

SNOMED CT to ICD-10 and OPCS-4 Map Table Technical Specification and Implementation Guidance (UK Edition)

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Introduction

The maps from the UK Clinical Edition of SNOMED CT®¹ to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) and the OPCS Classification of Interventions and Procedures, Version 4 (OPCS-4) are created to support secondary uses, such as the Admitted Patient Care Commissioning Data Sets (CDS) and Hospital Episode Statistics (HES) and other data sets, as set out in the [NHS Data Model and Dictionary](#). They are provided for NHS organisations who implement systems incorporating SNOMED CT to enable derivation and retrieval of ICD-10 and OPCS-4 data from clinical terms, to satisfy mandated CDS data flows. The maps *may* also be used to support other national and international reporting requirements.

1.1 Background

NHS Digital develops and maintains the maps between SNOMED CT and ICD-10 and OPCS-4. The UK map content is updated to reflect additions and changes to SNOMED CT and the clinical classifications, ICD-10 and OPCS-4 as part of SNOMED CT UK Edition release cycle.

1.2 Purpose

The purpose of this document is to assist with the NHS implementation of the map files. It describes the content, structure, and use of the UK NHS specific map files released in the UK Edition of SNOMED CT and the methodology and editorial principles employed to develop maps.

Note: For information about content update or changes to the current or a future release, please refer to the 'SNOMED CT to ICD-10 and OPCS-4 Classification Maps' section in the associated [Release Notes](#).

1.3 Audience

Suppliers and other technical professionals that incorporate the maps into patient administration systems (PAS) and other systems that support mandatory NHS data returns (see [section 1.4 NHS \(England\) use case for maps](#)).

Informatics specialists, including clinical coders involved in the implementation of classifications and quality assurance of coded clinical data, will find this document useful.

Healthcare analysts, who need to satisfy themselves that data retrieval across current and previous classifications is supported by their organisation's implementation.

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(<http://www.snomed.org/>)

1.4 NHS (England) use case for maps

The implementation of clinical terminologies such as SNOMED CT into computer-based patient records systems provides a rich source of clinical terms to describe the patient. The maps are key to support the transformation of the clinical terms into classification codes. The codes derived, are then used to satisfy mandatory reporting requirements that use ICD-10 and OPCS-4, such as Admitted Patient Care Commissioning Data Sets (CDS) and Hospital Episode Statistics (HES) which in turn supports other classification secondary use cases, such as epidemiology, public health clinical governance, commissioning, and the National tariff payment system etc.

Information Standards Notices (ISN) published by the [Data Coordination Board \(DCB\)](#)², mandate the implementation of updates to ICD-10 and OPCS-4. Compliance with ISN and implementation of map updates, ensure NHS organisations provide meaningful data for the many use cases.

1.5 What the maps are

The maps provide a semi-automated selection of ICD-10 and OPCS classification codes. Due to the multiplicity of circumstances encountered in the medical record that can modify correct ICD-10/OPCS-4 code assignment and sequencing, manual intervention by an individual trained in the application of the rules, conventions and national coding standards of the classifications is required.

1.6 What the maps are not

The maps do not support a *fully* automated link from SNOMED CT to ICD-10 and OPCS-4.

Mapping from post-coordinated collections of SNOMED CT Concepts to a single Target Code or a specific collection of Target Codes (e.g. mapping a combination of a disorder qualified by severity or a procedure qualified by urgency) is not supported.

Mapping from multiple fields in a patient record to a specific Target Code that represents a combination of characteristics (e.g. mapping a combination of a disorder, procedure and the age and sex of the patient to a single group code) is not supported.

² The DCB replaced the Standardisation Committee for Care Information (SCCI) in 2017
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3 TECHNICAL SPECIFICATION SECTION

3.1 SNOMED Technical Implementation Guide

SNOMED International maps are described in the ‘SNOMED CT Technical Implementation Guide’ (TIG) and the ICD-10 Mapping Technical Guide.

It is important that users reference the TIG and associated documents at <https://confluence.ihtsdotools.org/display/DOCTIG/Technical+Implementation+Guide>, as they are the definitive source of SNOMED CT knowledge.

This map specification does **not negate** the need to access all the relevant documentation published by SNOMED International, as well as those published as part of the [SNOMED CT UK Clinical Extension Release Documentation](#).

3.2 UK SNOMED CT Edition Mapping files

3.2.1 Map files – format and location

The mapping files are released in [Release Format 2 \(RF2\)](#) which is the file structure specified by SNOMED International for files used to distribute SNOMED CT content.

The SNOMED CT UK Edition files are available via the [Technology Reference data Update Distribution \(TRUD\) Service](#).

The UK mapping files are in the ‘SNOMED CT UK Clinical Edition, RF2: Full, Snapshot & Delta’ release pack.

Once the release is downloaded, the map files can be accessed from the following file path:

```
SnomedCT_UKClinicalRF2_PRODUCTION_YYYYMMDDT000001Z
```

- <Release Type> (i.e., ‘Full’, ‘Snapshot’ or ‘Delta’)
- - Ref set
- - - Map

Once a release type ‘Map’ folder is accessed, the associated maps for both ICD-10 and OPCS-4 are contained within the file with the name format:

```
der2_iisssciRefset_ExtendedMap<ReleaseType>_GB1000000_YYYYMMDD.txt
```

Note: A SNOMED CT Derivative Work Data File (der2) is a product for use in conjunction with SNOMED CT which cannot be used effectively without the terminology.

3.2.2 Full, Snapshot, and Delta: UK Map Reference Set

The release files comprise a primary set of file of types - ‘Full’, plus two derivatives known as ‘Snapshot’ and ‘Delta’:

- A Full release contains the full history of SNOMED CT, including all prior versions of all previously released UK Extension SNOMED CT components since January 1st 2004. The Full release of the map reference sets contains all new and historical map entries.
- A Snapshot release (a derivative) contains the current state of each released SNOMED CT component; note: this includes both active and inactive components. For the map reference sets in the Snapshot release, only the current state of all the maps to the different classifications will be found.
- A Delta release (a derivative) contains only the differences between the previous release and the current release, including both newly active and inactive components. In the Delta for the map reference sets there will be active rows for concept components that were added for that release as well as both active and inactive rows for concept components that were present in previous releases for which the maps have changed. These rows will only be for the latest version of the classifications in use.

The map files, Full and Snapshot, are very large and are not produced in Excel format. If you want to view these map files in Excel, please seek advice from your IT Department. Depending on the number of changes, you may be able to open the Delta file in Notepad and export to Excel. When using Excel some of the number fields are too large for the application to handle and so these columns are best imported as text fields.

3.2.3 Map status

When a concept becomes inactive, so do the associated cross-map entries. The release files provide a complete history for all components, therefore, the cross-map rows for inactive concepts remain in the Full, Snapshot and Delta release files. If required, the final cross-maps for a concept can be found by referring to the cross-map rows that are inactive for the concept and have an `effectiveTime` that is equal to or newer than the final effective time for the concept. The `effectiveTime` may be offset as UK cross-map rows on International release concepts are released sometime after the International release.

3.3 Classification codes not reached from SNOMED CT

As there are instances where there is no SNOMED CT concept that reflects the classification target code, we ***strongly recommend*** that providers of systems and applications which incorporate SNOMED CT, include the ICD-10 and OPCS-4 Codes and Titles Metadata files within those systems. This should facilitate the manual input of those ICD-10 and OPCS-4 codes, that cannot be reached via a map from a SNOMED CT concept. (See [section 4.4 Mapping Scope](#).)

This approach will also support appropriate code selection where it has been necessary to mandate an emergency national or international clinical coding standard, outside of a scheduled SNOMED CT release. For example, national standards released under direction of the World Health Organisation (WHO) in relation to [COVID-19](#).

OPCS-4 Extended category .8 and .9 codes are not present in the mapping tables. (See [Appendix A](#) and [Appendix D](#)).

3.4 Managing stability of maps within the financial year

In-year changes to the mapping tables can have implications for algorithms based on the classifications. Therefore, some users may want to load maps to newly added concepts only, while keeping the existing maps fixed in their system until the next April release. The table below indicates which file types to use.

