Guidance for National Interim Clinical Imaging Procedure (NICIP) Mapping Table to OPCS-4

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Glossary of Terms

Term / Abbreviation	What it stands for
NICIP	National Interim Clinical Imaging Procedures
OPCS-4	Office of Population, Censuses and Surveys, Classification of interventions and Procedures (4th revision)
HRG	Healthcare Resource Groups
CDS	Commissioning Data Sets

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1 About this Document

1.1 Purpose

The purpose of this document is to provide guidance for maintaining and implementing the NICIP-OPCS-4 mapping table to support Trusts submitting Commissioning Data Sets (CDS) for secondary uses in clinical imaging information systems which have implemented the NICIP code set or SNOMED CT.

1.2 Audience

This document has been written for anyone working with clinical imaging information systems with a requirement to submit data in OPCS-4.9 coded format.

1.3 Content

This document is comprised of the following topics:

- Information about the NICIP-OPCS-4 mapping table
- Principles and methods for generating the NICIP-OPCS-4 mapping table
- Recommendations for implementing the NICIP-OPCS-4 mapping table

2 Information about the NICIP-OPCS-4 mapping table

The NICIP-OPCS-4 mapping table is released by NHS Digital and has been designed to help users transform clinical imaging codes from SNOMED CT or the NICIP code set into OPCS-4.9 codes as required for the National Tariff Payment System, or for other statistical, epidemiological or audit purposes.

The mapping table is automatically generated from SNOMED CT concepts which are mapped to appropriate OPCS-4.9 codes and descriptions.

All NICIP codes have had an accurate equivalent SNOMED CT concept since April 2008. The SNOMED CT terminology-to-classification mappings are developed and maintained centrally by NHS classification map specialists who apply classification standards, rules and conventions to assure all three dimensions of coding accuracy. These are individual codes, totality of codes and sequencing of codes. As with all elements of the terminology release, the classification mappings are subject to a rigorous quality control process.

The first release of the NICIP-OPCS-4 mapping table was in October 2009. The table is currently considered a value added extra to the NICIP codes. It is highly recommended that the mapping table is subjected to local validation and assessment processes prior to use, although it has been reviewed by clinical imaging and coding experts. Feedback from any local validation/test use is welcome and can be submitted via the Information Standards Service Desk at information.standards@nhs.net.

NHS Digital, as the UK National Release Centre (UK NRC) for SNOMED CT, has consulted with stakeholders and compiled the evidence that the NICIP codes to OPCS-4 mapping table

is being used in the production of data to inform the National Tariff Payment System data in the field of Clinical Imaging. Whilst the relevant governance bodies have approved the transition of the mapping table to supported product in principle, NHS Digital have identified some necessary improvements to the product development environment such that the stable production has the potential to be compromised. Once these tooling enhancements are in place the status will be formally updated to supported product. The consultation and subsequent investigations have led the Clinical Imaging Management Group (CIMG) to conclude that, rather than introduce more complex rules into the mapping table, the process should not be fully automated, and that imaging professionals should work closely with the clinical coding departments to ensure that the correct OPCS-4 codes are assigned according to coding national standards and local protocols.

The report of the findings following the consultation on the utility of the mapping table from The (NICIP codes to OPCS-4 is now available on the consultation website.

The mapping table is part of the national release of the NICIP code set. It is only available from the Technology Reference data Update Distribution (TRUD) service and can be obtained electronically by registering on line via the TRUD link at the NICIP homepage. The mapping table is released every six months to coincide with the update schedule of SNOMED CT, the NICIP code set, and OPCS-4.

Requests for change or notifications of the format of the mapping table should be submitted to the Information Standards Service Desk – information.standards@nhs.net.

2.1 Format of mapping table

The data file is in an independent tab delimited text format.

All columns in the mapping table are divided into the following four sections. The specification of columns can be found in appendix A.

2.2 NICIP codes

The mapping table only includes the short code and preferred term of active codes in the current release. They can be used to identify the rest of the content of the NICIP code set.

2.3 SNOMED CT codes

The concept ID and Fully Specified Name (FSN) are included to present the NICIP equivalent in SNOMED CT.

2.4 OPCS-4.9 codes

These columns present the OPCS-4.9 codes and descriptions mapped from the NICIP codes in the first section of the mapping table.

