

1	Status	Letter Ballot
2	Date of Last Update	2017/04/04
3	Person Assigned	David Clunie
4		mailto:dclunie@dclunie.com
5	Submitter Name	Jörg Riesmeier
6		mailto:dicom@jriesmeier.com
7	Submission Date	2016/02/23

8	Correction Number CP-1603	
9	Log Summary: Enhance Coding Schemes Table	
10	Name of Standard	
11	PS3.3, PS3.6, PS3.16	
12	Rationale for Correction:	
13	Table 8-1 (Coding Schemes) in PS3.16 (Content Mapping Resource) lists the coding schemes defined for use in DICOM. However,	
14	it does not always contain sufficient or easy to find information for filling some optional attributes of the Coding Scheme Identification	
15	Sequence (0008,0110) in the SOP Common Module, e.g. the Coding Scheme Name (0008,0115) or the Coding Scheme Responsible	
16	Organization (0008,0116).	
17	It is proposed to introduce additional columns to Table 8-1 that contain such information explicitly (if available). Having separate	
18	columns for this purpose makes it easier to extract this information automatically from the machine-readable DocBook/XML version	
19	of the DICOM standard text. In order to avoid redundancy, the text in the "Description" column should also be revised.	
20	Also, link to the Normative Reference section entries where appropriate.	
21	In addition, it is useful to provide URLs that link to documentation, representations or services related to the coding scheme, and it	
22	should be possible to encode these in the IOD.	
23	The poorly placed note (added by CP 373) describing the incorrect attribution of alphabetic sex codes to ISO 5218 is moved into	
24	the description column and improved.	
25	Also, add the Dublin Core coding scheme.	
26	Correction Wording:	

Amend DICOM PS 3.3:

## 8 Encoding of Coded Entry Data

### 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 ????. Other coding scheme designators, for both private and public coding schemes, may be used, in accordance with ????. 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.12.1).

#### Note

1. Typical coding schemes used in DICOM include "DCM" for DICOM defined codes, "SRT" for SNOMED, and "LN" for LOINC. See ????.
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 (0008,0102), Code Value (0008,0100) (or Long Code Value (0008,0119) or URN Code Value (0008,0120)), and Code Meaning (0008,0104) 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 (**0008,0110**). **Documents or machine readable representations of the coding scheme (e.g., CSV or OWL files) can be linked to via a Coding Scheme URL (0008,eee2). For appropriate values, see PS3.16 Table 8-1.**
5. URN and URL codes usually lack a Coding Scheme Designator (0008,0102).

The attribute Coding Scheme Version (0008,0103) may be used to identify the version of a coding scheme if necessary to resolve ambiguity in Code Value (0008,0100), Long Code Value (0008,0119) or URN Code Value (0008,0120). Coding Scheme Version (0008,0103) is not required for backward-compatible revisions of a coding scheme, as the Coding Scheme Designator (0008,0102) identifies the coding scheme as a whole as currently published by the responsible organization.

#### Note

1. See ??? 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.

## C.12.1 SOP Common Module

Table C.12-1. SOP Common Module Attributes

Attribute Name	Tag	Type	Attribute Description
...	...	...	...
Coding Scheme Identification Sequence	(0008,0110)	3	Sequence of items that map values of Coding Scheme Designator (0008,0102) to an external coding system registration, or to a private or local coding scheme.  One or more Items are permitted in this Sequence.
>Coding Scheme Designator	(0008,0102)	1	The value of a Coding Scheme Designator, used in this SOP Instance, which is being mapped.

Attribute Name	Tag	Type	Attribute Description
>Coding Scheme Registry	(0008,0112)	1C	The name of the external registry where further definition of the identified coding scheme may be obtained. Required if coding scheme is registered.  <b>Defined Terms:</b>  <b>HL7</b>
>Coding Scheme UID	(0008,010C)	1C	The coding scheme UID identifier. Required if coding scheme is identified by an ISO 8824 object identifier compatible with the UI VR.
>Coding Scheme External ID	(0008,0114)	2C	The coding scheme identifier as defined in an external registry. Required if coding scheme is registered and Coding Scheme UID (0008,010C) is not present.
>Coding Scheme Name	(0008,0115)	3	The coding scheme full common name
>Coding Scheme Version	(0008,0103)	3	The coding scheme version associated with the Coding Scheme Designator (0008,0102).
>Coding Scheme Responsible Organization	(0008,0116)	3	Name of the organization responsible for the Coding Scheme. May include organizational contact information.
<b>&gt;Coding Scheme Resources Sequence</b>	<b>(0008,eee0)</b>	<b>3</b>	<b>Resources related to the coding scheme.</b>  <b>One or more items are permitted in this Sequence.</b>
<b>&gt;&gt;Coding Scheme URL Type</b>	<b>(0008,eee1)</b>	<b>1</b>	<b>The type of the resource related to the coding scheme at the Coding Scheme URL (0008,eee2).</b>  <b>Defined Terms:</b>  <b>DOC</b> <b>The resource is human-readable information describing the coding scheme.</b> <b>OWL</b> <b>The resource contains an OWL file that contains a representation of the coding scheme.</b> <b>CSV</b> <b>The resource contains a comma separated value text file that contains a representation of the coding scheme.</b>
<b>&gt;&gt;Coding Scheme URL</b>	<b>(0008,eee2)</b>	<b>1</b>	<b>A resource related to the coding scheme.</b>
...	...	...	...

