

DICOM Correction Proposal

STATUS	Final Text
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Correction Number	CP-1344
Log Summary:	Clarify Type Requirements In Unified Worklist
Name of Standard	PS 3.4 2013
Rationale for Correction:	<p>In the specification of the requirements for the UPS Service, the use of Type 1 versus Type 1C for Return Key Types has some inconsistencies. There are various occasions, where Type 1 is indicated, although the presence of the attribute is bound to (in most cases very obvious) requirements. Various investigations of the referenced definitions etc. did not reveal any good rationale for that. Further on at other locations of the same kind, indeed Type 1C is used.</p> <p>One good example of that is in the following:</p>

Example 1:

**Table CC.2.5-2c
Referenced Instances and Access Macro**

Attribute Name	Tag	...	Match Key Type	Return Key Type	Remark/ Matching Type
...					
Referenced SOP Sequence	(0008,1199)	...	O	1	
>Referenced SOP Class UID	(0008,1150)		*	1	
>Referenced SOP Instance UID	(0008,1155)		*	1	
>HL7 Instance Identifier	(0040,E001)		*	1	Required if Type of Instances (0040,E020) is CDA.
>Referenced Frame Number	(0008,1160)		*	1	Required if the Referenced SOP Instance is a multi-frame image and the reference does not apply to all frames, and Referenced Segment Number (0062,000B) is not present.

>Referenced Segment Number	(0062,000B)		*	1	Required if the Referenced SOP Instance is a Segmentation and the reference does not apply to all segments and Referenced Frame Number (0008,1160) is not present.
DICOM Retrieval Sequence	(0040,E021)		O	1C	Required if Media Retrieval Sequence (0040,E022), WADO Retrieval Sequence (0040,E023), and XDS Retrieval Sequence (0040,E024) are not present. May be present otherwise.
>Retrieve AE Title	(0008,0054)		*	1	

Example 2:

**Table CC.2.5-2d
HL7v2 Hierarchic Designator Macro**

Attribute Name	Tag	...	Match Key Type	Return Key Type	Remark/ Matching Type
...					
Local Namespace Entity ID	(0040,0031)	...	*	1C	Creation required if Universal Entity ID (0040,0032) is not present; may be present otherwise. Return Key required if set.
Universal Entity ID	(0040,0032)		*	1C	Creation required if Local Namespace Entity ID (0040,0031) is not present; may be present otherwise. Return Key required if set.
Universal Entity ID Type	(0040,0033)		*	1C	Creation required if Universal Entity ID (0040,0032) is present. Return Key required if set.
Local Namespace Entity ID	(0040,0031)		*	1C	Creation required if Universal Entity ID (0040,0032) is not present; may be present otherwise. Return Key required if set.

Example 1:

The attributes Referenced SOP Class UID (0008,1150) and Referenced SOP Instance UID (0008,1155) are Type 1, naturally without any conditions.

Yet the attributes Referenced Frame Number (0008,1160) and Referenced Segment Number (0062,000B) are marked as Type 1 as well, although there are very clear and obvious conditions: E.g. in case of object being no multi-frame images, there is no Frame Number to communicate.

On the other hand, the attribute DICOM Retrieval Sequence (0040,E021) has a requirement and is annotated with Type 1C.

One could be tempted to argue about subtle relation to the specification of the Match Ley Type using * or anything else. Neither form the role of that column itself, nor from the definition of * (pointing to the requirement at Macro evocation) this can reveal any rationale.

In any case Example 2 illustrates, where also in such cases the Return Key Type is annotated with Type 1C, when there is an requirement.

Implementers are current confused about that specification.

This CP clarifies the situation by using Type 1C when requirements are specified.

Correction Wording:

CC.2.5.1.2 UPS Macros

CC.2.5.1.3 UPS Attribute Service Requirements

CC.2.5.1.2 UPS Macros

To reduce the size and complexity of Table CC.2.5-3, a macro notation is used.

For example, in Table CC.2.5-3, a table entry specifying “Include Code Sequence Macro Table CC.2.5-2a” should be interpreted as including the following table of text as a substitution. The nesting level for the sequence inclusion is indicated by the nesting level on the reference to the macro. Where the matching key type requirement is “*” it should be replaced with the matching key type requirement of the sequence attribute that incorporates this macro.

