# Orders Technical Implementation Guide

# 1. Table of Contents

| 1.                | Introduction and Overview                            | 4    |
|-------------------|--|------|
| 2.                | How the Messages Flow                                | 5    |
| <i>3.</i>         | Cloverleaf® Secure Courier (CSC) Client Requirements | 6    |
| 3.1               | . Introduction                                       | 6    |
| 3.2               | . How CSC Works                                      | 6    |
| 4.                | Master Orderable Catalog Upload                      | 7    |
| 4.1               | . File Format  | 7    |
| 4.2               | . Field Descriptions and Requirements                | 7    |
| 5.                | Asked at Order Entry (AOE) Upload                    | 8    |
| 5.1               |  |      |
| 5.2               | . AOE in Orders Workflow                             | 8    |
| 6.                | Network Identity Management (Real-time ADT Feed)     | 9    |
| 6.1               |  |      |
| 6.2               | . ADT Message Types                                  | 9    |
| <i>7</i> .        | Patient Registration Workflow                        |      |
| 7.1               |  |      |
| 7.2               | . HIS Requirements                                   | 10   |
| 8.                | Pending Admit Message (A14) from ABC Company to HIS  |      |
| 8.1               |  |      |
| 8.2               | ·  |      |
| 8.3               | •  |      |
| 9.                | ORM from ABC Company to Order Receiving System       |      |
| 9.1               |  | 13   |
| 9.2               | . Example ORM Messages                               | 14   |
|                   | 0.2.1. HL7 Version                                   |      |
|                   | 1.2.2. Imaging Type Order                            |      |
| 9.3               | • •  |      |
| 9.4               |  |      |
| 10.               | Inbound ORM Status Update from LIS / RIS             |      |
| <i>10.</i><br>10. |  |      |
| 10.               |  |      |
|                   |  |      |
| 11.               | Quick Start Guide                                    | . 33 |

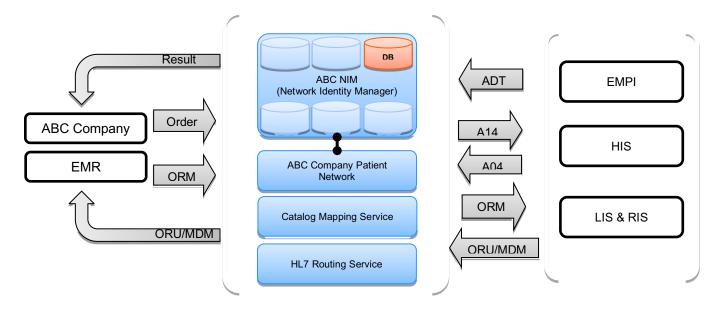
| ORD 1.1 – Creating a Connected Order              | 34        |
|---|-----------|
| ORD 1.2 – Orderable Favorites List                | 38        |
| ORD 1.3 – Review Orders Status                    | 43        |
| ORD 1.4 – Navigating Orders Registration Manager  | 46        |
| ORD 1.5 – Understanding Order States              | 47        |
| ORD 1.6 – Matching Patients and Processing Orders | 49        |
| ORD 1.7 – Printing Individual or Batch Orders     | 55        |
| Appendix A: Connected Orders FAQs                 | <i>57</i> |

# 1. Introduction and Overview

This document provides detailed technical implementation information for Hospitals and Health Systems deploying ABC Company's Connected Orders service. It also serves as a reference guide to assist Hospitals and Health Systems in evaluating the Connected Orders service prior to purchase. This document specifies installation and configuration requirements, HL7 message flows, and detailed field-level requirements. Where these requirements and a hospital's or health system's capabilities do not match, ABC Company Professional Services should be contact for further options.

# 2. How the Messages Flow

The following diagram illustrates Connected Orders service, consisting of the elements detailed below.



- ABC Company maintains a mirror of a partner's patient population via a real-time ADT feed from the partner's eMPI and HIS.
- ABC Company maintains a Master Orderable Catalog to which partner lab and radiology catalogs are mapped.
- Ordering physicians can create an electronic order in ABC Company and receive the corresponding result in ABC Company's Result Manager
- Connected Orders can also be supported with an EMR. Details of this functionality are available separately.
- ABC Company can request an account number for a known patient or a new patient record and account number, when necessary, from the HIS via an exchange of A14 (pending admit) and A04 (register patient) HL7 messages.
- ABC Company sends orders and accepts order status update messages from a Health System's order receiving facilities.

# 3. Cloverleaf® Secure Courier (CSC) Client Requirements

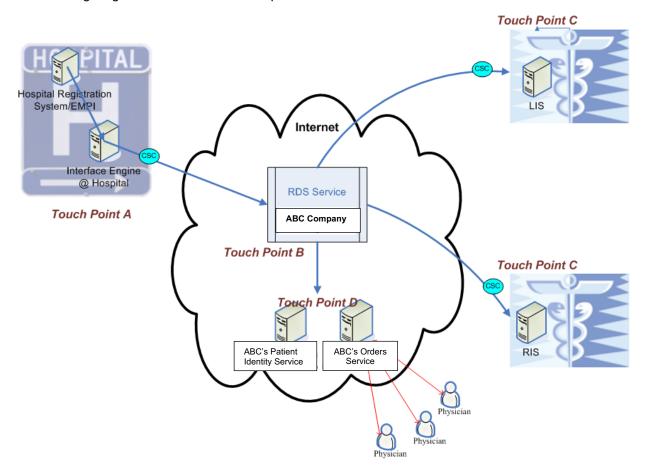
### 3.1. Introduction

For connectivity purposes, ABC Company requires partners to install CSC Client to send and receive messages for the Connected Orders service. This section contains information about the Cloverleaf® Secure Courier (CSC) Client product.

CSC Client is a Health Vision Product to allow connectivity between enterprises via the Internet. It is a non-intrusive, and cost-effective way for real-time secure exchange of electronic clinical information (i.e., laboratory and radiology orders) with ABC Company's CSC Server. It offers ongoing monitoring and maintenance of each connection.

### 3.2. How CSC Works

The following diagram indicates CSC touch points:



# 4. Master Orderable Catalog Upload

ABC Company will maintain a Master Orderable Catalog, which will be used at the time of creating orders. External systems or receiving facilities may not understand ABC Company orderable. Therefore, in order to send orders, a partner specific catalog must be mapped to ABC Company's master catalog. Partner-specific orderable will be used on outbound orders. In the absence of partner-specific orderable, ABC Company Master Catalog will be used on the outbound orders. ABC Company will maintain the mappings. If there are additional orderable to be added or updated, partner must provide an updated file. ABC Company also supports incremental updates and will maintain a history of all catalog uploads.

### 4.1. File Format

Partner will need to provide ABC Company with lab and radiology orderable in Microsoft Excel format. ABC Company can provide an Excel file template to be populated (sample below). Up to 5000 orderable can be uploaded per file.

| ABC<br>Company<br>Orderable<br>Identifier | ABC<br>Company<br>Orderable<br>Name | Partner<br>Orderable<br>Name | Partner<br>Orderable<br>Identifier | Laterality | AOE<br>Script<br>Name | Specimen<br>Container<br>Instruction | Specimen<br>Storage<br>Instruction | IsDeleted |
|---|-------------------------------------|------------------------------|------------------------------------|------------|-----------------------|--------------------------------------|------------------------------------|-----------|
|   |                                     |                              |                                    |            |                       |                                      |                                    |           |
|   |                                     |                              |                                    |            |                       |                                      |                                    |           |
|   |                                     |                              |                                    |            |                       |                                      |                                    |           |
|   |                                     |                              |                                    |            |                       |                                      |                                    |           |
|   |                                     |                              |                                    |            |                       |                                      |                                    |           |

# 4.2. Field Descriptions and Requirements

| Field Name                                | Description   | Comments   | Max<br>Length | Is Required?  |
|---|---|--|---------------|---|
| ABC<br>Company<br>Orderable<br>Identifier | ABC Company Master<br>Catalog identifier                                | ABC Company will complete this information   |               | Yes Partner does not need to provide this information |
| ABC<br>Company<br>Orderable<br>Name       | ABC Company Master<br>Catalog name                                      | ABC Company will fill this information   |               | Yes Partner does not need to provide this information |
| Partner<br>Orderable<br>Name              | Partner Orderable/Catalog name  | Will be used in the outbound orders  | 255           | Yes   |
| ABC<br>Company<br>Orderable<br>Identifier | Partner Orderable/Catalog identifier                                    | Will be used in the outbound orders  | 50            | Yes   |
| Laterality                                | Laterality  | Possible values are:<br>1-Left, 2-Right, 3-Bilateral                                 |               | No  |
| AOE Script<br>Name                        | At order entry, name of the AOE to be asked at the time order creation. | Before uploading this file, AOE script must be uploaded into the ABC Company system. | 40            | No  |
| Specimen<br>Storage                       | Specimen Storage Instruction  | Instruction for the ordering provider regarding the specimen                         | 255           | No  |

# 5. Asked at Order Entry (AOE) Upload

Certain orderable require additional information to be captured and communicated to the lab. The Partner Orderable Catalog will indicate if an orderable requires additional information. If an orderable requires additional information, the Partner Orderable Catalog will indicate which questionnaire to expose to the user. These questionnaires are referred to as "Asked at Order Entry" (AOE) questions. Each lab's AOE for a given orderable may vary and this must be accounted for in the database. This section describes the known AOE questionnaires, and how they manifest themselves in the UI.

### 5.1. Known AOEs

There are nine known AOEs at this time:

1. Amniotic Fluid AFP (code: AFAFP)

2. Fasting Flag (code: FASTIN)

3. Blood Lead (code: LCMBLD)

4. Maternal Screen Only (code: MSONLY)

5. Maternal Screen with NT (code: MSSNT)

6. GYN Cytology (code: PAP)

7. Serum Integrated AFP (code: SERIN)

8. Source (code: SOURCE)

9. Total Volume (code: TOTVOL

Please refer to the *Appendix A* in this document for field descriptions and segment requirements of the nine pre-populated AOEs. Additionally, Appendix A includes a sample template for a new AOE.

#### 5.2. AOE in Orders Workflow

Once an orderable is added to an order AND a facility has been chosen, the system will check to see if there is an associated AOE. If there is an AOE, user will be asked to answer the questions. The response will be sent as part of the outbound orders based on the AOE.

# 6. Network Identity Management (Real-time ADT Feed)

### 6.1. Introduction

ABC Company's Connected Orders service allows providers to send lab and/or radiology procedures to a hospital system for order/result processing. As a processing system typically requires than an inbound ORM include a account/visit number before it can be processed, ABC Company has configured a workflow of standard HL7 messages that triggers an account number be created by a hospital system's HIS and returned to ABC Company for inclusion in the ORM message.

In order to facilitate accurate patient identity matching, ABC Company will be maintaining a mirror of a partner's patient population, stored in our Network Identity Management solution, powered by Initiate. This patient population will be kept current by real-time ADT feeds from a partner's eMPI (where applicable) and HIS systems. A partner must enable a real-time ADT feed from all applicable systems.

### 6.2. ADT Message Types

The list below details which ADT message types are required and what action they will have on the Network Identity Management solution.

| Message Type | Message Description  | Action                  |
|--------------|--|-------------------------|
| ADT^A01      | ADMIT/VISIT NOTIFICATION (EVENT A01)                           | Add/Update              |
| ADT^A03      | DISCHARGE/END VISIT (EVENT A03)                                | Add/Update              |
| ADT^A04      | REGISTER A PATIENT (EVENT A04)                                 | Add/Update              |
| ADT^A05      | PRE-ADMIT A PATIENT (EVENT A05)                                | Add/Update              |
| ADT^A08      | UPDATE PATIENT INFORMATION (EVENT A08)                         | Add/Update Demographics |
| ADT^A11      | CANCEL ADMIT / VISIT NOTIFICATION (EVENT A11)                  | Add/Update              |
| ADT^A13      | CANCEL DISCHARGE / END VISIT (EVENT A13)                       | Add/Update              |
| ADT^A14      | PENDING ADMIT (EVENT A14)                                      | Add/Update              |
| ADT^A23      | DELETE A PATIENT RECORD (EVENT A23)                            | Add/Update              |
| ADT^A24      | LINK PATIENT INFORMATION (EVENT A24)                           | Link                    |
| ADT^A27      | CANCEL PENDING ADMIT (EVENT A27)                               | Add/Update              |
| ADT^A28      | ADD PERSON OR PATIENT INFORMATION (EVENT A28)                  | Add/Update Demographics |
| ADT^A29      | DELETE PERSON INFORMATION (EVENT A29)                          | Delete                  |
| ADT^A30      | MERGE PERSON INFORMATION (EVENT A30)                           | Merge                   |
| ADT^A31      | UPDATE PERSON INFORMATION (EVENT A31)                          | Add/Update Demographics |
| ADT^A37      | UNLINK PATIENT INFORMATION (EVENT A37)                         | Unlink                  |
| ADT^A38      | CANCEL PRE-ADMIT (EVENT A38)                                   | Add/Update              |
| ADT^A40      | MERGE PATIENT - PATIENT IDENTIFIER LIST (EVENT A40)            | Merge                   |
| ADT^A41      | MERGE ACCOUNT - PATIENT ACCOUNT NUMBER (EVENT A41)             | Merge                   |
| ADT^A42      | MERGE VISIT - VISIT NUMBER (EVENT A42)                         | Merge                   |
| ADT^A43      | MOVE PATIENT INFORMATION - PATIENT IDENTIFIER LIST (EVENT A43) | Move                    |
| ADT^A44      | MOVE ACCOUNT INFORMATION - PATIENT ACCOUNT NUMBER (EVENT A44)  | Move                    |
| ADT^A45      | MOVE VISIT INFORMATION - VISIT NUMBER (EVENT A45)              | Move                    |
| ADT^A47      | CHANGE PATIENT IDENTIFIER LIST (EVENT A47)                     | Add/Update              |
| ADT^A49      | CHANGE PATIENT ACCOUNT NUMBER (EVENT A49)                      | Add/Update              |
| ADT^A50      | CHANGE VISIT NUMBER (EVENT A50)                                | Add/Update              |
| ADT^A51      | CHANGE ALTERNATE VISIT ID (EVENT A51)                          | Add/Update              |

# 7. Patient Registration Workflow

### 7.1. Introduction

This section describes the ability in real-time to automatically perform either an outpatient registration or pre-admit in a partner's HIS system, which allows an LIS/RIS to process orders (General Order Message: ORM) received from ABC Company (ABC).