Amend DICOM PS 3.6:

## 6 Registry of DICOM Data Elements

Table 6-1. Registry of DICOM Data Elements

Tag	Name	Keyword	VR	VM
<b>(0008,eee0)</b>	<b>Coding Scheme Resources Sequence</b>	<b>CodingSchemeResources Sequence</b>	<b>SQ</b>	<b>1</b>
<b>(0008,eee1)</b>	<b>Coding Scheme URL Type</b>	<b>CodingSchemeURLType</b>	<b>CS</b>	<b>1</b>
<b>(0008,eee2)</b>	<b>Coding Scheme URL</b>	<b>CodingSchemeURL</b>	<b>UR</b>	<b>1</b>

Amend DICOM PS 3.16:

## 2 Normative References

### 2.1 General

[ASTM E 2084-00] ASTM. . *Standard Specification for Authentication of Healthcare Information Using Digital Signatures, ASTM International.*

[ISO 639] ISO. . *Codes for the representation of names of languages.*

[ISO 639-1] ISO. 2002. *Codes for the representation of names of languages — Part 1: Alpha-2 code.*

[ISO 639-2] ISO. 1998. *Codes for the representation of names of languages — Part 2: Alpha-3 code.*

[ISO 639-3] ISO. 2007. *Codes for the representation of names of languages — Part 3: Alpha-3 code for comprehensive coverage of languages.*

[ISO 3166] ISO. . *Codes for the representation of names of countries.*

[ISO 3166-1] ISO. . *Codes for the representation of names of countries — Part 1: Country codes.*

**[ISO 8824-1] ISO. 2015. *Information Technology - Abstract Syntax 1 (ASN.1): Specification of Basic Notation.***

**[ISO 9834-1] ISO. 2012. *Information technology - Open Systems Interconnection - Procedures for the operation of OSI Registration Authorities: General procedures and top arcs of the ASN.1 Object Identifier tree.***

[ISO 15924] ISO. 2004. *Codes for the representation of names of scripts.*

[JJ1017] Japan Medical Imaging and Radiological Systems Industries Association (JIRA) and Japanese Association of Healthcare Information Systems Industry (JAHIS). *Guidelines for HIS, RIS, PACS - Modality Data Communication on Scheduling, Billing, and Examination Records.*

Revision History

Revision 3.0

October 5, 2005

[http://www.jira-net.or.jp/commission/system/04\\_information/files/JJ1017VER3\\_20051005.doc](http://www.jira-net.or.jp/commission/system/04_information/files/JJ1017VER3_20051005.doc) .

[RadLex] RSNA, Chicago. 2006. *A Lexicon for Uniform Indexing and Retrieval of Radiology Information Resources.* <http://www.radlex.org/> .

[RFC 1766] IETF. March 1995. *Tags for the Identification of Languages.* <http://tools.ietf.org/html/rfc1766> .

[RFC 3066] IETF. January 2001. *Tags for the Identification of Languages.* <http://tools.ietf.org/html/rfc3066> .

[RFC 4646] IETF. September 2006. *Tags for Identifying Languages.* <http://tools.ietf.org/html/rfc4646> .

[RFC 4647] IETF. September 2006. *Matching of Language Tags.* <http://tools.ietf.org/html/rfc4647> .

[RFC 5646] IETF. September 2009. *Tags for Identifying Languages.* <http://tools.ietf.org/html/rfc5646> .

[Scanlon 1999] ***Journal of the American College of Cardiology***. Scanlon PJ and et al. May 1999. 33. 6. 1756–824. “**ACC/AHA guidelines for coronary angiography - A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on Coronary Angiography) developed in collaboration with the Society for Cardiac Angiography and Interventions**”. 10.1016/S0735-1097(99)00126-6. <http://www.sciencedirect.com/science/article/pii/S0735109799001266> .

[Alderman 1992] ***Coronary Artery Disease***. Alderman EL and Stadius M. 1992. 3. 12. 1189–208. “**The angiographic definitions of the bypass angioplasty revascularization investigation**”. [http://journals.lww.com/coronary-artery/Abstract/1992/12000/The\\_angiographic\\_definitions\\_of\\_the\\_Bypass.12.aspx](http://journals.lww.com/coronary-artery/Abstract/1992/12000/The_angiographic_definitions_of_the_Bypass.12.aspx) .

### 2.2 BI-RADS® Terminology and Nomenclature

A portion of the terminology used within the Mammography CAD SR SOP Class and the Breast Imaging Report and Relevant Patient Information for Breast Imaging Templates is derived from BI-RADS®, a copyrighted lexicon of breast imaging terminology and nomenclature licensed by DICOM from the American College of Radiology.

[BI-RADS®] American College of Radiology, Reston, Virginia. 1998. 3.0. *Breast Imaging Reporting and Data System Atlas*. <http://www.acr.org/Quality-Safety/Resources/BIRADS> .