For code sequences that have requirements for N-CREATE, N-SET, N-GET, or C-FIND behavior that differ from the Macro, the code sequence contents are explicitly listed in the Table rather than specifying inclusion of the Macro.

**Table CC.2.5-2a
UPS Code Sequence Macro**

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Code Value	(0008,0100)	1/1	1/1		-/1	*	1	Code Value shall be retrieved with Single Value Matching.
Coding Scheme Designator	(0008,0102)	1/1	1/1		-/1	*	1	Coding Scheme Designator shall be retrieved with Single Value Matching.
Coding Scheme Version	(0008,0103)	1C/1C	1C/1C		-/1	-	1C	Required if the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.
Code Meaning	(0008,0104)	1/1	1/1		-/1	-	1	Code Meaning shall not be used as Matching Key.

**Table CC.2.5-2b
UPS Content Item Macro**

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
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Value Type	(0040,A040)	1/1	1/1		-/1	*	1	The type of the value encoded in this name-value Item. Enumerated Value: DATETIME DATE TIME PNAME UIDREF TEXT CODE NUMERIC
Concept Name Code Sequence	(0040,A043)	1/1	1/1		-/1	*	1	Coded concept name of this name-value Item.
<i>>Include 'UPS Code Sequence Macro' Table CC.2.5-2a</i>								<i>No Baseline Context ID is defined.</i>
DateTime	(0040,A120)	1C/1C	1C/1		-/1	*	1C	Datetime value for this name-value Item. Required if Value Type (0040,A040) is DATETIME.
Date	(0040,A121)	1C/1C	1C/1		-/1	*	1C	Date value for this name-value Item. Required if Value Type (0040,A040) is DATE.
Time	(0040,A122)	1C/1C	1C/1		-/1	*	1C	Time value for this name-value Item. Required if Value Type (0040,A040) is TIME.
Person Name	(0040,A123)	1C/1C	1C/1		-/1	*	1C	Person name value for this name-value Item. Required if Value Type (0040,A040) is PNAME.
UID	(0040,A124)	1C/1C	1C/1		-/1	*	1C	UID value for this name-value Item. Required if Value Type (0040,A040) is UIDREF.

Text Value	(0040,A160)	1C/1C	1C/1		-/1	*	1C	Text value for this name-value Item. Required if Value Type (0040,A040) is TEXT.
Concept Code Sequence	(0040,A168)	1C/1C	1C/1		-/1	*	1C	Coded concept value of this name-value Item. Required if Value Type (0040,A040) is CODE.
>Include 'UPS Code Sequence Macro' Table CC.2.5-2a								No Baseline Context ID is defined.
Numeric Value	(0040,A30A)	1C/1C	1C/1		-/1	*	1C	Numeric value for this name-value Item. Required if Value Type (0040,A040) is NUMERIC.
Measurement Units Code Sequence	(0040,08EA)	1C/1C	1C/1		-/1	*	1C	Units of measurement for a numeric value in this name-value Item. Required if Value Type (0040,A040) is NUMERIC.
>Include 'UPS Code Sequence Macro' Table CC.2.5-2a								Baseline Context ID 82

**Table CC.2.5-2c
Referenced Instances and Access Macro**

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Type of Instances	(0040,E020)	1/1	1/1		-/1	O	1	
Study Instance UID	(0020,000D)	1C/1	1C/1		-/1	O	1C	Required if Type of Instances (0040,E020) is DICOM
Series Instance UID	(0020,000E)	1C/1	1C/1		-/1	O	1C	Required if Type of Instances (0040,E020) is DICOM
Referenced SOP Sequence	(0008,1199)	1/1	1/1		-/1	O	1	
>Referenced SOP Class UID	(0008,1150)	1/1	1/1		-/1	*	1	