In this environment, the health system organization has partnered with ABC Company to allow affiliated providers to send lab and/or radiology procedures to the hospital system for order/result processing. Patient registration does not occur in the HIS and the first time the HIS may be aware of the patient is upon receipt of the inbound A14 message. Typically for orders, the processing system requires that the account/visit number is received on the inbound ORM before it can be processed. The patient must be registered in the HIS and have an active account number.

### 7.2. HIS Requirements

The HIS requirements are as follows:

- 1. HIS will add a parameter in the Patient Type to activate real-time Auto Promote for the sending application, ABC Company in this case.
- 2. HIS will receive the A14 pending admission message from ABC Company via the HL7 v2.5 interface and will auto promote the admission based on the expected admit date, time, and patient type. If an Enterprise Patient Identifier is required, it will request an identifier from that system or route the A14 to the EMPI for the Master Patient identifier first, then the HIS.
- 3. HIS will perform a pre-admission when the expected admit date/time is in the future or register the patient when the expected admit date/time is current date.
- 4. HIS will generate a "Register Patient" (A04) or "Pre-Admit Patient" (A05) message and send the message outbound to ABC Company containing ABC Company's temporary account in PV1.50, which is the correlation identifier.
- 5. Lab and/or radiology systems will receive and process inbound orders from ABC Company in the ORM message once the HIS account number is sent.

# 8. Pending Admit Message (A14) from ABC Company to HIS

### 8.1. Description

The HIS will be receiving an inbound A14 HL7 v2.5 from ABC Company with a Patient Type in PV1.18 and expected admit date/time in PV2.8. In addition, a correlation identifier will be valued in PV1.50, which is to be resent in the outbound A04 or A05. The A14 accomplishes two tasks: 1) create patient identifiers, if necessary and 2) create an account number that can be used in the ORM message.

ABC Company will initially perform a lookup of the patient in the Network Identity Management (NIM) service. If a match is found, it will use the person identifier as well as its corresponding patient identifiers in the A14. These identifiers are kept up to date in real time with the partner through backend processing via ADT messages. If no match is found, it is the responsibility of the HIS to create new patient identifiers and to create and link to an Enterprise Master Patient Index (EMPI), if an MPI system is present.

The HIS will define a unique patient type to use for the Realtime Auto Promote sequence. More than one patient type may be defined based on user preferences. If the admit date/time is for the current date, the HIS will perform Realtime Auto Promote, register the patient, and assign an account number. When the expected admit date/time is in the future, the HIS will process a pre-admission.

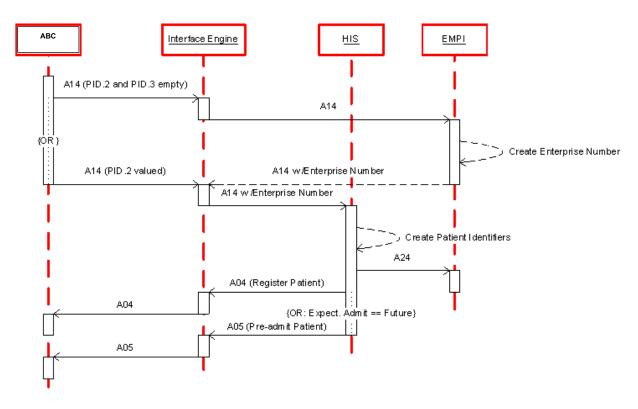


Figure 1: Creation of Identifiers

### 8.2. Requirements A14 – Pending Admit

ADT^A14 ADT Message

| Segment   | Name                              | Required |
|-----------|-----------------------------------|----------|
| MSH       | Message Header                    | Υ        |
| [{SFT}]   | Software Segment                  |          |
| EVN       | Event Type                        | Υ        |
| PID       | Patient Identification            | Υ        |
| [PD1]     | Additional Demographics           |          |
| [{ ROL }] | Role                              |          |
| [{ NK1 }] | Next of Kin / Associated Parties  |          |
| PV1       | Patient Visit                     | Υ        |
| [ PV2 ]   | Patient Visit - Additional Info.  | Υ        |
| [{ROL}]   | Role                              |          |
| [{ DB1 }] | Disability Information            |          |
| [{ OBX }] | Observation/Result                |          |
| [{ AL1 }] | Allergy Information               |          |
| [{ DG1 }] | Diagnosis Information             |          |
| [DRG]     | Diagnosis Related Group           |          |
| [{        | PROCEDURE begin                   |          |
| PR1       | Procedures                        |          |
| [{ ROL }] | Role                              |          |
| }]        | PROCEDURE end                     |          |
| [{ GT1 }] | Guarantor                         |          |
| [{        | INSURANCE begin                   |          |
| IN1       | Insurance                         |          |
| [ IN2 ]   | Insurance Additional Info.        |          |
| [{ IN3 }] | Insurance Additional Info - Cert. |          |
| [{ ROL }] | Role                              |          |
| }]        | INSURANCE end                     |          |
| [ACC]     | Accident Information              |          |
| [ UB1 ]   | Universal Bill Information        |          |
| [ UB2 ]   | Universal Bill 92 Information     |          |

# 8.3. Sample A14 from ABC Company

MSH|^~\&|ABC|A|ST7|A|20090727174000||ADT^A14|5279|P|2.2 EVN|A14|20090727174000

The A14 pending admit message will contain the following segments: MSH, EVN, PID, PV1, PV2.

No guarantor information (GT1) will be sent in the A14 message.

No insurance information (IN1) will be sent in the A14 message.

Standard HL7 interface error processing will occur.

The following fields should be verified in the HL7.

# 9. ORM from ABC Company to Order Receiving System

#### 9.1. Transmission

All orders that are delivered to a receiving facility are grouped by PlacerGroupNumber and orderable type. The number of ORM messages created is dependent on a configurable value "MaxOrdersPerGroup" that is specified by the partner receiving the ORM message. This value controls the maximum number of orders that can be grouped in one ORM message. If the value specified is 1 an order group with 3 orders will be generated in 3 different ORM message.

#### **Example 1:** MaxOrdersPerGroup = 5

#### Order Entry

- Lipid Panel (Laboratory type) Facility A
- Complete Blood Count (Laboratory type) Facility A
- Chest CT (Imaging type) Facility A

#### Orders Registration Manager

- > Two order groups will be available to Facility A even the orders are submitted in one order entry.
- ➤ Laboratory types are grouped together, and Imaging type is on another order group.

#### Transmission

One ORM message with details for Lipid Panel & Complete Blood Count order is transmitted and one ORM message with details for Chest CT order is also transmitted.

#### Example 2: MaxOrdersPerGroup = 1

#### Order Entry

- Lipid Panel (Laboratory type) Facility A
- Complete Blood Count (Laboratory type) Facility A
- Chest CT (Imaging type) Facility A

#### Orders Registration Manager

- > Two order groups will be available to Facility A even the orders are submitted in one order entry.
- Laboratory types are grouped together, and Imaging type is on another order group.

#### Transmission

- One ORM message with details for Lipid Panel order is transmitted, one ORM message with details for Complete Blood Count order is transmitted, and one ORM message with details for Chest CT order is also transmitted.
- > Three different ORM message are generated for one order entry.

### 9.2. Example ORM Messages

#### 9.2.1. HL7 Version

The HL7 version where ORM messages are delivered is 2.5. Partner that expects different version of HL7 to be delivered should coordinate with the ABC Company's Professional Services department for the ORM messages to be delivered on a specific HL7 version format.

### 9.2.2. Imaging Type Order

#### Single order ORM

MSH|^~\&|SAP|ABC COMPANY|MRM|FACX|20090928121843||ORM^O01|11853|D|2.5

PID|1|ABC60007^^^PASSPORT^HNE^FACX|ABC60007^^^ST1^MR^FACX~ABC60007^^^PASS PORT^HNE^FACX||OUTPATIENT1^TOM||19630325|F|||IGLOO 100^^NORTH POLE^KY^45833||(419) 555-9876^PRN^PH|||M^MARRIED||ABC60007

ORC|NW|431A07455111853^ABC||78D9294397A7496|||||20090928121843|31232^SMITH^JOH N||31232^SMITH^JOHN|FACX|7928378378^PRN^PH||""|^SPARTANBURG REGIONAL HEALTH SYSTEM|||4|MRM^^^^^^FACX|||GOLF ROAD^^CHICAGO^IL^60610||

OBR|1|431A07455111853^ABC||2091^CHEST CT - LEFT|ROUTINE|||||||0||SEND WITH CC PROVIDER||LEFT|31232^SMITH^JOHN||7928378378^PRN^PH|||||||||||^^^^ROUTINE|31232^SMITH^JOHN||||||||20090928121800

DG1|1||9|121.6^^ICD9

#### **Multiple order ORM**

MSH|^~\&|8500|ABC COMPANY|SWIVEL|8880|20091002142247||ORM^O01|12496|D|2.5

PID|1|HNE02^^^PASSPORT^HNE^8880|8880^MGHS^^5D849584-263F-487B-897C-1CAC8A5B9BE3^^^ABC

COMPANY^EX~MRN02^^^ST1^MR^8880~HNE02^^^PASSPORT^HNE^8880||SWIVEL^PT||19870101|M|||^^^60610||(934) 032-9432^PRN^PH||U^UNKNOWN||ACC02

ORC|NW|614C301CCF12496^ABC||6727114D6117903|||||20091002142247|MDSWIVEL^SWIVEL^MEDICAL||MDSWIVEL^SWIVEL^MEDICAL||8880|7738882872^PRN^PH||""|SWIVEL^SWIVEL CHAIR FLOW|||4|SWIVEL CHAIR PRACITCE^^^^^^^^8880|SWIVEL CHAIR PRACTICE ADDRESS^^CHICAGO^IL|7928887772^PRN^PH|ROLL ROAD^^CHIAGO^IL^60610||

OBR|1|614C301CCF12496^ABC||SWIVEL 21^ULTRASOUND PELVIC SCAN - SWIVEL|ROUTINE||||||O||||BILATERAL|MDSWIVEL^SWIVEL^MEDICAL|7738882872^PRN^PH||| |||||||^^^^ROUTINE||||121.3^FASCIOLIASIS^ICD9|||||20091002142200

DG1|1|I9|121.3^FASCIOLIASIS^ICD9

ORC|NW|A836B2A6D412497^ABC||6727114D6117903||||20091002142247|MDSWIVEL^SWIVEL^MEDICAL||MDSWIVEL^SWIVEL^MEDICAL||8880|7738882872^PRN^PH||""|SWIVEL^SWIVEL CHAIR FLOW|||4|SWIVEL CHAIR PRACITCE^^^^^^^8880|SWIVEL CHAIR PRACTICE ADDRESS^^CHICAGO^IL|7928887772^PRN^PH|ROLL ROAD^^CHIAGO^IL^60610||

OBR|2|A836B2A6D412497^ABC||SWIVEL 17^HEAD CT - SWIVEL|ROUTINE||||||O||||LEFT|MDSWIVEL^SWIVEL^MEDICAL|7738882872^PRN^PH|||||||||^^ ^^ROUTINE||||121.4^FASCIOLOPSIASIS^ICD9|||||20091002142200

DG1|2|I9|121.4^FASCIOLOPSIASIS^ICD9

### 9.2.3. Laboratory Type Order

Single order ORM

MSH|^~\&|SAP|ABC COMPANY|HLAB|ABC COMPANY|20090930102705||ORM^O01|12371|D|2.5

PID|1|P12312312^^^PASSPORT^HNE^ABC COMPANY|P12312312^^^ABC COMPANY^EX~P12312312^^^ST1^MR^ABC COMPANY~P12312312^^^PASSPORT^HNE^ABC COMPANY||SMITH^JASON||19850820|M|||^^^60610||(383) 947-3289^PRN^PH|||S^SINGLE||E231231231

ORC|NW|A0FB409F4612371^ABC||0570B97F16E7809|||||20090930102705|32^ADAIR^FRANK|| 32^ADAIR^FRANK|ABC COMPANY|7034092889^PRN^PH||""|^SPARTANBURG REGIONAL HEALTH SYSTEM|||4|HLAB^^^^^^ABC COMPANY|165 MARKET ST.^^SAN FRANCISCO^CA|415-963-9988^PRN^PH|GOLF ROAD^^CHCIAGO^IL^60610||