## 2.15 LOINC

[LOINC] Regenstrief Institute, Indianapolis. 2014. *Logical Observation Identifier Names and Codes*. <http://loinc.org/> .

This product includes all or a portion of the LOINC® table, LOINC panels and forms file, LOINC document ontology file, and/or LOINC hierarchies file, or is derived from one or more of the foregoing, subject to a license from Regenstrief Institute, Inc. Your use of the LOINC table, LOINC codes, LOINC panels and forms file, LOINC document ontology file, and LOINC hierarchies file also is subject to this license, a copy of which is available at <http://loinc.org/terms-of-use>. The current complete LOINC table, LOINC Users' Guide, LOINC panels and forms file, LOINC document ontology file, and LOINC hierarchies file are available for download at <http://loinc.org/>. The LOINC table and LOINC codes are copyright © 1995-2014, Regenstrief Institute, Inc. and the Logical Observation Identifiers Names and Codes (LOINC) Committee. The LOINC panels and forms file, LOINC document ontology file, and LOINC hierarchies file are copyright © 1995-2014, Regenstrief Institute, Inc. All rights reserved.

The LOINC table (in all formats), LOINC panels and forms file, LOINC document ontology file, and LOINC hierarchies are provided "as is." Any express or implied warranties are disclaimed, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

A small portion of the LOINC table may include content (e.g., survey instruments) that is subject to copyrights owned by third parties. Such content has been mapped to LOINC terms under applicable copyright and terms of use. Notice of such third party copyright and license terms would need to be included if such content is included.

## 2.16 UCUM

[UCUM] Regenstrief Institute, Indianapolis. 2013. *Unified Code for Units of Measure*. <http://unitsofmeasure.org/> .

This product includes all or a portion of the UCUM table, UCUM codes, and UCUM definitions or is derived from it, subject to a license from Regenstrief Institute, Inc. and The UCUM Organization. Your use of the UCUM table, UCUM codes, UCUM definitions also is subject to this license, a copy of which is available at <http://unitsofmeasure.org/>. The current complete UCUM table, UCUM Specification are available for download at <http://unitsofmeasure.org/>. The UCUM table and UCUM codes are copyright © 1995-2013, Regenstrief Institute, Inc. and the Unified Codes for Units of Measures (UCUM) Organization. All rights reserved.

The UCUM table (in all formats), UCUM definitions, and specification are provided "as is." Any express or implied warranties are disclaimed, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

## 2.18 Point-of-Care Medical Device Nomenclature

Extracts of ISO/IEEE 11073 reprinted by permission of IEEE, 3 Park Avenue, New York, NY 10016-5997 USA. Copyright by IEEE. <http://standards.ieee.org/>.

Under license from IEEE, the term codes and descriptions of the ISO/IEEE 11073 Nomenclature are available at no cost through the Rosetta Terminology Mapping Management System of the U.S. National Institute of Standards and Technology. <http://hit-testing.nist.gov:13110/rtmms/index.htm>

[ISO/IEEE 11073-10101] ISO/IEEE. 2004. . *Health informatics - Point-of-care medical device communication - Nomenclature*.

[ISO/IEEE 11073-10101a] ISO/IEEE. 2015. . *Health informatics - Point-of-care medical device communication - Nomenclature Amendment 1: Additional Definitions*.

[ISO/IEEE 11073-10102] ISO/IEEE. 2015. . *Health informatics - Point-of-care medical device communication - Annotated ECG - Nomenclature*.

## 2.19 SNOMED Clinical Terms

This DICOM Standard incorporates SNOMED CT®, used by permission of the International Health Terminology Standards Development Organisation (IHTSDO). SNOMED CT®, was originally created by The College of American Pathologists (CAP). SNOMED CT® is a registered trademark of the International Health Terminology Standards Development Organisation, all rights reserved.

The SNOMED CT terms used in this Standard (the SNOMED CT DICOM Subset) are the subject of a licensing agreement between NEMA and IHTSDO that allows the use of this defined subset in DICOM conformant applications without further license or payment of fee. Any use of SNOMED CT beyond the terms published in the DICOM Standard is subject to SNOMED CT licensing rules, which may include a fee. For further information about SNOMED CT licensing, go to <http://www.ihtsdo.org/snomed-ct/get-snomed-ct> or contact IHTSDO at <mailto:info@ihtsdo.org>.

This DICOM Standard incorporates various veterinary terms from the SNOMED CT VetSCT extension, used by permission of the Veterinary Terminology Services Laboratory (VTSL) (<http://vtsl.vetmed.vt.edu/>). These terms were previously included in SNOMED CT but have since been inactivated as moved elsewhere.

[SNOMED CT] International Health Terminology Standards Development Organisation (IHTSDO). . *SNOMED CT Systematized Nomenclature of Medicine - Clinical Terms*.

## 8 Coding Schemes

Table 8-1 lists the coding schemes (and their designators) defined for use in DICOM; ??? lists the HL7v3 coding schemes referenced for use in DICOM. Additionally, any coding scheme may be used that has an entry in the HL7 Registry of Coding Schemes (HL7 v2 Table 0396, or the equivalent online registry), in which case the HL7 Symbolic Name shall be used as the value for the Coding Scheme Designator in DICOM, as long as it does not conflict with an entry Table 8-1 and fits within the Value Representation of the DICOM Coding Scheme Designator (0008,0102) attribute. As specified in the HL7 v2 Table 0396, local or private coding schemes shall be identified by an alphanumeric identifier beginning with the characters "99".

