

SNOMED CT AND TERMINOLOGY SERVICES

Janice Watson October 30th 2015

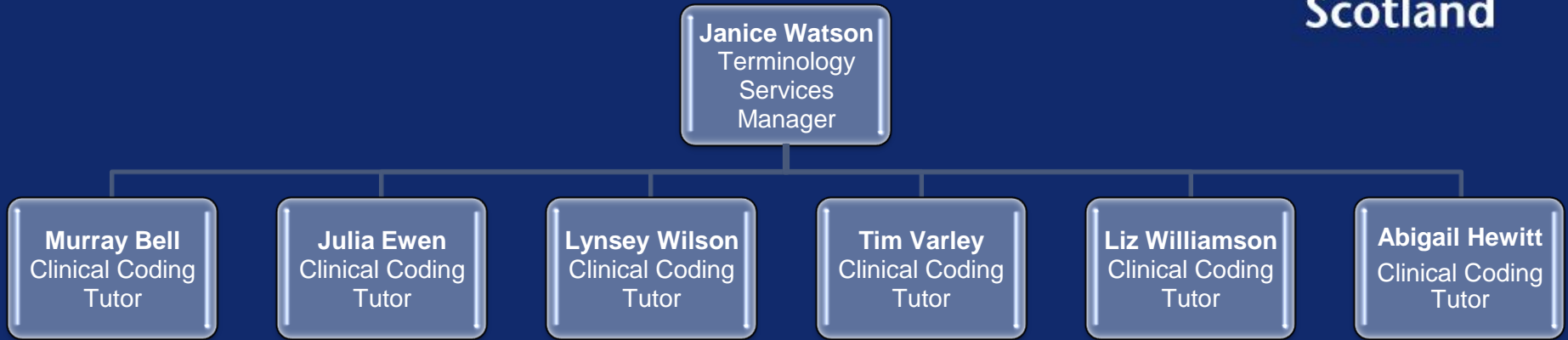
ISD Terminology Services



OUR SERVICES

- Clinical terminology and classification training, advice and support
- Clinical terminology and classification maintenance
- Communications and publications (e.g. publication of National Clinical Coding Guidelines, training materials etc)
- Terminology and Classifications Governance – at Scottish and UK levels

The Team



For more information on our services visit:

<http://www.isdscotland.org/terminology>

Clinical Coding helpdesk operates Tues-Thursday 9am-5pm

Tel 0131-275-7283 or email NSS.terminology.help@nhs.net

Role of the NHS Scotland Terminology Services (1)



- Provide terminology and classifications support and expertise to NHS Scotland and its healthcare partners (mainly ICD10, OPCS4, Read, and (in future) SNOMED CT)
- Operate an expert led helpdesk to help answer classifications and terminology queries from coders, analysts, clinicians, researchers, developers Government, etc
- Manage the introduction of new and updated classification systems to NHS Scotland (OPCS and ICD10)
- Provide free, bespoke training and awareness sessions on classifications and terminologies to NHS Scotland staff – mainly clinical coders and analysts but other clinical and non clinical (e.g. IT) staff too – from Lerwick to Stranraer!

Role of the NHS Scotland Terminology Services (2)



- We help to identify correct coding and terminology requirements for national healthcare programmes and services and broker requests for new codes to fill gaps in terminologies and classifications (Read, SNOMED CT, OPCS, NICIP)
- Manage governance processes for use of classifications in NHS Scotland through the Clinical Coding Review Group and develop and publish Scottish Clinical Coding Standards for NHS Scotland.
- Represent Scottish clinical coding interests at UK level – membership of UKTC Terminology Governance Board, Coding Review Panel (classifications)
- **Contact**
 - E-mail: nss.terminologyhelp@nhs.net
 - Telephone: 0131-275-7283 Tues-Thurs from 9am to 5pm

Organising Clinical Information

3 processes

- Terminology - for recording patient care
e.g. Read, SNOMED CT
- Encoding - for statistics and management
e.g. ICD10, OPCS4
- Grouping - for costing and other analysis
e.g. Healthcare Resource Groups/Diagnostic
Resource groups