OBR|1|A0FB409F4612371^ABC||4500^CULTURE, URINE|STAT||20090930130000||||O||NANCY TEST2||L. KIDNEY FLUID&L. KIDNEY

FLUID|32^ADAIR^FRANK|7034092889^PRN^PH||||||||||^^^20090930130000^^STAT|15010^ABB EY^ELLIOT~5234^MAUTZ^JENNIFER|||234.8^CA IN SITU NEC^ICD9|||||20090930102700

DG1|1|I9|234.8^CA IN SITU NEC^ICD9

#### **Multiple order ORM**

MSH|^~\&|8500|ABC COMPANY|SWIVEL|8880|20091002141706||ORM^O01|12492|D|2.5

PID|1|HNE02^^^PASSPORT^HNE^8880|8880^MGHS^^5D849584-263F-487B-897C-1CAC8A5B9BE3^^^ABC

COMPANY^EX~MRN02^^^ST1^MR^8880~HNE02^^^PASSPORT^HNE^8880||SWIVEL^PT||19870101|M|||^^^60610||(934) 032-9432^PRN^PH||U^UNKNOWN||ACC02

ORC|NW|A47FD69F4F12492^ABC||6EE7F83A4657900|||||20091002141706|MDSWIVEL^SWIVEL^MEDICAL||MDSWIVEL^SWIVEL^MEDICAL|8880|7738882872^PRN^PH||""|SWIVEL^SWIVEL CHAIR FLOW|||4|SWIVEL CHAIR PRACTICE ADDRESS^^CHICAGO^IL|7928887772^PRN^PH|ROLL ROAD^^CHIAGO^IL^60610||

OBR|1|A47FD69F4F12492^ABC||SWIVEL 2^CBC WITH DIFF - SWIVEL|ROUTINE|||||O|||||MDSWIVEL^SWIVEL^MEDICAL|7738882872^PRN^PH||||||||||^^^^^^ OUTINE||||123.9^CESTODE INFECTION NOS^ICD9||||20091002141700

DG1|1|19|123.9^CESTODE INFECTION NOS^ICD9

ORC|NW|F3D646531412493^ABC||6EE7F83A4657900||||20091002141706|MDSWIVEL^SWIVEL^MEDICAL||MDSWIVEL^SWIVEL^MEDICAL|8880|7738882872^PRN^PH||""|SWIVEL^SWIVEL CHAIR FLOW|||4|SWIVEL CHAIR PRACTICE^^^^^^^^8880|SWIVEL CHAIR PRACTICE ADDRESS^^CHICAGO^IL|7928887772^PRN^PH|ROLL ROAD^^CHIAGO^IL^60610||

OBR|2|F3D646531412493^ABC||SWIVEL 3^CHEM20 -

SWIVEL|ROUTINE||||||O|||||MDSWIVEL^SWIVEL^MEDICAL|7738882872^PRN^PH|||||||||^^^^^R OUTINE||||121.4^FASCIOLOPSIASIS^ICD9|||||20091002141700

DG1|2|I9|121.4^FASCIOLOPSIASIS^ICD9

# 9.3. Message Segments Layout

HL7 ORM^O01 messages with ORC-1 Order Control Code = NW will be sent from ABC Company whenever Receiving Facility User transmits an Order from Orders Manager.

Each Orderable/Test corresponds to a pair of ORC-OBR pair.

Each ORM message supports single and multiple Orderable(s) in a group of Orders. This is a partner configurable.

#### **New Order:**

| Segment  | Name                           | Required |
|--|--------------------------------|----------|
| MSH  | Message Header                 | Υ        |
| [{ NTE }]  | Notes and Comments (for        |          |
| [{ [N   E }]   | Header)                        | -        |
|  | PATIENT begin                  |          |
| PID  | Patient Identification         | Υ        |
| [ PD1 ]  | Additional Demographics        | N        |
| [{ NTE }]  | Notes and Comments (for        | _        |
| [[ [ [ [ ] ] ]   | Patient ID)                    |          |
| [  | PATIENT_VISIT begin            |          |
| PV1  | Patient Visit                  | N        |
| [ PV2 ]  | Patient Visit- Additional Info | N        |
| ]  | PATIENT_VISIT end              |          |
| [{   | INSURANCE begin                |          |
| IN1  | Insurance                      | N        |
| [ IN2 ]  |                                | N        |
| [ IN3 ]  |                                | N        |
| }]   |                                |          |
| [ GT1 ]  | Guarantor                      | N        |
| [{ AL1 }]  | Allergy Information            | N        |
| ]  | PATIENT end                    |          |
| {  | ORDER begin                    |          |
| ORC  | Common Order                   | Υ        |
|  | ORDER_DETAIL begin             |          |
| <obr < td=""><td>Order Detail Segment OBR, etc.</td><td>Υ</td></obr <> | Order Detail Segment OBR, etc. | Υ        |
| RQDI   |                                | -        |
| RQ1  |                                | -        |
| RXOI   |                                | -        |
| ODS  |                                | -        |
| ODT>   |                                | -        |
|  | Notes and Comments (for        |          |
| [{ NTE }]  | Detail)                        | -        |
| [ CTD ]  | Contact Data                   | -        |
| [{ DG1 }]  | Diagnosis                      | Υ        |
| [{   | OBSERVATION begin              |          |
| OBX  | Observation/Result             | -        |
|  | Notes and Comments (for        |          |
| [{ NTE }]  | Results)                       | -        |
| }]   | OBSERVATION end                |          |
| 1  | ORDER DETAIL end               |          |
| 1  | OLDELI DE LVIE GIIO            |          |

<sup>\* []</sup> stands for optional elements

<sup>{}</sup> stands for repeating elements.

<sup>\*\*</sup> Required – Y means compulsory for both Integrated and Non-Integrated Mode

N means not present in Non-Integrated Mode except IN1 (present if patient has non-zero number of health plans). For Integrated Mode, these segments will be present if they exist in A04/05 response message.

- means not supported

# 9.4. Message Segments Field Layout

The MSH segment defines the intent, source, destination, and some specifics of the syntax of a message.

HL7 Attribute Table - MSH - Message Header

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME            | NOTES  |
|-----|-----|-----|-----|------|-------------------------|--|
| 1   | 1   | ST  | R   |      | Field Separator         | " "  |
| 2   | 4   | ST  | R   |      | Encoding Characters     | @"^~\&"  |
| 3   | 227 | HD  | R   |      | Sending Application     | Integrated Mode - = ABC                                |
|     |     |     |     |      |                         | Non-Integrated Mode -                                  |
|     |     |     |     |      |                         | Partner Pipe Configurable via rTools say SAP           |
| 4   | 227 | HD  | R   |      | Sending Facility        | Integrated Mode – Populated                            |
|     |     |     |     |      |                         | from A04/A05   |
|     |     |     |     |      |                         | Non-Integrated Mode -                                  |
|     |     |     |     |      |                         | Partner Pipe Configurable via                          |
| 5   | 227 | HD  | R   |      | Descripting Application | rTools say ABC   |
| 5   | 221 | по  | K   |      | Receiving Application   | Integrated and Non-Integrated Modes -                  |
|     |     |     |     |      |                         | Partner Pipe Configurable via                          |
|     |     |     |     |      |                         | rTools say MRM   |
| 6   | 227 | HD  | R   |      | Receiving Facility      | Integrated Mode - Partner Pipe Configurable via rTools |
|     |     |     |     |      |                         | say FACX   |
|     |     |     |     |      |                         | Non Integrated Made                                    |
|     |     |     |     |      |                         | Non-Integrated Mode –<br>External Value of Receiving   |
|     |     |     |     |      |                         | Facility Practice say FACX                             |
| 7   | 14  | TS  | R   |      | Date/Time of Message    | Integrated Mode – Populated from A04/A05               |
|     |     |     |     |      |                         | Non-Integrated Mode – Last                             |
|     |     |     |     |      |                         | Modified Date of Order (If                             |
|     |     |     |     |      |                         | multiple ones exists, first one                        |
|     | 40  | 0.7 |     |      | 0 "                     | is taken)  |
| 8   | 40  | ST  | О   |      | Security                | Integrated Mode – Populated from A04/A05               |
|     |     |     |     |      |                         | Non-Integrated Mode – Not                              |
|     |     |     | _   |      |                         | Supported  |
| 9   | 15  | MSG | R   |      | Message Type            | "ORM^O01"  |
|     |     |     |     |      |                         |  |

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME                            | NOTES  |
|-----|-----|-----|-----|------|---|--|
| 11  | 3   | PT  | R   |      | Processing ID                           | Integrated Mode – Populated from A04/A05  Non-Integrated Mode - Partner Pipe Configurable via rTools  Used to decide how to process the message. One of the three possible values: "D" Debugging "P " Production "T" Testing |
| 12  | 60  | VID | R   |      | Version ID                              | Integrated Mode – = 2.5  Non-Integrated Mode - Partner Pipe Configurable via rTools (=2.5)   |
| 13  |     | NM  | -   |      | Sequence Number                         |  |
| 14  |     | ST  | -   |      | Continuation Pointer                    |  |
| 15  | 2   | ID  | 0   |      | Accept Acknowledgment Type              | Integrated Mode – = "AL"  Non-Integrated Mode – Not Supported  |
| 16  |     | ID  | -   |      | Application Acknowledgment Type         |  |
| 17  |     | ID  | -   |      | Country Code                            |  |
| 18  |     | ID  | -   |      | Character Set                           |  |
| 19  |     | CE  | -   |      | Principal Language Of Message           |  |
| 20  |     | ID  | -   |      | Alternate Character Set Handling Scheme |  |
| 21  |     | EI  | -   |      | Message Profile<br>Identifier           |  |

PID - Patient Identification Segment For Integrated Mode, PID is segment is populated with PID from A04/05 response.

HL7 Attribute Table - PID - Patient Identification

| SEQ           | LEN      | DT        | OPT    | RP/# | ELEMENT NAME                     | NOTES   |
|---------------|----------|-----------|--------|------|----------------------------------|---|
| 1             | 4        | SI        | 0      |      | Set ID - PID                     | = 1   |
| 2             | 20       | CX        | 0      |      | Patient ID                       | Non-Integrated Mode – Contains the Patient Enterprise Id, if Partner Pipe is configured via rTools to contain PatientEnterpriseId as one of the PatientIdType PID2.1 ID Number – e.g HNE PID2.4 Assigning Authority & PID2.5 Identifier Type Code – Partner Pipe Configurable via rTools PID2.6 Assigning Facility - External Value of Receiving Facility Practice E.g. P12312312^^^PASSPORT^HN E^ABC COMPANY |
|               |          | <u> </u>  |        |      | T daone 15                       | 2 / 13 G G W W / 14 1 1   |
| 4             | 20       | СХ        | -      |      | Alternate Patient ID -<br>PID    |   |
| 5             | 250      | XPN       | R      | Y    | Patient Name                     | Consists of Patient's First<br>Name and Last Name<br>E.g.<br>SMITH^JASON  |
| 6             | 250      | XPN       | -      |      | Mother's Maiden Name             |   |
| 7             | 26       | TS        | -      |      | Date/Time of Birth               | Patient's Birth Date. Doesn't include time part E.g. 19850820   |
| <u>8</u><br>9 | 1<br>250 | IS<br>XPN | R<br>- | Y    | Administrative Sex Patient Alias | Patient's Gender. Supported Values – Male = M Female = F Unknown = U Unspecified = O  |
| 9             | 200      | ZI IN     | _      | '    | i audit /\lias                   | Supported Values –  |
| 10            | 250      | CE        | 0      | Υ    | Race                             | Asian – A^A African American – B^B Caucasian – C^C Hispanic – H^H Native American – I^I Other – O^O Race not indicated – X^X  |
| 12            | 4        | IS        |        |      | County Code                      | Patient's Home Phone #  |
| 12            | 4        | 10        | -      |      | County Code                      | PID13.1 Telephone Number –  |
| 13            | 250      | XTN       | 0      |      | Phone Number - Home              | Ordering Provider's Phone #   |