>Referenced SOP Instance UID	(0008,1155)	1/1	1/1		-/1	*	1	
>HL7 Instance Identifier	(0040,E001)	1C/1	1C/1		-/1	*	1C	Required if Type of Instances (0040,E020) is CDA.
>Referenced Frame Number	(0008,1160)	1C/1	1C/1		-/2	*	1C	Required if the Referenced SOP Instance is a multi-frame image and the reference does not apply to all frames, and Referenced Segment Number (0062,000B) is not present.
>Referenced Segment Number	(0062,000B)	1C/1	1C/1		-/2	*	1C	Required if the Referenced SOP Instance is a Segmentation and the reference does not apply to all segments and Referenced Frame Number (0008,1160) is not present.
DICOM Retrieval Sequence	(0040,E021)	1C/1	1C/1		-/1	O	1C	Required if Media Retrieval Sequence (0040,E022), WADO Retrieval Sequence (0040,E023), and XDS Retrieval Sequence (0040,E024) are not present. May be present otherwise.
>Retrieve AE Title	(0008,0054)	1/1	1/1		-/1	*	1	
Media Retrieval Sequence	(0040,E022)	1C/1	1C/1		-/1	O	1C	Required if DICOM Retrieval Sequence (0040,E021), WADO Retrieval Sequence (0040,E023), and XDS Retrieval Sequence (0040,E024) are not present. May be present otherwise.
>Storage Media File-Set ID	(0088,0130)	2/2	2/2		-/2	*	2	
>Storage Media File-Set UID	(0088,0140)	1/1	1/1		-/1	*	1	

WADO Retrieval Sequence	(0040,E023)	1C/1	1C/1		-/1	O	1C	Required if DICOM Retrieval Sequence (0040,E021), Media Retrieval Sequence (0040,E022), and XDS Retrieval Sequence (0040,E024) are not present. May be present otherwise.
>Retrieve Location UID	(0040,E011)	1/1	1/1		-/1	*	1	
>Retrieve URI	(0040,E010)	1/1	1/1		-/1	*	1	
XDS Retrieval Sequence	(0040,E024)	1C	1C/1		-/1	O	1C	Required if DICOM Retrieval Sequence (0040,E021), Media Retrieval Sequence (0040,E022), and WADO Retrieval Sequence (0040,E023) are not present. May be present otherwise.
>Repository Unique ID	(0040,E030)	1	1/1		-/1	*	1	
>Home Community ID	(0040,E031)	3/2	3/2		3/2	*	2	

**Table CC.2.5-2d
HL7v2 Hierarchic Designator Macro**

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Local Namespace Entity ID	(0040,0031)	1C/1	Not Allowed		-/1	*	1C	Creation required if Universal Entity ID (0040,0032) is not present; may be present otherwise. Return Key required if set.
Universal Entity ID	(0040,0032)	1C/1	Not Allowed		-/1	*	1C	Creation required if Local Namespace Entity ID (0040,0031) is not present; may be present otherwise. Return Key required if set.
Universal Entity ID Type	(0040,0033)	1C/1	Not Allowed		-/1	*	1C	Creation required if Universal Entity ID (0040,0032) is present. Return Key required if set.

Local Namespace Entity ID	(0040,0031)	1C/1	Not Allowed		-/1	*	1C	Creation required if Universal Entity ID (0040,0032) is not present; may be present otherwise. Return Key required if set.
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**Table CC.2.5-2e
Issuer of Patient ID Macro**

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Issuer of Patient ID	(0010,0021)	2/2	Not allowed	O	3/2	R	2	
Issuer of Patient ID Qualifiers Sequence	(0010,0024)	2/2	Not allowed	O	3/2	O	2	
>Universal Entity ID	(0040,0032)	2/2	Not allowed	O	3/2	O	2	
>Universal Entity ID Type	(0040,0033)	1C/1	Not allowed	O	3/2	O	1C	Required if Universal Entity ID (0040,0032) is present in this item with a value.
>Identifier Type Code	(0040,0035)	2/2	Not allowed	O	3/2	O	2	
>Assigning Facility Sequence	(0040,0036)	2/2	Not allowed	O	3/2	O	2	The Attributes of the Assigning Facility Sequence shall only be retrieved with Sequence Matching.
<i>>>Include HL7v2 Hierarchic Designator Macro Table CC.2.5-2d</i>								
>Assigning Jurisdiction Code Sequence	(0040,0039)	2/2	Not allowed	O	3/2	O	2	The Attributes of the Assigning Jurisdiction Code Sequence shall only be retrieved with Sequence Matching.
<i>>>Include Code Sequence Macro Table CC.2.5-2a</i>								<i>Baseline CID 5001 for country codes.</i>
>Assigning Agency or Department Code Sequence	(0040,003A)	2/2	Not allowed	O	3/2	O	2	The Attributes of the Assigning Agency or Department Code Sequence shall only be retrieved with Sequence Matching.

