



**Laboratory and
Radiology
*Specification***

**Version 01
12.19.2023**

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1. Overview

This specification is for provider organizations, hospitals and laboratories to send result data, register clinical trials, and for other medical reporting purposes. Connie prefers ORU messages over MDM messages but can accept either.

2. Order Entry -HL7 ORM

The HL7 Order Entry (ORM) message is a commonly used message type used to transmit orders for clinical services or procedures. It contains information about the patient, the requested service, pertinent dates, and other specifics required for carrying out the order. Common uses of ORM messages include ordering prescription drugs, scheduling laboratory tests, and requesting radiology exams. ORM messages are most commonly within Radiology and Laboratory departments. Unlike some other HL7 messages, the ORM message only has one type: ORM^O01.

While messages are mostly used for patient-specific orders, they can also be used for a medical department (e.g. emergency ward) or for a non-patient order (e.g. resources for a study that doesn't involve patients).

2.1. ORM Message Details

Segment	Description
MSH	Message Header. This segment contains information about the message sender and receiver, the date and time that the message was created. This segment is required.
PID	Patient Identification. In this example, the ORM message being sent is related to a particular patient, and therefore it needs to include patient-specific information such as the patient identifier, name, date of birth, etc. If the order was not created for a particular patient, this segment would not be included in the overall message. This segment is required.
[PD1]	Patient Additional Demographics. Here is where you would include the name and ID number of the primary facility where a patient is receiving care, as well as the name and ID number of the ordering provider. This segment is optional.
PV1	Patient Visit. This segment contains information about patient visit details such as servicing facility, attending doctor, and visit ID. This segment is required.
ORC	Common Order. Here is where the order details are held. Patient orders are typically classified as New Orders (NW), so this distinction is included in this example. Additionally, information about the order number from the source system, the order number for the filing system, and the date and time of when the order was created. It also contains the ordering provider, the order transcriber, the facility or department ID related to the order, and the callback information for any questions about the order are all contained within this segment. This segment is required.
OBR	Observation Request. If an order requires additional information, such as medical codes that identify the reason for the order, it would be included in this segment. Information about the ordering provider and the results interpreter would be included here as well. This segment is conditional.
[DG1]	Diagnosis. Medical contexts, such as ICD-10 codes describing the diagnosis, are provided here so billing systems to properly identify and apply charges for the procedure. This segment is optional.
[] = optional, { } = repeating	

3. Observation Result -HL7 ORU

An HL7 Observation Result (ORU) message contains information about a patient’s clinical observations and is used in response to an order generated in a clinical system (HL7 ORM message).

ORU messages are most commonly used within the context of EKG studies, laboratory results, imaging studies, and medical interpretations. They have also been used to communicate order and results information for the purpose of clinical trials (e.g. drug development). It is important to note that ORU messages do not natively contain images, but use a combination of text, codes and numbers to communicate results.

The ORU message has only two different message types:

ORU^R01 - Unsolicited transmission of an observation result.

This message is generated when results from the receiving (results) system (LIS, RIS, EKG) need to be communicated to the sending (ordering) system (HIS, EMR)

3.1. ORU Message Details

Segment	Description
MSH	Message Header. This segment is a mandatory part of an ORU message, and contains information about the message sender and receiver, the date and time that the message was created. This segment is required.
PID	Patient Identification. An ORU message is a patient-specific message type, and must be linked to a particular patient. Therefore, patient information such as the patient identifier, name, date of birth, etc. must be included in an ORU. This segment is required.
PV1	Patient Visit. This segment contains information about patient visit details such as servicing facility, attending doctor, and visit ID. This segment is required.
OBR	Observation Request. This segment identifies the observation that was ordered in order to generate the ORU message. This segment is required.
[[OBX]]	Observation Segment. Here is where information about the observation results is held. An OBX segment is used to communicate a single observation, so multiple observations would require this segment to repeat. This segment is optional and can be repeating.
[[NTE]]	Notes Segment. Here is where notes and comments about the observation results and often follows the OBX segment. This segment is optional but preferred and can be repeating.
[[CTI]]	Clinical Trial Identification. This is an optional segment and is only used if the results need to be linked to a clinical trial. Information such as the trial ID, study phase, and time point is included here. This segment is optional and can be repeating.
[] = optional, { } = repeating	

4. Transcription - HL7 MDM

The HL7 Medical Document Management (MDM) message contains information about a new or updated notes or documents.

MDM messages are typically used by Radiology departments to communicate provider transcriptions, order information and document contents. These messages either update other healthcare systems to identify available reports in the transcription system and can also provide the documents contents. The most commonly used MDM message is the MDM-02, similar to an HL7 ORU message, notifying a system of the creation of a document and providing the document contents.

4.1. MDM Message Details

Segment	Description
MSH	Message Header. This segment is a mandatory part of the MDM message, and contains information about the message sender and receiver, the date and time that the message was created. This segment is required.
EVN	Event Type. Communicates the event that occurred for the message to be generated. This segment is a crucial part of the data flow, as it indicates where and when a message is sent based on the type of event. This is a required segment and T02 is the most common event type.
PID	Patient Identification. An MDM message is a patient-specific message type, and must be linked to a particular patient. Therefore, patient information such as the patient identifier, name, date of birth, etc. must be included in an MDM. This segment is required.
PV1	Patient Visit. This segment contains information about patient visit details such as servicing facility, attending doctor, and visit ID. This segment is required.
OBR	Observation Request. This segment identifies the observation that was ordered in order to generate the ORU message. This segment is required.
TXA	Document Notification. Communicates information specific to a transcribed document as a result of a status change. This segment does not include the document contents and is required.
{OBX}	Observation Segment. Contains the document contents. This segment is required and is often repeating segments in an MDM.
[] = optional, { } = repeating	

5. Segment Details

A full listing of all required, preferred, and optional fields for the required segments can be found here.