October Map Release	Yes/No	Implementation options	Comment
Retain map stability in-year	N	Full, Snapshot, Delta	Users can choose any of the options, in line with local policy to load changes and additions into their system
	Y	Full, Delta	Users cannot use Snapshot because it provides the current state of maps only.

Users of the maps, who would like advice about how to retain maps issued in April YYYY until the following April YYYY (April to March), should submit a request via information.standards@nhs.net.

3.5 Released maps

The following NHS clinical classification maps are currently included in the SNOMED CT UK Edition:

- International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10 – 5th Edition)
- International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, five-character code (ICD-10 – 5th Edition)
- OPCS-4 Classification of Interventions and Procedures, Version 4.9

3.6 UK Map Reference Set

3.6.1 Purpose

The UK Map Reference Set is defined using the 'Complex map extended with map block type reference set'. This reference set pattern supports extremely complex maps from each SNOMED CT concept to one or more codes in a target scheme, where each target code may be selected at run - time from a number of blocks of alternate codes, based on either a set of machine readable rules or human readable advice.

3.6.2 Reference Set Data Structure

An IISSCI (*Integer - Integer - String - String - String – Component - Integer*) reference set is used to support complex maps:

Table 1: Complex map extended with map block type reference set - Data Structure

Field	Data type	Purpose
id	UUID	A 128 bit unsigned <i>integer</i> , uniquely identifying the <i>reference set</i> member.
effectiveTime	Time	Specifies the inclusive date at which this change becomes effective.
active	Boolean	Specifies whether the member's state was <i>active</i> or <i>inactive</i> from the nominal release date specified by the <i>effectiveTime</i> field.
moduleId	SCTID	Identifies the member version's module. Set to a <i>child</i> of Module within the metadata <i>hierarchy</i> .
refsetId	SCTID	Set to one of the <i>children</i> of the Complex map type <i>concept</i> in the metadata <i>hierarchy</i> .
referencedComponentId	SCTID	A reference to the <i>SNOMED CT concept</i> being mapped.
mapGroup	Integer	An <i>integer</i> , grouping a set of complex map records from which one may be selected as a <i>target code</i> . Where a <i>SNOMED CT concept</i> maps onto 'n' <i>target codes</i> , there will be 'n' groups, each containing one or more complex map records.
mapPriority	Integer	Within a group, the mapPriority specifies the <i>order</i> in which complex map records should be checked. Only the first map record meeting the run - time selection criteria will be taken as the <i>target code</i> within the group of alternate codes.
mapRule	String	A machine-readable rule, (evaluating to either 'true' or 'false' at run-time) that indicates whether this map record should be selected within its mapGroup <i>Note: This data type is currently unused in the UK Edition maps</i>
mapAdvice	String	Human-readable advice, that may be employed by the software vendor to give an end-user advice on selection of the appropriate <i>target code</i> from the alternatives presented to him within the group. For example: <ul style="list-style-type: none"> • Additional code possible • Additional code mandatory <i>Note: For a full list of map advice please see Appendix B</i>
mapTarget	String	The <i>target code</i> in the scheme to be mapped onto.

<i>correlationId</i>	<i>SCTID</i>	A <i>child</i> of Map correlation value in the metadata <i>hierarchy</i> , identifying the correlation between the <i>SNOMED CT concept</i> and the <i>target code</i> .
mapBlock	<i>Integer</i>	An <i>integer</i> , identifying a number of groups of complex map records from which one may be selected as a <i>target code</i> . Where a <i>SNOMED CT concept</i> maps onto 'n' <i>target codes</i> , there will be 'n' block, each containing one or more blocks of complex map records.

Values for the mapBlock and mapGroup fields are allocated on a sequential basis (for each refSetId and referencedComponentId combination) starting from '1', but are not necessarily sequential, as groups may be created and removed during a mapping process that may straddle several releases. For maps where each SNOMED CT concept only maps to at most one of a group of alternate target codes, the mapBlock and mapGroup fields are set to '1'.

Values for the mapPriority field are allocated on a sequential basis (within each map group) starting from '1'. For maps that do not require run - time alternatives, the mapPriority field is set to '1'.

3.6.3 Presentation of Map Priority

The data type 'mapPriority' specifies the order in which to present the target code options, with the 'ALTERNATIVE' target codes presented first (starting at number 1) and with the terminating 'mapPriority' entry indicating the default target code.

3.6.4 Metadata

The following metadata supports this *reference set*:

- 900000000000454005 | Foundation metadata concept |
 - 900000000000455006 | Reference set |
 - 999001671000000105| Complex map extended with map block type reference set |
 - 999002271000000101 | International Classification of Diseases, Tenth Revision, Fifth Edition, five-character code United Kingdom complex map reference set |
 - 1126441000000105 | Office of Population Censuses and Surveys Classification of Interventions and Procedures Version 4.9 complex map reference set |

3.6.5 Descriptor Template

The table below holds the Descriptor Template entries for this *reference set* pattern. It should be noted that in actual use there are three copies of these entries for the three different sets of maps released. This means that 999001671000000105 is replaced in each set with the actual reference set ID. Further information on the Reference Set Descriptor can be found in the [SNOMED International online documentation](#):

Table 2: Descriptor Template for Complex map extended with map block type Reference Sets

refSetId	referencedComponentId	attributeDescription	attributeType	attributeOrder
9000000000000456007 Reference set descriptor	999001671000000105 Complex map extended with map block type	900000000000050000 6 Map source concept	9000000000000461009 Concept type component	0
9000000000000456007 Reference set descriptor	999001671000000105 Complex map extended with map block type	900000000000050100 5 Map group	9000000000000478000 Unsigned integer	1
9000000000000456007 Reference set descriptor	999001671000000105 Complex map extended with map block type	900000000000050200 3 Map priority	9000000000000478000 Unsigned integer	2
9000000000000456007 Reference set descriptor	999001671000000105 Complex map extended with map block type	900000000000050300 8 Map rule	9000000000000465000 String	3
9000000000000456007 Reference set descriptor	999001671000000105 Complex map extended with map block type	900000000000050400 2 Map advice	9000000000000465000 String	4
9000000000000456007 Reference set descriptor	999001671000000105 Complex map extended with map block type	900000000000050500 1 Map target	9000000000000465000 String	5
9000000000000456007 Reference set descriptor	999001671000000105 Complex map extended with map block type	447247004 SNOMED CT source code to target map code correlation value	9000000000000461009 Concept type component	6
9000000000000456007 Reference set descriptor	999001671000000105 Complex map extended with map block type	99900165100000010 1 Map block	9000000000000478000 Unsigned integer	7

3.6.6 Example Usage

The following example shows how a | Complex map type | *reference set* can be used to produce a classification map:

Table 3: Example rows from the International Classification of Diseases (ICD), Tenth Revision and OPCS-4

International Classification of Diseases, Tenth Revision, Fifth Edition, five-character code United Kingdom complex map reference set										
id	refSetId	referenced ComponentId	map Group	map Priority	map Rule	map Advice	map Target	CorrelationId	map Block	
f4453815-78f3-56b4-b6e7-8698cd131a5c	99900227100000101	2713001	1	1		ALWAYS ADDITIONAL POSSIBLE S27.00 CODE	S2700	447561005	1	
97f33c97-dce5-5380-adfa-4d8388512867	99900227100000101	2713001	1	2		ALWAYS P25.1	P251	447561005	1	
14a622d8-1bac-5ad5-af2b-889c52b51d3a	99900227100000101	2713001	1	3		ALWAYS ADDITIONAL POSSIBLE S27.20 CODE	S2720	447561005	1	
2623e12c-93f1-5ae7-af0e-0609f28be19f	99900227100000101	2713001	1	4		ALWAYS J93.0	J930	447561005	1	

77be9e51-721c-52b4-99ce-d47861959760	999002271000000101	2713001	1	5		ALWAYS J93.1	J931	447561005	1
1f6ee0b7-3d03-58c8-a175-4c851afe6131	999002271000000101	2713001	1	6		ALWAYS J93.8	J938	447561005	1
f1fad8aa-154c-59a6-ab97-ed829d4793dd	999002271000000101	2713001	1	7		ALWAYS J93.9	J939	447561005	1
OPCS-4.9 complex map reference set									
id	refSetId	referenced ComponentId	map Group	map Priority	map Rule	map Advice	map Target	CorrelationId	map Block
994fd5a6-4ca6-575f-9f6c-8804a19c5150	1126441000000105	119000	1	1		ALWAYS ADDITIONAL POSSIBLE E54.5 CODE	E545	447561005	1
add038ad-18eb-5c1b-8189-faeaa6704b60	1126441000000105	119000	2	1		ALWAYS ADDITIONAL POSSIBLE Y74.1 CODE	Y741	447561005	1

efb7deed-cdd3-54eb-a270-92a102db8baa	1126441000000105	119000	2	2		ALWAYS ADDITIONAL POSSIBLE	Y74.4 CODE	Y744	447561005	1
485a2ef8-1fa3-552c-8331-2cce8e20d38a	1126441000000105	119000	2	3		ALWAYS ADDITIONAL POSSIBLE	Y74.2 CODE	Y742	447561005	1

3.7 Example of SNOMED CT to classification links

The following example shows the relationship between the tables.