Classifications Systems vs Terminologies



Classifications

- Structured with rules – easier to compare and analyse
- Not good at incorporating up-to-date clinical language
- Not designed to record routine clinical care
- Require an understanding of coding rules and dependent on getting the right information from the patient record
- Perception that secondary use information not a clinical priority

Terminologies

- Good at incorporating up-to-date clinical language
- Could be used to record routine clinical care in fine detail
- Electronic based – can embed in systems and record at point of care by clinicians
- Too many choices and no rules – hard to compare
- Systems not sufficiently developed to constrain choices
- Difficult to aggregate and analyse

Cross maps help but require clinical verification

Why Not Keep Read Codes?

- Read terminology contains a lot of terms now deemed inappropriate to modern medicine and modern society - some terms are based on ICD9
- Read terms cannot be retired
- Read is running out of space resulting in terms having to be squeezed into inappropriate categories making them hard to find
- Read can't cover areas well such as microbiology, histology, radiology etc
- HSCIC will not update Read from April 2016

Benefits of SNOMED CT

- Coverage – covers all clinical domains
- International
- Supports interoperability – between Primary and Secondary care
- Keeps up to date with current medical practice – out of date terms can be retired
- Expandable – not constrained by code structure
- Read terms are incorporated into SNOMED CT

Read and SNOMED CT – similarities and differences

	Read Version 2	SNOMED CT
Number of terms	>90,000	>600,000
Structure	Hierarchical	Polyhierarchical – term can have more than one parent
Term description length	30, 60 and 198 character descriptions	Up to 255 characters
Synonyms?	Yes	Yes
Retire terms?	No	Yes
Code format	Letters and numbers. Up to 5 characters (including dots) and is case sensitive (8 character field length)	Numeric – up to 26 digits – does not contain information on location in hierarchy
Updates	Every 6 months	Every 6 months
Distribution	TRUD	TRUD

Scottish Government Parliamentary Question:
How many accidents occur at the seaside?
Can't be answered by ICD classification but could
use post coordinated SNOMED CT?



Challenges – data quality

- No agreed recording rules or guidance on level of detail required so e.g. if a patient presents with asthma one clinician may record this as asthma, another may record as symptoms of asthma, another may record as breathing difficulties etc. This makes retrieval difficult and may limit what conclusions can be drawn from the observations.
- Data entry errors - can have same term descriptions in different hierarchies making it easy to choose the wrong concept e.g. DNA – ‘did not attend’ or ‘Deoxyribonucleic acid’?

Some possible solutions

- Agreement on commonly used terms – subsets and drop downs
- Constrain choices - develop clinical systems with sophisticated data entry which constrain which areas of the terminology are made available for a given field e.g. to ensure that a procedure term doesn't get recorded in a diagnosis field
- Have intelligent search engines that provide relevant terms and sophisticated browsers for refining searches and clarifying choices

Challenges – analysis

- Unlike Read, SNOMED CT Concept IDs do not indicate where a term is located in a SNOMED CT hierarchy
- Not a lot of commercial reporting tools currently available
- Problem of inactive codes in RF1 format

Possible interim solutions

- Backmap to Read and analyse – may lose required level of detail
- Use HSCIC query table (from TRUD) to deal with issue of inactive concepts

SNOMED CT Development



- Created by a merging of SNOMED RT (College of Pathologists terminology) and Read CTV3 in 1999 – to form the Systematised Nomenclature of Medicine Clinical Terms
- Now managed and distributed by the non profit International Health Terminology Standards Development Organisation (IHTSDO) now based in London www.ihtsdo.org
- IHTSDO now has 27 member states including Canada, US, Australia, India, Malaysia and UK – member countries pay IHTSDO a licence fee to allow their affiliate organisations to use SNOMED CT free of charge in the member state – Scotland contributes to UK license fees.

