

How it all fits together

The purpose of this document is to describe how the various standards, appropriately implemented, would support communication of health-related information between different systems.

Read Codes were invented by Dr James Read († 2011) to describe GP-related information about patients, such as diagnoses, symptoms and procedures. They were purchased by the British Government in 1988. The NHS Information Authority devised READ CTV3 (Clinical Terms version 3) in 1996.

OPCS (Office of Peoples Census and Survey) was first devised in 1944 by the HM Government to develop a coding system for clinical surgical interventions. To date there have been five revised versions of that classification: from April 2012 this system will become OPCS-4.6. This system is used for national health and public health data. Additionally this system is the coding basis for the NHS's Payment by Results Scheme (National Tariff).

ICD 10 (International statistical Classification of Diseases and related health problems, 10th Revision) was devised by WHO to be the only international classification of mortality and morbidity. In the UK it is also used for the NHS's Payment by Results Scheme (National Tariff) and the collection of national health and public health data.

SNOMED CT (Systematized Nomenclature for Medicine – Clinical Terms) was first devised by the College of American Pathologists (CAP – until 2007) to provide an encoded medical terminology which encompasses all aspects of all medical, social care, vital signs and symptoms, clinical findings (including all disorders and their stages) and procedures as well as areas of veterinarian care. SNOMED CT was first released in 2002 after merging SNOMED RT (Reference Terms which was invented, developed and devised by Dr Roger Coté in Canada starting from SNOP and SNOMED) and READ CTV3. As an encoded terminology, SNOMED CT provides content for an interoperable messaging service based on different information models.

SNOMED CT is incorporated into the IHTSDO (International Health Terminology Standards Development Organization) a Danish company. The UK is a stakeholder and member of the IHTSDO. All NHS organisations in the UK are represented by the UK Terminology Centre. The other member countries of the IHTSDO are: the UK, Canada, Denmark, Sweden, The Netherlands, Lithuania, Slovakia, Slovenia, Cyprus, Singapore, Australia, Spain, and the USA. The non-English speaking member countries are still in a minority, partly because of translation issues with SNOMED CT and partly because of not having nationwide systems able to communicate with each other via messages using encoded terminology; the latter is the case in Germany.

IEEE-11073 is a technical standard for connectivity profiles of medical devices. It describes the particular characteristics of the device measuring the vital signs or other data being recorded so that a clinician can see which device measured a particular parameter, how, and when. This is now incorporated as a British Standard too, as BS11073.

HL7 (Health Level 7) in particular version 3 is a carrier for SNOMED CT in co-implementation of systems according to IEEE-11073 – it is far more efficient at exchanging information between systems than XML, which is especially important for low power or other battery-life-sensitive equipment.

The last piece of the jigsaw is **Continua**, which is increasingly mandating the use of IEEE11073/SNOMED CT via HL7v3 as the universal interface between medical devices and systems. Continua Health also assess and certifies systems against their own device design guidance.