|      |     |      |   |   | T                         | I DID 40 0 T I                           |
|------|-----|------|---|---|---------------------------|--|
|      |     |      |   |   |                           | PID13.2 Telecommunication                |
|      |     |      |   |   |                           | Use Code = PRN PID13.3 Telecommunication |
|      |     |      |   |   |                           | Equipment Type = PH                      |
|      |     |      |   |   |                           | E.g.                                     |
|      |     |      |   |   |                           | (419) 555-9876^PRN^PH                    |
|      |     |      |   |   | Phone Number -            | (1.10) 666 667 6 1181 1181               |
| 14   | 250 | XTN  | - |   | Business                  |  |
| 15   | 250 | CE   | - |   | Primary Language          |  |
|      |     |      |   |   | , , ,                     | Patient's Marital Status.                |
|      |     |      |   |   |                           | Supported Values –                       |
|      |     |      |   |   |                           | (Identifier, Text)                       |
|      |     |      |   |   |                           |  |
|      |     |      |   |   |                           | M,Married                                |
|      |     |      |   |   |                           | S, Single                                |
| 16   | 250 | CE   | В |   | Marital Status            | D, Divorced                              |
|      | 250 | CE   | R |   |                           | U, Unknown                               |
| 17   | 250 | CE   | 0 |   | Religion                  | PID18.1 ID – Patient's Account           |
| 18   | 250 | СХ   | R |   | Patient Account Number    | Number                                   |
| 19   | 16  | ST   | - |   | SSN Number - Patient      | Number                                   |
| 19   | 10  | 31   | - |   | Driver's License Number   |  |
| 20   | 25  | DLN  | _ |   | - Patient                 |  |
| 21   | 250 | CX   | - | Υ | Mother's Identifier       |  |
| 22   | 250 | CE   | _ | Y | Ethnic Group              |  |
| 23   | 250 | ST   | - |   | Birth Place               |  |
| 24   | 1   | ID   | - |   | Multiple Birth Indicator  |  |
| 25   | 2   | NM   | - |   | Birth Order               |  |
| 26   | 250 | CE   |   | Υ | Citizenship               |  |
| 27   | 250 | CE   | _ |   | Veterans Military Status  |  |
| 28   | 250 | CE   | - |   | Nationality               |  |
| 20   | 200 | OL   |   |   | Patient Death Date and    |  |
| 29   | 26  | TS   | _ |   | Time                      |  |
| 30   | 1   | ID   | - |   | Patient Death Indicator   |  |
| - 00 |     |      |   |   | Identity Unknown          |  |
| 31   | 1   | ID   | - |   | Indicator                 |  |
| 32   | 20  | IS   | - | Υ | Identity Reliability Code |  |
| 33   | 26  | TS   | - |   | Last Update Date/Time     |  |
| 34   | 241 | HD   | - |   | Last Update Facility      |  |
| 35   | 250 | CE   | - |   | Species Code              |  |
| 36   | 250 | CE   | - |   | Breed Code                |  |
| 37   | 80  | ST   | _ |   | Strain                    |  |
| 38   | 250 | CE   | _ | 2 | Production Class Code     |  |
| 39   | 250 | CWE  |   | Y | Tribal Citizenship        |  |
| ১৪   | 230 | CVVE | - | Ĭ | mbai Gilizeriship         |  |

# **ORC - Common Order Segment**

HL7 Attribute Table – ORC – Common Order

| SEQ      | LEN | DT   | OPT | RP/# | ELEMENT NAME                 | NOTES  |
|----------|-----|------|-----|------|------------------------------|--|
| <u> </u> |     |      |     |      |                              | = NW   |
| 1        | 2   | ID   | R   |      | Order Control                | New order/service  |
|          |     |      |     |      |                              |  |
| 3        | 22  | EI   | -   |      | Filler Order Number          |  |
| 4        | 15  | EI   | R   |      | Placer Group Number          | ORC4.1 – Entity Identifier –<br>System Generated 15 chars<br>long Alphanumeric string  |
| 5        | 2   | ID   |     |      | Order Status                 | long Alphanument string  |
|          |     |      | -   |      |                              |  |
| 6        | 1   | ID   | -   |      | Response Flag                |  |
| 7        | 200 | TQ   | -   |      | Quantity/Timing              |  |
| 8        | 200 | EIP  | -   |      | Parent                       |  |
| 9        | 14  | TS   | R   |      | Date/Time of<br>Transaction  | Last Modified Date of Order (If multiple ones exists, first one is taken) Last Modified Date of Order (If multiple ones exists, first one is taken)                            |
| 10       | 250 | XCN  | R   | N    | Entered By                   | Submitter of Order ORC10.1 ID Number – External Value corresponding to Submitter's Provider ID [for Provider] or Submitter's Internal Login ID [for Staff] E.g. 32^ADAIR^FRANK |
| 11       | 250 | XCN  | _   |      | Verified By                  |  |
| 12       | 250 | XCN  | D   | N    |                              | ORC12.1 ID Number – External Value corresponding to Ordering Provider's Provider ID E.g. 32^ADAIR^FRANK  |
| 12       | 250 | ACIN | R   | N    | Ordering Provider            | ORC13.1 Point of Care –  |
| 13       | 80  | PL   | R   |      | Enterer's Location           | External Value corresponding to Ordering Practice's Practice ID  |
| 14       | 250 | VTNI | R   | N    | Call Back Phone              | ORC14.1 Telephone Number – Ordering Provider's Phone # ORC14.2 Telecommunication Use Code = PRN ORC14.3 Telecommunication Equipment Type = PH E.g. 7034092889^PRN^PH           |
| 14       | ∠50 | XTN  | K   | IN   | Number Order Effective       | 7034092009**PKN**PH  |
| 15       | 26  | TS   |     |      | Date/Time                    |  |
| 16       | 250 | CE   | R   |      | Order Control Code<br>Reason | Set to empty string  |
| 17       | 250 | CE   | 0   |      | Entering Organization        | Health System/Organization of<br>Order Submitter (ORC10)<br>ORC17.1 Identifier – External<br>Value corresponding to Health<br>System's ID (Optional)                           |

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME                                | NOTES  |
|-----|-----|-----|-----|------|---|--|
|     |     |     |     |      |   | ORC17.2 Text – Health  |
|     |     |     |     |      |   | System's Name  |
| 18  | 250 | CE  | -   |      | Entering Device                             |  |
| 19  | 250 | XCN | -   |      | Action By                                   |  |
| 20  | 250 | CE  | R   |      | Advanced Beneficiary<br>Notice Code         | = 4 Advanced Beneficiary Notice has not been signed  |
|     |     |     |     |      |   | Ordering Practice  ORC21.1 Organization Name – Practice Name ORC21.10 Organization Identifier – External Value corresponding to Practice ID E.g. |
| 21  | 250 | XON | R   | N    | Ordering Facility Name                      | MRM^^^^^FACX   |
| 22  | 250 | XAD | 0   | N    | Ordering Facility<br>Address                | Address of Ordering Practice E.g. GOLF ROAD^^CHICAGO^IL^60610 ORC23.1 Telephone Number –   |
| 23  | 250 | XTN | 0   | N    | Ordering Facility Phone<br>Number           | Ordering Practice's Phone # ORC23.2 Telecommunication Use Code = PRN ORC23.3 Telecommunication Equipment Type = PH E.g. 7034092889^PRN^PH        |
| 24  | 250 | XAD | 0   | Y    | Ordering Provider<br>Address                | Address of Ordering Provider<br>E.g.<br>GOLF<br>ROAD^^CHICAGO^IL^60610   |
| 25  | 250 | CWE | -   |      | Order Status Modifier                       |  |
| 26  | 60  | CWE | -   |      | Advanced Beneficiary Notice Override Reason |  |
| 27  | 26  | TS  | -   |      | Filler's Expected Availability Date/Time    |  |
| 28  | 250 | CWE | -   |      | Confidentiality Code                        |  |
| 29  | 250 | CWE | -   |      | Order Type                                  |  |
| 30  | 250 | CNE | -   |      | Enterer Authorization<br>Mode               |  |

# **OBR - Observation Request Segment**

HL7 Attribute Table – OBR – Observation Request

| SEQ | LEN | DT  | OPT  | RP/#    | ELEMENT NAME                     | NOTES  |
|-----|-----|-----|------|---------|----------------------------------|--|
| OLW | 551 | 51  | OI I | IXI III |                                  | For the first order transmitted, the sequence number shall be 1; for the second order, it shall be |
| 1   | 4   | SI  | R    |         | Set ID – OBR                     | 2; and so on.  |
|     |     |     |      |         |                                  | OBR2.1 – Entity Identifier –<br>System Generated 15 chars<br>long Alphanumeric string              |
| 2   | 15  | EI  | R    |         | Placer Order Number              | OBR2.2 – Namespace ID - = ABC  |
| 3   | 22  | El  | -    |         | Filler Order Number              |  |
|     |     |     |      |         |                                  | OBR4.1 Identifier – Orderable<br>Code  |
|     |     |     |      |         |                                  | OBR4.2 Text – Orderable<br>Name  |
| 4   | 250 | CE  | R    |         | Universal Service<br>Identifier  | E.g.<br>2091^CHEST CT - LEFT   |
| 5   | 2   | ID  | R    |         | Priority – OBR                   | Supported Values – STAT,<br>ASAP, ROUTINE  |
| 6   | 26  | TS  | -    |         | Requested Date/Time              |  |
|     |     |     |      |         |                                  | Specimen Collection DateTime   |
| 7   | 26  | TS  | 0    |         | Observation Date/Time #          | (For laboratory tests when specimen is collected.)   |
| 8   | 26  | TS  | -    |         | Observation End<br>Date/Time #   |  |
|     |     |     |      |         |                                  | For laboratory tests, the collection volume is the volume of a specimen.  OBR9.1 Quantity          |
| 9   | 20  | CQ  | 0    |         | Collection Volume *              | OBR9.2 Units   |
| 10  | 250 | XCN | -    |         | Collector Identifier *           |  |
| 11  | 1   | ID  | R    |         | Specimen Action Code *           | = O<br>Specimen obtained by service<br>other than Lab  |
| 12  | 250 | CE  | -    |         | Danger Code                      |  |
| 13  | 300 | ST  | 0    |         | Relevant Clinical<br>Information | Additional Notes   |
| 14  | 26  | TS  | -    |         | Specimen Received Date/Time *    |  |
|     |     |     |      |         |                                  |  |
| 16  | 250 | XCN | 0    | Y       | Ordering Provider                | OBR16.1 ID Number – External Value corresponding to Ordering Provider's Provider ID E.g.           |

| SEQ | LEN | DT       | OPT      | RP/#    | ELEMENT NAME                              | NOTES  |
|-----|-----|----------|----------|---------|---|--|
| O_Q |     | <b>-</b> | <b>0</b> | TKI 711 |   | 32^ADAIR^FRANK   |
|     |     |          |          |         |   | Same as ORC12  |
|     |     |          |          |         |   | OBR17.1 Telephone Number  Ordering Provider's Phone # OBR17.2 Telecommunication Use Code = PRN OBR17.3 Telecommunication Equipment Type = PH   |
|     |     |          |          |         |   | E.g.   |
| 17  | 250 | XTN      | 0        | Y/2     | Order Callback Phone<br>Number            | 7034092889^PRN^PH<br>Same as ORC14   |
| 18  | 60  | ST       | -        |         | Placer Field 1                            |  |
| 19  | 60  | ST       | -        |         | Placer Field 2                            |  |
| 20  | 60  | ST       | -        |         | Filler Field 1 +                          |  |
| 21  | 60  | ST       | -        |         | Filler Field 2 +                          |  |
| 22  | 26  | TS       | -        |         | Results Rpt/Status Chng - Date/Time +     |  |
| 23  | 40  | MOC      | -        |         | Charge to Practice +                      |  |
| 24  | 10  | ID       | -        |         | Diagnostic Serv Sect ID                   |  |
| 25  | 1   | ID       | ı        |         | Result Status +                           |  |
| 26  | 400 | PRL      | 1        |         | Parent Result +                           |  |
|     |     |          |          |         |   |  |
| 28  | 250 | XCN      | 0        | Y       | Result Copies To                          | List of CC'ed Providers. ID<br>Number is the external value<br>of corresponding Provider ID.   |
| 29  | 200 | EIP      | -        |         | Parent                                    | or corresponding r revider ib.   |
| 30  | 20  | ID       | _        |         | Transportation Mode                       |  |
|     |     |          |          |         |   | List of ICD9 Codes associated with the Orderable. Same as DG1  OBR31.1 – Identifier – ICD9 Code OBR31.2 – Text – ICD9 Code Description OBR31.3 – Name of Coding System = ICD9 Eg: - 234.8^CA IN SITU |
| 31  | 250 | CE       | R        | Y       | Reason for Study Principal Result         | NEC^ICD9   |
| 32  | 200 | NDL      | -        |         | Interpreter +                             |  |
| 33  | 200 | NDL      | -        | Υ       | Assistant Result<br>Interpreter +         |  |
| 34  | 200 | NDL      | -        | Υ       | Technician +                              |  |
| 35  | 200 | NDL      | ٠ ـ      | Υ       | Transcriptionist +                        | Data kina a Na Sila a  |
| 36  | 14  | TS       | R        |         | Scheduled Date/Time +                     | Date/time the filler scheduled an observation.   |
| 37  | 4   | NM       | -        |         | Number of Sample<br>Containers *          |  |
| 38  | 250 | CE       | -        | Y       | Transport Logistics of Collected Sample * |  |
| 39  | 250 | CE       | -        | Υ       | Collector's Comment *                     |  |

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME                            | NOTES |
|-----|-----|-----|-----|------|---|-------|
| 40  | 250 | CE  | -   |      | Transport Arrangement Responsibility    |       |
| 41  | 30  | ID  | -   |      | Transport Arranged                      |       |
| 42  | 1   | ID  | ı   |      | Escort Required                         |       |
| 43  | 250 | CE  | -   | Υ    | Planned Patient Transport Comment       |       |
| 44  | 250 | CE  | -   |      | Procedure Code                          |       |
| 45  | 250 | CE  | -   | Υ    | Procedure Code Modifier                 |       |
| 46  | 250 | CE  | -   | Υ    | Placer Supplemental Service Information |       |
| 47  | 250 | CE  | -   | Υ    | Filler Supplemental Service Information |       |
|     |     |     | -   |      | Medically Necessary                     |       |
| 48  | 250 | CWE |     |      | Duplicate Procedure Reason.             |       |
| 49  | 2   | IS  | -   |      | Result Handling                         |       |

### **DG1 - Diagnosis Segment**

Multiple ICD9 Codes are supported per Orderable/Test/ORC-OBR Pair. Thus, there will be a DG1 segment corresponding to each ICD9 Code.