SNOMED CT Licensing



- SNOMED CT is free to access and use in the UK for UK healthcare applications via an 'affiliate' license
- Healthcare staff using a system deploying SNOMED CT do not need a license – this is the developer's responsibility
- Royalty free licenses are available to organisations undertaking healthcare related research and development activities that use SNOMED CT
- In the UK this licensing is managed through the HSCIC TRUD website. The files are also available to download from TRUD. Read codes and Radiology imaging codes are also available there too).
see <https://isd.hscic.gov.uk>
- IHTSDO does not charge for licensed use in IHTSDO Member countries
- Charges for use may apply in non-Member territories
- Free use in non-Member territories is available for IHTSDO approved research projects and public good uses.

Role of the UK Terminology Centre



- Manage Read and SNOMED CT terminologies on behalf of the UK and provide the Read browser.
- Author new term requests for Read, SNOMED CT and NICIP
- Provide advice and support for SNOMED CT implementation through webinars, training materials, implementation forums and tools, organising SNOMED events and operating a helpdesk
-
- E-mail: information.standards@hscic.gov.uk
- Telephone: +44 845 13 00 114 weekdays from 9am to 5pm

Terminology Governance

- Read and SNOMED CT terminologies are developed and managed and by the UK Terminology Centre and licensed and distributed via their TRUD distribution website
- New codes can be requested to UKTC via their change request portal
- Clinical authors model new requests into the terminology
- Code requests have to comply with UKTC editorial guidance and pass QA processes
<http://systems.hscic.gov.uk/data/uktc/snomed/change/editorialprince.pdf>
- ISD Terminology Services provide expertise to help customers identify and request the codes they require and liaise on their behalf with the UKTC