Table CC.2.5-2f
SOP Instance Reference Macro

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Referenced SOP Class UID	(0008,1150)	1/1	1/1		-/1	*	1	Code Value shall be retrieved with Single Value Matching.
Referenced SOP Instance UID	(0008,1155)	1/1	1/1		-/1	*	1	Coding Scheme Designator shall be retrieved with Single Value Matching.

CC.2.5.1.3 UPS Attribute Service Requirements

This table combines the attribute requirements for multiple DIMSE services (N-CREATE, N-SET, N-GET, C-FIND) to facilitate consistency between the requirements.

See PS 3.4 Section 5.4 for the meaning of the requirement codes used in the N-CREATE, N-SET, N-GET and Return Key columns in the following table.

See PS 3.4 C.1.2 for the meaning of the requirement codes used in the Match Key column in the following table.

See Table CC.2.5-1 for the meaning of the requirement codes used in the Final State column of the following table.

Table CC.2.5-3
UPS SOP CLASS N-CREATE/N-SET/N-GET/C-FIND ATTRIBUTES

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Transaction UID	(0008,1195)	2/2 Shall be empty	(See CC.2.6.3)	0	Not allowed	-	-	Cannot be queried.

SOP Common Module

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Specific Character Set	(0008,0005)	1C/1C	1C/1C	RC	3/1	-	1C	Required if extended or replacement character set is used
SOP Class UID	(0008,0016)	Shall be set to 1.2.840.10008.5.1.4.34.6.1 by SCP	Not allowed	R	Not allowed	O	1	Uniquely identifies the SOP Class of the Unified Procedure Step. See Section CC.3.1 for further explanation.
SOP Instance UID	(0008,0018)	Not allowed. SOP Instance is conveyed in the Affected SOP Instance UID (0000,1000)	Not allowed. SOP Instance is conveyed in the Requested SOP Instance UID (0000,1001)	R	Not allowed. SOP Instance is conveyed in the Requested SOP Instance UID (0000,1001)	U	1	Uniquely identifies the SOP Instance of the UPS. See Section K.6.2.2.3 for further explanation. SOP Instance UID shall be retrieved with Single Value Matching.
All other Attributes from the SOP Common Module		3/3	3/3	O	3/3	-	-	
Unified Procedure Step Scheduled Procedure Information Module								

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Scheduled Procedure Step Priority	(0074,1200)	1/1	3/1	R	3/1	R	1	Scheduled Procedure Step Priority shall be retrieved with Single Value Matching.
Scheduled Procedure Step Modification Date and Time	(0040,4010)	2/1 SCP shall use time of CREATE rather than any value provided	-/1 SCP will use time of SET	R	3/1	O	3	Scheduled Procedure Step Modification Date and Time shall be retrieved with Single Value Matching or Range Matching.
Procedure Step Label	(0074,1204)	1/1	3/1	O	3/1	R	1	
Worklist Label	(0074,1202)	2/1 If a value is not provided by the SCU, the SCP shall fill in the Worklist Label, e.g. using a default value or by assigning the UPS instance to a logical worklist.	3/1	O	3/1	R	1	
Scheduled Processing Parameters Sequence	(0074,1210)	2/2	3/2	O	3/2	-	2	
>Include Content Item Macro Table CC.2.5-2b								

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Scheduled Station Name Code Sequence	(0040,4025)	2/2	3/2	O	3/2	R	2	The Attributes of the Scheduled Station Name Code Sequence shall only be retrieved with Sequence Matching. Note: In Push Scenario, the SCP- Performer has to create empty but could self fill later.
<i>>Include Code Sequence Macro Table CC.2.5-2a</i>								
Scheduled Station Class Code Sequence	(0040,4026)	2/2	3/2	O	3/2	R	2	The Attributes of the Scheduled Station Class Code Sequence shall only be retrieved with Sequence Matching.
<i>>Include Code Sequence Macro Table CC.2.5-2a</i>								
Scheduled Station Geographic Location Code Sequence	(0040,4027)	2/2	3/2	O	3/2	R	2	The Attributes of the Scheduled Station Geographic Location Code Sequence shall only be retrieved with Sequence Matching.
<i>>Include Code Sequence Macro Table CC.2.5-2a</i>								

