SNOMED CT
An Introduction

SCIMP
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Stands for!

- Systematised
- Nomenclature
- Of
- MEDicine
- Clinical
- Terms
Is...

What is SNOMED CT?

The Systematized Nomenclature of Medicine (SNOMED) is a systematic, computer-processable collection of medical terms, in human and veterinary medicine, to provide codes, terms, synonyms and definitions which cover anatomy, diseases, findings, procedures, microorganisms, substances, etc.
= A spade

= Common Cold 82272006
Read Codes

- Flat Hierarchy
- Parent & Child
- One way up or down
- Code – 5 Bytes H33..
- Term – the description
- Keywords – shorthand (not in SNOMEDCT)
- Synonyms and Preferred Terms
Problems with Read

• Qualifiers
  • Negation
• Semantic issues
  • Student
  • CKD
• Flat Hierarchy
• Incorrect Synonyms
• Scalability & Scope
“Common cold”
Common cold (disorder)
SCTID: 82272006

“On Exam Blood Pressure”
On examination – bp reading (finding)
SCTID: 163020007

“Gout”
Gout (disorder)
SCTID: 90560007
Body Structure (body structure)

Clinical finding (finding)
**Clinical finding** represents the result of a clinical observation, assessment or judgment and includes normal and abnormal clinical states (e.g. asthma, headache, normal breath sounds). The clinical finding hierarchy includes concept used to represent diagnoses.

**Procedure** represents activities performed in the provision of health care. This includes not only invasive procedures but also administration of medicines, imaging, education, therapies and administrative procedures (e.g. appendectomy, physiotherapy, subcutaneous injection).

**Observable entity** represents a question or assessment which can produce an answer or result (e.g. systolic blood pressure, color of iris, gender).

**Situation with explicit context** represents concepts in which the clinical context is specified as part of the definition of the concept itself. These include presence or absence of a condition, whether a clinical finding is current, in the past or relates to someone other than the subject of the record (e.g. endoscopy arranged, past history of myocardial infarction, family history of glaucoma).
Is a
“Meningitis caused by meningococci”

Other Bacterial Disease
A360..

Inflammatory Disease of CNS
F005.

OR

But not both at the same time...
Meningococcal meningitis (disorder)

Is A

Bacterial meningitis (disorder)

Is A

Infective meningitis (disorder)

Is A

Bacterial infection of central nervous system (disorder)

Is A

Disease due to Neisseria (disorder)
MORE
FUN than
a handbag
Full of
SNAKES
Review!

- SNOMEDCT – Stands for...
- Concept – core idea
- Fully Specified Name
- Concept ID
- Polyhierarchy
Attributes (Relationship Types)

• Further defines concepts
  • Finding Site – what bit does it affect?
  • Causative Agent – what thing causes this?
  • Associated Morphology – what happens at a tissue level?

• 50 types used by 9 hierarchies

• Logical model stops silliness
  • Domain – The Hierarchy to which the attribute can be applied
    |Procedure| cannot have |associated morphology|
  • Range – the set of concepts allowed as values
    The range for the attribute |finding site| is |body structure|
Meningococcal meningitis (disorder)

- Pathological Process
- Associated Morphology

- Infectious Process
- Inflammation
Identifiers

- Are the numbers
- Unique for every concept, description, relationship
- Up to 18 digits
- Not going to remember them!
- Use your words!
Descriptions

• Description Types
  • Fully Specified Name (has brackets (hierarchy))
    • Not meant to be used in records interfaces (!)
  • Synonyms

• Acceptability
  • Preferred (only one)
  • Acceptable (none to many)
<table>
<thead>
<tr>
<th>Term</th>
<th>Acceptability(GB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myocardial infarction (disorder)</td>
<td>Preferred</td>
</tr>
<tr>
<td>Cardiac infarction</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Heart attack</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Infarction of heart</td>
<td>Acceptable</td>
</tr>
<tr>
<td>MI - Myocardial infarction</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Myocardial infarct</td>
<td>Acceptable</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>Preferred</td>
</tr>
</tbody>
</table>
SNOMED CT Migration

• NHS Digital Requirements
• Why?
• When?
• What will happen?
Why?

• Read is full
• Read is wrong and cannot be changed
• SNOMED CT is across health care
• SNOMED CT is international
• SNOMED CT better at communicating computable clinical meaning
2 June - An Advanced Notification has been issued by the Standardisation Committee for Care Information (SCCI) which announced changes to the SNOMED CT standard, including that systems used by primary care service providers must adopt SNOMED CT as the clinical terminology within the system before the 1 April 2018.
What will happen?

- Mapped Read to SNOMED CT
- Read Code and Term preserved on migrated data
- Assured terms
- Functions to be able to remap un-assured
- All user interaction driven by/using Read2 and CTV3 terminology to be driven by/using SNOMED CT
- SNOMED CT to Read for some terms
- Suppliers build interface
- Clinical Assurance Programme
Pre & Post Co-ordination

Pre-coordinated
• Use a single SNOMED CT identifier
• Already in SNOMED CT
• Provided for you

Post-coordinated
• Contain more than one SNOMED CT identifier
• Allows additional detail e.g. laterality
• Expressed using SNOMED CT compositional grammar
• Can be computed to equivalence
• Can be used to generate clinical ideas not in SNOMED CT Pre-coordinated concepts
Reference Sets

• A defined mechanism to:
  • Refer to a subset of SNOMED CT components
  • Add customised information to components

• Allows for:
  • Languages
  • Maps (from Read, ICD10)
  • Picklists
  • Hierarchies and Ordered Lists

• Need authored and maintained!
More Information

- IHTSDO Learning Centre: [http://www.ihtsdo.org/snomed-ct/learn-more](http://www.ihtsdo.org/snomed-ct/learn-more)