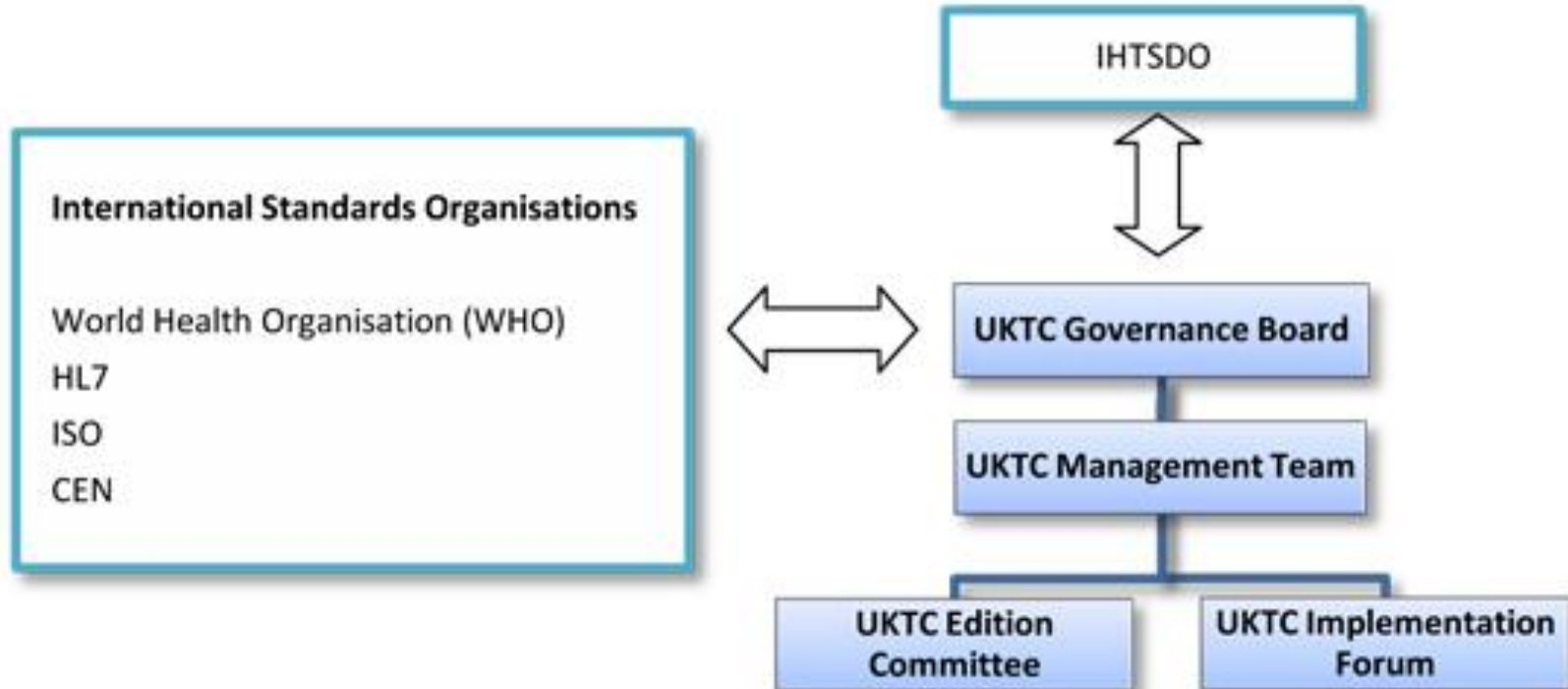
UKTC Editorial Board

- Expert panel of informaticians, senior terminologists and clinicians with terminology expertise.
- Responsible for clinically and technically assuring the editorial principles applied to the UK Edition of SNOMED CT; known as the UK Extension. The UKTC Edition Committee approves changes to the principles underpinning the UK Extension and is responsible for ensuring that the standard remains up to date and fit for purpose.
- If there was no consistency, order and rules then finding codes and related codes would be impossible