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Scheduled Human Performers Sequence	(0040,4034)	2C/2C	3/2	O	3/2	R	2	The Attributes of the Scheduled Human Performers Sequence shall only be retrieved with Sequence Matching. Required if a Human Performer is specified.
>Human Performer Code Sequence	(0040,4009)	1/1	1/1	O	-/1	R	1	The Attributes of the Scheduled Human Performers Code Sequence shall only be retrieved with Sequence Matching.
<i>>>Include Code Sequence Macro Table CC.2.5-2a</i>								
>Human Performer's Name	(0040,4037)	1/1	1/1	O	-/1	O	3	
>Human Performer's Organization	(0040,4036)	1/1	1/1	O	-/1	O	3	
Scheduled Procedure Step Start Date and Time	(0040,4005)	1/1	3/1	R	3/1	R	1	Scheduled Procedure Step Start Date and Time shall be retrieved with Single Value Matching or Range Matching.

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Expected Completion Date and Time	(0040,4011)	3/1	3/1	O	3/1	R	3	Expected Completion Date and Time shall be retrieved with Single Value Matching or Range Matching.
Scheduled Workitem Code Sequence	(0040,4018)	2/2	3/1	O	3/1	R	2	The Attributes of the Scheduled Workitem Code Sequence shall only be retrieved with Sequence Matching.
<i>>Include Code Sequence Macro Table CC.2.5-2a</i>								
Comments on the Scheduled Procedure Step	(0040,0400)	2/2	3/1	O	3/1	O	3	
Input Readiness State	(0040,4041)	1/1	3/1	R	3/1	R	1	Input Readiness State shall be retrieved with Single Value Matching.
Input Information Sequence	(0040,4021)	2/2	3/2	O	3/2	O	2	The Attributes of the Input Information Sequence shall only be retrieved with Sequence Matching.
<i>>Include Referenced Instances and Access Macro Table CC.2.5-2c</i>								

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Study Instance UID	(0020,000D)	1C/2	3/2	O	3/2	O	2	Required if the Workitem is expected to result in the creation of any DICOM Composite Instances whose IOD contains the Study IE. There may be situations where the performer does not use the Study Instance UID suggested by the Scheduler.
All other Attributes from the Unified Procedure Step Scheduled Procedure Information Module		3/3	3/3	O	3/3	-	-	
Unified Procedure Step Relationship Module								
Patient's Name	(0010,0010)	2/2	Not allowed	O	3/2	R	2	

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Patient ID	(0010,0020)	1C/2	Not allowed	O	3/2	R	2	Required if the subject of the workitem requires identification or if the workitem is expected to result in the creation of objects that identify the subject. See PS 3.3 C.30.4.1
<i>Include Issuer of Patient ID Macro Table CC.2.5-2e</i>								
Other Patient IDs Sequence	(0010,1002)	2/2	3/3	O	3/2	O	2	
>Patient ID	(0010,0020)	1/1	1/1	O	-/1	O	1	
<i>Include Issuer of Patient ID Macro Table CC.2.5-2e</i>								
Patient's Birth Date	(0010,0030)	2/2	Not allowed	O	3/2	R	2	
Patient's Sex	(0010,0040)	2/2	Not allowed	O	3/2	R	2	
Admission ID	(0038,0010)	2/2	Not allowed	O	3/2	R	2	
Issuer of Admission ID Sequence	(0038,0014)	2/2	Not allowed	O	3/2	R	2	
<i>>Include HL7v2 Hierarchic Designator Macro Table CC.2.5-2d</i>								
Admitting Diagnoses Description	(0008,1080)	2/2	Not allowed	O	3/2	O	2	