HL7 Attribute Table - DG1 - Diagnosis

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME                 | NOTES  |
|-----|-----|-----|-----|------|------------------------------|--|
| 1   | 4   | SI  | R   |      | Set ID - DG1                 | This field contains the number that identifies this transaction. For the first occurrence of the segment the sequence number shall be 1, for the second occurrence it shall be 2, etc. |
| 2   | 2   | ID  | R   |      | Diagnosis Coding<br>Method   | = 19   |
| 3   | 250 | CE  | R   | N    | Diagnosis Code - DG1         | DG1.3.1 – Identifier – ICD9 Code DG1.3.2 – Text – ICD9 Code Description DG1.3.3 – Name of Coding System = ICD9 Eg: - 234.8^CA IN SITU NEC^ICD9   |
| 4   | 40  | ST  | -   |      | Diagnosis Description        |  |
| 5   | 26  | TS  | -   |      | Diagnosis Date/Time          |  |
| 6   | 2   | IS  | -   |      | Diagnosis Type               |  |
| 7   | 250 | CE  | -   |      | Major Diagnostic<br>Category |  |
| 8   | 250 | CE  | -   |      | Diagnostic Related<br>Group  |  |
| 9   | 1   | ID  | -   |      | DRG Approval Indicator       |  |
| 10  | 2   | IS  | -   |      | DRG Grouper Review<br>Code   |  |
| 11  | 250 | CE  | -   |      | Outlier Type                 |  |
| 12  | 3   | NM  | -   |      | Outlier Days                 |  |
| 13  | 12  | CP  | -   |      | Outlier Cost                 |  |
| 14  | 4   | ST  | -   |      | Grouper Version And Type     |  |
| 15  | 2   | ID  | -   |      | Diagnosis Priority           |  |
| 16  | 250 | XCN | -   |      | Diagnosing Clinician         |  |
| 17  | 3   | IS  | -   |      | Diagnosis Classification     |  |
| 18  | 1   | ID  | -   |      | Confidential Indicator       |  |
| 19  | 26  | TS  | -   |      | Attestation Date/Time        |  |
| 20  | 427 | EI  | -   |      | Diagnosis Identifier         |  |
| 21  | 1   | ID  | -   |      | Diagnosis Action Code        |  |

<sup>\*</sup> Required – Y means compulsory

<sup>-</sup> means not supported

<sup>\*\*</sup>RP/# - N means Not Repeated [For each ICD9 Code there will be a corresponding DG1 segment]

# 10. Inbound ORM Status Update from LIS / RIS

ORM messages from ABC Company's partner that are in response to an order transmitted by ABC Company. Placer order number and Placer group number are required for all inbound messages to be processed.

### 10.1. Sample ORM Status Update Message

The HL7 version expected by ABC Company is 2.5. Partners using different versions of HL7 should coordinate with the ABC Company's Professional Services department for conversion of inbound messages to the HL7 version 2.5.

#### Status Update Message from LIS

MSH|^~\&|SWIVEL|8880|8500|ABC COMPANY|20090909130907||ORM^O01|7679|D|2.5

PID|1|SWIVEL^^^PASSPORT^HNE^8880|SWIVEL^^^ST1^MR~SWIVEL^^^PASSPORT^HNE||SWIVEL^PT||19870101|M|||^^^60610||(934) 032-9432^PRN^PH||U^UNKNOWN||SWIVEL

ORC|OC|756CC0DEF2E7679^ABC|18c96096-e795-46d2-b31a-

d9a895a6db6c|AB30AF7A6594955|CA||||20090909210907|MDSWIVEL^SWIVEL^MEDICAL||MDSWIVEL^SWIVEL^MEDICAL|8880|7738882872^PRN^PH|||||4|SWIVEL CHAIR PRACITCE^^^^^^8880|||ROLL ROAD^^CHIAGO^IL^60610

### 10.2. Message Segments Layout

#### MSH - message header segment

The MSH segment defines the intent, source, destination, and some specifics of the syntax of a message.

HL7 Attribute Table - MSH - Message Header

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME          | NOTES   |
|-----|-----|-----|-----|------|-----------------------|---|
| 1   | 1   | ST  | R   |      | Field Separator       | " "   |
| 2   | 4   | ST  | R   |      | Encoding Characters   | @"^~\&"   |
| 3   | 227 | HD  | R   |      | Sending Application   | Partner Pipe Configurable via rTools                |
| 4   | 227 | HD  | R   |      | Sending Facility      | Partner Pipe Configurable via rTools                |
| 5   | 227 | HD  | R   |      | Receiving Application | Partner Pipe Configurable via rTools                |
| 6   | 227 | HD  | 0   |      | Receiving Facility    |   |
| 7   | 14  | TS  | 0   |      | Date/Time of Message  |   |
| 8   | 40  | ST  | -   |      | Security              |   |
| 9   | 15  | MSG | R   |      | Message Type          | Partner Pipe Configurable via rTools E.g. "ORM^O01" |

| SEQ | LEN   | DT  | OPT | RP/# | ELEMENT NAME                               | NOTES |
|-----|---|-----|-----|------|--|-------|
| 10  | Integra ted Mode = 20  Non- Integra ted Mode = 10 | ST  | 0   |      | Message Control ID                         |       |
| 11  | 3   | PT  | -   |      | Processing ID                              |       |
| 12  | 60  | VID | R   |      | Version ID                                 | = 2.5 |
| 13  |   | NM  | -   |      | Sequence Number                            |       |
| 14  |   | ST  | -   |      | Continuation Pointer                       |       |
| 15  | 2   | ID  | -   |      | Accept Acknowledgment Type                 |       |
| 16  |   | ID  | -   |      | Application Acknowledgment Type            |       |
| 17  |   | ID  | -   |      | Country Code                               |       |
| 18  |   | ID  | -   |      | Character Set                              |       |
| 19  |   | CE  | -   |      | Principal Language Of Message              |       |
| 20  |   | ID  | -   |      | Alternate Character<br>Set Handling Scheme |       |

\* Required
R means compulsory
O means optional
- means not supported

### **ORC - Common Order Segment**

ABC Company will correlate the ORM responses to Orders in ABC Company based on Placer Order Number (ORC2/OBR2) and Placer Group Number (ORC4)

Status of an Order in ABC Company is determined based on ORC5 Order Status and ORC1 Control Code. ORC5 takes precedence over ORC1.

Order Statuses and Corresponding ORC1 and ORC5 Values -

| Order Status         | ORC5                       | ORC1           |
|----------------------|----------------------------|----------------|
| In Progress          | IP, O, S, N, P, L, T, I, G | XO, SN, NA, SC |
| Received by Facility | R                          |                |
| Results to Follow    | CM, V, D                   | RE             |
| Cancelled            | CA                         | OC             |

HL7 Attribute Table – ORC – Common Order

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME                | NOTES   |
|-----|-----|-----|-----|------|-----------------------------|---|
| 1   | 2   | ID  | 0   |      | Order Control               | Supported Control Codes – XO SN NA CH SC RE OC ORC2.1 – Entity Identifier – 15 chars long Alphanumeric string |
| 2   | 15  | EI  | R   |      | Placer Order Number         | ORC2.2 – Namespace ID - = ABC   |
| 3   | 22  | El  | 0   |      | Filler Order Number         | ADO   |
| 4   | 15  | El  | R   |      | Placer Group Number         | ORC4.1 – Entity Identifier –<br>15 chars long Alphanumeric<br>string  |
| 5   | 2   | ID  | 0   |      | Order Status                | Supported Values – IP O S N P L T I G R CM V D CA   |
| 6   | 1   | ID  | -   |      | Response Flag               |   |
| 7   | 200 | TQ  | _   |      | Quantity/Timing             |   |
| 8   | 200 | EIP | -   |      | Parent                      |   |
| 9   | 14  | TS  | -   |      | Date/Time of<br>Transaction |   |
| 10  | 250 | XCN | -   | N    | Entered By                  |   |

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME                                | NOTES |
|-----|-----|-----|-----|------|---|-------|
| 11  | 250 | XCN | -   |      | Verified By                                 |       |
| 12  | 250 | XCN | -   | N    | Ordering Provider                           |       |
| 13  | 80  | PL  | -   |      | Enterer's Location                          |       |
| 14  | 250 | XTN | -   |      | Call Back Phone<br>Number                   |       |
| 15  | 26  | TS  | -   |      | Order Effective<br>Date/Time                |       |
| 16  | 250 | CE  | 0   |      | Order Control Code<br>Reason                |       |
| 17  | 250 | CE  | -   |      | Entering Organization                       |       |
| 18  | 250 | CE  | -   |      | Entering Device                             |       |
| 19  | 250 | XCN | -   |      | Action By                                   |       |
| 20  | 250 | CE  | -   |      | Advanced Beneficiary Notice Code            |       |
| 21  | 250 | XON | ı   | N    | Ordering Facility Name                      |       |
| 22  | 250 | XAD | -   | N    | Ordering Facility Address                   |       |
| 23  | 250 | XTN | -   | N    | Ordering Facility Phone<br>Number           |       |
| 24  | 250 | XAD | -   | Y    | Ordering Provider<br>Address                |       |
| 25  | 250 | CWE | -   |      | Order Status Modifier                       |       |
| 26  | 60  | CWE | 1   |      | Advanced Beneficiary Notice Override Reason |       |
| 27  | 26  | TS  | -   |      | Filler's Expected Availability Date/Time    |       |
| 28  | 250 | CWE | -   |      | Confidentiality Code                        |       |
| 29  | 250 | CWE | -   |      | Order Type                                  |       |
| 30  | 250 | CNE | 1   |      | Enterer Authorization<br>Mode               |       |

<sup>\*</sup> Required – R means compulsory
O means optional
- means not supported

# **OBR - Observation Request Segment**

HL7 Attribute Table – OBR – Observation Request

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME                          | NOTES   |
|-----|-----|-----|-----|------|---------------------------------------|---|
| 1   | 4   | SI  | 0   |      | Set ID – OBR                          |   |
|     |     |     |     |      |                                       | OBR2.1 – Entity Identifier – System Generated 15 chars long Alphanumeric string OBR2.2 – Namespace ID - = |
| 2   | 15  | El  | R   |      | Placer Order Number                   | ABC   |
| 3   | 22  | El  | -   |      | Filler Order Number Universal Service |   |
| 4   | 250 | CE  | -   |      | Identifier                            |   |
| 5   | 2   | ID  | -   |      | Priority – OBR                        |   |
| 6   | 26  | TS  | -   |      | Requested Date/Time                   |   |
| 7   | 26  | TS  | -   |      | Observation Date/Time #               |   |
| 8   | 26  | TS  | -   |      | Observation End<br>Date/Time #        |   |
| 9   | 20  | CQ  | -   |      | Collection Volume *                   |   |
| 10  | 250 | XCN | -   |      | Collector Identifier *                |   |
| 11  | 1   | ID  | ı   |      | Specimen Action Code *                |   |
| 12  | 250 | CE  | -   |      | Danger Code                           |   |
| 13  | 300 | ST  | -   |      | Relevant Clinical<br>Information      |   |
| 14  | 26  | TS  | -   |      | Specimen Received Date/Time *         |   |
| 15  | 300 | SPS | 1   |      | Specimen Source                       |   |
| 16  | 250 | XCN | -   | Υ    | Ordering Provider                     |   |
| 17  | 250 | XTN | - 1 | Y/2  | Order Callback Phone<br>Number        |   |
| 18  | 60  | ST  | -   |      | Placer Field 1                        |   |
| 19  | 60  | ST  | -   |      | Placer Field 2                        |   |
| 20  | 60  | ST  | -   |      | Filler Field 1 +                      |   |
| 21  | 60  | ST  | -   |      | Filler Field 2 +                      |   |
| 22  | 26  | TS  | -   |      | Results Rpt/Status Chng - Date/Time + |   |
| 23  | 40  | MOC | -   |      | Charge to Practice +                  |   |
| 24  | 10  | ID  | -   |      | Diagnostic Serv Sect ID               |   |
| 25  | 1   | ID  | -   |      | Result Status +                       |   |
| 26  | 400 | PRL | -   |      | Parent Result +                       |   |
| 27  | 200 | TQ  | -   | N    | Quantity/Timing                       |   |
| 28  | 250 | XCN | -   | Υ    | Result Copies To                      |   |
| 29  | 200 | EIP | -   |      | Parent                                |   |
| 30  | 20  | ID  | -   |      | Transportation Mode                   |   |
| 31  | 250 | CE  | -   | Υ    | Reason for Study                      |   |
| 32  | 200 | NDL | -   |      | Principal Result<br>Interpreter +     |   |

| SEQ | LEN | DT  | OPT | RP/# | ELEMENT NAME                                    | NOTES |
|-----|-----|-----|-----|------|---|-------|
| 33  | 200 | NDL | -   | Y    | Assistant Result<br>Interpreter +               |       |
| 34  | 200 | NDL | 1   | Υ    | Technician +                                    |       |
| 35  | 200 | NDL | -   | Υ    | Transcriptionist +                              |       |
| 36  | 14  | TS  | -   |      | Scheduled Date/Time +                           |       |
| 37  | 4   | NM  | -   |      | Number of Sample<br>Containers *                |       |
| 38  | 250 | CE  | -   | Y    | Transport Logistics of Collected Sample *       |       |
| 39  | 250 | CE  | -   | Υ    | Collector's Comment *                           |       |
| 40  | 250 | CE  | -   |      | Transport Arrangement Responsibility            |       |
| 41  | 30  | ID  | -   |      | Transport Arranged                              |       |
| 42  | 1   | ID  | -   |      | Escort Required                                 |       |
| 43  | 250 | CE  | -   | Y    | Planned Patient<br>Transport Comment            |       |
| 44  | 250 | CE  | -   |      | Procedure Code                                  |       |
| 45  | 250 | CE  | 1   | Y    | Procedure Code<br>Modifier                      |       |
| 46  | 250 | CE  | 1   | Υ    | Placer Supplemental Service Information         |       |
| 47  | 250 | CE  | -   | Y    | Filler Supplemental Service Information         |       |
| 48  | 250 | CWE | -   |      | Medically Necessary Duplicate Procedure Reason. |       |
| 49  | 2   | IS  | 1   |      | Result Handling                                 |       |

\* Required –
R means compulsory
O means optional
- means not supported

### 11. Quick Start Guide

Connected Orders application enables practices to simplify and automate the process of ordering labs and radiology services, while 'closing the loop' in the patient service experience. Using a simple order form, providers and staff members can create and send orders quickly – and monitor the status of orders in real-time. Whether Sent, Pending, In Process, or Denied – when orders are transmitted electronically, these statuses are displayed to the ordering provider as appropriate, allowing providers to follow up on orders that are not filled and to ensure patient compliance.