Hypokalemia

This example involves one-to-one mapping from the SNOMED CT concept Hypokalemia (disorder) to the ICD-10 subcategory represented by the code "E87.6".

This concept is active in the SNOMED CT Concepts Table.

SNOMED CT Tables

Table 1. Concept Table

id	43339004
effectiveTime	20020131
active	1
moduleId	900000000000207008
definitionStatusId	90000000000074008 Primitive

Table 2. Relationship table (TIG 5.5.3.3 Relationship file)

id	15249020
effectiveTime	20020131
active	1
moduleId	900000000000207008
sourceId	10469003
destinationId	43339004
relationshipGroup	0
typeId	116680003
characteristicTypeId	90000000000011006
modifierId	900000000000451002

Table 3. Description table

id	72303014
effectiveTime	20020131
active	1
moduleId	900000000000207008
conceptId	43339004
languageCode	en
typeId	90000000000013009
term	Hypokalemia
caseSignificanceId	90000000000020002

The relevant classification is ICD-10.

Table 4. Refset Complex map extended

id	4247e53d-44b9-5eed-8edf-021b3420221b
effectiveTime	20160401
active	1
moduleId	999000031000000106
refsetId	999002271000000101
referencedComponentId	43339004
mapGroup	1
mapPriority	1
mapRule	
mapAdvice	ALWAYS E87.6
mapTarget	E876
correlationId	447561005 SNOMED CT source code to target map code correlation not specified
mapBlock	1

4 MAPPING OVERVIEW SECTION

4.1 Source and target schemes

The maps in the SNOMED CT UK Edition proceed from the source terminology, SNOMED CT, to the target classifications, ICD-10 5th Edition (diagnoses) and OPCS-4.9 (interventions and procedures).

4.2 Cardinality

A map has cardinality of either one SNOMED CT source concept to one ICD-10 or OPCS-4 classification target code (1-1) or one SNOMED CT source concept to many ICD-10 or OPCS-4 codes (1-many).

However, of those concepts which are presented for mapping, some will be found to be 'not classifiable' (see section 4.6 *Excuse Codes*).

4.3 Semantic link and mapping direction

It is the defined clinical meaning of the SNOMED CT concept, as expressed by the Fully Specified Name, the defining relationships and attributes within SNOMED CT, which is linked to ICD-10 or OPCS-4. The user should be aware that the map is attached to each description of the concept (*Fully Specified Name, Synonyms*).

The maps described in this document are in one direction only: from SNOMED CT to ICD-10 and OPCS-4.

4.4 Mapping scope

SNOMED CT is a comprehensive clinical healthcare terminology which provides a large list of clinically rich descriptions for use by healthcare professionals in an Electronic Patient Record (EPR). It is necessarily more detailed than the classifications, which are primarily used within hospital Patient Administration Systems (PAS) for the collection of retrospective aggregated statistical data. Understandably not every concept in SNOMED CT can or should be represented in ICD-10 or OPCS-4.

Likewise, there are entities classified in ICD-10 and OPCS-4 that meet the needs of statistical data collections, but that do not conform with the editorial principles of SNOMED CT (for example ICD-10 code **V30.1 Occupant of a three-wheeled motor vehicle injured in a collision with a pedestrian, Passenger injured in non-traffic accident**). (See section 3.3 *Classification codes not reached from SNOMED CT*).

Where it is not appropriate to author a SNOMED CT concept purely to facilitate a map to a classification code, every attempt will be made to attach the target classification code to an existing, higher level concept. There are times where a target code may have to be attached to a SNOMED CT concept in a hierarchy ordinarily out of scope of the specific classification. (See *Appendix C for examples*).

4.5 Start points

The term 'Start Point' is used to describe where a concept in SNOMED CT has been identified as in-scope of codes within ICD-10 or OPCS-4. These start points are stored within the map tooling environment. Generally, the start point concept and all its children/descendants will be presented for mapping *unless* a concept or set of concepts have been specifically excluded within the tooling environment.

Concepts that are *not* included as in-scope or are specifically excluded from scope are not presented for mapping and are not included in the mapping files.

4.6 Excuse codes

For some concepts which are presented for mapping, it may prove impossible to link the concept to a target code in ICD-10 or OPCS-4. Where individual concepts are found to be not classifiable, they are included in the mapping files, but are assigned an appropriate excuse code to inform users that the concept has been considered for mapping and to indicate why there is no target code(s) assigned.

Below is a list of valid 'excuse codes' currently employed within the Map Target field in the map data:

#HLT	A 'High Level Concept' in which the clinical meaning (as defined by the Fully Specified Name and relationships) lacks essential detail required for the concept to be captured by classification target code(s). For example, see 9888007 Excision of intracranial lesion (procedure) – the main axis of OPCS-4 is body system. The specific intracranial organ or tissue from which the lesion was excised would need to be stated to enable OPCS-4 code assignment.
#NC	A concept which is presented for mapping but after consideration it is found that the meaning of the concept cannot be represented by codes within the current versions/editions of the classifications. For example, see 736086007 Referral to respiratory clinic (procedure) .
#EPO	The concept uses an eponym. It is a map editorial principle that it is unsafe to map from eponymous terms. For example, see 219515009 Watson-Jones operation (procedure) .
#NEW	A new core concept that is in-scope of the classifications and which remains unmapped for any reason is identified by a '#NEW' excuse code. It will be mapped in a subsequent release.

4.7 Map types

There are four types of map within the mapping files. The following describes each type of map, provides examples and demonstrates how clinical coding rules, conventions and standards are built into the maps. The representation here reflects what is seen in the mapping files.

Note: All OPCS-4 codes carry the map advice 'ADDITIONAL CODE POSSIBLE' unless there is a national standard or OPCS-4 rule that states an additional code is mandatory (in such an instance, the map advice 'ADDITIONAL CODE MANDATORY' will be allocated instead).

4.7.1 Map type 1:

Links a single SNOMED CT concept to a single classification code in the target scheme which represents the clinical meaning of the concept.

Examples:

43339004 | Hypokalemia (disorder)

id	refSetId	referencedComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
4247e53d-44b9-5eed-8edf-021b342021b	99900227100000101	43339004	1	1		ALWAYS E87.6	E876	447561005	1

173424005 | Dissection tonsillectomy (procedure)

id	refSetId	referencedComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
4cb1c9a5-c2c0-5405-b277-9c808cf60093	99900274100000101	173424005	1	1		ALWAYS F34.1 ADDITIONAL CODE POSSIBLE	F341	447561005	1

4.7.2 Map type 2:

Links a single SNOMED CT concept to a combination of classification codes (rather than a single code) in the target scheme that collectively represents the clinical meaning of the concept.

Examples:

97571000119109 | Thrombocytopenia co-occurrent and due to alcoholism (disorder)

id	refSetId	referencedComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
dc7698a4-740d-5d5b-ab76-845423b2facd	99900227100000101	97571000119109	1	1		ALWAYS D69.5	D695	447561005	1
0e6a870d-9cf7-5017-bbb7-90d1e6cd76b7	99900227100000101	97571000119109	2	1		ALWAYS F10.2	F102	447561005	1

287653007 | Subcutaneous mastectomy and prosthetic implant (procedure)

id	refSetId	referencedComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
f0f9356c-39d9-5416-8dcf-ff728559076e	9990027410000010101	287653007	1	1		ALWAYS B27.5 ADDITIONAL CODE POSSIBLE	B275	447561005	1
b2dc1c7e-6cbe-5b3b-be83-658f7bf9b156	9990027410000010101	287653007	2	1		ALWAYS B30.1 ADDITIONAL CODE POSSIBLE	B301	447561005	1

Note: In each example both target codes are required to reflect the meaning of the concept. The mapGroup indicates the required sequence of codes (1 then 2).