### Note

1. An earlier version of this table was formerly contained in Annex D of ????
2. See ??? for further description.
3. The Coding Scheme UIDs are provided for reference only; the normative specification of UIDs and their associated meaning is the responsibility of the coding scheme developer and/or HL7.
4. The HL7 registration of Coding Schemes is available at <http://www.hl7.org/oid/index.cfm>.
5. Publication of codes or references to coding schemes within DICOM does not constitute a grant of intellectual property rights to implementers. Use of some Coding Schemes may require a license, or purchase of the relevant coding scheme publication. Implementers should consult the relevant coding scheme publisher; see also Section 2.
6. **The values of Coding Scheme Name (0008,0115), Coding Scheme Responsible Organization (0008,0116) and Coding Scheme Resources Sequence (0008,eee0), if available, may be used to fill the corresponding optional attributes of the Coding Scheme Identification Sequence (0008,0110) in the PS3.3 SOP Common Module.**

Table 8-1. Coding Schemes

Coding Scheme Designator (0008,0102)	Coding Scheme UID (0008,010C)	Coding Scheme Name (0008,0115)	Coding Scheme Responsible Organization (0008,0116)	Coding Scheme Resources Sequence (0008,eee0) Type: URL	Description
ACR	2.16.840.1.113883.6.76	<u>ACR Index</u>	<u>ACR</u>		ACR Index for Radiological Diagnosis Revised, 3 <sup>rd</sup> Edition 1986
ASTM-sigpurpose	1.2.840.10065.1.12	<u>ASTM E 2084</u>	<u>ASTM</u>		<b><u>[ASTM E 2084-00]ASTM-E 2084</u></b> Signature Purpose codes (see Annex A1 of ASTM E 2084), ASTM Subcommittee E 31.20 Data and System Security for Health Information

Coding Scheme Designator (0008,0102)	Coding Scheme UID (0008,010C)	Coding Scheme Name (0008,0115)	Coding Scheme Responsible Organization (0008,0116)	Coding Scheme Resources Sequence (0008,eee0) Type: URL	Description
BARI		<u>BARI</u>			Bypass Angioplasty Revascularization Investigation; <b>Alderman, EL and Stadius, M; Coronary Artery Disease 1992; 3:4189-4207[Alderman 1992]</b> ; endorsed by ACC/AHA Guidelines for Coronary Angiography; <b>J Am Coll Cardiol 1999; 33:1794[Scanlon 1999]</b> .
BI		<u>BI-RADS</u>	<u>ACR</u>		ACR Breast Imaging Reporting and Data System <b>[BI-RADS®](BI-RADS®)</b> , Coding Scheme Version (0008,0103) is required; code values are section and paragraph identifiers within the publication where the code meaning is defined (e.g., "I.D.1", where I = Breast Imaging Lexicon, D = Special Cases, 1 = Tubular Density, as the code value for "Tubular Density").  <b>Note</b>  In the HL7 registry, the abbreviation BI is assigned to a different coding scheme, specifically the Beth Israel problem list.
C4	2.16.840.1.113883.6.12	<u>CPT-4</u>	<u>AMA</u>		American Medical Association's Current Procedure Terminology 4 (CPT-4)
C5	2.16.840.1.113883.6.82	<u>CPT-5</u>	<u>AMA</u>		American Medical Association's Current Procedure Terminology 5 (CPT-5)
caDSR	2.16.840.1.113883.3.26.2	<u>Cancer Data Standard Repository</u>	<u>NCI</u>		<b>NCI Cancer Data Standard Repository:</b>  The Public ID is used as the Code Value.  These can be looked up as in the following example (the version is required); <a href="https://cdebrowser.nci.nih.gov/CDEBrowser/search?dataElementDetails=9/&amp;cdeld=2178693&amp;version=2.1&amp;PageId=DataElementsGroup">https://cdebrowser.nci.nih.gov/CDEBrowser/search?dataElementDetails=9/&amp;cdeld=2178693&amp;version=2.1&amp;PageId=DataElementsGroup</a>