#### **Benefits**

- Creation process provides an easy to use, front-end workflow module for laboratory and radiology orders
- Favorite lists allow for rapid order creation workflows by providing configurable lists of commonly used tests and order sets
- Orderable mapping services ensure that orderables selected from the are matched with the appropriate client catalogs
- Orders transmit electronically for connected organizations and by fax (if setup by the ordering physician) to all other fulfillment locations
- Network Identity Management used for connected organizations accurately maps external patients to hospital patients – using the hospital's own identifiers
- The orders receipt process provides hospitals with the ability to queue orders prior to the patient presenting to fill the lab or radiology test

This Guide includes the following QuickStarts addressing the following use cases and overviews:

QuickStart: ORD 1.1 – Creating a Connected Order QuickStart: ORD 1.2 – Orderable Favorites List QuickStart: ORD 1.3 – Review Orders Status

QuickStart: ORD 1.4 - Navigating Orders Registration Manager

QuickStart: ORD 1.5 – Understanding Order States QuickStart: ORD 1.6 – Receiving and Processing Orders QuickStart: ORD 1.7 – Printing Individual or Batch Orders

Additionally, Appendix A in this document includes a list of Frequently Asked Questions (FAQs) related to Connected Orders.

#### **How to Use this Feature Guide**

By reviewing the QuickStarts contained in this Feature Guide, you will gain a better understanding of the many ways in which you can use the versatile Connected Orders features. Each QuickStart is meant to be a stand-alone document detailing how a specific aspect of Connected Orders works. What you need to do and how you need to use each feature will determine which QuickStart is appropriate for your particular workflow.

# **ORD 1.1 – Creating a Connected Order**

### **Point Person: Providers and Staff Members**

Using the Connected Orders 'Create New Order' workflow, providers or staff members can create laboratory or radiology orders for both online and offline patients and transmit those orders to a sponsor's designated receiving facility.

 From the Home page, click the Orders & Results or Orders tab.

**Note**: Practices that have both Connected Orders and Results Manager will view the combined 'Orders & Results' tab. Practices that do not have Results Manager enabled view the 'Orders' tab.

On the secondary navigation menu, click Create New Order.



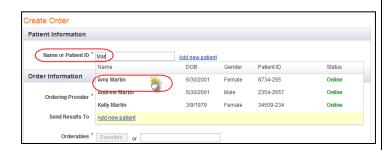


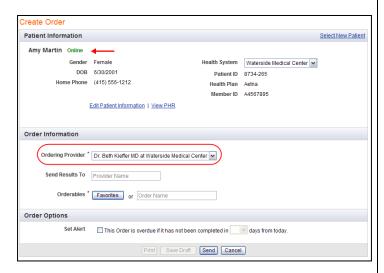
 Under Patient Information, enter the first few characters of the patient's name or Patient ID in the type-ahead search field. Select the patient from the drop down list.

**Note:** If the patient is not found, click the **Add new** patient link to add the patient

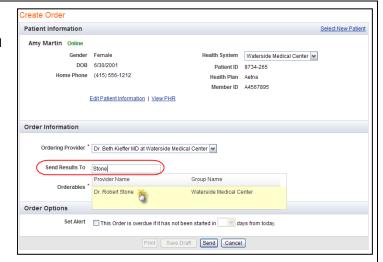
4. The selected patient's information now appears in the *Patient Information* section of the form. Note that the service indicates the patient's status (online or offline) to the right of the patient name.

Under the *Order Information* section of the form, note the **Ordering Provider** defaults to the logged-in provider if applicable. Staff members composing orders will select the ordering provider from a drop-down list.



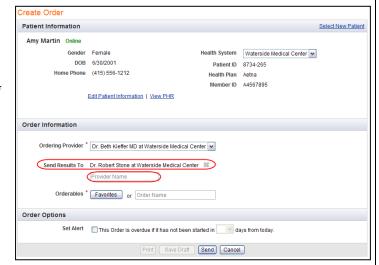


 To copy another provider in your health system (i.e., specialist or consulting provider) on the results, enter the name of the provider in the Copy Results To type-ahead search field. Select the provider from the drop-down list.



6. The provider now appears in the **Copy Results To** list. To remove this provider, click the icon to the right of the provider name.

**Note**: You can add additional providers in your health system to the Send Results To list (i.e., clinical CC to a specialist), if appropriate. Type the first few characters of a provider's name in the type-ahead search field and select the provider from the list.



7. Select the **Orderables** to include in this order. If you have a list of Favorites established, click **Favorites** and select the orderable from your Favorites list.

Alternatively, enter the first few letters of the orderable in the Order Name type-ahead search field.

**Note:** QuickStart 'ORD 1.2 Orderable Favorites List' provides instructions for managing and using your personalized Favorites list.



 The Order Information section expands to allow for collection of information related to the specific orderable. In this example, we are creating a radiology order, which allows for entry of items specific to the test type (i.e., laterality).

Select **Priority** (STAT, ASAP, or Routine) using the radio button.

Select **Laterality** (Left, Right, or Bilateral) using the radio button.

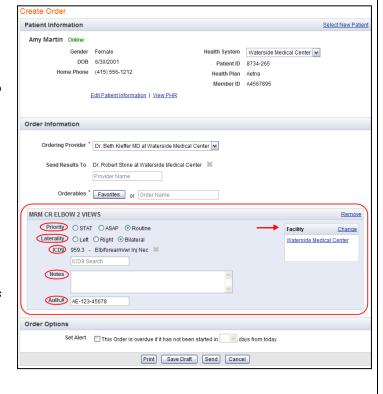
Enter an **ICD9** code in the type-ahead ICD9 Search field. Select the appropriate code from the options provided.

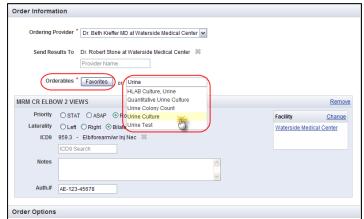
If appropriate, enter **Notes** in the free-text field to accompany this orderable.

If required by the patient's health plan and/or your practice, enter the **Authorization #** in the field provided.

Note: The Order Information area also indicates the facility to which the order will transmit. This area defaults by facility and order type (laboratory or radiology) as well as the patient's ZIP code. Providers and staff members may optionally change the facility or add a new 'fax to' facility if necessary.

 To add another test to the order, click Favorites and select the orderable from your Favorites list or enter the first few letters of the orderable in the Order Name typeahead search field.





 Again, the form expands to allow for collection of information specific to the test type. In this example, we selected a laboratory test.

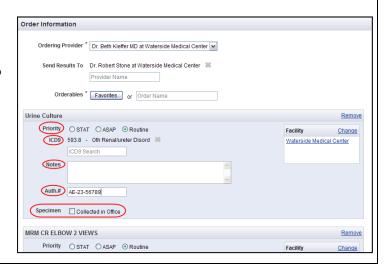
Select **Priority** (STAT, ASAP, or Routine) using the radio button.

Enter an **ICD9** code in the type-ahead ICD9 Search field. Select the appropriate code from the options provided.

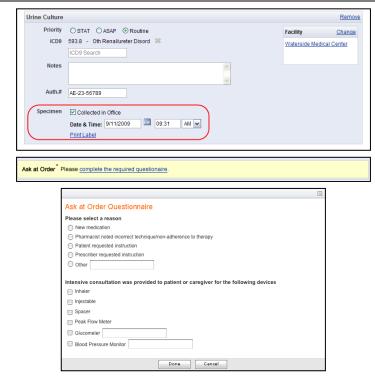
If appropriate, enter **Notes** in the free-text field to accompany this orderable.

If required by the patient's health plan and/or your practice, enter the **Authorization #** in the field provided.

If your organization collected a laboratory specimen from this patient on-site, place a checkmark next to **Collected** in **Office**.



- 11. If you checked the Collected in Office checkbox, the form expands to include the current Date and Time. You may adjust these entries by using the calendar icon to select a different date and/or enter a different time. Additionally, Specimen Container and Storage instructions may display in the Specimen Collection area.
- 12. If appropriate, click **Print Label** to print a label for the specimen container using your local label printer.
- 13. Some orderables require additional information to be captured and communicated to the laboratory. If appropriate to the test type and the laboratory facility, the order form will include a required 'Ask at Order' (AOE) section. Click the Complete the required questionnaire link. The questionnaire will display in a pop-in window. When you have completed the questionnaire, click Done.



14. Under the Order Options section of the Create Order form, you may optionally choose to set an overdue status alert. To set the alert, click the Set Alert checkbox, and select the number of days from the dropdown list.



15. Click **Print** to print the order to a local printer for the patient's chart. The printed copy of the order includes a signature area for the patient (or guardian) to authorize release of medical information related to the order.

Click **Save Draft** to save the order in draft status. When saved in draft status, the order can be reviewed from within the Order Status area. You can access the Order Status area from the secondary navigation bar.

Click **Send** to send the order to the laboratory and/or radiology facility. When sent, you can use the Order Status area to track the status of the order.

Click Cancel to cancel the order.

**Note**: QuickStart 1.3: Review Order Status includes a detailed overview of the Order Status area used for orders review and tracking.

| Order Options |   |
|---------------|---|
| Set Alert     | ▼ This Order is overdue if it has not been completed in 2  ▼ days from today. |
|               | Print Save Draft Send Cancel  |

# **ORD 1.2 - Orderable Favorites List**

## **Point Person: Providers and Staff Members**

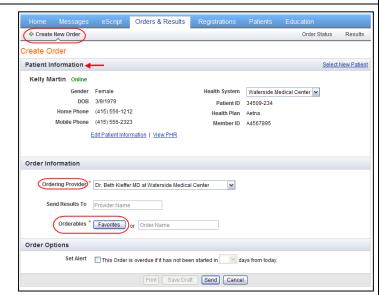
The Favorites Manager feature, used in the process of order creation, allows you to store your frequently used orderables or preferred order sets to aid in creating orders rapidly. Each member of your practice will maintain a separate list of Favorites. This QuickStart describes adding and deleting individual orderables and order sets in your Favorites Manager list.

#### Add Individual Orderable to Favorites

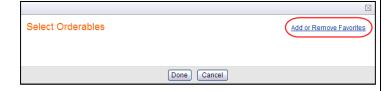
 To add an item to your Favorites list while in the Create New Order workflow, first click Create New Order, then select a patient and ordering provider.

**Note**: See QuickStart ORD 1.1 Creating a Connected Order for detailed information related to order creation.

2. To the right of Orderables, click Favorites.



3. Click Add or Remove Favorites.



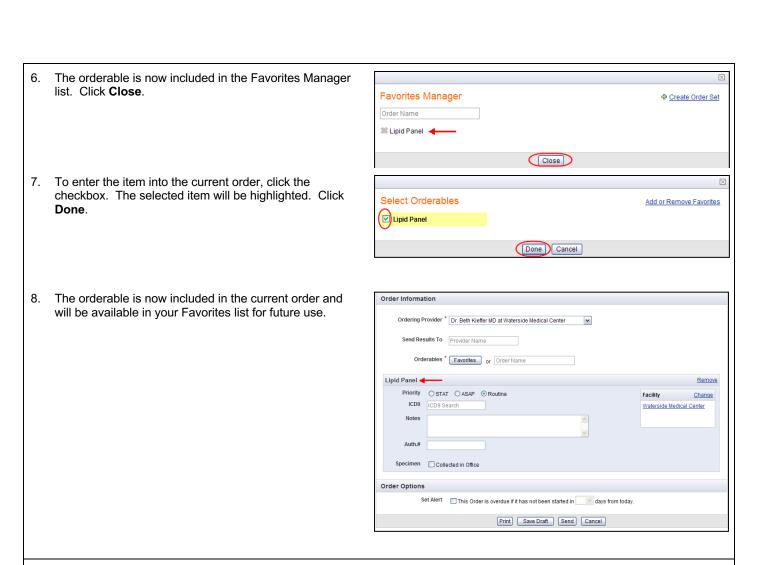
4. The Favorites Manager displays. Type the first few letters of the orderable into the type-ahead search field.

