

DICOM Correction Proposal

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Date of Last Update	2018-11-08
Person Assigned	Elliot Silver (elliott.silver@changehealthcare.com)
Submitter Name	Elliot Silver (elliott.silver@changehealthcare.com)
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Correction Number	CP-1853
Log Summary:	Add "All Modalities" context group
Name of Standard	PS 3.6, PS3.16
Rationale for Correction:	<p>We have a CID for acquisition modalities (CID 29), however this is only acquisition modalities. Many non-primary acquisition IODs use other modality values. We don't have a single list to point to in the standard of all defined modality values. This could be useful in DICOM libraries.</p> <p>Also, the FHIR ImagingStudy resource currently references CID 29 for the list of defined modality values. It should be pointing at a list that includes all modalities; the current content in C.7.3.1.1.1 is not packaged as a value set.</p> <p>Additionally, OPR is (according to PS3.3 C.7.3.1.1) a retired term. It should be removed from CID 29.</p>
Correction Wording:	

Insert two new rows in PS3.6 Table A-4 at the appropriate location:

Table A-3. Context Group UID Values

Context UID	Context Identifier	Context Group Name
'''		
1.2.840.10008.6.1.19	CID 29	Acquisition Modality
...		
<u>1.2.840.10008.6.1.XXX1</u>	<u>CID XXX1</u>	<u>Non-Acquisition Modality</u>
<u>1.2.840.10008.6.1.XXX2</u>	<u>CID XXX2</u>	<u>Modality</u>
...		

Note

For some Context Group UIDs, no Context Group Name or Identifier is specified; these are "placeholders" that are not assigned but will not be reused.

In PS3.16, update existing CID 29 as indicated to update descriptive text, add missing acquisition modalities and remove retired modalities:

CID 29 Acquisition Modality

This Context Group includes codes that may be used to identify **an image or waveform acquisition modality, as the type of diagnostic equipment, or function or technique of that equipment, that originally acquired, through interaction with a patient or specimen, the data used to create the instance. These codes are** used in Attribute Modality (0008,0060) of a Modality Worklist Scheduled Procedure Step or a Composite SOP Instance (see PS3.3). It generally corresponds to a class of diagnostic equipment, or to a specific acquisition function or technique in a device. This Context Group may be used as the value set for HL7 v2 Table 0259 (see HL7 v2.6 Chapter 8 Section 8.8.8.47).

Note

This Context Group is not the complete set of codes that may appear in the Attribute Modality (0008,0060); these are only the codes associated with orderable acquisition processes (not post-processing).

Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML
Type: Extensible
Version: ~~20180605~~YYYYMMDD
UID: 1.2.840.10008.6.1.19

Table CID 29. Acquisition Modality

Coding Scheme Designator	Code Value	Code Meaning
DCM	AR	Autorefraction
<u>DCM</u>	<u>BI</u>	<u>Biomagnetic Imaging</u>
DCM	BMD	Bone Mineral Densitometry
DCM	BDUS	Ultrasound Bone Densitometry
DCM	EPS	Cardiac Electrophysiology
DCM	CR	Computed Radiography
DCM	CT	Computed Tomography
<u>DCM</u>	<u>DG</u>	<u>Diaphanography</u>
DCM	DX	Digital Radiography
DCM	ECG	Electrocardiography
DCM	ES	Endoscopy
DCM	XC	External-camera Photography
DCM	GM	General Microscopy
DCM	HD	Hemodynamic Waveform
DCM	IO	Intra-oral Radiography
DCM	IVOCT	Intravascular Optical Coherence Tomography

Coding Scheme Designator	Code Value	Code Meaning
DCM	IVUS	Intravascular Ultrasound
<u>DCM</u>	<u>LS</u>	<u>Laser Scan</u>
DCM	KER	Keratometry
DCM	LEN	Lensometry
DCM	MR	Magnetic Resonance
DCM	MG	Mammography
DCM	NM	Nuclear Medicine
DCM	OAM	Ophthalmic Axial Measurements
DCM	OCT	Optical Coherence Tomography
DCM	OPM	Ophthalmic Mapping
DCM	OP	Ophthalmic Photography
<u>DCM</u>	<u>OPR</u>	<u>Ophthalmic Refraction</u>
DCM	OPT	Ophthalmic Tomography
DCM	OPTBSV	Ophthalmic Tomography B-scan Volume Analysis
DCM	OPTENF	Ophthalmic Tomography En Face
DCM	OPV	Ophthalmic Visual Field
DCM	OSS	Optical Surface Scanner
DCM	PX	Panoramic X-Ray
DCM	PT	Positron emission tomography
<u>DCM</u>	<u>RESP</u>	<u>Respiratory Waveform</u>
DCM	RF	Radiofluoroscopy
DCM	RG	Radiographic imaging
DCM	SM	Slide Microscopy
DCM	SRF	Subjective Refraction
<u>DCM</u>	<u>STAIN</u>	<u>Automated Slide Stainer</u>
<u>DCM</u>	<u>TG</u>	<u>Thermography</u>
DCM	US	Ultrasound

