

5.1.3.1.4 OBR Segment

Field	Field Name	Value
OBR-1	Set ID	
OBR-2	Place Order Number	<i>Accession Number derived from the DICOM header.</i>
OBR-3	Filter Order Number	<i>Accession Number derived from the DICOM header.</i>
OBR-8	Observation End Date/Time	<i>Date of Study Standardization</i>
OBR-25	Result Status	F

5.1.3.1.5 OBX Segment

5.1.3.1.6 OBX – Device Observer UID

Field	Field Name	Value
OBX-1	Set ID	
OBX-2	Value Type	ST
OBX-3.1	Observation Identifier – Identifier DICOM Code Value	121012
OBX-3.2	Observation Identifier – Text DICOM Code Meaning	Device Observer UID
OBX-3.3	Observation Identifier – Name of Coding System DICOM Coding Scheme Designator	DCM
OBX-8	Observation Value	1.2.826.0.1.3680043.9.7296.00860002304557
OBX-11	Observation Result Status	F

5.1.3.1.7 OBX – Device Observer Name

Field	Field Name	Value
OBX-1	Set ID	
OBX-2	Value Type	ST
OBX-3.1	Observation Identifier – Identifier DICOM Code Value	121013
OBX-3.2	Observation Identifier – Text DICOM Code Meaning	Device Observer Name
OBX-3.3	Observation Identifier – Name of Coding DICOM Coding Scheme Designator	DCM
OBX-8	Observation Value	Ensign
OBX-11	Observation Result Status	F

5.1.3.1.8 OBX – Device Observer Manufacturer

Field	Field Name	Value
OBX-1	Set ID	
OBX-2	Value Type	ST
OBX-3.1	Observation Identifier – Identifier DICOM Code Value	121014

OBX-3.2	Observation Identifier – Text DICOM Code Meaning	Device Observer Manufacturer
OBX-3.3	Observation Identifier – Name of Coding System DICOM Coding Scheme Designator	DCM
OBX-8	Observation Value	Enlitic
OBX-11	Observation Result Status	F

5.1.3.1.9 OBX – Study Instance UID

Field	Field Name	Value
OBX-1	Set ID	
OBX-2	Value Type	ST
OBX-3.1	Observation Identifier – Identifier DICOM Code Value	113014
OBX-3.2	Observation Identifier – Text DICOM Code Meaning	DICOM Study
OBX-3.3	Observation Identifier – Name of Coding System DICOM Coding Scheme Designator	DCM
OBX-8	Observation Value	<i>Study Instance UID derived from the DICOM header.</i>
OBX-11	Observation Result Status	F

5.1.3.1.10 OBX – Standardized Study Description

Field	Field Name	Value
OBX-1	Set ID	
OBX-2	Value Type	TX
OBX-3.1	Observation Identifier – Identifier DICOM Code Value	STUDYDESC
OBX-3.2	Observation Identifier – Text DICOM Code Meaning	ENDEX Study Description
OBX-3.3	Observation Identifier – Name of Coding System DICOM Coding Scheme Designator	99ENLITIC
OBX-8	Observation Value	<i>Standardized Study Description</i>
OBX-11	Observation Result Status	F

5.1.3.1.11 OBX – ENDEX Results (JSON)

Field	Field Name	Value
OBX-1	Set ID	
OBX-2	Value Type	TX
OBX-3.1	Observation Identifier – Identifier DICOM Code Value	RESULTSJSON
OBX-3.2	Observation Identifier – Text	ENDEX Results

	DICOM Code Meaning	
OBX-3.3	Observation Identifier – Name of Coding System DICOM Coding Scheme Designator	99ENLITIC
OBX-8	Observation Value	A JSON representation of standardized results. See Standardized Result Attributes – JSON Wrapped section (template: {ResultsFullJSON})
OBX-11	Observation Result Status	F

