

DICOM Correction Item

Correction Number CP-730	
Log Summary: Clarify SNOMED coding scheme designators	
Type of Modification	Name of Standard
Modification	PS 3.3, PS 3.4, PS 3.16, PS 3.17
Rationale for Correction: Clarify SNOMED coding scheme designators, and update to new SNOMED Standards Development Organization.	
Sections of documents affected PS 3.3 Sections 8.2, C.7.6.16.2.12 PS 3.4 Section B.4.1 PS 3.16 Sections 2, 8, and Annexes A, B, C, D PS 3.17 Annexes K, N, V, EE	
Correction Wording:	
Modify PS3.3 Section 8.2	

8.2 Coding Scheme Designator and Coding Scheme Version

The attribute Coding Scheme Designator (0008,0102) identifies the coding scheme in which the code for a term is defined. Standard coding scheme designators used in DICOM information interchange are listed in PS 3.16. Other coding scheme designators, for both private and public coding schemes, may be used. Further identification of the coding scheme designators used in a SOP Instance may be provided in the Coding Scheme Identification Sequence (0008,0110) (see Section C.12).

- Notes:
1. Typical coding schemes used in DICOM include "DCM" for DICOM defined codes, **"SNM3" for SNOMED version 3**, "SRT" for SNOMED-RT, and "LN" for LOINC. **See PS3.16 "Coding Schemes"**.
 2. Coding scheme designators beginning with "99" and the coding scheme designator "L" are defined in HL7 V2 to be private or local coding schemes.
 3. Most IODs that define the use of coded terms provide for the use of private codes and coding schemes through replacement of Baseline Context Groups or extension of Defined Context Groups. Systems supporting such private code use must provide a mechanism for the configuration of sets of Coding Scheme Designator, Code Value, and Code Meaning to support interoperability of the private codes with other systems.
 4. It is highly recommended that local or non-standard coding schemes be identified in the Coding Scheme Identification Sequence.

The attribute Coding Scheme Version (0008,0103) may be used to identify the version of a coding scheme if necessary to resolve ambiguity in the Code Value (0008,0100) or Code Meaning (0008,0104), **or if the Code Value does not appear in all versions of the Coding Scheme identified by the Coding Scheme Designator. Coding Scheme Version is not required for backward-compatible revisions of a coding scheme, as the Coding Scheme Designator identifies the coding scheme as a whole as currently published by the responsible organization.**

~~In previous editions of the DICOM Standard, a provisional Coding Scheme Identifier of "99SDM" was used for SNOMED codes that were used in DICOM.~~

~~Consequently, when a Coding Scheme Designator (0008,0102) of “99SDM” is encountered, it shall be treated as equivalent to “SNM3” for the purpose of interpreting Code Value (0008,0100).~~

~~A Coding Scheme Designator (0008,0102) of “99SDM” or “SNM3” is defined to identify the SNOMED Version 3 Coding Scheme unambiguously, hence the condition for inclusion of Coding Scheme Version (0008,0103) is explicitly not satisfied.~~

- Notes:
1. See PS3.16 for a discussion of SNOMED Coding Scheme Designators 99SDM, SNM3, and SRT.
 2. ICD-10, for example, is not a backward-compatible revision of ICD-9, and hence it has a different Coding Scheme Designator, not simply a different Coding Scheme Version.

Modify PS3.3 Section C.7.6.16.2.12

**Table C.7.16-13
 CONTRAST/BOLUS USAGE FUNCTIONAL GROUP MACRO ATTRIBUTES**

Attribute Name	Tag	Type	Attribute Description
...			
>Contrast/Bolus Agent Phase	(0018,9344)	2C	Nominal phase of intravenous contrast administration. ... Required if Contrast/Bolus Administration Route Sequence (0018,0014) for the Contrast/Bolus Agent Number (0018,9337) defined in the Contrast/Bolus Agent Sequence (0018,0012) is (SNM3 , G-D101, <u>SRT</u> , “Intravenous route”) <u>or (G-D101, SNM3, “Intravenous route”); may be present otherwise.</u> <u>Note: SRT is the preferred designator for SNOMED, but SNM3 is allowed for backward compatibility. See PS3.16.</u>

Modify PS3.4 Section B.4.1

B.4.1 Conformance as an SCP

...
 At any level of conformance, the SCP of the Storage Service Class may modify the values of certain Attributes in order to coerce the SOP Instance into the Query Model of the SCP. The Attributes which may be modified are shown in Table B.4-1.