<b>Coding Scheme Designator (0008.0102)</b>	<b>Coding Scheme UID (0008.010C)</b>	<b>Coding Scheme Name (0008.0115)</b>	<b>Coding Scheme Responsible Organization (0008.0116)</b>	<b>Coding Scheme Resources Sequence (0008.eee0) Type: URL</b>	<b>Description</b>
CD2	2.16.840.1.113883.6.13	<b>CDT-2</b>	<b>ADA</b>		American Dental Association's (ADA) Current Dental Terminology 2 (CDT-2)
CTV3	2.16.840.1.113883.6.6	<b>Clinical Terms Version 3</b>	<b>UK NHS</b>		<b>NHS Clinical Terms Version 3</b> (Read Codes)
<b>DC</b>	<b>1.2.840.10008.2.16.XXX</b>	<b>Dublin Core</b>	<b>W3C</b>	<b>DOC:</b> <a href="http://dublincore.org/documents/1998/09/dces/">http://dublincore.org/documents/1998/09/dces/</a> <b>DOC:</b> <a href="https://www.ietf.org/rfc/rfc2413.txt">https://www.ietf.org/rfc/rfc2413.txt</a>	<b>Dublin Code Metadata for Resource Discovery. The code value is the Label field, e.g., "Creator" (capitalization significant).</b>
DCM	1.2.840.10008.2.16.4	<b>DICOM Controlled Terminology</b>	<b>DICOM</b>	<b>DOC:</b> <a href="http://dicom.nema.org/medical/dicom/current/output/chtml/part16/chapter_D.html">http://dicom.nema.org/medical/dicom/current/output/chtml/part16/chapter_D.html</a> <b>OWL:</b> <a href="ftp://medical.nema.org/medical/dicom/current/ontology/dcm.owl.zip">ftp://medical.nema.org/medical/dicom/current/ontology/dcm.owl.zip</a>	<b>DICOM Controlled Terminology</b> ; PS3.16 Content Mapping Resource, Annex D (Note that HL7 also specifies an OID of 2.16.840.1.113883.6.31, but deprecates it in favor of 1.2.840.10008.2.16.4).
DCMUID	1.2.840.10008.2.6.1	<b>DICOM UID Registry</b>	<b>DICOM</b>	<b>DOC:</b> <a href="http://dicom.nema.org/medical/dicom/current/output/chtml/part06/chapter_A.html">http://dicom.nema.org/medical/dicom/current/output/chtml/part06/chapter_A.html</a>	<b>DICOM UID Registry</b>
FMA	2.16.840.1.113883.6.119	<b>FMA</b>	<b>University of Washington, Seattle</b>	<b>DOC:</b> <a href="http://sig.biostr.washington.edu/projects/fm/AboutFM.html">http://sig.biostr.washington.edu/projects/fm/AboutFM.html</a> <b>OWL:</b> <a href="http://sig.biostr.washington.edu/share/downloads/fma/release/latest/fma.zip">http://sig.biostr.washington.edu/share/downloads/fma/release/latest/fma.zip</a>	Digital Anatomist Foundational Model of Anatomy
HPC	2.16.840.1.113883.6.14				Healthcare Financing Administration (HCFA) Common Procedure Coding System (HCPCS)
I10	2.16.840.1.113883.6.3	<b>ICD-10</b>	<b>WHO</b>		International Classification of Diseases revision 10 (ICD-10)
I10P	2.16.840.1.113883.6.4	<b>ICD-10-PCS</b>	<b>US DHHS CMS</b>		ICD-10 Procedure Coding System (ICD 10 PCS)
I9	2.16.840.1.113883.6.42	<b>ICD-9</b>	<b>WHO</b>		International Classification of Diseases revision 9 (ICD-9)



Coding Scheme Designator (0008.0102)	Coding Scheme UID (0008.010C)	Coding Scheme Name (0008.0115)	Coding Scheme Responsible Organization (0008.0116)	Coding Scheme Resources Sequence (0008.eee0) Type: URL	Description
I9C	2.16.840.1.113883.6.2	<u>ICD-9-CM</u>			International Classification of Diseases revision 9, with Clinical Modifications (ICD-9-CM)
IETF4646		<u>RFC 4646</u>	<u>IETF</u>	<u>DOC: <a href="http://tools.ietf.org/html/rfc4646">http://tools.ietf.org/html/rfc4646</a></u>	[RFC 4646], Tags for Identifying Languages, The Internet Society (2005)  [RFC 4646] has been superseded by [RFC 5646].
ISO639_1	2.16.840.1.113883.6.99	<u>ISO 639-1</u>	<u>ISO</u>		<u>[ISO 639-1]</u> Two-letter language codes  <b>Note</b>  HL7 uses "ISO639-1" for the symbolic name, with a hyphen rather than an underscore
ISO639_2	2.16.840.1.113883.6.100	<u>ISO 639-2</u>	<u>ISO</u>		<u>[ISO 639-2]</u> Three-letter language codes  <b>Note</b>  HL7 uses "ISO639-2" for the symbolic name, with a hyphen rather than an underscore
ISO3166_1	2.16.1	<u>ISO 3166-1</u>	<u>ISO</u>		[ISO 3166-1] alpha-2 Country Codes  <b>Note</b>  HL7 uses "ISO3166-1" for the symbolic name, with a hyphen rather than an underscore
ISO5218_1		<u>ISO 5218-1</u>	<u>ISO</u>		Representation of Human Sexes (not used— <b>see note</b> )  <u>ISO5218 1, which uses numeric codes, was improperly specified in CID 7455 Sex in earlier editions of the standard. The alphabetic codes improperly attributed to that coding scheme have been added to the DICOM Controlled Terminology, and thus all references to coding scheme ISO5218 1 should be considered equivalent to coding scheme DCM.</u>