5.1.4 Examples

5.1.4.1.1 Example ORU^R01 for a standardized MR Study

```
MSH|^~\&|Enlight|HOSPITAL_SENDING|MIRTH|HOSPITAL_RECEIVING|202404271330||ORU^R01|2222222|P|2.3
PID|||PID1234||DOE^JOHN^A||19820719|M
PV1|1||
OBR|1|ACC1234|ACC1234|ENDEXRESULTS^Endex Results^99ENLITIC|||||||||||||||||F
OBX|1|ST|121012^Device Observer UID^DCM||1.2.826.0.1.3680043.9.7296.00860002304557|||||F
OBX|2|ST|121013^Device Observer Name^DCM||Enlight|||||F
OBX|3|ST|121014^Device Observer Manufacturer^DCM||Enlitic|||||F
OBX|4|ST|113014^DICOM Study^DCM||1.2.826.0.1.3680043.9.7296.111.222.333.999|||||F
OBX|5|TX|STUDYDESC^Endex Study Description^99ENLITIC|1|MR ABDOMEN NONCON|||||F
OBX|6|TX|RESULTSJSON^Endex Results
Json^99ENLITIC|1|{"CdmStudyType":"DIAG","CdmStudyModality":"MR","CdmStudyModalities":"MR","CdmStudyAnatomy":"ABDOMEN","CdmStudyLater
ality":"UNPAIRED","CdmStudyAngiogramFlag":"F","CdmStudyBinaryContrastFlag":"F","CdmStudyContrastDescriptor":"NonCon","CdmStudyPhaseCount":"
0","CdmStudyViewCount":"2","CdmStudyGroupCount":"17","StandardizedSeriesCount":"17","StandardizedInstanceCount":"436","StandardizedStudyDesc
ription":"MR ABDOMEN NONCON","OriginalStudyDescription":"MR ABDOMEN
NONCON","ContrastPresent":"false","CdmObjectImageWeightings":"STIR,T1,T2","CdmObjectAnatomies":"ABDOMEN","ObjectMRImageWeightings":"STIR,
T1,T2","CdmObjectStandardViews":"CORONAL,SAGITTAL","ObjectMRContrastDescriptors":"NONE","OriginalSeriesDescriptions":"ABDOMEN T1 CORONAL
C- THICK,ABDOMEN T2 SAGITTAL C- THICK,ABDOMEN STIR CORONAL C- THICK,ABDOMEN T1 SAGITTAL C-
THICK","ObjectAnatomies":"ABDOMEN","StandardizedSeriesDescriptions":"ABDOMEN T1 CORONAL C- THICK,LOCALIZER,ABDOMEN T2 SAGITTAL C-
THICK,ABDOMEN STIR CORONAL C- THICK,ABDOMEN T1 SAGITTAL C-
THICK","ObjectViews":"CORONAL,SAGITTAL","CdmObjectModalities":"MR","CdmObjectSliceThicknessDescriptors":"THICK","CdmObjectTypes":"SCOUT,VO
LUME","ObjectImagePlanes":"CORONAL,SAGITTAL","ObjectModalities":"MR","ObjectMRSliceThicknessDescriptors":"THICK"}|||||F
```

5.1.4.1.2 Example ORU^R01 using Custom Message Format

An example ORU^R01 message (from section *Example ORU^R01 for a standardized MR Study*) recreated using templated values. For templated variable definitions see: *Custom Message Format*

```
MSH|^~\&|{PlatformName}|SendingFacility|{ReceiverApplication}|ReceivingFacility|{DateTime}||ORU^R01|{MessageControlID}|P|2.3
PID|||{PatientID}||{PatientName}||{PatientBirthDate}|{PatientSex}
PV1|1||
OBR|1|{AccessionNumber}|{AccessionNumber}|ENDEXRESULTS^Endex Results^99ENLITIC|||||||||||||||||F
OBX|1|ST|121012^Device Observer UID^DCM||{PlatformUID}|||||F
OBX|2|ST|121013^Device Observer Name^DCM||{PlatformName}|||||F
OBX|3|ST|121014^Device Observer Manufacturer^DCM||Enlitic|||||F
OBX|4|ST|113014^DICOM Study^DCM||{StudyInstanceUID}|||||F
OBX|5|TX|STUDYDESC^Endex Study Description^99ENLITIC|1|{StandardizedStudyDescription}|||||F
OBX|6|TX|RESULTSJSON^Endex Results Json^99ENLITIC|1|{ResultsFullJson}|||||F
```

5.1.5 Custom Message Format

In lieu of the default HL7 ORM^R01 notification message provided as part of a default installation of Enlight, a site may wish to construct a custom HL7 message using the templating capabilities of the platform.

This section describes available configuration

5.1.5.1.1 Available Template Variable for Mapping

5.1.5.1.2 General Attributes

5.1.5.1.3 DICOM Attributes

Any Patient and Study level attribute from the Study which triggered the workflow is available to be mapped to the outbound HL7 message.

5.1.5.1.3.1 DICOM Attributes – Tag Examples

Template Variable	DICOM Tag	Description
{PatientID}	Patient ID – (0010, 0020)	Example of picking out a Patient/Study-level tag using DICOM Tag keyword
{00100020}	Patient ID – (0010, 0020)	Patient/Study-level tags – tag id based addition.