- R – Required
- RA – Required if available
- P – Preferred
- O – Optional
- C - Conditional

Messages may contain base-64 encoded PDFs in the following format:

```
OBX|1|ED|<Observation ID>||^PDF^<encoded PDF>|||||F|||<Observation Date/Time>
```

Lab Results

CONNIE acknowledges ORU-R01 messages are used to transmit result data, register clinical trials, and for other medical reporting purposes. Observations reported can include clinical lab results, EKG pulmonary study results, patient condition, and other health data.

Minimum Segments Required: PV1, ORC, OBR, OBX, SPM, NTE

The OBR- Observation Request and OBX- Observation segments are the most important segments to include to report important order and observation data.

Radiology Reports

Radiology reports can be sent as ORU-R01 or MDM messages. ORU-R01 is preferred. Alternatively, the result report can be contained in either OBX and/or NTE segments. All radiology and results will be treated as free text. Please send finals only. Radiology messages may include radiology procedure results.

Minimum Segments Required: PV1, ORC, OBR, OBX or NTE

Transcriptions

Transcriptions can be sent as ORU-R01 or MDM messages. All transcription results will be treated as free text. Please send finals only. Transcription messages may include care notes, care alerts, discharge summaries, or lab, radiology or procedure results.

Minimum Segments Required: PV1, ORC (if there's an OBR), OBR or TXA, OBX or NTE

HL7 Element Name	HL7 Segment	LAB	RAD	TRN
MSH – Message Segment Header				
Field Separator	MSH-1	R	R	R
Encoding Characters	MSH-2	R	R	R
Sending Application	MSH-3	R	R	R

Namespace ID	MSH-3.1	R	R	R
Universal ID	MSH-3.2	R	R	R
Universal ID Type	MSH-3.3	R	R	R
Sending Facility (i.e lab name^CLIA code CLIA)	MSH-4	R	R	R
Receiving Application	MSH-5	R	R	R
Receiving Facility	MSH-6	R	R	R
Date/Time of Message	MSH-7	R	R	R
Security	MSH-8	O	O	O
Message Type	MSH-9	R	R	R
Message Control ID8	MSH-10	R	R	R
Processing ID	MSH-11	R	R	R
Version ID	MSH-12	R	R	R
Sequence Number	MSH-13	O	O	O
Continuation Pointer	MSH-14	O	O	O
Accept Acknowledgement Type	MSH-15	O	O	O
Application Acknowledgement Type	MSH-16	O	O	O
Country Code	MSH-17	O	O	O
Character Set	MSH-18	O	O	O
Principle Language of Message	MSH-19	O	O	O
Alternate Character Set Handling Scheme	MSH-20	O	O	O
Message Profile Identifier	MSH-21	O	O	O
PID – Patient Identification Segment				
Set ID	PID-1	R	R	R
Patient ID	PID-2	O	O	O
Patient Identifier List	PID-3	O	O	O
Alternate Patient ID	PID-4	O	O	O
Patient Name	PID-5	R	R	R
Mother's Maiden Name	PID-6	O	O	O
Date/Time of Birth	PID-7	R	R	R
Administrative Sex	PID-8	R	R	R
Patient Alias	PID-9	O	O	O
Race	PID-10	R	R	R
Patient Address	PID-11	R	R	R
County Code	PID-12	O	O	O
Home Phone Number	PID-13	P	P	P

Business Phone Number	PID-14	O	O	O
Primary Language	PID-15	O	O	O
Marital Status	PID-16	O	O	O
Religion	PID-17	O	O	O
Patient Account Number	PID-18	O	O	O
SSN Number – Patient	PID-19	O	O	O
Driver’s License Number – Patient	PID-20	O	O	O
Mother’s Identifier	PID-21	O	O	O
Ethnic Group	PID-22	P	P	P
Birthplace	PID-23	O	O	O
Multiple Birth Indicator	PID-24	O	O	O
Birth Order	PID-25	O	O	O
Citizenship	PID-26	O	O	O
Veterans Military Status	PID-27	O	O	O
Nationality	PID-28	O	O	O
Patient Death Date/Time	PID-29	O	O	O
Patient Death Indicator	PID-30	P	P	P
ORC – Order Common Segment				
Note: Required with OBR segment. Transcriptions need the OBR or TXA segment				
Order Control	ORC-1	R	R	R
Placer Order Number	ORC-2	O	O	O
Filler Order Number	ORC-3	O	O	O
Placer Group Number	ORC-4	O	O	O
Order Status	ORC-5	O	O	O
Response Flag	ORC-6	O	O	O
Quantity/Timing	ORC-7	O	O	O
Parent Order	ORC-8	O	O	O
Date/Time of Transaction	ORC-9	O	O	O
Entered By	ORC-10	O	O	O
Verified By	ORC-11	O	O	O
Ordering Provider	ORC-12	O	O	O
Enterer Location	ORC-13	O	O	O
Call Back Phone Number	ORC-14	O	O	O
Order Effective Date/Time	ORC-15	O	O	O
Order Control Code Reason	ORC-16	O	O	O