4.7.3 Map type 3:

Links a single SNOMED CT concept to a choice of codes in the target scheme. In this case, resolution of the choices involves:

- a) Automated or manual selection of the default target code or codes

Or

- b) Manual selection of the final classification code or codes from a list of alternative available targets informed by clinical detail found within the medical record or upon application of classification rules, principles or national coding standards.

Examples:

275367000 | Intrauterine hypoxia (disorder)

id	refSetId	referencedComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
b839df5c-8cd1-5b96-8082-7a8d0a9e3c92	9990022710000010101	275367000	1	1		ALWAYS P20.0	P200	447561005	1
b17f126b-81d1-5dba-8589-cee47107e880	9990022710000010101	275367000	1	2		ALWAYS P20.1	P201	447561005	1
a9a77932-7690-533a-bed3-e405c7406c0f	9990022710000010101	275367000	1	3		ALWAYS P20.9	P209	447561005	1

Note: The choice of target code is either the default target code P20.9 (mapPriority 3) or a choice of ONE of the alternative target codes (mapPriority 1 & 2).

13619001 | Thyroidectomy (procedure)

id	refSetId	referencedComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
d144056c-a841-59d8-a4ab-aba3fafac982	9990027410000001	13619001	1	1		ALWAYS B08.2 ADDITIONAL CODE POSSIBLE	B082	447561005	1
55356f9e-3e8b-5005-a1b9-9af8fc8c074a	9990027410000001	13619001	1	2		ALWAYS B08.1 ADDITIONAL CODE POSSIBLE	B081	447561005	1
d209a834-5083-5c31-a436-7e94b29f2444	9990027410000001	13619001	1	3		ALWAYS B08.8 ADDITIONAL CODE POSSIBLE	B088	447561005	1
b0440996-db1a-575b-b666-03635e3cf2e6	9990027410000001	13619001	1	4		ALWAYS B08.4 ADDITIONAL CODE POSSIBLE	B084	447561005	1
95582768-a329-50f5-bb9a-25bbe65f6db0	9990027410000001	13619001	1	5		ALWAYS B08.6 ADDITIONAL CODE POSSIBLE	B086	447561005	1
64f2e22d-d67d-57c2-a2fa-0d4965f3f480	9990027410000001	13619001	1	6		ALWAYS B08.5 ADDITIONAL CODE POSSIBLE	B085	447561005	1
149953d2-c61a-5a73-a69f-be16f58fbac1	9990027410000001	13619001	1	7		ALWAYS B08.3 ADDITIONAL CODE POSSIBLE	B083	447561005	1
5a5b8299-59a6-5130-8ca6-b2d1c33f5175	9990027410000001	13619001	1	8		ALWAYS B08.9 ADDITIONAL CODE POSSIBLE	B089	447561005	1

Note: The choice of target code is either the default target code B08.9 (mapPriority 8) or a choice of ONE of the alternative target codes (mapPriority 1-7).

4.7.4 Map type 4:

Links a single SNOMED CT concept to a choice of classification maps. Each choice of map may contain a single, combination or choice of target codes.

Examples:

10698009 | Herpes zoster iridocyclitis (disorder)

id	refSetId	referencedComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
79410d3c-2bf5-5561-a79c-8c4b78ff59f9	99900227100000101	10698009	1	1		ALWAYS B02.3	B023D	447561005	1
f39d0026-d03e-57df-8e95-fb195cdb3602	99900227100000101	10698009	2	1		ALWAYS H22.0	H220A	447561005	1
99ecf707-6659-518f-b31c-563b7b0149e4	99900227100000101	10698009	1	1		ALWAYS H22.0	H220A	447561005	2
87545292-da66-55be-acf2-c12d823c909c	99900227100000101	10698009	2	1		ALWAYS B02.3	B023D	447561005	2

Note: This map has two Map Blocks. As the primary code for a dagger and asterisk combination must reflect the main condition treated or investigated during the consultant episode, the user can select Map Block 1 if the condition represented by the dagger code (etiology) is the main condition or Map Block 2 if the condition represented by the asterisk code (manifestation) is the main condition.

241577003 | CT of spine (procedure)

id	refSetId	referencedComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
060acd27-b3dc-540f-abba-bd36792a6466	999002741000000101	241577003	1	1		ALWAYS U05.4 ADDITIONAL CODE POSSIBLE	U054	447561005	1
7dafb048-5534-589f-bc3f-2b9bdebe8aee	999002741000000101	241577003	2	1		ALWAYS Y98.1 ADDITIONAL CODE POSSIBLE	Y981	447561005	1
b3c1213e-336a-575b-8402-9a9fd43cad82	999002741000000101	241577003	1	1		ALWAYS U05.4 ADDITIONAL CODE POSSIBLE	U054	447561005	2
f394d217-e55d-5534-839f-b93193144230	999002741000000101	241577003	2	1		ALWAYS Y97.1 ADDITIONAL CODE POSSIBLE	Y971	447561005	2
e10eb38f-10a7-52c6-b487-853179798eb	999002741000000101	241577003	2	2		ALWAYS Y97.3 ADDITIONAL CODE POSSIBLE	Y973	447561005	2
ab70c2d9-6cd7-50a1-8b17-3f93d5f04808	999002741000000101	241577003	3	1		ALWAYS Y98.1 ADDITIONAL CODE POSSIBLE	Y981	447561005	2

*Note: National clinical coding rules state that when contrast has been administered for a diagnostic imaging procedure, a code from category **Y97 Radiology with contrast** must always be assigned after the code(s) for the specific scan and before the code(s) from category **Y98 Radiology procedures**.*

Although the concept in this example does not state that contrast was used, the map is constructed in such a way as to allow the user a choice of a combination of codes either with or without contrast.

4.8 Examples of maps with ICD-10 target codes which have fifth character extensions

Fifth characters are used in several chapters of ICD-10, for example in **Chapter XIX Injury, poisoning and certain other consequences of external causes** and in **Chapter XIII Diseases of the musculoskeletal system and connective tissue**.

The following example demonstrates a map which includes a fifth character in the target code:

18347007 | Spinal stenosis of lumbar region (disorder)

id	refSetId	referenced ComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
41c414d6-6dce-5fd5-a257-7e41c7145ba8	9990227100000101	18347007	1	1		ALWAYS M48.06	M4806	447561005	1

Note: The concept includes the site information(lumbar) which is required by ICD-10 so the fifth character is assigned within the map.

The following example demonstrates a map where the fifth character cannot be assigned so map advice to add a fifth character is included:

9631008 | Ankylosing spondylitis (disorder)

id	refSetId	referenced ComponentId	mapGroup	mapPriority	mapRule	mapAdvice	mapTarget	CorrelationId	mapBlock
4160a8c0-9b94-565b-9a4a-41ab4986a78b	9990227100000101	9631008	1	1		ALWAYS M45.X FIFTH CHARACTER POSSIBLE	M45X	447561005	1

4.9 Drivers of mapping workflow

4.9.1 Maps for UK specific content in the SNOMED CT UK Edition

Where new concepts added to the UK Edition are 'in scope' of the classifications, the maps are generally applied within the same release cycle. Where the content is believed to be suitable, concepts are also submitted to SNOMED International for addition to the International Release of SNOMED CT.

4.9.2 Maps for SNOMED CT International Edition content in the SNOMED CT UK Edition

Each new international concept within scope of the classifications is reviewed, and maps are assigned where appropriate and made available in the SNOMED CT UK Edition. (also see [section 2 Important notes for this release](#) and [4.13 Publication and release](#)). They are included in the map table and can be identified by matching the SNOMED CT Core concept identifier from the SNOMED CT delta release with the referencedComponentId of the relevant map reference set.

Candidate concepts present in the SNOMED CT releases are at times mapped in subsequent releases. This may happen when they occur in numbers too large to complete in a single

release within the given timescales. Any in-scope international concepts which remain unmapped for any reason are identified by a '#NEW' excuse code and are planned for mapping in a subsequent release.