5.1.5.1.3.2 DICOM Attributes – Tag Sequence Examples

Template Variable	DICOM Sequence Tag	Description
{ReferencedImageSequence .ReferencedSOPInstanceUID}	<ul style="list-style-type: none"> Referenced Image Sequence – (0008, 1140) Referenced SOP Instance UID – (0008, 1155) 	Example of picking out the first value of Referenced SOP Instance UID tag within Referenced Image Sequence
{ReferencedImageSequence[2] .ReferencedSOPInstanceUID}	<ul style="list-style-type: none"> Referenced Image Sequence – (0008, 1140) Referenced SOP Instance UID – (0008, 1155) 	Example of picking out the third value of Referenced SOP Instance UID tag within Referenced Image Sequence. Note: Item indexes follow zero-based numbering. That is, ReferencedImageSequence[2] refers to the third element.
{OriginalAttributesSequence[0] .ModifiedAttributesSequence[0] .PatientID}	<ul style="list-style-type: none"> Original Attributes Sequence - (0400, 0561) Modified Attributes Sequence - (0400, 0550) PatientID - (0010, 0020) 	Example of picking out a value from a multi-level DICOM Sequence.

5.1.5.1.4 Standardized Results

The following variables encapsulated various outputs from the Standardization process and can be mapped to the outgoing HL7 message.

5.1.5.1.4.1 Standardized Result Attributes – General Variables

Template Variable	Output Format	Description
-------------------	---------------	-------------

{StandardizedStudyDescription}	String	The standardized study description
{StandardizedSeriesDescriptions}	String List (comma delimited)	List of all standardized series description (Chosen series description corresponds to an Object with the most number of instances)
{OriginalStudyDescription}	String	The original study description
{OriginalSeriesDescriptions}	String List (comma delimited)	List of all original series descriptions
{StandardizedSeriesCount}	Integer String	Number of standardized series
{StandardizedInstanceCount}	Integer String	Number of standardized instances
{ContrastPresent}	Boolean String	True if present, false otherwise

5.1.5.1.4.2 Standardized Result Attributes – Standardized Variables

Template Variable	Output Format	Description
{CdmObjectTypes}	String List (comma delimited)	Aggregated {CDM Object Types present in study, example: "VOLUME, SCOUT"
{CdmObjectAnatomies}	String List (comma delimited)	Aggregated {CDM Object Anatomies present in study, example: "WRIST, HAND"
{CdmObjectImageWeightings}	String List (comma delimited)	Aggregated MR {CDM Object Image Weightings, example: "T1, T2"
{CdmObjectImageWeightingQualifiers}	String List (comma delimited)	Aggregated MR {CDM Object Image Weighting Qualifiers, example: "FATSAT"
{CdmObjectModalities}	String List (comma delimited)	Aggregated {CDM Object Modalities, example: "MR, KO"
{CdmObjectSliceThicknessDescriptors}	String List (comma delimited)	Aggregated {CDM Object Modalities, example: "THICK, THIN"
{CdmObjectStandardViews}	String List (comma delimited)	Aggregated {CDM Object Standard Views , example: "CORONAL,AXIAL,SAGITTAL"

5.1.5.1.4.3 Standardized Result Attributes – JSON Wrapped

The template variables listed in:

- 4.1.5.1 Standardized Result Attributes – General Variables
- 4.1.5.2 Standardized Result Attributes – Standardized Variables

are also available wrapped in a JSON Object (and serialized to a string) for convenience.

Template Variable	Output Format	Description
{ResultsShortJson}	JSON String	<p>A JSON object with the following properties:</p> <ul style="list-style-type: none"> • CdmStudyAnatomy • CdmStudyAngiogramFlag • CdmStudyBinaryContrastFlag

		<ul style="list-style-type: none"> • CdmStudyContrastDescriptor • CdmStudyGroupCount • CdmStudyLaterality • CdmStudyModalitiesCdmStudyModality • CdmStudyPhaseCount • CdmStudyType • CdmStudyViewCount • ContrastPresent • OriginalStudyDescription • StandardizedInstanceCount • StandardizedSeriesCount • StandardizedStudyDescription
<p>{ResultsFullJson}</p>	<p>JSON String</p>	<p>A JSON object with the following properties:</p> <ul style="list-style-type: none"> • CdmObjectAnatomies • CdmObjectImageWeightings • CdmObjectModalities • CdmObjectSliceThicknessDescriptors • CdmObjectStandardViews • CdmObjectTypes • CdmStudyAnatomy • CdmStudyAngiogramFlag • CdmStudyBinaryContrastFlag • CdmStudyContrastDescriptor • CdmStudyGroupCount • CdmStudyLaterality • CdmStudyModalities • CdmStudyModality • CdmStudyPhaseCount • CdmStudyType • CdmStudyViewCount • ContrastPresent • ObjectAnatomies • ObjectImagePlanes • ObjectModalities • ObjectMRContrastDescriptors • ObjectMRImageWeightings • ObjectMRSliceThicknessDescriptors • ObjectViews • OriginalSeriesDescriptions • OriginalStudyDescription • StandardizedInstanceCount • StandardizedSeriesCount • StandardizedSeriesDescriptions • StandardizedStudyDescription

5.1.5.1.4.4 Example HL7 Message Template

See *Example ORU^R01 using Custom Message Format* for a sample template.