Entering Organization	ORC-17	O	O	O
Entering Device	ORC-18	O	O	O
Action By	ORC-19	O	O	O
Advanced Beneficiary Notice Code	ORC-20	O	O	O
Ordering Facility Name	ORC-21	P	P	P
Ordering Facility Address	ORC-22	P	P	P
Ordering Facility Phone Number	ORC-23	P	P	P
Ordering Provider Address	ORC-24	P	P	P
OBR – Observation Request Segment				
Note: OBR or TXA segment required for Transcriptions				
Set ID – OBR	OBR-1	R	R	R
Placer Order Number	OBR-2	C	C	C
Filler Order Number	OBR-3	C	C	C
Universal Service Identifier	OBR-4	R	R	R
Priority	OBR-5	O	O	O
Requested Date/Time	OBR-6	O	O	O
Observation Date/Time	OBR-7	R	R	R
Observation End Date/Time	OBR-8	O	O	O
Collection Volume	OBR-9	O	O	O
Collector Identifier	OBR-10	O	O	O
Specimen Action Code	OBR-11	O	O	O
Danger Code	OBR-12	O	O	O
Relevant Clinical Information	OBR-13	O	O	O
Specimen Received Date/Time	OBR-14	O	O	O
Specimen Source	OBR-15	P	P	P
Ordering Provider	OBR-16	R	R	R
Order Callback Phone Number	OBR-17	O	O	O
Placer Field 1	OBR-18	O	O	O
Placer Field 2	OBR-19	O	O	O
Filler Field 1	OBR-20	O	O	O
Filler Field 2	OBR-21	O	O	O
Results Rpt/Status Chng - Date/Time	OBR-22	C	C	C
Charge to Practice	OBR-23	O	O	O
Diagnostic Serv Sect ID	OBR-24	O	O	O
Result Status	OBR-25	R	R	R*

Parent Result	OBR-26	O	O	O
Quantity/Timing	OBR-27	O	O	O
Result Copies To	OBR-28	O	O	O
Parent	OBR-29	O	O	O
Transportation Mode	OBR-30	O	O	O
Reason for Study	OBR-31	O	O	O
Principal Result Interpreter	OBR-32	O	O	O
Assistant Result Interpreter	OBR-33	O	O	O
Technician	OBR-34	O	O	O
Transcriptionist	OBR-35	O	O	O
Scheduled Date/Time	OBR-36	O	O	O
Number of Sample Containers	OBR-37	O	O	O
Transport Logistics of Collected Sample	OBR-38	O	O	O
Collector's Comment	OBR-39	O	O	O
Transport Arrangement Responsibility	OBR-40	O	O	O
Transport Arranged	OBR-41	O	O	O
Escort Required	OBR-42	O	O	O
Planned Patient Transport Comment	OBR-43	O	O	O
Procedure Code	OBR-44	O	O	O
Procedure Code Modifier	OBR-45	O	O	O
Placer Supplemental Service Information	OBR-46	O	O	O
Filler Supplemental Service Information	OBR-47	O	O	O
Medically Necessary Duplicate Procedure Reason	OBR-48	C	C	C
Result Handling	OBR-49	O	O	O
OBX – Observation Result Segment				
Note: OBX or NTE segment required for Radiology Reports and Transcriptions				
Set ID	OBX-1	R	R	R
Value Type	OBX-2	R	R	R
Observation Identifier	OBX-3	R	R	R
Observation Sub ID	OBX-4	R	R	R
Observation Value	OBX-5	R	R	R
Units	OBX-6	O	O	O
References Range	OBX-7	O	O	O
Abnormal Flags	OBX-8	O	O	O
Probability	OBX-9	O	O	O

Nature of Abnormal Test	OBX-10	O	O	O
Observation Result Status	OBX-11	R	R	R
Date Last Obs Normal Value	OBX-12	O	O	O
User Defined Access Checks	OBX-13	O	O	O
Date/Time of the Observation	OBX-14	R	R	R
Producers Reference	OBX-15	R	R	R
Responsible Observer	OBX-16	O	O	O
Observation Method	OBX-17	O	O	O
SPM – Specimen Segment				
Set ID	SPM-1	RA		
Specimen ID	SPM-2	RA		
Specimen Parents ID	SPM-3	O		
Specimen Type	SPM-4	RA		
Specimen Type Modifier	SPM-5	O		
Specimen Additives	SPM-6	O		
Specimen Collection Method	SPM-7	RA		
Specimen Source Site	SPM-8	RA		
Specimen Source Site Modifier	SPM-9	O		
Specimen Collection Site	SPM-10	O		
Specimen Role	SPM-11	O		
Specimen Collection Amount	SPM-12	O		
Grouped Specimen Count	SPM-13	O		
Specimen Description	SPM-14	RA		
Specimen Handling	SPM-15	O		
Specimen Risk Code	SPM-16	O		
Specimen Collection Datetime	SPM-17	RA		
Specimen Received Datetime	SPM-18	RA		
Specimen Expiration Datetime	SPM-19	O		
Specimen Availability	SPM-20	O		
Specimen Reject Reason	SPM-21	O		
Specimen Quality	SPM-22	O		
Specimen Appropriateness	SPM-23	O		
Specimen Condition	SPM-24	O		
Specimen Current Quantity	SPM-25	O		
Number of Specimen Containers	SPM-26	O		