<b>Coding Scheme Designator (0008.0102)</b>	<b>Coding Scheme UID (0008.010C)</b>	<b>Coding Scheme Name (0008.0115)</b>	<b>Coding Scheme Responsible Organization (0008.0116)</b>	<b>Coding Scheme Resources Sequence (0008.eee0) Type: URL</b>	<b>Description</b>
ISO_OID		<u>ISO OID</u>	<u>ISO</u>		<b>[ISO 8824-1]</b> ISO/IEC 8824-1- Information Technology - Abstract Syntax 1 (ASN.1): Specification of Basic Notation, and <b>[ISO 9834-1]</b> - Information technology - Open Systems Interconnection - Procedures for the operation of OSI Registration Authorities: General procedures and top arcs of the ASN.1 Object Identifier tree
ITIS_TSN	1.2.840.10008.2.16.7	<u>ITIS TSN</u>	<u>ITIS</u>	<b>DOC: <a href="http://www.itis.gov">http://www.itis.gov</a></b>	A Taxonomic Serial Number (TSN) is a unique, persistent, non-intelligent identifier for a scientific name in the context of the Integrated Taxonomic Information System (ITIS).  <b>See <a href="http://www.itis.gov">http://www.itis.gov</a>.</b>
LN	2.16.840.1.113883.6.1	<u>LOINC</u>	<u>Regenstrief Institute</u>	<b>DOC: <a href="http://loinc.org/">http://loinc.org/</a></b>	<b>[LOINC]</b> Logical Observation Identifier Names and Codes; <b>Regenstrief Institute</b>
MA	1.2.840.10008.2.16.5	<u>Adult Mouse Anatomy Ontology</u>	<u>The Jackson Laboratory</u>	<b>DOC: <a href="http://www.informatics.jax.org/searches/AMA.cgi?id=MA:0002405">http://www.informatics.jax.org/searches/AMA.cgi?id=MA:0002405</a></b>	<b>The Adult Mouse Anatomy Ontology maintained by The Jackson Laboratory.</b>  <b>See <a href="http://www.informatics.jax.org/searches/AMA.cgi?id=MA:0002405">http://www.informatics.jax.org/searches/AMA.cgi?id=MA:0002405</a>.</b>  Hayamizu TF, Mangan M, Corradi JP, Kadin JA, Ringwald M. The Adult Mouse Anatomical Dictionary: a tool for annotating and integrating data. Genome Biology 2005;6(3):R29. doi:10.1186/gb-2005-6-3-r29. <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1088948/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1088948/</a>
MDC	2.16.840.1.113883.6.24				ISO/IEEE 11073 Medical Device Nomenclature, including all its subsections ( <b>[ISO/IEEE 11073-10101]</b> , <b>[ISO/IEEE 11073-10101a]</b> , <b>[ISO/IEEE 11073-10102]</b> - <b>10101</b> , <b>10102</b> , etc.), encoded as decimal strings <partition>.<element>
MDNS					Universal Medical Device (UMD) Nomenclature System

<b>Coding Scheme Designator (0008.0102)</b>	<b>Coding Scheme UID (0008.010C)</b>	<b>Coding Scheme Name (0008.0115)</b>	<b>Coding Scheme Responsible Organization (0008.0116)</b>	<b>Coding Scheme Resources Sequence (0008.eee0) Type: URL</b>	<b>Description</b>
MGI	1.2.840.10008.2.16.8	<b>MGI</b>	<b>The Jackson Laboratory</b>	<b>DOC: <a href="http://www.informatics.jax.org/mgihome/nomen/">http://www.informatics.jax.org/mgihome/nomen/</a></b>	The MGI ID from the Mouse Genome Initiative (MGI) nomenclature.  <b>See <a href="http://www.informatics.jax.org/mgihome/nomen/">http://www.informatics.jax.org/mgihome/nomen/</a>.</b>
MSH	2.16.840.1.113883.6.177	<b>MeSH</b>	<b>NLM</b>	<b>DOC: <a href="http://www.nlm.nih.gov/mesh/meshhome.html">http://www.nlm.nih.gov/mesh/meshhome.html</a></b>	US National Library of Medicine (NLM) Medical Subject Headings (MeSH)  <b>See <a href="http://www.nlm.nih.gov/mesh/meshhome.html">http://www.nlm.nih.gov/mesh/meshhome.html</a>.</b>
NBD	2.16.840.1.113883.15.2				NASPE/BPEG Defibrillator Code  Bernstein AD, et al."The NASPE/BPEG Defibrillator Code" <i>PACE</i> , 16:1776-1780, 1993
NBG	2.16.840.1.113883.15.3			<b>DOC: <a href="http://www.hrsonline.org/Practice-Guidance/Clinical-Guidelines-Documents/2002-The-Revised-NASPE-BPEG-Generic-Code-for-Antibradycardia-AdaptiveRate-and-Multisite-Pacing">http://www.hrsonline.org/Practice-Guidance/Clinical-Guidelines-Documents/2002-The-Revised-NASPE-BPEG-Generic-Code-for-Antibradycardia-AdaptiveRate-and-Multisite-Pacing</a></b>	NASPE/BPEG Generic Pacemaker Code (2000)  Bernstein AD, et al."The Revised NASPE/BPEG Generic Code for antibradycardia, adaptive-rate, and multisite pacing." <i>Pacing Clin Electrophysiol.</i> , 25:260-264, 2002  See <a href="http://www.hrsonline.org/Practice-Guidance/Clinical-Guidelines-Documents/2002-The-Revised-NASPE-BPEG-Generic-Code-for-Antibradycardia-AdaptiveRate-and-Multisite-Pacing">http://www.hrsonline.org/Practice-Guidance/Clinical-Guidelines-Documents/2002-The-Revised-NASPE-BPEG-Generic-Code-for-Antibradycardia-AdaptiveRate-and-Multisite-Pacing</a> .
NCDR					American College of Cardiology National Cardiovascular Data Registry™ Cath Lab Module Version 1.1, 1997; Version 2.0b, 1999
NCIt	2.16.840.1.113883.3.26.1.1	<b>NCI Thesaurus</b>	<b>NCI</b>	<b>DOC: <a href="http://ncit.nci.nih.gov/">http://ncit.nci.nih.gov/</a></b>	<b>NCI Thesaurus. See <a href="http://ncit.nci.nih.gov/">http://ncit.nci.nih.gov/</a></b>
NEU	2.16.840.1.113883.6.210	<b>NeuroNames</b>		<b>DOC: <a href="http://braininfo.rprc.washington.edu/aboutBrainInfo.aspx#NeuroNames">http://braininfo.rprc.washington.edu/aboutBrainInfo.aspx#NeuroNames</a></b>	<b>NeuroNames-</b> The numeric brainInfoD is used as the code value. See <a href="http://braininfo.rprc.washington.edu/aboutBrainInfo.aspx#NeuroNames">http://braininfo.rprc.washington.edu/aboutBrainInfo.aspx#NeuroNames</a>