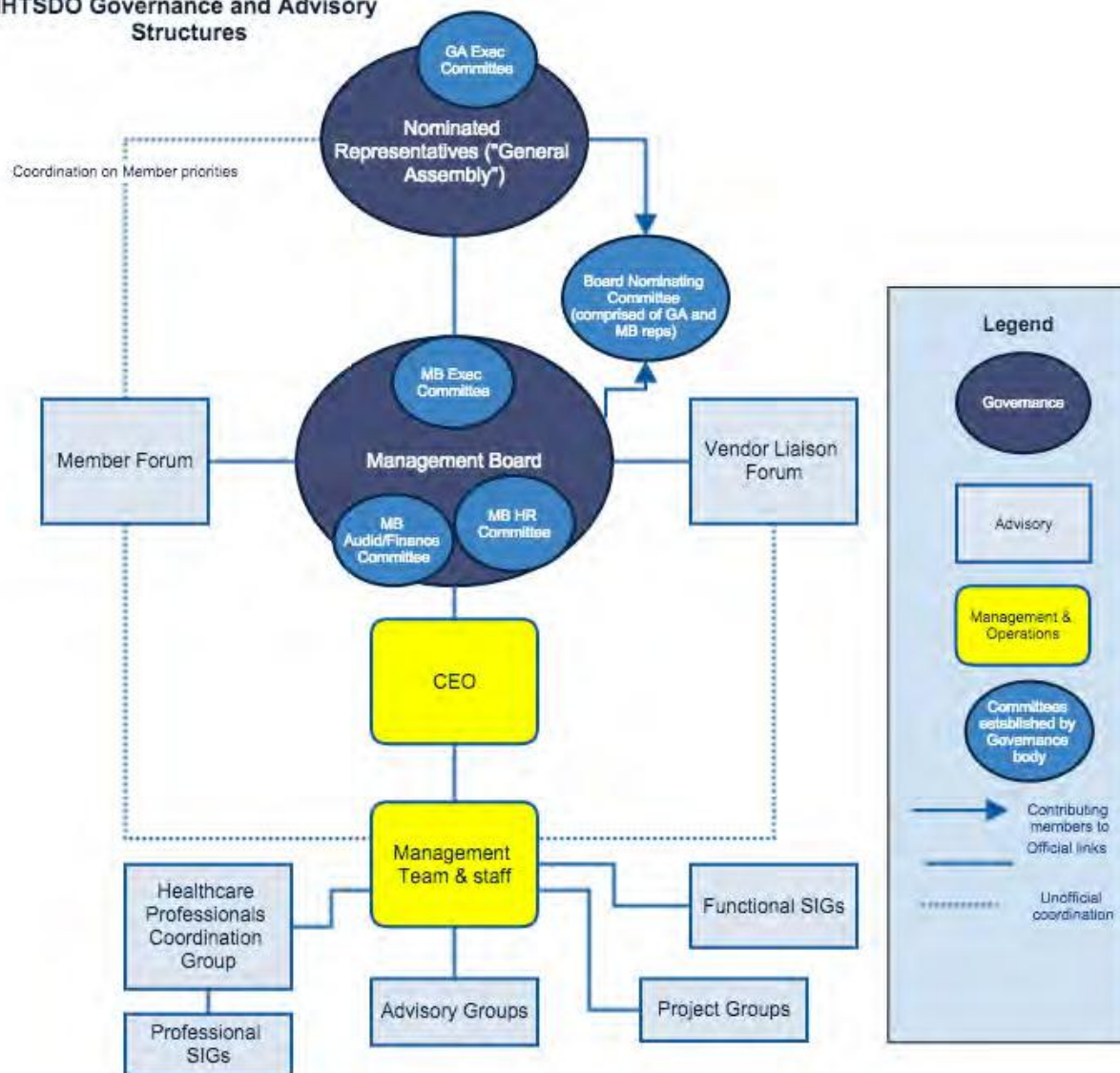
UKTC Editorial Principles

- Acts as a supplement to the IHTSDO editorial principles and describes policies as they apply to the UK extension. See <http://systems.hscic.gov.uk/data/uktc/snomed/change/editorialprince.pdf>
- Some examples:
 - Cannot use 'and' or 'or' within a term description as this would present ambiguity e.g. **Repair of total anomalous pulmonary venous connection to coronary sinus or right atrium** would not be permitted
 - Normally cannot use negation: e.g. **Hand tendon ganglion not excised** would not be permitted (although terms like 'contraindicated' can sometimes be acceptable)
 - Administration codes describing transient small scale projects or for piloting/proof of concept not normally acceptable e.g. **'Stop before your op' smoking cessation programme referral** would not be permitted
 - Abbreviations are not permitted in the Fully Specified Name (FSN) except where that abbreviation is part of an official name of an organisation or instrument.

UKTC Governance Processes



IHTSDO Governance and Advisory Structures



SNOMED CT Implementations

- In Scotland – no appreciable use so far. Majority of pathology labs still using old SNOMED RT but license runs out in April 2017.
- GP systems use dm&d to communicate medications information from GP to pharmacies. dm&d shares a similar structure with SNOMED CT
- dm&d not available from TRUD but from its own website: <http://www.dmd.nhs.uk/> and has separate governance processes.

SNOMED CT Implementations in England*



- **Morecambe Bay** (Lorenzo) – live for 4 years. Clinicians encouraged to use SNOMED CT by record their activity directly for their logbooks for performance and development evidence.
- **Rotherham PCT** (Meditech)– live for 2 years. Adopted SNOMED CT as part of a paperless agenda
- **Barts** – EPR live for 4 years (Cerner). All diagnoses in SNOMED CT
- **Leeds** – emergency department have adopted SNOMED CT.
- **Moorfields Eye Hospital** - demonstrated that only 50% of clinical detail transferred accurately when back mapping to Read

*More details of case studies available at:
<http://systems.hscic.gov.uk/data/uktc/snomed/training>

dm&d (dictionary of medicines and devices)



- *GP suppliers are all currently required to adopt dm+d through the Electronic Prescription Service contracts. The UK Drug extension provides additional complementary data items to dm+d such as trade family and relationships to the clinical edition of SNOMED CT. Both dm+d and the UK Drug extension use the same identifiers for the same concepts.*
- *The UK Drug extension is a UK SNOMED CT extension and as such complies to the same features as the UK Clinical Extension. Relationships exist from the UK Drug extension into the clinical release (core content), but not the other way. Any retired relationships are audited in the same way as in the clinical extension.*

SNOMED CT STRUCTURE – Release formats



Two components for use in the UK:

- SNOMED CT core – international release

- SNOMED CT UK clinical extension

Both required for UK implementations

Two formats in UK

- RF1 – original format – still used in UK - being phased out but still supported.