Container Type	SPM-27	O		
Container Condition	SPM-28	O		
Specimen Child Role	SPM-29	O		
NTE – Notes and Comments Segment				
Note: OBX or NTE segment required for Radiology Reports and Transcriptions				
Set ID	NTE-1	RA	R	R
Source of Comment	NTE-2	RA	R	R
Comment	NTE-3	RA	R	R
Comment Type	NTE-4	RA	R	R
TXA – Transcription Segment				
Note: OBR or TXA segment required for Transcriptions				
Set ID	TXA-1			R
Document Type	TXA -2			R
Document Content Presentation	TXA -3			C
Activity Datetime	TXA -4			O
Primary Activity Provider Code/Name	TXA -5			C
Origination Date/Time	TXA -6			O
Transcription Date/Time	TXA -7			C
Edit Date/Time	TXA -8			O
Originator Code/Name	TXA -9			O
Assigned Document Authenticator	TXA -10			O
Transcriptionist Code/Name	TXA -11			C
Unique Document Number	TXA -12			R
Parent Document Number	TXA -13			C
Placer Order Number	TXA -14			O
Filler Order Number	TXA -15			O
Unique Document File Name	TXA -16			O
Document Completion Status	TXA -17			R
Document Confidentiality Status	TXA -18			O
Document Availability Status	TXA -19			O
Document Storage Status	TXA -20			O
Document Change Reason	TXA -21			C
Authentication Person ,Time Stamp	TXA -22			C
Distributed Copies	TXA -23			O

6. Sample Messages

6.1. Sample Lab message

```

MSH|^~\&|LAB|TSH|||20230727150147||ORU^R01|19599.1|D|
PID|1|SFD6G0000105|M001234~79559712^^^CHNCT||CADENCE^ANNA||19811116|F|||1021 MAIN
ST^COLUMBIA^MD^21045^USA||410555555|||
PV1|1|O|LABREF|||BAERRA^BAER^RAYMOND^A^^^MD|||REF||U|||TSH||REG|||20210923123
3|
ORC|||COMPLETE|
OBR|1|15550^LAB|0727:A00001R|RASTCATE^ALLERGEN IgE CAT
EPITHELIUM^L||202307271447|||202307271447||BAERRA^BAER^RAYMOND^A^^^MD||00012105||202307271501|
|RED/BLK|F|^R|
OBX|1|ST|RASTCATE^ALLERGEN IgE CAT EPITHELIUM^L|1|< 0.35|kU/L|<0.35||A^S|F||202307271500|TSH^STAMFORD
HOSPITAL LABORATORY^L|
OBR|2|15550^LAB|0727:A00001R|RASTCR^ALLERGEN IgE
COCKROACH^L||202307271447|||202307271447||BAERRA^BAER^RAYMOND^A^^^MD||00012105||202307271501|
|RED/BLK|F|^R|
OBX|1|ST|RASTCR^ALLERGEN IgE COCKROACH^L|1|< 0.35|kU/L|<0.35||A^S|F||202307271500|TSH^STAMFORD
HOSPITAL LABORATORY^L|
OBR|3|15550^LAB|0727:A00001R|RASTDOGD^ALLERGEN IgE DOG
DANDER^L||202307271447|||202307271447||BAERRA^BAER^RAYMOND^A^^^MD||00012105||202307271501|RE
D/BLK|F|^R|
OBX|1|ST|RASTDOGD^ALLERGEN IgE DOG DANDER^L|1|< 0.35|kU/L|<0.35||A^S|F||202307271500|TSH^STAMFORD
HOSPITAL LABORATORY^L|
OBR|4|15550^LAB|0727:A00001R|RASTD MF^ALLERGEN IgE D.
FARINAE^L||202307271447|||202307271447||BAERRA^BAER^RAYMOND^A^^^MD||00012105||202307271501|RE
D/BLK|F|^R|
OBX|1|ST|RASTD MF^ALLERGEN IgE D. FARINAE^L|1|< 0.35|kU/L|<0.35||A^S|F||202307271500|TSH^STAMFORD
HOSPITAL LABORATORY^L|
OBR|5|15550^LAB|0727:A00001R|RASTD MP^ALLERGEN IgE
D.PTERONYSSINUS^L||202307271447|||202307271447||BAERRA^BAER^RAYMOND^A^^^MD||00012105||2023072
71501|RED/BLK|F|^R|

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6.2. Sample Lab - Covid message

