<th>Import</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Template/library item containing code hierarchy components</td>
<td>Read v2</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
</tr>
<tr>
<td>Template/library item containing clinical codes but no code hierarchy components</td>
<td>SNOMED CT</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
</tr>
<tr>
<td>Template/library item with no clinical codes</td>
<td>N/A</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
</tr>
</tbody>
</table>
Preparation suggestions for clinical templates

If you have created a template using Read codes **but with no code hierarchy components**, in EMIS Web 9.1 the codes in the template will map to SNOMED CT codes and you will still be able to copy or edit this template.

These data entry components are NOT code hierarchy components – therefore will not be affected by editing restrictions.
Preparation suggestions for clinical templates

These are data entry code hierarchy components – therefore are affected by the editing restrictions

Templates with these components ..... consider our suggested actions
Suggested actions you can take NOW for clinical templates

• Archive redundant templates and library items

• If you want to continue using other aspects of a clinical template that contain code hierarchy components after receiving EMIS Web 9.1
  Back up parts of your clinical templates as library items or library templates (for sections or pages)

• Back up clinical templates by making copies and removing the code hierarchy components (to reuse copy in EMIS Web 9.1)
Actions you can take after receiving EMIS Web 9.1 for clinical templates

• Make use of EMIS authored library items: will automatically be updated to use the correct SNOMED CT code hierarchies without you having to update the templates yourself

• Re-use backed up templates when needed from your copies: adding in the code hierarchy components using SNOMED CT codes

• Re-create the template from scratch using SNOMED CT codes
Summary

• You still have full use of your local resources that don’t contain clinical code hierarchies

• You don’t have to re-author your local resources that contain clinical code hierarchies – they will continue to work using the Read code hierarchy

• You can recreate any local resource as and when required after EMIS Web 9.1 using SNOMED CT codes

• Not all SNOMED CT codes will be initially available – just the EMIS SNOMED CT subset = Read codes that map to an equivalent SNOMED CT code and EMIS codes including codes required for national specifications
Your checklist

1. Housekeeping – delete/archive any local resources no longer needed

2. Review your local resources by resource type – which ones are vital to your practice that you may want to update first – prioritise

3. Consider doing preparation work (before EMIS Web 9.1 – scheduled from June onwards) for your priority resource type eg clinical templates
EMIS Web 9.1

Working with our early adopter organisations (5 pilot sites across England) from April 2019

• This testing period is expected to last 6 weeks
• Require rollout approval from NHS Digital
• Scheduled general release from June onwards
Implementation FAQs            Finding and filtering codes
Preparing your local resources
Terminology       New code picker       Release notes
Care Record enhancements
Promoting the preferred term       SNOMED CT categories
Free live and recorded online learning sessions
Thank you for your time

Any questions?