- RF2 – latest version – can support incremental updates – status is draft for trial use

Both RF1 and RF2 available on UK TRUD distribution site – there is a webinar on TRUD explaining RF2

Tools to help migration and analyses



- UKTC have developed an Access based migration and analysis tool (CDAT – currently in development) which allows the user to analyse data and store queries. Queries can be automatically mapped into their coding formats (eg Read to SNOMED CT). Classifications are also available. Migration tool is available via the TRUD. (<https://isd.hscic.gov.uk/>)
- UKTC have also developed and maintain a query table that allows inactive concepts to be included in retrieval – also on TRUD.
- Other examples of supplier based solutions are available from the IHTSDO data analytics paper and case studies (see <http://www.ihtsdo.org/news-articles/ihtsdo-releases-data-analytics-with-snomed-ct-report>)

Mapping tables



- Mapping tables are provided by UK Terminology Centre
- There is a Read V2 to SNOMED CT mapping for the top 20,000 most used GP terms in England which has been clinically assured in line with JGPIT guidance. Other mappings outwith the clinically assured ones have been generated via an algorithm and are not clinically verified (see document [Requirements SNOMED CT](#) from JGPIT for further details on migration requirements and use of mapping tables)
- The administration codes in the Read v2 set used by Scotland have been mapped to SNOMED CT in a separate mapping table. This should be used to migrate data when the content is known to have been created in a Scottish system.

SNOMED CT Resources (1)

- Browsers – many available e.g. Cliniclue browser, available from TRUD. There is also a web based browser available from IHTSDO (www.ihtsdo.org) which has UK extension option (not all mappings available but files automatically updated every 6 months) UKTC currently working on a solution to allow the IHTSDO browser to be used as a standalone version.
- Three webinars available on TRUD – a general introduction, using and implementing SNOMED CT for informatics staff and suppliers and a third for dm&d and the UK drug extension
- Dates for a new HSCIC SNOMED CT webinar – Finding Content in SNOMED CT are available on HSCIC website

SNOMED CT Resources (2)

- HSCIC have a number of training materials including an e learning module, Implementers Forum and news letter for developers and anyone else involved in implementing SNOMED CT
 - See <http://systems.hscic.gov.uk/data/uktc/snomed/training>

SNOMED CT Resources (IHTSDO)



- IHTSDO has a SNOMED CT e-learning centre online see: <http://www.ihtsdo.org/snomed-ct/learn-more>
- SNOMED CT foundation course - targeted at anyone seeking to acquire or demonstrate a broad foundational knowledge of SNOMED CT. Study is self-paced and is expected to require a total of 30-35 hours. Certificate on passing course.
- SNOMED CT Implementation Course – requires successful completion of Foundation Course first. Aimed at those engaged in various parts of the implementation process – from the decision to adopt SNOMED CT, through to specification and procurement and/or design and development of SNOMED CT enabled solutions, to deployment and practical use. The course duration is six-months with an estimated time commitment of 12-15 hours per month.

IHTSDO SNOMED CT Browser

browser.ihtsdotools.org

IHTSDO SNOMED CT Browser

Release: United Kingdom Edition 20150401 Perspective: Full Feedback About

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Taxonomy Search Favorites Refset

Search

Options

Search Mode: Partial matching search mode

Status: Active components only

Group by concept

Filter results by Language

english 27

Filter results by Semantic Tag

procedure 15

finding 8

situation 4

Filter results by Module

SNOMED CT United Kingdom clinical extension module (core metadata concept)

Filter results by Refset

Type at least 3 characters Example: shou fra

vaccination herpes zoster

27 matches found in 0.509 seconds.