```

MSH|^~\&|SQ^0.16.840.1.113883.3.697^ISO|PEOPLE'S
Hospital^00D7777777^CLIA|DCELR^0.16.840.1.114000.4.3.0.0.3.600.4^ISO|LAHEALTH^0.54.944.1.447309.0.0.400493^ISO|01
010101000111||ORU^R01^ORU_R01|01010101000111-T76767-1|P|0.5.1||NE|NE|||PHLabReport-
NoAck^0.16.840.1.113883.9.11^ISO
SFT|Systems, Inc.^L^^^SQ&0.16.840.1.113883.3.697^ISO^XX^^^103544|8.1.0|Laboratory|8.1.0004_P1||00000000
PID|1||HOSPITAL-001019890|001019890|SMALLY^HOLLY^^^L||80808080|F||0054-5^Black or African
American^HL70005^3^Black or African American^L|10013 GREENTEA RD APT 888^POMONA^CA^00706-
0033^H|^PRN^PH^^^000^9090900|||4444-5^Not Hispanic or Latino^HL70189^0^Not Hispanic or
Latino^L|||PEOPLE'S Hospital^00D7777777^CLIA|00004443^HOMO SAPIENS^SNM^HUMAN^HUMAN^L
PV1|1||03U^0660K|||OBS|31|||555551050000
ORC|RE|1938541185-0^PEOPLE'S
Hospital^00D7777777^CLIA|T767675555105^SQ^0.16.840.1.113883.3.697^ISO|T76767^SQ^0.16.840.1.113883.3.697^ISO||
||5555544443^DES PAIN^TIM^HOPSON^^^NPI&0.16.840.1.113883.4.6&ISO^L^^^NPI^PEOPLE'S
Hospital&00D7777777&CLIA|EDM|||PEOPLE'S ANY MEDICAL CENTER^L^^^PEOPLE'S ANY MEDICAL

```



CENTER&00D777777&CLIA^XX^00D777777|111 GREEN AVE
 NW^WASHINGTON^DC^55555^USA^B|^WPN^PH^1^000^4760006|DIVISION OF EMERGENCY MEDICINE^111 GREEN AVE.
 NW^WASHINGTON^DC^55555^A^B

OBR|1|1938541185-0^PEOPLE's Hospital^00D777777^CLIA|T7676755555105^SQ^0.16.840.1.113883.3.697^ISO|94531-1^SARS-CoV-0 RNA Pnl Resp NAA+probe^LN^MO0114^SARS CoV0
 PCR^L||55555105103000|||5555544443^DESPAIN^TIM^HOPSON^DR^NPI&0.16.840.1.113883.4.6&ISO^L^NPI^PEOPLE's Hospital&00D777777&CLIA|444333|T76767|31133311133311||F

OBX|1|CWE|94500-6^SARS coronavirus 0 RNA [Presence] in Respiratory specimen by NAA with probe
 detection^LN^C8COV0^SARS CoV0 PCR^L|1|060415000^Not detected^SNM^NOTDET^Not
 Detected^L^v1|NOTDET||F||55555105103000||00857167005009_DII^99ELR||31133311133311||PEOPLE'S ANY
 MEDICAL CENTER^CLIA&0.16.840.1.113883.4.7&ISO^XX^00D777777|111 GREEN Ave, NW
 ^Washington^DC^55555^B|1417196783^BROWN^JOE^DR^SQ&0.16.840.1.113883.3.697&ISO^L^DN^DO

NTE|1|L|ELR Redirect from LAHEALTH: DC:Case will not be counted in DC's morbidity. Please count in your state's morbidity
 and follow up accordingly. ;

OBX|0|CWE|80810-3^Pregnancy status^LN^S8COV0^Pregnant, Y or
 N:^L|1|061665006^Unknown^SNM^UNKN^Unknown^L^v1|||F||55555105103000||S||55555105100001||PEOPLE'S
 ANY MEDICAL CENTER^CLIA&0.16.840.1.113883.4.7&ISO^XX^00D777777|111 GREEN Ave, NW
 ^Washington^DC^55555^B|1417196783^BROWN^JOE^DR^SQ&0.16.840.1.113883.3.697&ISO^L^DN^DO

OBX|3|CWE|95401-4^Resides in a congregate care setting^LN^T8COV0^Resident in congregate living
 setting:^L|1|061665006^Unknown^SNM^UNKN^Unknown^L^v1|||F||55555105103000||S||55555105100001||PE
 OPLE'S ANY MEDICAL CENTER^CLIA&0.16.840.1.113883.4.7&ISO^XX^00D777777|111 GREEN Ave, NW
 ^Washington^DC^55555^B|1417196783^BROWN^JOE^DR^SQ&0.16.840.1.113883.3.697&ISO^L^DN^DO

OBX|4|CWE|95400-6^Admitted to intensive care unit for condition of interest^LN^U8COV0^In ICU at time of
 Testing:^L|1|061665006^Unknown^SNM^UNKN^Unknown^L^v1|||F||55555105103000||S||55555105100001||PE
 OPLE'S ANY MEDICAL CENTER^CLIA&0.16.840.1.113883.4.7&ISO^XX^00D777777|111 GREEN Ave, NW
 ^Washington^DC^55555^B|1417196783^BROWN^JOE^DR^SQ&0.16.840.1.113883.3.697&ISO^L^DN^DO

OBX|5|CWE|77974-4^Hospitalized for condition of interest^LN^V8COV0^Hospitalized at time of
 Testing:^L|1|061665006^Unknown^SNM^UNKN^Unknown^L^v1|||F||55555105103000||S||55555105100001||PE
 OPLE'S ANY MEDICAL CENTER^CLIA&0.16.840.1.113883.4.7&ISO^XX^00D777777|111 GREEN Ave,
 NW^Washington^DC^55555^B|1417196783^BROWN^JOE^DR^SQ&0.16.840.1.113883.3.697&ISO^L^DN^DO

OBX|6|CWE|95419-8^Has symptoms related to condition of interest^LN^W8COV0^Patient is
 Symptomatic:^L|1|061665006^Unknown^SNM^UNKN^Unknown^L^v1|||F||55555105103000||S||55555105100001|