Coding Scheme Designator	Code Value	Code Meaning
DCM	VA	Visual Acuity
DCM	XA	X-Ray Angiography

Add new CIDs XXX1 and XXX2 in PS3.16 at the appropriate location:

CID XXX1 Non-Acquisition Modality

This Context Group includes codes that may be used to identify the type of equipment, or function or technique of that equipment, that created the data used to create an instance, other than by means of acquisition through interaction with a patient or specimen.

Note

Many Composite SOP Instances (see PS 3.3) with the Attribute Modality (0008,0060) code values from this Context Group are the result of post-processing, and are not directly associated with an orderable acquisition process.

Resources: [HTML](#) | [FHIR JSON](#) | [FHIR XML](#) | [IHE SVS XML](#)
Type: Extensible
Version: YYYYMMDD
UID: 1.2.840.10008.6.1.XXX1

Table CID XXX1. Non-Acquisition Modality

Coding Scheme Designator	Code Value	Code Meaning
DCM	ASMT	Content Assessment Result
DCM	AU	Basic Voice Audio
DCM	CTPROTOCOL	CT Protocol
DCM	DOC	Scanned Document
DCM	FID	Spatial Fiducials
DCM	HC	Hard Copy
DCM	IOL	Intraocular Lens Calculation
DCM	KO	Key Object Selection
DCM	M3D	Model for 3D Manufacturing
DCM	OT	Other
DCM	PLAN	Plan
DCM	PR	Presentation State
DCM	REG	Registration

Coding Scheme Designator	Code Value	Code Meaning
DCM	RTDOSE	RT Dose
DCM	RTIMAGE	RT Image
DCM	RTPLAN	RT Plan
DCM	RTRECORD	RT Treatment Record
DCM	RTSTRUCT	RT Structure Set
DCM	RWV	Real World Value Map
DCM	SEG	Segmentation
DCM	SMR	Stereometric Relationship
DCM	SR	Structured Report Document

CID XXX2 Modality

This Context Group includes codes that may be used to identify the type of equipment, or function or technique of that equipment, that created the data used to create an instance.

Note

This Context Group contains the complete set of defined codes that may appear in the Attribute Modality (0008,0060).

Resources: [HTML](#) | [FHIR JSON](#) | [FHIR XML](#) | [IHE SVS XML](#)
Type: Extensible
Version: YYYYMMDD
UID: 1.2.840.10008.6.1.XXX2

Table CID XXX2. Modality

Coding Scheme Designator	Code Value	Code Meaning
<i>Include CID 29 "Acquisition Modality"</i>		
<i>Include CID XXX1 "Non-Acquisition Modality"</i>		

Add the following entries to PS3.16 Table D-1 at the correct locations.

Table D-1. DICOM Controlled Terminology Definitions (Coding Scheme Designator "DCM" Coding Scheme Version "01")

Code Value	Code Meaning	Definition	Notes
ASMT	Content Assessment Result	A device, process or method that	

Code Value	Code Meaning	Definition	Notes
		produces assessments of the content of other instances, e.g. for quality or suitability.	
CTPROTOCOL	CT Protocol	A device, process or method that produces CT device acquisition protocols.	
DOC	Scanned Document	A device, process or method that produces scanned documents. i.e., representations of documents as images.	
FID	Spatial Fiducials	A device, process or method that identifies features or landmarks used to establish spatial correlation between objects or frames of reference.	
IOL	Intraocular Lens Calculation	A device, process or method that encodes calculations for an intraocular lens.	
PLAN	Plan	A device, process or method that produces treatment plans, e.g. delivery instructions for RT.	
RESP	Respiratory Waveform	A device, process or method that produces waveforms of electrical signals from the patient's respiratory system.	
RWV	Real World Value Map	A device, process or method that produces mappings between image pixel values and some real-world values.	
STAIN	Automated Slide Stainer	A device, process or method that applies, in an automated manner, a stain, or reagent, to microscopy slides in preparation for imaging.	