4.9.3 ICD-10 and OPCS-4 Updates

Updates to new Editions/Versions of ICD-10 and OPCS-4 are incorporated into SNOMED CT map files to meet the specified implementation date – usually 01-04-20xx. It involves the following major activities:

- New SNOMED CT concepts *may* be authored to facilitate maps to new classification codes
- New SNOMED CT International and UK Edition concepts are mapped to the new classification codes
- Existing SNOMED CT maps that are likely to be impacted by the new classification codes are identified and reviewed. Where required, maps are retired and new maps created.

Note: New SNOMED CT concepts created to facilitate a map to a new classification code comply with SNOMED CT editorial principles.

4.10 Mapping Methodology

Briefly, the methodology employed for construction of a classification map involves:

- Evaluation of the SNOMED CT concept Fully Specified Name along with its defining relationships and attributes and associated synonyms, in order to fully understand the clinical meaning of the concept
- Location of the best place for the concept in ICD-10 or OPCS-4 using the four-step coding process
- Identification of a default target code ensuring application of national clinical coding standards and the rules and conventions of the relevant classification
- Correct sequencing in support of the application of the three dimensions of coding accuracy
- Consideration of ICD-10 and OPCS-4 Alphabetical Index essential modifiers and Tabular List exclusion notes to identify any 'alternative' target codes
- Identification of any associated synonyms which necessitate the inclusion of alternative target classification codes
- Application of editorial mapping principles

4.10.1 Process

Maps are authored in a dedicated map tooling environment which supports:

- Dual blind authoring of each map (best practice, reduces bias)
- Automated comparison of the two authored maps in the map tooling environment:
 - the tool sends concepts where the maps match to the publication queue in readiness for the upcoming release
 - concepts with maps that do not match (discordance) are sent to a third party (map lead) for review and resolution
 - consensus management process in place for resolution of discordance when this cannot be reached between the map lead and map specialist(s)

4.11 Quality Assurance and Validation

The mapping function is supported by a well-established infrastructure put in place by the Terminology and Classification Delivery Service³.

Maps are created in accordance with UK National Clinical Coding Standards as stated in the ICD-10 5th Edition and OPCS-4.9 Alphabetical Index, Tabular List, National Clinical Coding Standards, *Coding Clinic* and Editorial Mapping Principles.

Quality assurance protocols for the production and maintenance of maps consist of technical validation rules and warnings which are automatically applied in real time throughout the editing cycle within the tooling. Further QA rules and warnings are applied following the pre-release “freeze” of the editing environment.

Pre-defined validation rules and warnings can be expanded as necessary and in response to, for example, new national clinical coding standards, issues and lessons learned.

4.12 Editorial Mapping Principles of note

Editorial mapping principles are designed to promote consistency, reproducibility and comparability. A principle will instruct the map specialist in a course of action in specific circumstances. Some editorial principles of note are included within this document, with examples of how they are applied. (*See Appendix D*)

4.13 Publication and release

The international SNOMED CT release is published by SNOMED International twice yearly in January and July. NHS Digital adds UK-specific content to the release through updating the UK extension, the map files and other UK artefacts to create the SNOMED CT UK Edition. The Classification maps are released as part of the SNOMED CT UK Edition via TRUD.

The [Release Schedule](#) and associated [Release documentation](#) are published on Delen.

4.14 Terms and conditions of use for maps

The licences for ICD-10, OPCS-4 and SNOMED CT can be viewed at the TRUD and must be accepted before download of products.

4.15 Static versions of previous map releases

Static versions of previous version / edition cross-maps are available as separate TRUD packs if required. (Also see the '[SNOMED CT to ICD-10 and OPCS-4 Retired Reference Sets](#)' document.)

³ The management system governing the provision of the Terminology and Classifications Development Service is ISO:9001 2015 certified.

5. Additional information

5.1 NHS Digital SNOMED CT Browser

Classification maps can also be viewed within the NHS Digital SNOMED CT Browser and there is a link to a guide describing the purpose, presentation and use of the maps in the Browser.

The NHS Digital SNOMED CT browser is an online browser and is available at <https://termbrowser.nhs.uk/> It contains the SNOMED CT International release, the UK Clinical Extensions and the UK Drug Extension which is for use in the UK only.

5.2 Enquiries and reporting issues

Any queries or issues in relation to the classification maps or the content of this document should be submitted to the Information Standards Service Desk via information.standards@nhs.net.

Appendix A – OPCS-4.9 extended categories

The following OPCS.4.9 Extended category codes are not present in the map tables. ***Note:** If codes begin with O, this indicates that they are from an overflow category, and these categories are located at the end of certain OPCS-4 Chapters (L, W & Z). The corresponding Chapter letter has been included at the end of the code in parentheses for information purposes.

(see [Appendix D7](#))

OPCS-4 CODE	OPCS-4 DESCRIPTION
A06.8	OTHER SPECIFIED OTHER EXCISION OF LESION OF TISSUE OF BRAIN
A06.9	UNSPECIFIED OTHER EXCISION OF LESION OF TISSUE OF BRAIN
A11.8	OPERATIONS ON TISSUE OF BRAIN, OTHER SPECIFIED
A11.9	OPERATIONS ON TISSUE OF BRAIN, UNSPECIFIED
A43.8	OTHER EXTIRPATION OF LESION OF MENINGES OF BRAIN, OTHER SPECIFIED
A43.9	OTHER EXTIRPATION OF LESION OF MENINGES OF BRAIN, UNSPECIFIED
A82.8	OTHER SPECIFIED OTHER NEUROPHYSIOLOGICAL OPERATIONS
A82.9	UNSPECIFIED OTHER NEUROPHYSIOLOGICAL OPERATIONS
B41.8	OTHER SPECIFIED EXCISION OF BREAST
B41.9	UNSPECIFIED EXCISION OF BREAST
C23.8	OTHER SPECIFIED OPERATIONS ON EYELID
C23.9	UNSPECIFIED OPERATIONS ON EYELID
C44.8	OTHER PLASTIC OPERATIONS ON CORNEA, OTHER SPECIFIED
C44.9	OTHER PLASTIC OPERATIONS ON CORNEA, UNSPECIFIED
E07.8	OTHER PLASTIC OPERATIONS ON NOSE, OTHER SPECIFIED
E07.9	OTHER PLASTIC OPERATIONS ON NOSE, UNSPECIFIED
E16.8	OTHER OPERATIONS ON FRONTAL SINUS, OTHER SPECIFIED
E16.9	OTHER OPERATIONS ON FRONTAL SINUS, UNSPECIFIED
E66.8	OTHER SPECIFIED OTHER OPERATIONS ON EXTERNAL NOSE
E66.9	UNSPECIFIED OTHER OPERATIONS ON EXTERNAL NOSE
E67.8	OTHER SPECIFIED OTHER THERAPEUTIC FIBREOPTIC ENDOSCOPIC OPERATIONS ON LOWER RESPIRATORY TRACT
E67.9	UNSPECIFIED OTHER THERAPEUTIC FIBREOPTIC ENDOSCOPIC OPERATIONS ON LOWER RESPIRATORY TRACT
F15.8	OTHER SPECIFIED OTHER ORTHODONTIC OPERATIONS
F15.9	UNSPECIFIED OTHER ORTHODONTIC OPERATIONS
G12.8	OTHER SPECIFIED OTHER FIBREOPTIC ENDOSCOPIC EXTIRPATION OF LESION OF OESOPHAGUS
G12.9	UNSPECIFIED OTHER FIBREOPTIC ENDOSCOPIC EXTIRPATION OF LESION OF OESOPHAGUS