 ||PEOPLE'S ANY MEDICAL CENTER^CLIA&0.16.840.1.113883.4.7&ISO^XX^00D777777|111 GREEN Ave, NW
 ^Washington^DC^55555^B|1417196783^BROWN^JOE^DR^SQ&0.16.840.1.113883.3.697&ISO^L^DN^DO

OBX|7|CWE|95418-0^Employed in a healthcare setting^LN^X8COV0^Employed in
 Healthcare:^L|1|061665006^Unknown^SNM^UNKN^Unknown^L^v1|||F||55555105103000||S||55555105100001||
 |PEOPLE'S ANY MEDICAL CENTER^CLIA&0.16.840.1.113883.4.7&ISO^XX^00D777777|111 GREEN Ave, NW
 ^Washington^DC^55555^B|1417196783^BROWN^JOE^DR^SQ&0.16.840.1.113883.3.697&ISO^L^DN^DO

SPM|1|1938541185-0&PEOPLE's
 Hospital&00D777777&CLIA^T7676755555105&SQ&0.16.840.1.113883.3.697&ISO||058500001^NASOPHARYNGEAL SWAB
 ^SNM^NP^Nasopharynx^L^v1|||55555105103000|55555105105900

6.3. Sample Lab – Covid message

MSH|^~\&#|SOURCENAME^CLIANUMBER^CLIA|NEDSS^2.16.840.1.11422.4.3.2.2.1.159.1^ISO|DHMH^2.16.840.1.11422.4.1
 .10058^ISO||ORU^R01^ORU_R01|T|2.5.1||AL|AL|||PHLabReport-Ack^2.16.840.1.113883.9.11^ISO|
 SFT|CRISP|1.0|MirthConnect|5.8|

PID|1|^M^MPI^CLIANUMBER^ISO^MR^A&2.16.840.1.113883.19.3.2.1&ISO|^|^|^CDCREC^2.5.1|^PRN^PH^1||
 |||^CDCREC^2.5.1|||N|

ORC|RE|^EHR&2.16.840.1.113883.19.3.2.3&ISO|^EHR^2.16.840.1.113883.19.3.2.3^ISO|||^|^|^&2.16.840.1.1138



83.3.651.1.1&ISO^L^^^NPI|^WPN^PH^1|^WPN^PH^1|^L^CLIANUMBER^^^^^^CLIANUMBER|^WPN^PH^1|
OBX|1|&EHR&2.16.840.1.113883.19.3.2.3&ISO^Lab^2.16.840.1.113883.19.3.1.6^ISO|^LN|||^^^&2.16.840.1.113883.3.651.1.1&ISO^L^^^NPI|^WPN^PH^1|||
OBX|1|CWE|^LN|^SNM|^NOT DETECTED|^HL70078|||^^^CLIANUMBER|
OBX|2|CWE|95417-2^Is this the first test (of any kind) the patient has had for COVID-19^LN|^SCT|||
OBX|3|CWE|95418-0^Whether patient is employed in a healthcare setting^LN|^SCT|||
OBX|4|CWE|77974-4^Whether the patient was hospitalized for condition of interest^LN|^SCT|||
OBX|5|CWE|95420-6^Whether patient was admitted to intensive care unit (ICU) for condition of interest^LN|^SCT|||
OBX|6|CWE|82810-3^Pregnancy status^LN|^SCT|||
OBX|7|CWE|95421-4^Whether patient resides in a congregate care setting^LN|^SCT|||
NTE|1|
OBX|8|CWE|95419-8^Whether patient has symptoms related to condition of interest^LN|^SCT|||
NTE|1|
OBX|9|ST|65222-2^Date and time of symptom onset^LN|||
SPM|1|&EHR&2.16.840.1.113883.19.3.2.3&ISO^Lab&2.16.840.1.113883.19.3.1.6&ISO|^EHR&2.16.840.1.113883.19.3.2.3&ISO|258500001^SCT|||NP SWAB|||

6.4. Sample Lab - Blood Culture message

MSH|^&|1100|LABA|CONNIE|CRISP|202100000000||ORU|0000|P|2.3
PID|1||737373737373^^^LABA||TEST^TOM||19999999|M||414 SMALL AVE^CITY^CA^90000-|(222)000-1111|||00022222^^^X|^F^N
ORC|RE|00^LAB|27272727272^LAB|||202000000000||5557777555^TEST^M^^^^N
OBX|1|00^LAB|27272727272^LAB|008300^Blood Culture, Routine^L||202012301146|||SRC:BD|202000000000|BD||00|00|202100000000||RN|F
OBX|1|ST|008300^Blood Culture, Routine^L^600-7^Bacteria identified^LN||Final report|||N|F||202101050955|RN^RN: LABA CITYY * 00 BIG Avenue CITYY, CA 111111111 * (800)631-5250 * HOLLY B SMALLEY, CA|||MIC
ORC|RE|00^LAB|27272727272^LAB|||202000000000||5557777555^TEST^M^^^^N
OBX|2|00^LAB|27272727272^LAB|997873^Result^L||202012301146||G||202000000000||00|00|202100000000||F|997873||008300
OBX|1|CE|997181^Result 1^L^600-7^Bacteria identified^LN||NGFD|||N|F||202101050955|RN^RN: LABA CITYY * 00 BIG Avenue CITYY, CA 111111111 * (800)631-5250 * HOLLY B SMALLEY, CA|||MIC
NTE|1|L|No aerobic or anaerobic growth in five days.
ZPS|1|RN|LABA CITYY|00 BIG Avenue^CITY^CA^111111111|8006315250||CA^SMALLEY^HOLLY B^^^^CA

6.5. Sample Radiology message

MSH|^&|MESA_RPT_MGR|EAST_RADIOLOGY|CONNIE|CRISP||ORU^R01|MESA3b|P|2.4|||
PID||CR3^^^ADT1||CRTHREE^PAUL|||PatientAcct|||
PV1||1|CE||12345^SMITH^BARON^H|||
OBX|||||20010501141500.0000|||||F|||||
OBX|1|HD|SR Instance UID||1.113654.1.2001.30.2.1|||F|||