2.5 Annotation

The letters C (change), N (new addition), and R (retired) in the annotation field denote the status of changes of the NICIP codes since the previous release.

3 Principles and methods for generating the NICIP-OPCS-4 mapping table

The NICIP-OPCS-4 mapping table is derived from the default cross-maps from SNOMED CT to OPCS-4.9, which are part of the national terminology release. However, there are a few modifications in the NICIP-OPCS-4 mapping table in accordance with OPCS-4.9 national clinical coding standards. The following describes the principles and the methods of modifications based on the default SNOMED CT cross-maps to produce the NICIP-OPCS-4 mapping table. Please note that possible alternative OPCS-4.9 target codes in SNOMED CT cross-maps are not included.

3.1 Specified body area codes

The OPCS-4.9 codes for number of bilateral body areas in CT, MRI and X-ray scans (**Y98**) are explicitly specified according to the information derived from the laterality codes in the NICIP code set. This may result in a set of codes which are not the default in the SNOMED CT cross-maps, since laterality would normally be recorded in SNOMED CT using post-coordination. In cases where a NICIP procedure is specifically bilateral, right-sided or left-sided, the **Y98** code has been modified to express correct coding. For example, “MRI of knee Left” takes the default OPCS-4 cross-map for “MRI of knee” in SNOMED CT. However, the cross-maps for “MRI of knee Both” has to be modified from the default **Y98.1** to **Y98.2** for the code defining the number of body areas.

In fluoroscopy and ultrasound scans, the **Y98** code is used to record the time taken for the examination, and a default code of **Y98.1 Radiology of one body area (or < 20 minutes)** is assigned in the NICIP-OPCS-4 mapping table.

The method of the scan will define whether the **Y98** code refers to time taken (fluoroscopy or ultrasound) or the number of areas scanned (MRI, CT or X-ray).

3.2 Primary codes

According to the OPCS-4.9 national clinical coding standards for scans of multiple areas, the primary OPCS-4.9 code should be changed to a code from the category **U21 Diagnostic imaging procedures** (if it is not already in that category) if the number of body areas scanned is greater than one during the same visit to the Radiology department. A single NICIP procedure code involving more than one body area is treated as one visit in the NICIP-OPCS-4 mapping table for the following imaging modalities. However, visit information is not part of the NICIP code scheme, and it has to be derived from other information sources. Therefore, the mapping needs to be modified further by users if the separate body area scans are performed at different visits.

Imaging modality	New primary OPCS code	Description of OPCS code
CT	U21.2	Computed tomography NEC
Fluoroscopy	U21.5	Contrast fluoroscopy NEC
MRI	U21.1	Magnetic resonance imaging NEC

Ultrasonography	U21.6	Ultrasound scan NEC
X-ray	U21.7	Plain x-ray NEC

While each entry on the mapping table contains default codes and is accurate in itself, combining two entries to describe a single scan will not necessarily produce the correct OPCS-4.9 codes for that scan. (For instance, adding together the OPCS-4.9 codes for “MRI of chest” and the OPCS-4.9 codes for “MRI of abdomen” does not necessarily produce the correct OPCS-4.9 codes for “MRI of chest and abdomen”.) In cases where combinations of scans take place which are not uniquely identified on the NICIP spreadsheet, those cases should be referred to the clinical coding department, to enable clinical coding standards, rules and conventions to be applied.

3.3 Laterality codes

As noted in the NICIP Editorial Principles document, laterality has previously been stated in the NICIP code and description but expressed in the SNOMED CT concepts and OPCS-4 codes via post-coordination. However, there are now a number of pre-coordinated SNOMED CT concepts in the NICIP-OPCS-4 mapping table. This has resulted in a number of OPCS-4 laterality codes being included in the mapping table in the cases of those pre-coordinated SNOMED CT concepts.

If the SNOMED CT concept associated with a given NICIP code relies on post-coordination to express any laterality, then no OPCS-4 laterality codes will be included for that NICIP code.

3.4 Manual modifications

A very small number of OPCS-4.9 code maps in the NICIP-OPCS-4 mapping table were modified manually, in cases where there was also a difference between the cross-map for the NICIP codes and the default codes in SNOMED CT cross-maps. For example, the NICIP codes involving more than one body area for fluoroscopy or ultrasound are manually retained as **Y98.1** rather than **Y98.2** according to the OPCS-4.9 Editorial Mapping Principles, since in the OPCS-4.9 classification, when coding ultrasound and fluoroscopy scans, codes from the category **Y98 Radiology procedures** are used to denote the amount of time taken for the scan.