Herpes zoster vaccination	Herpes zoster vaccination (procedure)
Herpes zoster vaccination offered	Herpes zoster vaccination offered (finding)
Herpes zoster vaccination declined	Herpes zoster vaccination declined (situation)
Herpes zoster vaccination invitation	Herpes zoster vaccination invitation (procedure)
Herpes zoster vaccination (procedure)	Herpes zoster vaccination (procedure)
Did not attend herpes zoster vaccination	Did not attend herpes zoster vaccination (finding)
No consent for herpes zoster vaccination	No consent for herpes zoster vaccination (finding)
Herpes zoster vaccination contraindicated	Herpes zoster vaccination contraindicated (situation)
Herpes zoster vaccination invitation email	Herpes zoster vaccination invitation email (procedure)
Herpes zoster vaccination offered (finding)	Herpes zoster vaccination offered (finding)
Herpes zoster	Herpes zoster

Concept Details

Summary Details Diagram Refsets Members References

Parents

- Administration of substance (procedure)
- Administration of drug or medicament (procedure)
- Administration of substance to produce immunity, either active or passive (procedure)
- Administration of vaccine to produce active immunity (procedure)
- Viral immunization (procedure)

Herpes zoster vaccination (procedure)

SCTID: 859641000000109

Herpes zoster vaccination (procedure)

Herpes zoster vaccination

Shingles vaccination

Method → Administration - action

Direct substance → Viral vaccine

Children (0)

No children

HSCIC TRUD website

[←](#) [→](#) [C](#) <https://isd.hscic.gov.uk/trud3/user/guest/group/0/pack/14> [☆](#) [☰](#)

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hscic Health & Social Care Information Centre

English | Cymraeg

Search

Search help

Collections

- UK Terminology Centre (36)
- Clinical Classifications Service (16)
- Interoperability Framework (34)
 - NHS Common User Interface (0)
- NHS Data Model and Dictionary (10)
- UKTC Education and Training Resources (8)

Downloads

- Care Planning (1)
- Clinical Imaging Procedures (1)
- CURIO (0)
- DD XML Schemas (10)
- Documentation (1)
- Health Language (1)
- IHTSDO (1)
- Interoperability Toolkit (6)
- Issued Specifications (IS) (0)
- ITK Release Candidate (RC) (1)
- Message Specifications (25)
- Messaging Support and Reference (2)
- NHS Classifications ICD-10 (8)
- NHS Classifications OPCS-4 (7)
- NHS Classifications Service Training Materials (5)
- NHS Dictionary of Medicines and Devices (4)
- NHS Informatics Capability (1)

TRUD

UKTC Education and Training Resources

Data Standards and Products (DS&P) provides a variety of training and educational resources relating to the products it supports. The downloads in this collection contain a variety of materials covering different aspects of DS&P's work programmes and services. A resource Library is also held within the [SNOMED CT NHS Network](#) website. This site is for anyone who wants to know more about SNOMED CT, its implementation, and training aspects of SNOMED CT.

For those wishing to implement SNOMED CT we have developed a series of webinars that walk you through some of the key aspects of SNOMED CT. Pre-recorded versions of these are provided below

Items available for download

Webinar Series - Why SNOMED CT Features, examples of use and benefits

The first in this series of webinars is an introduction to SNOMED CT. This webinar looks at why a single terminology, what a terminology is, some of the features of SNOMED CT and gives some examples of where SNOMED CT is currently used and its benefits.

[View releases \(1\)](#) | [View licences \(1\)](#)

Webinar Series - Using and Implementing SNOMED CT

The Second in this webinar series is primarily aimed at informatics staff and suppliers, and takes individuals through the details of the files and products associated with SNOMED CT

[View releases \(1\)](#) | [View licences \(1\)](#)

Webinar Series - An introduction to NHS dm+d and SNOMED CT UK Drug Extension

An introduction to NHS dm+d and SNOMED CT UK Drug Extension

[dictionary of medicines + devices](#)

Thank you!

Any questions?