G20.8	OTHER SPECIFIED FIBREOPTIC ENDOSCOPIC OPERATIONS ON OESOPHAGUS
G20.9	UNSPECIFIED FIBREOPTIC ENDOSCOPIC OPERATIONS ON OESOPHAGUS
G42.8	OTHER FIBREOPTIC ENDOSCOPIC EXTIRPATION OF LESION OF UPPER GASTROINTESTINAL TRACT, OTHER SPECIFIED
G42.9	OTHER FIBREOPTIC ENDOSCOPIC EXTIRPATION OF LESION OF UPPER GASTROINTESTINAL TRACT, UNSPECIFIED
G46.8	THERAPEUTIC FIBREOPTIC ENDOSCOPIC OPERATIONS ON UPPER GASTROINTESTINAL TRACT, OTHER SPECIFIED
G46.9	THERAPEUTIC FIBREOPTIC ENDOSCOPIC OPERATIONS ON UPPER GASTROINTESTINAL TRACT, UNSPECIFIED
H32.8	OTHER SPECIFIED EXTERIORISATION OF COLON
H32.9	UNSPECIFIED EXTERIORISATION OF COLON
H37.8	OTHER SPECIFIED OTHER ENDOSCOPIC EXTIRPATION OF LESION OF SIGMOID COLON USING RIGID SIGMOIDOSCOPE
H37.9	UNSPECIFIED OTHER ENDOSCOPIC EXTIRPATION OF LESION OF SIGMOID COLON USING RIGID SIGMOIDOSCOPE
J06.8	OTHER TRANSJUGULAR INTRAHEPATIC OPERATIONS ON BLOOD VESSEL OF LIVER, OTHER SPECIFIED
J06.9	OTHER TRANSJUGULAR INTRAHEPATIC OPERATIONS ON BLOOD VESSEL OF LIVER, UNSPECIFIED
J76.8	THERAPEUTIC PERCUTANEOUS OPERATIONS ON BILE DUCT, OTHER SPECIFIED
J76.9	THERAPEUTIC PERCUTANEOUS OPERATIONS ON BILE DUCT, UNSPECIFIED
J77.8	OTHER TRANSLUMINAL OPERATIONS ON BLOOD VESSEL OF LIVER, OTHER SPECIFIED
J77.9	OTHER TRANSLUMINAL OPERATIONS ON BLOOD VESSEL OF LIVER, UNSPECIFIED
K62.8	THERAPEUTIC TRANSLUMINAL OPERATIONS ON HEART, OTHER SPECIFIED
K62.9	THERAPEUTIC TRANSLUMINAL OPERATIONS ON HEART, UNSPECIFIED
K73.8	OTHER SPECIFIED OTHER CARDIAC PACEMAKER SYSTEM INTRODUCED THROUGH VEIN
K73.9	UNSPECIFIED OTHER CARDIAC PACEMAKER SYSTEM INTRODUCED THROUGH VEIN
K74.8	OTHER SPECIFIED CARDIAC PACEMAKER SYSTEM
K74.9	UNSPECIFIED CARDIAC PACEMAKER SYSTEM
L66.8	OTHER THERAPEUTIC TRANSLUMINAL OPERATIONS ON ARTERY, OTHER SPECIFIED
L66.9	OTHER THERAPEUTIC TRANSLUMINAL OPERATIONS ON ARTERY, UNSPECIFIED
L89.8	OTHER ENDOVASCULAR PLACEMENT OF STENT, OTHER SPECIFIED

L89.9	OTHER ENDOVASCULAR PLACEMENT OF STENT, UNSPECIFIED
L99.8	OTHER THERAPEUTIC TRANSLUMINAL OPERATIONS ON VEIN, OTHER SPECIFIED
L99.9	OTHER THERAPEUTIC TRANSLUMINAL OPERATIONS ON VEIN, UNSPECIFIED
M24.8	OTHER URINARY DIVERSION, OTHER SPECIFIED
M24.9	OTHER URINARY DIVERSION, UNSPECIFIED
M48.8	OPERATIONS ON BLADDER, OTHER SPECIFIED
M48.9	OPERATIONS ON BLADDER, UNSPECIFIED
M54.8	OPEN OPERATIONS ON OUTLET OF FEMALE BLADDER, OTHER SPECIFIED
M54.9	OPEN OPERATIONS ON OUTLET OF FEMALE BLADDER, UNSPECIFIED
M57.8	OTHER SPECIFIED OTHER VAGINAL OPERATIONS TO SUPPORT OUTLET OF FEMALE BLADDER
M57.9	UNSPECIFIED OTHER VAGINAL OPERATIONS TO SUPPORT OUTLET OF FEMALE BLADDER
M60.8	OPEN OPERATIONS ON OUTLET OF MALE BLADDER, OTHER SPECIFIED
M60.9	OPEN OPERATIONS ON OUTLET OF MALE BLADDER, UNSPECIFIED
M71.8	OTHER OPERATIONS ON PROSTATE, OTHER SPECIFIED
M71.9	OTHER OPERATIONS ON PROSTATE, UNSPECIFIED
O11.8 (Z)	SPECIFIED OTHER UPPER DIGESTIVE TRACT NEC
O11.9 (Z)	OTHER UPPER DIGESTIVE TRACT NEC
O13.8 (Z)	SPECIFIED OTHER LEG REGION NEC
O13.9 (Z)	OTHER LEG REGION NEC
O14.8 (Z)	SPECIFIED OTHER LYMPH NODE NEC
O14.9 (Z)	OTHER LYMPH NODE NEC
O15.8 (L)	OPERATIONS ON BLOOD VESSEL, OTHER SPECIFIED
O15.9 (L)	OPERATIONS ON BLOOD VESSEL, UNSPECIFIED
O16.8 (Z)	SPECIFIED BODY REGION NEC
O16.9 (Z)	BODY REGION NEC
O19.8 (W)	OTHER THERAPEUTIC ENDOSCOPIC OPERATIONS ON OTHER JOINT STRUCTURE, OTHER SPECIFIED
O19.9 (W)	OTHER THERAPEUTIC ENDOSCOPIC OPERATIONS ON OTHER JOINT STRUCTURE, UNSPECIFIED
O27.8 (W)	OTHER STABILISING OPERATIONS ON JOINT, OTHER SPECIFIED
O27.9 (W)	OTHER STABILISING OPERATIONS ON JOINT, UNSPECIFIED
O28.8 (Z)	SPECIFIED OTHER CEREBRAL ARTERY NEC
O28.9 (Z)	OTHER CEREBRAL ARTERY NEC
O29.8 (W)	EXCISION OF BONE, OTHER SPECIFIED

O29.9 (W)	EXCISION OF BONE, UNSPECIFIED
O30.8 (Z)	SPECIFIED OTHER LARGE INTESTINE NEC
O30.9 (Z)	OTHER LARGE INTESTINE NEC
O31.8 (Z)	SPECIFIED OTHER ARM REGION NEC
O31.9 (Z)	OTHER ARM REGION NEC
O34.8 (Z)	SPECIFIED OTHER BILIARY TRACT NEC
O34.9 (Z)	OTHER BILIARY TRACT NEC
O35.8 (W)	OPEN OPERATIONS ON JOINT. OTHER SPECIFIED
O35.9 (W)	OPEN OPERATIONS ON JOINT, UNSPECIFIED
O36.8 (Z)	SPECIFIED OTHER MOUTH NEC
O36.9 (Z)	OTHER MOUTH NEC
O43.8 (Z)	SPECIFIED PART OF HEART NEC
O43.9 (Z)	PART OF HEART NEC
O44.8 (Y)	OTHER SPECIFIED OTHER EXTERNAL BEAM RADIOOTHERAPY
O44.9 (Y)	UNSPECIFIED OTHER EXTERNAL BEAM RADIOOTHERAPY
O45.8 (Z)	SPECIFIED OTHER AORTA NEC
O45.9 (Z)	OTHER AORTA NEC
P28.8	OTHER SPECIFIED REPAIR OF PROLAPSE OF VAGINA
P28.9	UNSPECIFIED REPAIR OF PROLAPSE OF VAGINA
P30.8	OTHER SPECIFIED OTHER REPAIR OF VAULT OF VAGINA
P30.9	UNSPECIFIED OTHER REPAIR OF VAULT OF VAGINA
P32.8	OTHER PLASTIC OPERATIONS ON VAGINA, OTHER SPECIFIED
P32.9	OTHER PLASTIC OPERATIONS ON VAGINA, UNSPECIFIED
Q21.8	OTHER INTRODUCTION OF GAMETE INTO UTERINE CAVITY, OTHER SPECIFIED
Q21.9	OTHER INTRODUCTION OF GAMETE INTO UTERINE CAVITY, UNSPECIFIED
Q57.8	OTHER SPECIFIED OTHER OPERATIONS ON OTHER LIGAMENT OF UTERUS
Q57.9	UNSPECIFIED OTHER OPERATIONS ON OTHER LIGAMENT OF UTERUS
R11.8	OTHER THERAPEUTIC PERCUTANEOUS OPERATIONS ON FETUS, OTHER SPECIFIED
R11.9	OTHER THERAPEUTIC PERCUTANEOUS OPERATIONS ON FETUS, UNSPECIFIED
S63.8	OTHER SPECIFIED OPERATIONS ON SUBCUTANEOUS TISSUE
S63.9	UNSPECIFIED OPERATIONS ON SUBCUTANEOUS TISSUE
T56.8	OTHER EXCISION OF OTHER FASCIA, OTHER SPECIFIED
T56.9	OTHER EXCISION OF OTHER FASCIA, UNSPECIFIED
U34.8	OTHER DIAGNOSTIC ELECTROCARDIOGRAPHY, OTHER SPECIFIED