**Table B.4-1
 Attributes Subject to Coercion**

Attribute	Tag
Patient ID	(0010,0020)
Study Instance UID	(0020,000D)
Series Instance UID	(0020,000E)

The SCP of the Storage Service Class may modify the values of Code Sequence attributes to convert from one coding scheme into another. This includes changing from deprecated values of Coding Scheme Designator (0008,0102) or Code Value (0008,0100) to currently valid values.

If an SCP performs such a modification, it shall return a C-STORE response with a status of Warning.

- Notes:
1. Modification of these Attributes may be necessary if the SCP is also an SCP of a Query/Retrieve SOP Classes. These SOP Classes are described in this Standard. For example, an MR scanner may be implemented to generate Study Instance UIDs for images generated on the MR. When these images are sent to an archive which is HIS/RIS aware, it may choose to change the UID of the study assigned to the study by the PACS. The mechanism by which it performs this coercion is implementation dependent.
 - 2. An SCP may, for instance, convert Coding Scheme Designator values “SNM3” to “SRT”, in accordance with the DICOM conventions for SNOMED (see PS3.16).**
 - 23.** Other Attributes may be modified/corrected by an SCP of a Storage SOP Class.
 - 4. Modification of attributes may affect digital signatures referencing the content of the SOP Instance.**

Modify PS3.16 Section 2

The following standards contain provisions that, through reference in this text, constitute provisions of this Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Standard are encouraged to investigate the possibilities of applying the most recent editions of the standards indicated below.

...

~~SNOMED® Systematized Nomenclature of Medicine, Version 3, College of American Pathologists~~

SNOMED CT® (Systematized Nomenclature of Medicine – Clinical Terms) – ~~RT, College of American Pathologists~~ International Health Terminology Standards Development Organisation

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Modify PS3.16 Section 8

Table 8-1 Coding Schemes

Coding Scheme Designator	Coding Scheme UID	Description
...		
99SDM	<u>2.16.840.1.113883.6.53</u>	SNOMED <u>DICOM Microglossary Version 3</u> (Retired) <u>(see Section 8.1)</u>
...		

SNM		SNOMED (never used in DICOM)
SNM3	<u>2.16.840.1.113883.6.51</u>	SNOMED <u>International</u> Version 3 (<u>see Section 8.1</u>)
SNT		SNOMED topology codes (never used in DICOM)
SRT	<u>2.16.840.1.113883.6.96</u>	SNOMED-CT, using the “ <u>SNOMED-RT style</u> ” code values (<u>see Section 8.1</u>)
...		

8.1 SNOMED

SNOMED (the Systematized Nomenclature of Medicine) is the preferred coding system within DICOM for anatomy, clinical findings, procedures, pharmaceutical/biologic products (including contrast agents), and other clinical terms.

Note: SNOMED is a registered trademark of the International Health Terminology Standards Development Organisation.

SNOMED has had various versions, including SNOMED International (Version 3), which was issued in 1993 and revised through 1998, SNOMED Reference Terminology, the successor to SNOMED 3 that was published between 1999 and 2001, and SNOMED Clinical Terms, which has been the name since 2002. The coding scheme is fully backward-compatible across SNOMED 3, SNOMED-RT, and SNOMED CT. SNOMED CT introduced a solely numeric set of codes (ConceptID) in addition to the former alphanumeric codes (SnomedID), but all SNOMED terminology concepts have both a numeric and an alphanumeric code.