Existing CID 30 included for reference only. No changes are made.

CID 30 DICOM Devices

This Context Group includes codes that may be used to identify a class of equipment that uses DICOM.

Resources: [HTML](#) | [FHIR JSON](#) | [FHIR XML](#) | [IHE SVS XML](#)
Type: Extensible
Version: 20030108
UID: 1.2.840.10008.6.1.20

Table CID 30. DICOM Devices

Coding Scheme Designator	Code Value	Code Meaning
<i>Include CID 29 "Acquisition Modality"</i>		
DCM	ARCHIVE	Archive
DCM	COMP	Computation Server
DCM	CAD	Computer Assisted Detection/Diagnosis
DCM	DSS	Department System Scheduler
DCM	FILMD	Film Digitizer
DCM	M3D	3D Manufacturing Modeling System
DCM	MCD	Media Creation Device
DCM	PRINT	Hard Copy Print Server
DCM	CAPTURE	Image Capture
DCM	LOG	Procedure Logging
DCM	RT	Radiation Therapy Device
DCM	WSD	Workstation

Existing PS3.3 section C.7.3.1.1 included for reference only. No changes are made

C.7.3.1.1 General Series Attribute Descriptions

C.7.3.1.1.1 Modality

Defined Terms:

AR Autorefraction
ASMT Content Assessment Results
AU Audio
BDUS Bone Densitometry (ultrasound)
BI Biomagnetic imaging
BMD Bone Densitometry (X-Ray)
CR Computed Radiography
CT Computed Tomography
CTPROTOCOLCT Protocol (Performed)
DG Diaphanography
DOC Document
DX Digital Radiography
ECG Electrocardiography
EPS Cardiac Electrophysiology
ES Endoscopy
FID Fiducials
GM General Microscopy
HC Hard Copy
HD Hemodynamic Waveform
IO Intra-Oral Radiography
IOL Intraocular Lens Data

IVOCT Intravascular Optical Coherence Tomography
IVUS Intravascular Ultrasound
KER Keratometry
KO Key Object Selection
LEN Lensometry
LS Laser surface scan
MG Mammography
MR Magnetic Resonance
M3D Model for 3D Manufacturing
NM Nuclear Medicine
OAM Ophthalmic Axial Measurements
OCT Optical Coherence Tomography (non-Ophthalmic)
OP Ophthalmic Photography
OPM Ophthalmic Mapping
OPT Ophthalmic Tomography
OPTBSV Ophthalmic Tomography B-scan Volume Analysis
OPTENF Ophthalmic Tomography En Face
OPV Ophthalmic Visual Field
OSS Optical Surface Scan
OT Other
PLAN Plan
PR Presentation State
PT Positron emission tomography (PET)
PX Panoramic X-Ray
REG Registration
RESP Respiratory Waveform
RF Radio Fluoroscopy
RG Radiographic imaging (conventional film/screen)
RTDOSE Radiotherapy Dose
RTIMAGE Radiotherapy Image
RTPLAN Radiotherapy Plan
RTRECORD RT Treatment Record
RTSTRUCT Radiotherapy Structure Set
RWV Real World Value Map
SEG Segmentation
SM Slide Microscopy
SMR Stereometric Relationship
SR SR Document
SRF Subjective Refraction
STAIN Automated Slide Stainer
TG Thermography
US Ultrasound
VA Visual Acuity
XA X-Ray Angiography
XC External-camera Photography

Retired Defined Terms:

AS Angioscopy
CD Color flow Doppler
CF Cinefluorography
CP Culposcopy
CS Cystoscopy
DD Duplex Doppler
DF Digital fluoroscopy
DM Digital microscopy
DS Digital Subtraction Angiography
EC Echocardiography
FA Fluorescein angiography
FS Fundoscopy
LP Laparoscopy
MA Magnetic resonance angiography
MS Magnetic resonance spectroscopy
OPR Ophthalmic Refraction
ST Single-photon emission computed tomography (SPECT)

VF Videofluorography

Note

1. The XA modality incorporates the retired modality DS.
2. The RF modality incorporates the retired modalities CF, DF, VF.
3. The modality listed in the Modality Data Element (0008,0060) may not match the name of the IOD in which it appears. For example, a SOP instance from XA IOD may list the RF modality when an RF implementation produces an XA object.
4. The MR modality incorporates the retired modalities MA and MS.
5. The US modality incorporates the retired modalities EC, CD, and DD.
6. The NM modality incorporates the retired modality ST.