U34.9	OTHER DIAGNOSTIC ELECTROCARDIOGRAPHY, UNSPECIFIED
U35.8	OTHER DIAGNOSTIC IMAGING OF VASCULAR SYSTEM, OTHER SPECIFIED
U35.9	OTHER DIAGNOSTIC IMAGING OF VASCULAR SYSTEM, UNSPECIFIED
U36.8	OTHER DIAGNOSTIC IMAGING PROCEDURES, OTHER SPECIFIED
U36.9	OTHER DIAGNOSTIC IMAGING PROCEDURES, UNSPECIFIED
U37.8	OTHER DIAGNOSTIC IMAGING OF GENITOURINARY SYSTEM, OTHER SPECIFIED
U37.9	OTHER DIAGNOSTIC IMAGING OF GENITOURINARY SYSTEM, UNSPECIFIED
U38.8	OTHER DIAGNOSTIC ENDOCRINOLOGY, OTHER SPECIFIED
U38.9	OTHER DIAGNOSTIC ENDOCRINOLOGY, UNSPECIFIED
U40.8	DIAGNOSTIC TESTS ON SKIN, OTHER SPECIFIED
U40.9	DIAGNOSTIC TESTS ON SKIN, UNSPECIFIED
V02.8	OTHER SPECIFIED OTHER PLASTIC REPAIR OF CRANIUM
V02.9	UNSPECIFIED OTHER PLASTIC REPAIR OF CRANIUM
V51.8	OTHER SPECIFIED OTHER PRIMARY EXCISION OF LUMBAR INTERVERTEBRAL DISC
V51.9	UNSPECIFIED OTHER PRIMARY EXCISION OF LUMBAR INTERVERTEBRAL DISC
V66.8	OTHER REVISIONAL FUSION OF JOINT OF SPINE, OTHER SPECIFIED
V66.9	OTHER REVISIONAL FUSION OF JOINT OF SPINE, UNSPECIFIED
V67.8	OTHER PRIMARY DECOMPRESSION OPERATIONS ON LUMBAR SPINE, OTHER SPECIFIED
V67.9	OTHER PRIMARY DECOMPRESSION OPERATIONS ON LUMBAR SPINE, UNSPECIFIED
V68.8	OTHER REVISIONAL DECOMPRESSION OPERATIONS ON LUMBAR SPINE, OTHER SPECIFIED
V68.9	OTHER REVISIONAL DECOMPRESSION OPERATIONS ON LUMBAR SPINE, UNSPECIFIED
V69.8	OTHER PRIMARY DECOMPRESSION OPERATIONS ON CERVICAL SPINE. OTHER SPECIFIED
V69.9	OTHER PRIMARY DECOMPRESSION OPERATIONS ON CERVICAL SPINE, UNSPECIFIED
V70.8	OTHER REVISIONAL DECOMPRESSION OPERATIONS ON CERVICAL SPINE, OTHER SPECIFIED
V70.9	OTHER REVISIONAL DECOMPRESSION OPERATIONS ON CERVICAL SPINE, UNSPECIFIED
W89.8	OTHER THERAPEUTIC ENDOSCOPIC OPERATIONS ON OTHER ARTICULAR CARTILAGE, OTHER SPECIFIED
W89.9	OTHER THERAPEUTIC ENDOSCOPIC OPERATIONS ON OTHER ARTICULAR CARTILAGE, UNSPECIFIED
X47.8	OTHER EXCHANGE BLOOD TRANSFUSION, OTHER SPECIFIED

X47.9	OTHER EXCHANGE BLOOD TRANSFUSION, UNSPECIFIED
X69.8	OTHER RADIOTHERAPY. OTHER SPECIFIED
X69.9	OTHER RADIOTHERAPY, UNSPECIFIED
Y10.8	DESTRUCTION OF ORGAN NOC, OTHER SPECIFIED
Y10.9	DESTRUCTION OF ORGAN NOC, UNSPECIFIED
Y17.8	OTHER SPECIFIED DESTRUCTION OF LESION OF ORGAN NOC
Y17.9	UNSPECIFIED DESTRUCTION OF LESION OF ORGAN NOC
Y68.8	OTHER APPROACH TO ORGAN UNDER IMAGE CONTROL, OTHER SPECIFIED
Y68.9	OTHER APPROACH TO ORGAN UNDER IMAGE CONTROL, UNSPECIFIED
Z88.8	SPECIFIED RESPIRATORY TRACT NEC
Z88.9	RESPIRATORY TRACT NEC
Z95.8	SPECIFIED OTHER BRANCH OF THORACIC AORTA NEC
Z95.9	OTHER BRANCH OF THORACIC AORTA NEC
Z96.8	SPECIFIED OTHER LATERAL BRANCH OF ABDOMINAL AORTA NEC
Z96.9	OTHER LATERAL BRANCH OF ABDOMINAL AORTA NEC
Z97.8	SPECIFIED OTHER TERMINAL BRANCH OF AORTA NEC
Z97.9	OTHER TERMINAL BRANCH OF AORTA NEC

Appendix B – Map advice

The following map advices are available within the mapping tool and may appear in the mapping tables:

ICD-10
COVID-19, VIRUS IDENTIFIED
COVID-19, VIRUS NOT IDENTIFIED
ADDITIONAL CODE MANDATORY
ADDITIONAL CODE POSSIBLE
ADDITIONAL CODE POSSIBLE FOR OUTCOME OF DELIVERY
ADDITIONAL CODE POSSIBLE TO FULLY DESCRIBE DISEASE OR CONDITION
ADDITIONAL CODE POSSIBLE TO IDENTIFY CAUSATIVE AGENT
ADDITIONAL CODE POSSIBLE TO IDENTIFY PRESENCE OF HYPERTENSION
ADDITIONAL CODE POSSIBLE TO IDENTIFY PRESENCE OF RENAL FAILURE
ADDITIONAL CODE POSSIBLE TO IDENTIFY SEPTIC SHOCK
ADDITIONAL DAGGER CODE MANDATORY
ADDITIONAL EXTERNAL CAUSE CODE POSSIBLE
CODE MUST NEVER BE USED IN A PRIMARY POSITION
CODE MUST BE USED IN A PRIMARY POSITION
FIFTH CHARACTER MANDATORY
FIFTH CHARACTER POSSIBLE
PERMISSIBLE TO USE THIS ASTERISK CODE IN A PRIMARY POSITION
THIS IS AN EXTERNAL CAUSE CODE FOR USE IN A SECONDARY POSITION

OPCS-4
ADDITIONAL CODE POSSIBLE
CODE MUST NEVER BE USED IN A PRIMARY POSITION
ADDITIONAL CODE FOR APPROACH UNDER IMAGE CONTROL MANDATORY
ADDITIONAL CHAPTER L STENT OR STENT GRAFT CODE MANDATORY

Appendix C – Examples of concepts pushed into scope of ICD-10 for mapping

SNOMED CT Concept ID & Fully Specified name	Mapped to ICD-10 target code
171126009 Tuberculosis screening (procedure)	Z11.1 Special screening examination for respiratory tuberculosis
79841006 Genetic counselling (procedure)	Z31.5 Genetic counselling
735934008 History of poor personal hygiene (situation)	Z91.2 Personal history of poor personal hygiene
182918009 Repeated prescription (context-dependent category)	Z76.0 Issue of repeat prescription
416085006 Nosocomial transmission (qualifier value)	Y95.X Nosocomial condition

Appendix D – Editorial Mapping Principles of note

D1 Alternative target code assignment

Certain essential classification modifiers may not be present within the SNOMED CT concept Fully Specified Name (FSN) but are crucial to the selection of an appropriate target ICD-10 code. In these instances, alternative target codes may be identified via the Alphabetical Index essential modifiers and the Tabular List exclusion notes.