<b>Coding Scheme Designator (0008.0102)</b>	<b>Coding Scheme UID (0008.010C)</b>	<b>Coding Scheme Name (0008.0115)</b>	<b>Coding Scheme Responsible Organization (0008.0116)</b>	<b>Coding Scheme Resources Sequence (0008.eee0) Type: URL</b>	<b>Description</b>
NICIP	2.16.840.1.113883.2.1.3.2.4.21	<b>NICIP</b>	<b>UK NHS</b>	<b>DOC: <a href="https://digital.nhs.uk/article/1108/National-Interim-Clinical-Imaging-Procedure-NICIP-Code-Set">https://digital.nhs.uk/article/1108/National-Interim-Clinical-Imaging-Procedure-NICIP-Code-Set</a></b>	UK National Health Service National Interim Clinical Imaging Procedures (NICIP) Short Code (e.g., "CCHAPC" for CT Thorax abdomen pelvis with contrast)
NPI					HCFA National Provider Identifier
POS	2.16.840.1.113883.6.50				HCFA Place of Service (POS) Codes for Professional Claims
PUBCHEM_CID	1.2.840.10008.2.16.9	<b>PubChem</b>	<b>NCBI</b>	<b>DOC: <a href="https://pubchem.ncbi.nlm.nih.gov/">https://pubchem.ncbi.nlm.nih.gov/</a></b>	US National Center for Biotechnology Information (NCBI) PubChem Compound CID.  <b>See <a href="https://pubchem.ncbi.nlm.nih.gov/">https://pubchem.ncbi.nlm.nih.gov/</a></b>
RADLEX	2.16.840.1.113883.6.256	<b>RadLex</b>	<b>RSNA</b>	<b>DOC: <a href="http://www.radlex.org/">http://www.radlex.org/</a></b>	<b>[RadLex]RadLex</b>
RFC3066	2.16.840.1.113883.6.121	<b>RFC 3066</b>	<b>IETF</b>	<b>DOC: <a href="http://tools.ietf.org/html/rfc3066">http://tools.ietf.org/html/rfc3066</a></b>	[RFC 3066], Tags for the Identification of Languages, Internet Engineering Task Force  <b>Note</b>  HL7 uses "IETF3066" for the symbolic name.  [RFC 3066] has been superseded by [RFC 4646], which in turn has been superseded by [RFC 5646].