4 Recommendations for implementing the NICIP-OPCS-4 mapping table

Diagnostic Imaging (Radiology) services, activity and costs are separately identified irrespective of the admission status (e.g., inpatient, day case, outpatients, services accessed directly) of the patient. For the purpose of Casemix, all diagnostic imaging (MRI, CT, DEXA, Fluoroscopy, US, Nuclear Medicine) apart from plain film requires OPCS-4.9 codes to generate HRGs.

It is recommended that users follow the guidance for HRG derivation from NHS Digital in order to obtain appropriate results for Reference Costs and the National Tariff Payment System.

The majority of NICIP codes are mapped to an appropriate OPCS-4.9 code in accordance with classification standards, rules and conventions. The OPCS-4.9 codes can be directly used for the appropriate CDS submissions with minor or no modifications. However, as noted earlier, while each entry on the mapping table is accurate in itself, combining two entries to describe a single scan will not necessarily produce the correct OPCS-4.9 codes for that scan.

In general, the NICIP codes have been mapped to the most appropriate default OPCS-4.9 codes. A NICIP concept may have possible alternate map targets: however, the mapping table does not have the capacity to show these alternative map targets. Clinical coders should always ensure that they are choosing the most appropriate OPCS-4.9 codes based on the clinical record and the information available to them, rather than automatically choosing the default OPCS-4.9 codes given on the spreadsheet.

It is recommended that the accurate NICIP code be used in order to derive the appropriate OPCS-4.9 code. Some generic procedure codes in the NICIP code set, e.g. CT guided biopsy, did not provide sufficient information regarding body area for detailed OPCS-4.9 mappings. Those codes, which map to #NC, #HLT [1], require manual assignment of OPCS-4.9 codes according to information from the RIS systems.

The mappings in the NICIP-OPCS-4 mapping table have been modified according to additional information from the NICIP code set. It is recommended that information departments should refer to section 3 of this document and follow the same method to modify the cross-maps if any mappings are taken using the default or alternative OPCS-4.9 codes directly from SNOMED CT cross-maps.

This systematic national approach ensures good quality automatic mappings as a natural by-product of the national terminology release. It will promote consistency, avoid an ad hoc approach and reduce discrepancies between different organisations. The NICIP-OPCS-4 mapping table is subjected to continuing quality assurance and improvement. The suggestions and feedback from users will be part of the validation and assurance process for future releases.

[1] #NC and #HLT denote concepts which are not classifiable in OPCS-4.9

5 Appendix A: The specification of data items

Column Number	Name	Data Type	Description
1	DI_Code	String	The unique identifier of short code for active descriptions and data items in the NICIP code set
2	DI_Term	String	The preferred term description in the NICIP code set
3	SCT_ID	Integer	The unique identifier for SNOMED CT concept
4	SCT_Description	String	The fully specified name of a SNOMED CT concept
5	Primary_Code1	String	The first OPCS-4.9 code listed in the entire string of codes.
6	Primary_Term1	String	
7	Primary_Code2	String	
8	Primary_Term2	String	
9	Primary_Code3	String	
10	Primary_Term3	String	
11	Primary_Code4	String	
12	Primary_Term4	String	
13	Y_Code1	String	
14	Y_Term1	String	
15	Y_Code2	String	
16	Y_Term2	String	
17	Y_Code3	String	
18	Y_Term3	String	
19	Y_Code4	String	
20	Y_Term4	String	
21	Z_Code1	String	
22	Z_Term1	String	
23	Z_Code2	String	
24	Z_Term2	String	
25	Z_Code3	String	
26	Z_Term3	String	
27	Z_Code4	String	
28	Z_Term4	String	
29	Z_Code5	String	
30	Z_Term5	String	
31	O_Code	String	Only includes O11 – O14, O16, O28, O30, O31, O33 – O34, O36, O43, O45 codes
32	O_Term	String	Only includes O11 – O14, O16, O28, O30, O31, O33 – O34, O36, O43, O45 terms
33	Annotation	String	C(change), N(New addition), R(Retired)