It is important to understand that we cannot and should not add all essential modifier and exclusion note codes as alternative targets, as this may result in a map that is unwieldy and less than useful to the end user.

However, the following modifiers/exclusions should always be considered for the provision of alternatives to ensure the coder is able to select the appropriate target code using information that would only be available in the context of the patient medical record:

- Newborn/Neonatal
- Male/Female
- Pregnancy/Gestational, Childbirth/Labour and Puerperium (including pre-existing pregnancy related conditions where appropriate)
- Age-specific
- First noted before onset of labour
- ‘As the cause of diseases classified to...’
- Any other explicit circumstances where a dedicated principle exists

D2 External cause codes

Supplementary ICD-10 Chapter XX external cause codes from the range **V01-Y36** are not included in the map (with the exception of poisoning type concepts) even when an indication or statement of cause is included in the context of the concept. The map advice “ADDITIONAL EXTERNAL CAUSE CODE POSSIBLE” is added to the map. This ensures compliance with the national clinical coding standard **DChS.XX.1: External causes**.

D3 Dagger and asterisk mapping

This system allows the linkage of aetiology (dagger) and a manifestation (asterisk). National clinical coding rules state that both components are provided. The dagger or asterisk codes will be sequenced to reflect the main condition treated or investigated during the consultant episode, in line with the mandated Primary diagnosis definition. Therefore, SNOMED CT to ICD-10 maps which include dagger and asterisk paired target codes have a choice of maps which allows reversal of the sequencing. (*See example ‘d’ at Section 19*).

D4 ICD-10: Neoplasm: Morphology codes

There is currently no mandate in England, Scotland or Northern Ireland for the collection of morphology codes, although some organisations do collect them for local use. In Wales the collection of morphology codes is mandated.

All morphology codes have been removed by the World Health Organisation from ICD-10 5th Edition Alphabetical Index and Tabular List. Neoplastic disorder concepts have been mapped to ICD-10 target codes and include the map advice “ADDITIONAL CODE POSSIBLE” for the user’s attention.

D5 ICD-10: Mapping to fifth character – incomplete context

New and updated ICD-10 maps are constructed to fifth-character level where possible, i.e. where the fifth character information is included in the context of the SNOMED CT concept (see *example 3.7.4 Map type 4*).

D6 ICD-10: Map is context dependent for gender

If the source concept does not assert gender, yet only gender-restricted ICD-10 codes are available, the map is considered context-dependent. The Map Specialist selects an alternative rule for each gender separately and applies the respective target code(s), marking them as “Alternative” target codes. The TRUE (default) target will be marked as a high-level concept. See *example*:

Prolapse of urethra (disorder) 12068006 ICD10				
Map Entries	Rule	Advice	Relation	
1/1/1	N36.3 Prolapsed urethral mucosa	ALTERNATIVE		MAP SOURCE CONCEPT IS PROPERLY CLASSIFIED
1/1/2	N81.0 Female urethrocele	ALTERNATIVE		MAP SOURCE CONCEPT IS PROPERLY CLASSIFIED
1/1/3	N81.1 Cystocele	ALTERNATIVE		
1/1/4	Q64.7 Other congenital malformations of bladder and urethra	ALTERNATIVE		MAP SOURCE CONCEPT IS PROPERLY CLASSIFIED
1/1/5	No target	TRUE		High level concept

D7 OPCS-4: Extended categories .8 and .9

The OPCS-4 classification consists of categories organised in a hierarchical structure mainly based on the human anatomy. Some of these categories are now full, giving rise to capacity issues.

Where capacity issues exist, a new category is created for content that would have been included in the full category. The new category is called an “extended category” and the “parent/full” category is called a “principal” category.

To maintain the structure of the classification .8 and .9 codes are available in both principal and extended categories. National clinical coding standard **PRule 5: Capacity, overflow categories and principal extended categories** states that only the .8 and .9 from the principal category can be used. The .8 and .9 from the extended category must not be used.

This national standard is reflected in the classification maps from SNOMED CT to OPCS-4. Consequently, the .8 and .9 extended category codes do not appear in the map tables.

Note: A list of the OPCS-4 .8 and .9 extended category codes can be found at [Appendix A](#).

Appendix E – Glossary of terms

Term	Acronym	Definition
Terminology and Classifications Service		The Terminology and Classifications Delivery Service and is responsible for the development of classifications ICD-10, OPCS-4 and associated maps for UK implementation.
Commissioning Data Set	CDS	Commissioning Data Sets form the basis of data on activity carried out by organisations reported centrally for monitoring and payment purposes. They support the current Healthcare Resource Group (HRG) version for calculation of payment to trusts and monitoring of other initiatives.
OPCS Classification of Interventions and Procedures, version 4.9	OPCS-4.9	The OPCS Classification of Interventions and Procedures version 4.9 is a UK classification implemented on 1 April 2020 . The classification is devised for translating or classifying all operations and surgical procedures that may be carried out on a patient during an episode of health care.
International Statistical Classification of Diseases and Related Health Problems – Tenth Revision, Fifth Edition	ICD-10 5 th Edition	The World Health Organisation (WHO) International Statistical Classification of Diseases and Related Health Problems – Tenth Revision, Fifth Edition (ICD-10 2016) is an existing NHS Information Standard , implemented on 1 April 2016 for the collection and reporting of Admitted Patient Care Commissioning Dataset (APC CDS), Central Returns and other data sets as referenced in the NHS Data Model and Dictionary.
National Tariff Payment System	NTPS	NTPS is a set of prices and rules to help local NHS providers and commissioners provide best value to their patients produced by NHS Improvement and NHS England.
NHS Data Model and Dictionary		The NHS Data Model and Dictionary Service provides the development, maintenance and support of NHS Information Standards. It is a reference point for assured standards, to support health care activities in the NHS in England.
SNOMED CT®	SNOMED CT®	SNOMED CT is a comprehensive multilingual clinical healthcare terminology. It is a common computerised language that will be used by all computer applications in the NHS to facilitate communications between healthcare professionals in clear and unambiguous terms. It has greater depth and coverage of healthcare than the versions of Clinical Terms (Read Codes) that it replaces and will enable clinicians, researchers and patients to share and exchange healthcare and clinical knowledge worldwide. SNOMED CT® and SNOMED® are registered trademarks of SNOMED international: See http://www.snomed.org/
Technology Reference data Update Distribution	TRUD	TRUD is the distribution service for registered users to download reference files from NHS Digital.
Hospital Episode Statistics	HES	Hospital Episode Statistics (HES) is the national statistical data warehouse for England of the care provided by NHS hospitals and for NHS hospital patients treated elsewhere. HES is the data source for a wide range of healthcare analysis for the NHS, Government and many other organisations and individuals.
SNOMED International	SI	SNOMED International is a not-for-profit organisation that owns, administers and develops SNOMED CT.

<p>SNOMED CT Technical Implementation Guide</p>	<p>TIG</p>	<p>The TIG is intended for SNOMED CT implementers, such as software designers. The TIG assumes information technology and software development experience. Clinical knowledge is not required, although some background is helpful to understand the application context and needs.</p> <p>The TIG contains guidelines and advice about the design of applications using SNOMED CT, and covers topics such as terminology services, entering and storing information, and migration of legacy information.</p>
<p>SNOMED CT Release Format 2</p>	<p>RF2</p>	<p>Release Format 2 is the file structure specified by SNOMED International for files used to distribute SNOMED CT content from 2011.</p>
<p>ISO:9001 2015</p>		<p>ISO 9001 is the internationally recognised standard for the quality management of businesses.</p> <p>What is it?</p> <ul style="list-style-type: none"> • applies to the processes that create and control the products and services an organisation supplies • prescribes systematic control of activities to ensure that the needs and expectations of customers are met <p>is designed and intended to apply to virtually any product or service, made by any process anywhere in the world</p>