In previous editions of the DICOM Standard, the following Coding Scheme Designators were used for SNOMED codes in DICOM:

- **"99SDM", denoting the provisional SNOMED DICOM Microglossary**
- **"SNM3", denoting SNOMED International (Version 3)**
- **"SRT", originally denoting SNOMED-RT**

All uses of SNOMED coded terms in DICOM are now indicated by the Coding Scheme Designator "SRT", identifying them as SNOMED CT terms using the "SNOMED-RT style" alphanumeric code values, with some exceptions:

- **The NM and PET Image IODs in some code sequences require the Coding Scheme Designator "99SDM" as an Enumerated Value (see PS3.3).**
- **The Mammography View Codes of CID 4014 and CID 4015 may use the Coding Scheme Designator "SNM3" for implementation adherence to regulatory approvals.**

Consequently, when a Coding Scheme Designator of "99SDM" or "SNM3" is encountered, it shall be treated as equivalent to "SRT" for the purpose of interpreting the Code Value.

Note: "SRT" as a coding scheme designator is used only in the DICOM Standard. HL7v2 did not standardize a coding scheme designator for SNOMED-RT.

When interoperating with systems that use SNOMED CT codes obtained from a source other than the DICOM Standard, Application Entities may receive Code Sequences with a Coding Scheme Designator of "SNOMED-CT" and a numeric ConceptID code. It is the responsibility of such Application Entities to convert any such codes to the alphanumeric SnomedID with Coding Scheme Designator "SRT" for use in DICOM objects and services.

Editor Instruction: Change all occurrences of "SNM3" to "SRT" within Annexes A, B, C, and D

Add note to PS3.16 CID 18, 19, 20

CID 18 Isotopes in Radiopharmaceuticals

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Note: The use of this Context Group in the Radionuclide Code Sequence (0054,0300) of the NM Image IOD (see PS3.3) requires a Coding Scheme Designator value of "99SDM".

CID 19 Patient Orientation

...

Note: The use of this Context Group in the Patient Orientation Code Sequence (0054,0410) of the NM Image IOD and the PET Image IOD (see PS3.3) requires a Coding Scheme Designator value of "99SDM".

CID 20 Patient Orientation Modifier

...

Note: The use of this Context Group in the Patient Orientation Modifier Code Sequence (0054,0412) of the NM Image IOD and the PET Image IOD (see PS3.3) requires a Coding Scheme Designator value of "99SDM".

Add notes to PS3.16 CID 4014 and 4015

CID 4014 View for Mammography

...

Notes: 1. In a prior version of this Context Group, Cranio-Caudal Exaggerated Laterally was assigned the code Y-X1770, and Cranio-Caudal Exaggerated Medially was assigned the code Y-X1771. Those codes are deprecated, as they are not valid SNOMED codes. Although there is minimal possibility of misinterpretation with SOP Instances that may include the deprecated codes, receiving applications should be aware of this change; see Annex J.

2. While SRT is the preferred Coding Scheme Designator for SNOMED, regulatory approval of mammography systems makes changes to such systems problematic. Implementers should be aware that many systems will continue to use the deprecated designator SNM3 for certain terms in this context group. It is recommended that implementations receiving Mammography Image or CAD SOP Instances support both SNM3 and SRT as equivalent Coding Scheme Designators for Attributes or Content Items that use this Context Group.

CID 4015 View Modifier for Mammography

...

Notes: 1. Some applications and View Modifier ACR MQCM 1999 equivalents have been extended by DICOM to incorporate additional known clinical use cases. The View Modifier ACR MQCM 1999 equivalent indicates its use as a prefix (shown by trailing "...") or suffix (shown by preceding "...") to the View ACR MQCM 1999 equivalent, or replacement for the View ACR MQCM 1999 equivalent.

2. While SRT is the preferred Coding Scheme Designator for SNOMED, regulatory approval of mammography systems makes changes to such systems problematic. Implementers should be aware that many systems will continue to use the deprecated designator SNM3 for certain terms in this context group. It is recommended that implementations receiving Mammography Image or

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Date: 2007/11/01
Status: Final Text

CAD SOP Instances support both SNM3 and SRT as equivalent Coding Scheme Designators for Attributes or Content Items that use this Context Group.

Editor Instruction: Change all occurrences of "SNM3" to "SRT" in Part 17 (Annexes K, N, V, EE)