<u>Coding Scheme Designator (0008.0102)</u>	<u>Coding Scheme UID (0008.010C)</u>	<u>Coding Scheme Name (0008.0115)</u>	<u>Coding Scheme Responsible Organization (0008.0116)</u>	<u>Coding Scheme Resources Sequence (0008.eee0) Type: URL</u>	<u>Description</u>
RFC5646	2.16.840.1.113883.6.316	<u>RFC 5646</u>	<u>IETF</u>	<u>DOC: <a href="http://tools.ietf.org/html/rfc5646">http://tools.ietf.org/html/rfc5646</a></u>	[RFC 5646], Tags for Identifying Languages, The Internet Society (2009)  <b>Note</b>  The HL7 OID Registry specifies "rfc5646", not "ietf5646", as the Desired Symbolic Name (inconsistent with the pattern used for [RFC 4646]).  [RFC 5646] constitutes one part of IETF Best Current Practice BCP 47 Tags for Identifying Languages, which also includes [RFC 4647] Matching of Language Tags; [RFC 4647] is not relevant in this context.
99SDM	2.16.840.1.113883.6.53	<u>SDM</u>	<u>DICOM</u>		SNOMED DICOM Microglossary (Retired) (see Section 8.1)
SCPECG					Standard Communications Protocol for Computer-Assisted Electrocardiography, Draft proposal for ISO Standard, AAMI, Revision 1.3
SNM3	2.16.840.1.113883.6.51	<u>SNOMED V3</u>	<u>SNOMED International</u>	<u>DOC: <a href="http://www.snomed.org/">http://www.snomed.org/</a></u>	SNOMED International Version 3 (see Section 8.1)
SCT	2.16.840.1.113883.6.96	<u>SNOMED CT</u>	<u>SNOMED International</u>	<u>DOC: <a href="http://www.snomed.org/">http://www.snomed.org/</a></u>	<del>[SNOMED CT]</del> <del>[SNOMED-CT]</del> , using the CT code values
SRT	2.16.840.1.113883.6.96	<u>SNOMED CT</u>	<u>SNOMED International</u>	<u>DOC: <a href="http://www.snomed.org/">http://www.snomed.org/</a></u>	<del>[SNOMED CT]</del> <del>[SNOMED-CT]</del> , using the "SNOMED-RT style" code values (see Section 8.1)  <b>Note</b>  HL7 uses "SNM" for the symbolic name.
UBERON	1.2.840.10008.2.16.6	<u>UBERON</u>		<u>DOC: <a href="http://uberontology.org/">http://uberontology.org/</a></u>	The Uberon ID from the Uberon integrated cross-species ontology covering anatomical structures in animals.  <b>See <a href="http://uberontology.org/">http://uberontology.org/</a>:</b>
UCUM	2.16.840.1.113883.6.8	<u>UCUM</u>	<u>Regenstrief Institute</u>	<u>DOC: <a href="http://unitsofmeasure.org/ucum.html">http://unitsofmeasure.org/ucum.html</a></u>	<u>[UCUM]</u> Unified Code for Units of Measure

<b>Coding Scheme Designator (0008.0102)</b>	<b>Coding Scheme UID (0008.010C)</b>	<b>Coding Scheme Name (0008.0115)</b>	<b>Coding Scheme Responsible Organization (0008.0116)</b>	<b>Coding Scheme Resources Sequence (0008.eee0) Type: URL</b>	<b>Description</b>
UMLS	2.16.840.1.113883.6.86	<b>UMLS</b>	<b>NLM</b>	<b>DOC: <a href="http://www.nlm.nih.gov/research/umls/">http://www.nlm.nih.gov/research/umls/</a></b>	UMLS codes as CUIs making up the values in a coding system
UPC	2.16.840.1.113883.6.55				Universal Product Code - Universal Code Council

#### Note

~~Coding Scheme Designator ISO5218\_1 was improperly specified in earlier editions of the standard. The codes attributed to that coding scheme have been added to the DICOM Controlled Terminology, and thus all references to coding scheme ISO5218\_1 should be considered equivalent to coding scheme DGM.~~

## 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.

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 "???" and "???" in some code sequences require the Coding Scheme Designator "99SDM" as an Enumerated Value (see "??").
- The Mammography View Codes of CID 4014 "View for Mammography" and CID 4015 "View Modifier for Mammography" 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.

### 8.1.1 Use of SNOMED Anatomic Concepts

In general, DICOM uses the anatomic concepts with the term "structure", rather than with the term "entire". This is an important distinction in SNOMED. "Entire" is a child concept to "structure", has a more restricted meaning, and typically is used in conjunction with treatments (e.g., "excision of *entireright* kidney"). It is used in distinction to other sibling children of the parent concept that may identify parts of the parent anatomic feature. Since imaging typically targets both the anatomic feature and the area around it, or sometimes just part of the anatomic feature, DICOM usually uses "structure" concepts that are more inclusive than the "entire" concepts.

### 8.2 ISO\_OID

~~[[ISO 8824-1]]ISO 8824~~ and ~~[[ISO 9834-1]]ISO 9834-1~~ are the standards defined for the generation of object identifiers that are used as DICOM Unique Identifiers (see ???), can also serve as a general mechanism for identifying organizations and objects defined by those organizations.

When the Coding Scheme Designator is ISO\_OID, the Code Value shall be the numeric (dot delimited) form of a valid object identifier.

A repository of known existing object identifiers can be found at <http://www.oid-info.com/index.htm>. For example:

- the ISO 9834-1 assigned numeric object identifier for the country France, is "1.0.3166.2.2.1.250" (since ISO 3166 defines a means for maintaining country codes using object identifiers)
- the object identifier for the RIPEMD-160 cryptographic hash function is "1.0.10118.3.0.49"
- the object identifier for the HL7 V2 table of codes for marital status is "2.16.840.1.113883.12.2"

The re-use of object identifiers for existing concepts that do not have an alternative more appropriate coding scheme compatible with DICOM provides a mechanism to avoid defining new codes. For example, HL7 assigned object identifiers can be found at <http://www.hl7.org/oid/index.cfm>.

Though the intent of ISO\_OID is to define organizational roots for the hierarchical assignment of object identifiers, and not specifically to identify organizations per se, the organizational root values can be construed as identifying the organization. For example, the DICOM Standards Organization itself can be identified by the value "1.2.840.10008". See also CID 5002 "Organizations".