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Standardising National Clinical Imaging Codes: The UK Approach

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The national deployment of Picture Archive & Communication Systems (PACS) and imaging information systems as part of the English National Programme for IT combined with the move towards a shared summary care health record brought about a compelling need for all imaging departments to adopt a single standard for procedure coding.

To ensure interoperability between systems within and outside the imaging domain and to allow the seamless sharing of information, a common standard terminology is required. For the broader English National Programme for IT the chosen standard is SNOMED CT.

Due to the pace of implementation of the PACS programme in England this requirement was relaxed in the immediate term to enable “off-the-shelf” systems not employing this standard to be deployed, however the argument to standardise was still as persuasive.

Development of Interim Standard Descriptions

A stakeholder management group, the Clinical Imaging Procedures Management Group (CIMG), set up originally to create a National Standard SNOMED CT subset of imaging procedures, recognised the opportunity to develop an interim solution that could be easily adopted by the systems being implemented as part of the PACS programme.

It was recognised that any interim solution needed to be developed with a migration path towards the future standard for the Shared Summary Care Record so the interim standard code set was designed such that it was closely aligned to the longer term strategic standard of SNOMED CT.

The “National Interim Standard Descriptions for Clinical Imaging Procedures” enable the consistent description of imaging procedures.

The codes and terms facilitate the identification of patient images and the communication of clinical information associated with identified procedures such as imaging service requests, patient imaging reports and statistical measures of activity.

This consistent representation of imaging procedures can thus be used for order catalogues, image identification in PACS, workflow within service departments and KH12 radiation monitoring returns.

It can also potentially support activity analysis, audit, and remuneration strategy. Treatment options would consequently be based on a common understanding of the procedures performed or planned and activity between all service providers directly compared.

Editorial principles exist to cover all elements necessary for the accurate and complete description of imaging procedures such as modality, body site, laterality, use of contrast and a whole host of administrative type aspects. There is also implementation guidance to assist users in migrating to this code set and to understand how to use it most effectively.

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Take-Up

Some 75% of imaging departments in hospital trusts in England have already adopted the standard. Other than SNOMED CT, existing standards as mandated in England, typically include only those required for statutory reporting such as:

- OPCS-4 represents a classification of procedures that lends itself to various reporting initiatives such as 18 - week wait targets and commissioning.
- The KH12 return is designed to capture imaging activity related to population exposure to ionising radiations.

Relationship of Interim Representation to SNOMED CT

The code set has been developed in such a way that every entry in the standard has a direct relationship to a SNOMED CT concept. Not only does this support the interoperability between systems/organisations using the two coding schemes but also allows some of the properties of SNOMED CT to be utilised – for instance the mapping from SNOMED CT to OPCS-4.

The new 'interim' code set is designed to bridge the gap until all clinical systems can support SNOMED CT, and whilst additional concepts are introduced into SNOMED CT to fully support UK clinical imaging practice. In time, when all clinical systems are utilising SNOMED CT, it is anticipated that the representation of DI procedures in NCRS applications will be entirely by the use of SNOMED CT coded concepts.

What is SNOMED CT?

SNOMED CT® (Systematised Nomenclature of Medicine- Clinical Terms) is a comprehensive, multilingual clinical healthcare terminology, jointly developed between the NHS in England and the College of American Pathologists (CAP) to develop an international clinical terminology and formed in 1999 by the convergence of SNOMED RT and the UK's Clinical Terms Version 3 (formerly known as the Read Codes).

SNOMED CT® provides the core general terminology for the electronic health record (EHR) and contains more than 357,000 concepts with unique meanings and formal logic-based definitions organised into hierarchies. When implemented in software applications, SNOMED CT® represents clinically relevant information consistently, reliably and comprehensively as an integral part of producing electronic health records.

In April 2007 the intellectual property rights of SNOMED CT were transferred to a new organisation called the International Health Terminology Standards Development Organisation (IHTSDO). This organisation was created by a number of countries working together specifically, Australia, Canada, Denmark, Lithuania, Sweden, the Netherlands, New Zealand, the UK and the US.

The IHTSDO® seeks to improve the health of humankind generally by owning, distributing, operating and developing suitable health terminology products. This improvement is to be achieved through the sharing of more accurate clinical and related health information, allowing the implementation of semantically accurate health records that are interoperable.

SNOMED CT® contains the vast majority of concepts required to record the process of care across the range of clinical professions in practice. These concepts, with their inherent unique meanings and formal logic-based definitions, are arranged into 19 hierarchies covering the following areas:

New content within existing areas of the terminology are added to each release in response to user requests driven by advances in clinical knowledge over time. At the same time existing content is subject to regular review and refinement where necessary. In addition, new content domains are considered for inclusion on a regular basis.

Further Reading:

- NHS Connecting for Health

– Data Standards

<http://www.connectingforhealth.nhs.uk/systemsandservices/data/terminology/>

national-interim-clinical-imaging-procedure

- Royal College of Radiologists PACS and

Teleradiology Group

<http://www.pacsgroup.org.uk>

• SNOMED CT

<http://www.ihtsdo.org>

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