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Admitting Diagnoses Code Sequence	(0008,1084)	2/2	Not allowed	O	3/2	O	2	The Attributes of the Admitting Diagnoses Code Sequence shall only be retrieved with Sequence Matching.
<i>>Include Code Sequence Macro Table CC.2.5-2a</i>								
Referenced Request Sequence	(0040,A370)	2/2	Not allowed	O	3/2	O	2	Could be "changed" while SCHEDULED by canceling and re- creating with the "correct" values.
>Study Instance UID	(0020,000D)	1/1	Not allowed	O	-/1	O	1	
>Accession Number	(0008,0050)	2/2	Not allowed	O	-/2	R	2	
>Issuer of Accession Number Sequence	(0008,0051)	2/2	Not allowed	O	-/2	R	2	The Issuer of Accession Number Sequence shall only be retrieved with Sequence Matching.
<i>>>Include HL7v2 Hierarchic Designator Macro Table CC.2.5-2d</i>								
>Placer Order Number/Imaging Service Request	(0040,2016)	3/1	Not allowed	O	-/1	O	1C	Required if set.

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
>Order Placer Identifier Sequence	(0040,0026)	2/2	Not allowed	O	-/2	O	2	The Order Placer Identifier Sequence shall only be retrieved with Sequence Matching.
<i>>>Include HL7v2 Hierarchic Designator Macro Table CC.2.5-2d</i>								
>Filler Order Number/Imaging Service Request	(0040,2017)	3/1	Not allowed	O	-/1	O	1C	Required if set.
>Order Filler Identifier Sequence	(0040,0027)	2/2	Not allowed	O	-/2	O	2	The Order Filler Identifier Sequence shall only be retrieved with Sequence Matching.
<i>>>Include HL7v2 Hierarchic Designator Macro Table CC.2.5-2d</i>								
>Requested Procedure ID	(0040,1001)	2/2	Not allowed	O	-/2	R	2	
>Requested Procedure Description	(0032,1060)	2/2	Not allowed	O	-/2	O	2	
>Requested Procedure Code Sequence	(0032,1064)	2/2	Not allowed	O	-/2	O	2	
<i>>>Include Code Sequence Macro Table CC.2.5-2a</i>								
>Reason for the Requested Procedure	(0040,1002)	3/3	3/3	O	-/3	-	-	

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
> Reason for Requested Procedure Code Sequence	(0040,100A)	3/3	3/3	O	-/3	-	-	
<i>>>Include Code Sequence Macro Table CC.2.5-2a</i>								
>Requested Procedure Comments	(0040,1400)	3/3	3/3	O	-/3	O	1C	Required if set.
>Confidentiality Code	(0040,1008)	3/3	3/3	O	-/3	O	3	
>Names of Intended Recipients of Results	(0040,1010)	3/3	3/3	O	-/3	O	3	
>Imaging Service Request Comments	(0040,2400)	3/3	3/3	O	-/3	O	3	
>Requesting Physician	(0032,1032)	3/3	3/3	O	-/3	O	3	
>Requesting Service	(0032,1033)	3/1	3/1	O	-/3	R	3	
>Issue Date of Imaging Service Request	(0040,2004)	3/3	3/3	O	-/3	O	3	
>Issue Time of Imaging Service Request	(0040,2005)	3/3	3/3	O	-/3	O	3	
>Referring Physician's Name	(0008,0090)	3/3	3/3	O	-/3	O	3	
Replaced Procedure Step Sequence	(0074,1224)	1C/1C	Not allowed	O	3/2	R	3	Required if the UPS replaces another Procedure Step.

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
>Include 'SOP Instance Reference Macro' Table CC.2.5-2f								
Patient Medical Module								
Medical Alerts	(0010,2000)	3/2	3/2	O	3/2	O	2C	Required if present.
Pregnancy Status	(0010,21C0)	3/2	3/2	O	3/2	O	2C	Required if present.
Special Needs	(0038,0050)	3/2	3/2	O	3/2	O	2C	Required if present.
All other Attributes from the Patient Medical Module		3/3	3/3	O	3/3	O	3	
Unified Procedure Step Progress Information Module								
Procedure Step State	(0074,1000)	1/1 Shall be created with a value of "SCHEDULED"	Not Allowed. Use N-ACTION	R	3/1	R	1	Procedure Step State shall be retrieved with Single Value Matching
Progress Information Sequence	(0074,1002)	2/2 Shall be empty	3/2	X	3/2		2	
>Procedure Step Progress	(0074,1004)	Not Allowed	3/1	O	-/1	-	-	
>Procedure Step Progress Description	(0074,1006)	Not Allowed	3/1	O	-/1	-	-	
>Procedure Step Communications URI Sequence	(0074,1008)	Not Allowed	3/1	O	-/1	-	-	