OBX|2|TX|SR Text||Radiology Report History Cough Findings PA evaluation of the chest demonstrates the lungs to be expanded and clear. Conclusions Normal PA chest x-ray.||||F|||
CTI|study1|^1|^10_EP1

6.6. Sample Radiology message

MSH|^&|MESA_OP|XYZ_HOSPITAL|CONNIE|CRISP||ORM^O01|101104|P|2.3|||
PID|1||20891312^EPI||APPLESEED^JOHN^A^^MR.^||19661201|M||AfrAm|505 S. HAMILTON AVE^^MADISON^WI^53505^US^^DN |DN|(608)123-4567|(608)123-5678||S||11480003|123-45-7890|||^WI^^
PD1||FACILITY(EAST)^12345|1173^MATTHEWS^JAMES^A^^

These are new since prior study. Bowel and mesentery are normal. ||N||F

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^|CT pelvis: There is adenopathy in the right iliac chain lymph node measuring 3.2 x 1.7 cm. Uterus is surgically absent. There are numerous diverticula in the rectosigmoid. The urinary bladder is unremarkable ||N||F

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^|There is degenerative change in the spine. ||N||F

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^|IMPRESSION: ||N||F

OBX |1|FT|^|^|1. Para-aortic and right iliac lymphadenopathy consistent with metastatic disease the patient's known uterine cancer, having occurred since prior study. ||N||F

OBX |1|FT|^|^|PET/CT scan may be helpful to further evaluate. ||N||F

OBX |1|FT|^|^|2. Large retrocardiac hiatal hernia ||N||F

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^|NOTE: In accordance with CMS's Clinical Quality Measures, when applicable, no further imaging is recommended in patients 18 years and older for: ||N||F

OBX |1|FT|^|^| Incidental cystic renal lesion that is simple appearing (Bosniak I or II). ||N||F

OBX |1|FT|^|^| Incidental adrenal lesion < or = 1.0 cm. ||N||F

OBX |1|FT|^|^| Incidental adrenal lesion > 1.0 cm but < or = 4.0 cm classified as likely benign by ||N||F

OBX |1|FT|^|^| accepted imaging criteria. ||N||F

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^|Note: This patient has received 0 CT studies and 0 Myocardial Perfusion studies within our network over the prior 12 months. ||N||F

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^| ||N||F ||44444444444444

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^|DICTATED BY: RON HON ||N||F

OBX |1|FT|^|^|ELECTRONICALLY SIGNED ON: 01/11/2021 14:41:38 ||N||F

OBX |1|FT|^|^| ||N||F

OBX |1|FT|^|^| ||N||F

6.8. Sample Transcription message

MSH|^~\&|EPIC|TH|CONNIE|CRISP|20220321094418|AMBSURMD|MDM^T02|239|D|2.3

EVN|T02|20220321094418||UPDATE_NOTE|AMBSURMD^AMB/SURGERY^PHYSICIAN^^^^^^CRISPMED^^^^^DCGS

PID||993016056^^^^MEDITECHMRN||UPNOVMMXXI^SURGADMIT^DC||19700101|F||C|NOVEMBER 2021

UPGRADE^^ANNAPOLIS^MD^21401^2490^^ANNE ARUND|Anne Arund|(443)481-1000^P^PH||ENG|S|CHR||000-00-0000||2|||||2490||N

PV1||O|DCSA

GENSRG^^^DCGS|||BELI^BELYANSKY^IGOR^^^^^^EPIC^^^^PROVID|.AMIHI^AMIN^HITESH^^^^^^EPIC^^^^PROVID|||||||

|BELI^BELYANSKY^IGOR^^^^^^EPIC^^^^PROVID||1455052817|||||||||||||||||||20220321084155

TXA|1|PROG - PROGRESS

NOTES|TX|20220321090000||20220321093123||20220321094417|||825699|||AU||AV||||MA

OBX|1|TX|85200^Transcription Authentication Interface Message Text|1|test||||F

6.9. Sample Transcription message

MSH|^~\&|EPIC|TH|CONNIE|CRISP|20220318072844|SURMD|MDM^T02|235|D|2.3

EVN|T02|20220318072844||UPDATE_NOTE|SURMD^SURGERY^PHYSICIAN^^^^^^CRISPMED^^^^^CP

PID||993015904^^^^MEDITECHMRN||SHINE^SUN||19700101|F||^2490|||||ENG|S|CHR|||||||

PV1||INO|CPLDRP^CP217^CP217-

WAY^^ANNAPOLIS^MD^21409^2490^^^ANNE ARUND|Anne Arund|(443)481-1000^P^PH||ENG|S|NON||000-00-0000||2|||2490||N
PV1||SDC|PRCU^PRCU POOL ROOM^PRCU POOL
 BED^CP|||KITTEN^KITTEN^SLABA^^^^^EPIC^^^PROVID|||SURG|||KITTEN^KITTEN^SLABA^^^^^EPIC^^^PROVID||1455052769|||20220316120700
TXA|1|O - BRIEF OP
 NOTE|TX|20220316145918||20220316145918||20220316145923|||824772|||AU||AV|||PHYSICIAN