**Note**: To add an order set to your list of favorites, follow the instructions below: 'Add an Order Set to Favorites.'



5. Click on the desired orderable in the result list to select.



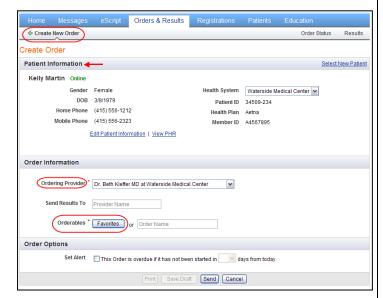


#### Add Order Set to Favorites

 To add an order set to your Favorites list while in the Create New Order workflow, first click Create New Order, then select a patient and ordering provider.

**Note**: See QuickStart ORD 1.1 Creating a Connected Order for detailed information related to order creation.

2. To the right of Orderables, click Favorites.



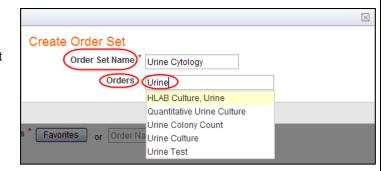
3. Click Add or Remove Favorites.



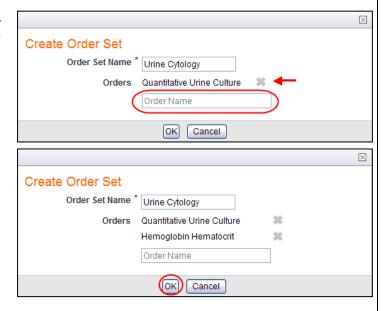
 The Favorites Manager displays. Click Create Order Set



 Enter the Order Set Name that you would like the order set to appear as. In the type-ahead search field, enter the first few letters of an orderable that you would like to add to the order set. Select the orderable from the result list.

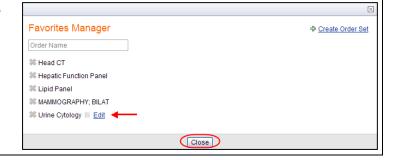


- 6. The orderable is now included in the list for this order set. Note the icon to the right of the orderable. To remove this orderable from the orders list, click the ...
- 7. Enter the next orderable in the type-ahead search field and select the orderable from the result list.
- When you have completed adding the required orderables to the order set, click **OK**.

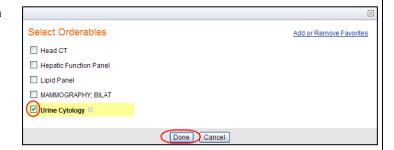


- The order set is now included in your personal Favorites Manager list. You may edit the order set at any time using the **Edit** link.
- 10. Click Close.

**Note**: Favorites Manager indicates the orderable is an order set by including a four-square icon next to the order set name:

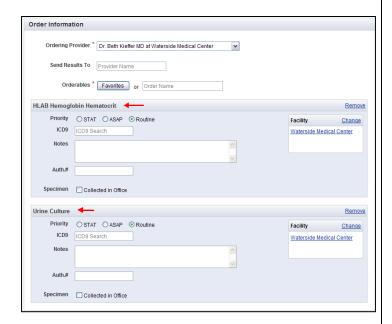


11. To add this order set to the current, active order, place a checkmark to the left of the orderable name. The order set you select is highlighted in yellow. Click **Done**.



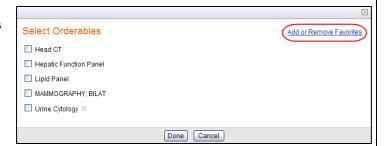
12. All orderables included in the order set are now included in the order.

**Note**: See QuickStart ORD 1.1 Creating a Connected Order for additional information related to order creation.



#### **Delete Item from Your Favorites**

 You can remove any orderable from your Favorites list at any time. In the Order Creation workflow, click Favorites to view the list. Click Add or Remove Favorites.



To the left of each item in your Favorites Manager, you
will see a gray icon. When you hover your mouse
pointer over the icon, it turns red to indicate that you are
selecting that item to remove from your Favorites
Manager list. Click the to select the item for removal.



3. Click **OK** to confirm removal of the item or click **Cancel** if you would like the orderable to remain in your list of Favorites Manager ◆ Create Order Set Favorites. Windows Internet Explorer Order Name Are you sure you want to remove this order from Favorites? # Head CT # Hepatic Function Panel Cancel X Lipid Panel MAMMOGRAPHY; BILAT Urine Cytology ## Edit Close The orderable has been deleted from the Favorites Manager list. Click Close to return to the Select **Favorites Manager** ◆ Create Order Set Orderables screen. Order Name # Hepatic Function Panel # Lipid Panel **\*\*** MAMMOGRAPHY; BILAT # Urine Cytology ## Edit Close 5. Click **Done** to return to the active order form or select an orderable from the remaining items in your Favorites list Select Orderables Add or Remove Favorites to enter the selected item into the active order form. Hepatic Function Panel Lipid Panel MAMMOGRAPHY; BILAT Urine Cytology 🔡 Done Cancel

# **ORD 1.3 - Review Orders Status**

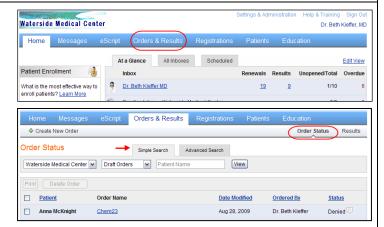
### Point Person: Providers and Staff Members

The Order Status area provides Simple and Advanced search features that allow providers and staff to locate and review draft orders and track the status of sent orders. This area also allows members of your practice to monitor order processing; edit, delete, and archive orders as necessary; and print orders for the patient chart.

From the Home page, click the **Orders & Results** or **Orders** tab.

**Note**: Practices that have both Connected Orders and Results Manager will view the combined 'Orders & Results' tab. Practices that do not have Results Manager enabled view the 'Orders' tab.

By default, Connected Orders displays the **Order Status** area with the Simple Search tab active.



#### Simple Search

Simple search allows you to filter displayed orders using the following options:

Practice (dropdown option)

Order Status (Draft, Sent, Archive – dropdown option)

Patient Name

Select one or more of the search criteria above and click **View**. Simple Search displays all matching orders. You may sort columns in the result list by clicking underlined column headers: **Patient, Date Modified, Ordered By,** and **Status**.

Order action options (Print, Delete, and Archive buttons) are enabled when a checkmark is placed to the left of one or more records in the result list. Actions display as appropriate to the order status selected in the Simple Search dropdown:

**Draft Orders**: Print and Delete Order Options

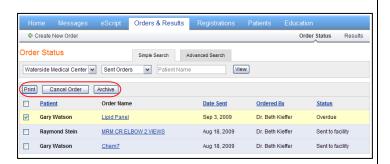
Sent Orders: Print, Delete Order, and Archive Options

Archive Order: Print Option Only

To review an individual order, click the order name. The service displays the order, which you can review, edit if necessary, send to the receiving facility, or cancel.

Note: The 'Delete Order' option removes the order from the Status Area queue; however, does not ever delete data. The order will remain in the database indefinitely.





#### Advanced Search

Advanced search allows you to search for orders using the following options:

Patient Name (Type-ahead Search)

Practice (Dropdown List)

**Time Frame** (All Dates; Previous Day, Week, Month, or 3 Months – Dropdown List)

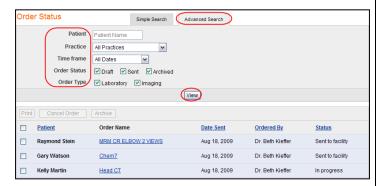
Order Status (Draft, Sent, and/or Archive Checkboxes)
Order Type (Laboratory and/or Imaging Checkboxes)

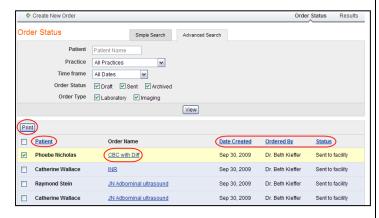
Select one or more of the advanced search criteria above and click **View**. Advanced Search displays all matching orders. You may sort columns in the result list by clicking active column headers: **Patient**, **Date Sent**, **Ordered By**, and **Status**.

On the Advanced Search screen, the **Print** action option is enabled when you place a checkmark the left of one or more records in the result list.

To review an individual order, click the **Order Name**. The service displays the order, which you can review, edit if appropriate, send to the receiving facility, or cancel (see *Order Review* below).

Note: Orders in a status of *Sent to Facility, Archived,* or *In progress* may not be edited. Orders in these statuses provide only a Print option. Orders in *Draft* or *Denied* statuses may be edited.





#### Order Review

Order status determines what actions providers or staff may take on orders in the Order Status area:

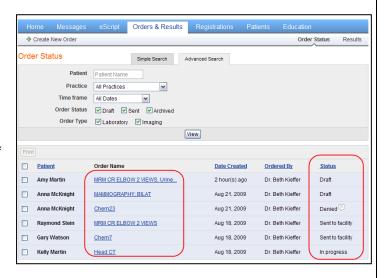
**Draft** – Providers or other authorized staff members may review the order, edit if necessary, and send the order to the laboratory or radiology facility. Click the **Order Name** link to open and review the order.

Note: See ORD 1.1 Creating a Connected Order for information related to editing and sending orders.

**Denied** – Denied by the receiving facility. Providers or staff may edit the order and resend or cancel the order. Receiving facilities that deny orders will enter a reason for the denial in the order. Click the **Order Name** link to review the order and the reason for denial.

**Sent to facility** – The order has been transmitted to the facility. In this status, providers and staff may view and print the order, but the order is no longer available for editing. Click the **Order Name** link to open and print the order or follow the instructions below to print the order from the Order Status area.

In progress – The receiving facility has accepted the order. In this status, providers and staff may print the order, but the order is no longer available for editing. Click the **Order Name** link to open and print the order or follow the instructions below to print the order from the Order Status area.

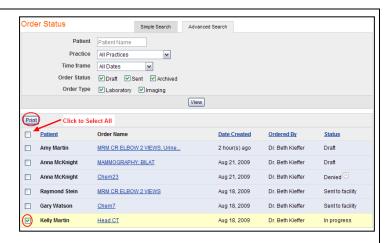


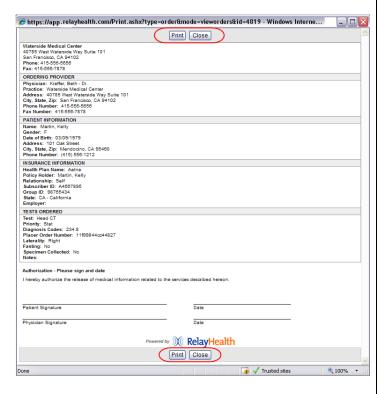
### Print Order(s) from the Order Status Area

 The print button in the Order Status area is active only if the checkboxes to the left of one or more orders are checked. Select the orders you would like to print, and click **Print**.

**Note**: To select all orders for printing, click the checkbox to the left of the 'Patient' column header.

The selected order(s) open in a new browser window. Click **Print** to print the order to a local printer or **Close** to close the browser window.





# ORD 1.4 – Navigating Orders Registration Manager

# Point Person: Laboratory and Radiology Facility Users

Orders Registration Manager is used in the Orders Receipt workflow. Facility (i.e., hospital, laboratory, or radiology center) users receive orders in Registration Manager and match patient records (or enter new patients to be sent to the facility's patient registration system) prior to transmitting the order into the facility's systems, denying the order, or re-routing the order. Network Identity Management (NIM) solution allows the Orders application to accurately match or create health system patients – using the customer's own patient identifiers.

This QuickStart describes the process of matching patients to facility records and creating new patient records when necessary. For instructions related to processing orders, please see *QuickStart ORD 1.5: Processing Orders*.

#### **Navigation and Searching**

The Registrations tab defaults to the **Orders Registration Manager** view. To review the patient order, select a record from the queue on the left.

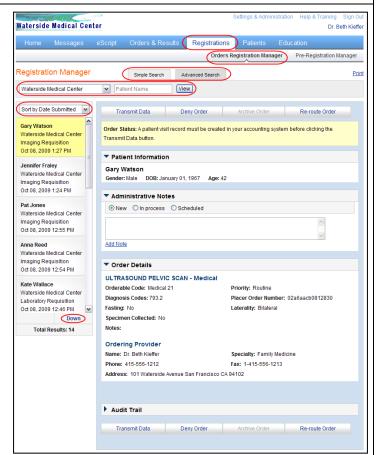
You can move up and down the queue using the up/down links, and you can sort the queue by:

- Date Submitted
- Receiving Facility
- Patient Name
- Order Type

Using the Simple Search options, you can search for specific orders by facility or patient name. Advanced Search provides additional search criteria including time frame, ordering practice, patient name, order tag (new, in process, scheduled), and order status (archived and not yet transmitted).