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
>>Contact URI	(0074,100a)	Not Allowed	1/1	O	-/1	-	-	
>>Contact Display Name	(0074,100c)	Not Allowed	3/1	O	-/1	-	-	
Procedure Step Cancellation DateTime	(0040,4052)	Not Allowed	3/1	X	-/1	-	-	If changing the UPS State (0074,1000) to CANCELED and this attribute has no value, the SCP shall fill it with the current datetime.
>Reason For Cancellation	(0074,1238)	Not Allowed	3/1	O	-/1	-	-	
>Procedure Step Discontinuation Reason Code Sequence	(0074,100e)	Not Allowed	3/1	X	-/1			
>>Include Code Sequence Macro Table CC.2.5-2a								
Unified Procedure Step Performed Procedure Information Module								

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
Unified Procedure Step Performed Procedure Sequence	(0074,1216)	2/2 Shall be created empty	3/2	P	3/2	-	-	The Attributes of the UPS Performed Procedure Sequence shall only be retrieved with Sequence Matching. Note: Since this attribute may be created empty and has a Final State requirement of X, a UPS in the SCHEDULED state may be canceled with two N-ACTIONS (IN PROGRESS then CANCELED) and no N-SETS.
>Actual Human Performers Sequence	(0040,4035)	Not Allowed	3/1	RC	-/1	O	1C	Shall be provided if known. Return Key required if set. The Attributes of the Actual Human Performers Sequence shall only be retrieved with Sequence Matching.
>>Human Performer Code Sequence	(0040,4009)	Not Allowed	3/1	RC	-/1	-	-	Shall be provided if known.
>>>Include Code Sequence Macro Table CC.2.5-2a								

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
>>Human Performer's Name	(0040,4037)	Not Allowed	3/1	RC	-/1	-	-	Shall be provided if known
>>Human Performer's Organization	(0040,4036)	Not Allowed	3/1	O	-/1	-	-	
>Performed Station Name Code Sequence	(0040,4028)	Not Allowed	3/2	P	-/2	O	3	
<i>>>Include Code Sequence Macro Table CC.2.5-2a</i>								
>Performed Station Class Code Sequence	(0040,4029)	Not Allowed	3/2	O	-/2	-	-	
<i>>>Include Code Sequence Macro Table CC.2.5-2a</i>								
>Performed Station Geographic Location Code Sequence	(0040,4030)	Not Allowed	3/2	O	-/2	-	-	
<i>>>Include Code Sequence Macro Table CC.2.5-2a</i>								
>Performed Procedure Step Start DateTime	(0040,0244)	Not Allowed	3/1	P	-/1	-	-	
>Performed Procedure Step Description	(0040,0254)	Not Allowed	3/1	O	-/1	-	-	
>Comments on the Performed Procedure Step	(0040,0280)	Not Allowed	3/1	O	-/1	-	-	
>Performed Workitem Code Sequence	(0040,4019)	Not Allowed	3/1	P	-/1	-	-	
<i>>>Include Code Sequence Macro Table CC.2.5-2a</i>								

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Final State	Req. Type N-GET (SCU/SCP)	Match Key Type	Return Key Type	Remark/ Matching Type
>Performed Processing Parameters Sequence	(0074,1212)	Not Allowed	3/1	O	-/1	-	-	
<i>>>Include Content Item Macro Table CC.2.5-2b</i>								
>Performed Procedure Step End DateTime	(0040,0250)	Not Allowed	3/1	P	-/1	O	1C	Required if set.
>Output Information Sequence	(0040,4033)	Not Allowed	2/2	P	-/2	-	-	If there are no relevant output objects, then this sequence may have no items.
<i>>Include Referenced Instances and Access Macro Table CC.2.5-2c</i>								