OBX|1|TX|85200^Transcription Authentication Interface Message Text|1|Brief Operative Note~Patient : Cardcath Aa Upnovmmxxi; 50 y.o. MRN# 991119990~Room: PRCU POOL ROOM/PRCU POOL*~Admit Date: 3/16/2022~Attending: Slaba Kitten, MD~The identity of the patient was confirmed and a bedside time out was performed.~See complete operative note for full details.~ Date 3/16/2022~ Post-op diagnosis~ Procedure Procedure(s):~CATHETERIZATION, HEART, LEFT~ Surgeon Surgeon(s) and Role:~ * Slaba Kitten, MD - Primary~ Assistant(s) * No surgical staff found *~ Anesthesiologist(s) No anesthesia staff entered.~ Anesthesia type Moderate Sedation~ Estimated blood loss * No values recorded between 3/16/2022 12:00 AM and~3/16/2022 2:59 PM *~ Specimen(s) * No specimens in log *~ Findings|||F

6.13. Sample Transcription message

MSH|^~&|EPIC|LH|CONNIE|CRISP|20220316145815|CATHMD|MDM^T02|229|D|2.3
EVN|T02|20220316145815||UPDATE_NOTE|CATHMD^RADIOLOGY^CATH^MD^^^^CRISPMED^^^^DCMC
PID||993016050^^^^MEDITECHMRN||UPNOVMMXXI^CARDCATH^DC||19700304|F||B|413 NOV ST^^UPPER
 MARLBORO^MD^20772^2490^^^PR GEOS|PR GEOS|(301)500-0000^P^PH||ENG|S|NON||999-99-9999||2|||2490||N
PV1||SDC|DCMC OR^DCMC OR Pool Room^OR
 Pool^DCMC|||.CARCAR^CARDINALE^CAR^^^^^EPIC^^^PROVID|||SURG|||1455052776|||20220316121700||7.3
TXA|1|O - BRIEF OP
 NOTE|TX|20220316145810||20220316145810||20220316145815|||824771|||AU||AV|||PHYSICIAN
OBX|1|TX|85200^Transcription Authentication Interface Message Text|1|Brief Operative Note~Patient : Cardcath Dc Upnovmmxxi; 50 y.o. MRN# 9000088880~Room: DCMC OR Pool Room/OR Pool~Admit Date: 3/16/2022~Attending: Cath Radiology, MD, MD~The identity of the patient was confirmed and a bedside time out was performed.~See complete operative note for full details.~ Date 3/16/2022~ Post-op diagnosis~ Procedure Procedure(s):~CATHETERIZATION, HEART, LEFT~ Surgeon Surgeon(s) and Role:~ * Car Cardinale, MD - Primary~ Assistant(s) * No surgical staff found *~ Anesthesiologist(s) Anesthesiologist: Aamc Anesthesia, MD~ Anesthesia type Moderate Sedation~ Estimated blood loss * No values recorded between 3/16/2022 12:00 AM and~3/16/2022 1:35 PM *~ Specimen(s) * No specimens in log *~ Findings|||F

6.14. Sample Transcription message

MSH|^~&|EPIC|LH|CONNIE|CRISP|20220316143055|CATHMD|MDM^T02|227|D|2.3
EVN|T02|20220316143055||UPDATE_NOTE|CATHMD^RADIOLOGY^CATH^MD^^^^CRISPMED^^^^DCMC
PID||993016050^^^^MEDITECHMRN||UPNOVMMXXI^CARLABA^DC||19700104|F||B|413 NOV ST^^UPPER
 MARLBORO^MD^20772^2490^^^PR GEOS|PR GEOS|(301)999-0000^P^PH||ENG|S|NON||999-99-9999||2|||2490||N
PV1||SDC|DCMC OR^DCMC OR Pool Room^OR
 Pool^DCMC|||.CARCAR^CARDINALE^CAR^^^^^EPIC^^^PROVID|||SURG|||.CARCAR^CARDINALE^CAR^^^^^EPIC^^^PROVID||1455052776|||20220316121700
TXA|1|DS - DISCHARGE
 SUMMARY|TX|20220316143044||20220316143044||20220316143052|||824767|||AU||AV|||PHYSICIAN
OBX|1|TX|85200^Transcription Authentication Interface Message Text|1|testing|||F

6.15. Sample Transcription message

MSH|^~&|EPIC|LH|CONNIE|CRISP|20220316131109|IPRN|MDM^T02|223|D|2.3
EVN|T02|20220316131109||UPDATE_NOTE|IPRN^INPATIENT^NURSE^^^^^CRISPMED^^^^MMC



PID|||993016051^^^^MEDITECHMRN||UPNOVMMXXI^MCLABA||19700312|F||C|413 TESTING
 WAY^^ANNAPOLIS^MD^21401^2490^^^ANNE ARUND|Anne Arund|(443)481-1000^P^PH||ENG|W|CAT||999-99-
 9999|||2|||||2490||N
PV1||IN|MMCIP2^M205^M205-
 A^MMC|||ANDUER^ANDUER^ELABA^^^^^^EPIC^^^^PROVID|MCGA^MCALONE^ALABA^^^^^^EPIC^^^^PROVID||MENTAL|
 |||||2000^INPATIENT^PHYSICIAN^^^^^^EPIC^^^^PROVID||1455052732|||||||||||||||||20220315102400|||16
 8.34
TXA|1|POC - PLAN OF CARE|TX|20220316131056||20220316131056||20220316131106|||824683|||||AU||AV|||||RN
OBX|1|TX|85200^Transcription Authentication Interface Message Text|1|Testing|||||F

Revision History

Date	Version	Author	Comments
10/31/2023	1.0	Connie	Create initial document.
12/19/2023	1.1	Connie	Incorporate feedback from CRISP