After selecting Simple or Advanced Search criteria, click **View** to view matching orders.

**Note**: The active record displayed on screen is highlighted in the queue.





# QuickStart

# **Connected Orders**

# ORD 1.5 - Understanding Order States

# Point Person: Laboratory and Radiology Facility Users

An order received in the Orders Registration Manager can have different states, and each order state guides facility users towards an action (i.e., create new patient record, resolve duplicate, transmit order, etc.). Order states displayed for your facility may be dependent upon the deployment method at your organization (integrated versus non-integrated). The order state displays in the Order Status area.

At this time, orders within the Orders Registration Manager can be in the following states:

- 1. Reconcile Patient (i.e., matches found)
- 2. Create New Patient (i.e., no matches found)
- 3. Ready to Transmit
- 4. Transmitted Pending
- 5. Transmitted Confirmed
- 6. Denied
- 7. Cancelled



Each order state has different attributes as detailed below. These attributes (i.e., messages and order sections displayed, enabled/disabled action buttons, etc.) guide facility users through receiving and processing orders.

#### 1. Reconcile Patient State

- An order is in this state when one or more potential patient matches are found. Facility users will
  reconcile the potential matches before transmitting or otherwise processing the order.
- The Order Status section displays the following message: "Order Status: Resolve Patient Record."
- Only the Patient Information, Administrative Notes, Order Details, and Audit Trail sections of the order are available.
- The Transmit and Archive buttons are disabled and the Deny button is enabled.
- The Administrative Notes section is active.

### 2. Create New Patient State (Health System Integration Enabled)

- An order is in this state when no potential patient matches are found and integration is enabled.
- The Order Status section displays the following message: "Order Status: Create New Patient Record."
- Only the Patient Information, Administrative Notes, Order Details, and Audit Trail sections of the order are available.
- The Transmit and Archive buttons are disabled and the Deny button is enabled.
- The Administrative Notes section is active.

#### 2. Create New Patient State (Health System Integration Disabled)

- An order is in this state when no potential patient matches are found for the order and integration is disabled.
- The Order Status section displays the message: "Order Status: A patient visit record must be created in your accounting system before clicking the Transmit Data button."
- All sections of the order (Patient Information, Administrative Notes, etc.) are available and displayed.
- The Denv and Transmit buttons are enabled and the Archive button is disabled.
- The Administrative Notes section is active.

## 3. Ready to Transmit State

An order moves to the 'Ready to Transmit' state after any of the following:

- The user has completed the workflow in the Reconcile Patient State. The Order Status section displays the message: "Order Status: This patient has been matched to an existing patient record. You may transmit the order at any time."
- A user has completed the workflow in the Create New Patient State (Health Plan Integration Only). The Order Status section displays the message: "Order Status: This patient is a new patient. You may transmit the registration request and the order at any time." Note: This message will never display in the non-integrated mode because the Create Patient flow is not applicable in that configuration.
- An order has been placed for a patient that is already linked in the NIM. The Order Status section displays the message: "Order Status: This patient has been matched to an existing patient record. You may transmit the order at any time."
- All of the order sections Patient Information, Administrative Notes, Order Details, Additional Patient Information, and Audit Trail are available.
- The Deny and Transmit buttons are enabled and the Archive button is disabled.

## 4. Transmitted - Pending State (Health System Integration Enabled)

- An order moves to this state after the user has gone through the Transmit Data flow in the HIS
  integrated model only. Transmitted Pending State does not apply to the non-integrated model.
- All of the order sections Patient Information, Administrative Notes, Order Details, Additional Patient Information, and Audit Trail are available.
- The Deny, Transmit, and Archive buttons are inactive.
- The service displays the following message: "Order Status: Transmitted Waiting for confirmation."

### 5. Transmitted - Confirmed State (Health System Integration Enabled)

- An order moves to this state after the user has gone through the Transmit Data flow in the HIS integrated model.
- All of the order sections Patient Information, Administrative Notes, Order Details, Additional Patient Information, and Audit Trail are available.
- The Deny and Transmit buttons are disabled and the Archive button is enabled.
- The service displays the following message: "Order Status: Transmitted -- Confirmed."

# 5. Transmitted - Confirmed State (Health System Integration Disabled)

- An order moves to this state after the user has gone through the Transmit Data flow in the nonintegrated model
- All of the order sections Patient Information, Administrative Notes, Order Details, Additional Patient Information, and Audit Trail are available.
- The Deny and Transmit buttons are disabled and the Archive button is enabled.
- The service displays the following message: "Order Status: Transmitted."

#### 6. Denied State

- An order moves to this state after a user has gone through the Denial flow.
- All of the sections Patient Information, Administrative Notes, Order Details, Additional Patient Information, and Audit Trail are available.
- The Deny and Transmit buttons are disabled and the Archive button is enabled.
- The service displays the following message: "Order Status: Denied by <First Name> <Last Name> on <denied date>."

### 7. Cancelled State

- An order moves to this state after an ordering practice has cancelled the order.
- All of the order sections Patient Information, Administrative Notes, Order Details, Additional Patient Information, and Audit Trail are available.
- The Deny, Transmit, and Archive buttons are inactive.
- The service displays a message that informs the user the order was cancelled by the ordering practice.

# ORD 1.6 – Matching Patients and Processing Orders

# Point Person: Laboratory and Radiology Facility Users

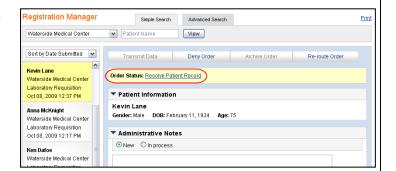
Connected Orders provides an efficient workflow for laboratory and radiology facility users to manage orders sent by a physician practice. Depending upon the deployment (integrated versus non-integrated) at the facility, users may view orders in various states as described previously in QuickStart ORD: 1.4: Understanding Order States.

In general, facility users perform three types of actions on an imaging or laboratory requisition. If necessary, reconcile the patient record with an existing patient record in the facility system or create a new patient record in the facility's system. Next, facility users can use the *Administrative Notes* section to tag an order in the queue (New, In process, Scheduled) and enter any notes appropriate to the order. Finally, facility users may act on the order by transmitting, denying, archiving, or re-routing the order to an alternate facility.

This QuickStart describes actions facility users will take in response to Order Status messages as well as transmit, deny, archive, and re-routing features provided in Orders Registration Manager. Where appropriate, descriptions in this QuickStart indicate integrated versus non-integrated models.

#### Reconcile Patient - Integrated & Non-Integrated Models

 When the service identifies one or more potential patient matches, the Order Status displays the following message: "Resolve Patient Record." Click Resolve Patient Record to view potential matches.



The service displays patient information from the order received as well as potential matching records. Review the potential matches and:

Check the box to the left of the record you wish to select and click **Confirm Record Match**.

OR

Click No Record Matches.

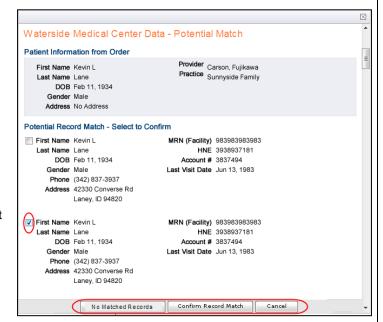
OR

Click Cancel to close the Potential Match pop in.

If you selected 'No Matched Records,' and the facility has integration <u>enabled</u>, the service changes the order state to: *Create New Patient*, and the Create New Patient pop in displays. Refer to 'Transmit Data' instructions for integrated deployment below.

OR

If you selected 'Confirm Record Match,' the service changes the order state to: *This patient has been matched to an existing patient record. You may transmit the order at any time*. Refer to 'Transmit Data' instructions for integrated or non-integrated deployment models below (as appropriate for your facility).



### <u>Transmit Order – Integrated Model</u>

If the service displays the following Order Status: "This
patient has been matched to an existing patient record.

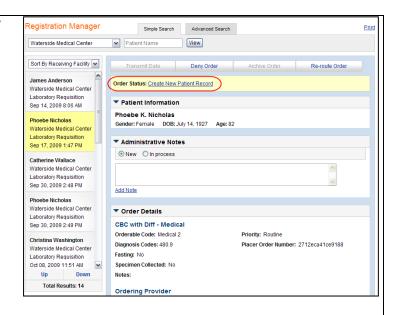
You may transmit the order at any time," you can simply add a tag under Administrative Notes and Transmit the order (skip to step 3 below to view a description of tagging and internal notes).

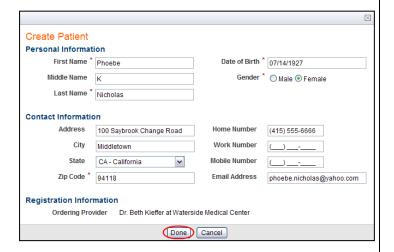
#### ΩR

If no potential matches are found in an integrated deployment model, the service displays the following message: "Order Status: Create New Patient Record." To create the new patient record, click Create New Patient Record.

**Note:** Because the patient record does not yet exist in the facility system when the Order Status displays 'Create New Patient Record,' the Transmit Data and Archive Order buttons are disabled.

On the Create Patient screen, enter all required information and click **Done**.

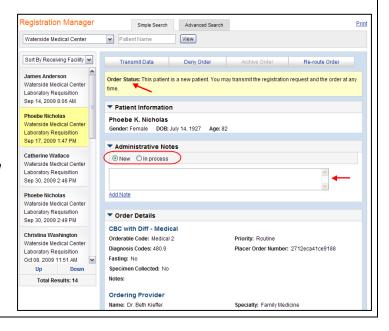




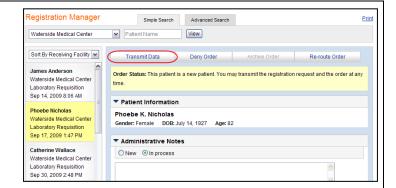
3. The Order Status message now displays: This patient is a new patient. You may transmit the registration and the order at any time. In the Administrative Notes section, select from the radio buttons to add a tag to the order. You may optionally add notes to the order using the text box in the Administrative Notes section as well.

Note: Tags allow facility users to perform Advanced Searches for orders using 'order tag' criteria. Additionally, tags provide visual indicators in the queue, which allow users to rapidly scan the queue and evaluate order processing. For example, orders that have an 'in process' tag will display with a red circle in the queue and orders with a 'scheduled' tag display with a yellow circle. The default tag is New, which does not display an icon in the queue. Laboratory orders include New and In process tags only. Imaging orders include an additional 'Scheduled' tag option.

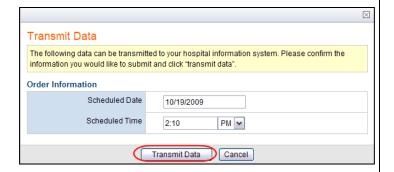
Tag icons display in the queue when facility users select criteria for a Simple or Advanced search, resort the queue, or refresh the screen.



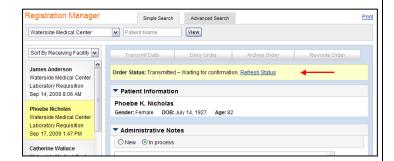
 Click Transmit Data to transmit the registration and the order into the facility's laboratory or radiology system.



 The *Transmit Data* pop in displays. The Order Information section defaults to the current date and time. You may optionally adjust these entries if necessary by clicking on the date or time fields, then click **Transmit Data**.

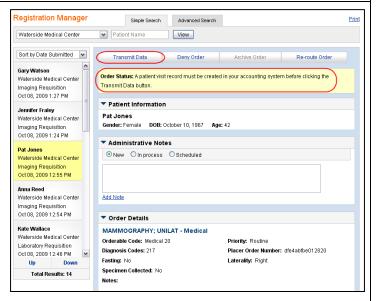


 The Order Status message now displays: Transmitted – Waiting for confirmation. Click Refresh Status at any time to refresh the order status.



#### Transmit Order - Non-integrated Model

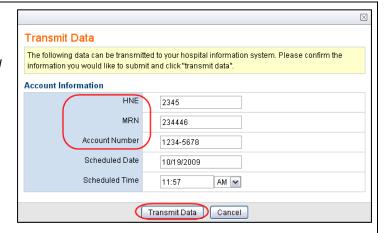
When no potential patient matches are found in a nonintegrated deployment model, the service displays the following message: "Order Status: A patient visit record must be created in your accounting system before clicking the Transmit Data button." After creating the new patient record in the facility's accounting system, click Transmit Data.



The service presents the *Transmit Data* pop in. On this screen, enter the HNE, MRN, and/or Account Number as applicable.

**Note**: All fields in the pop in are required. If the HNE and MRN for the patient are already known, the fields are pre-populated.

Click Transmit Data.



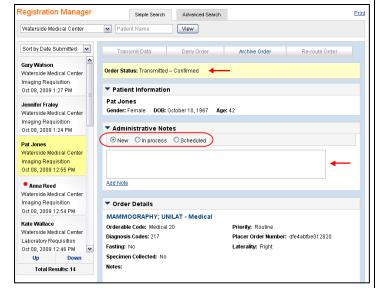
 The Order Status moves to Transmitted – Confirmed. Because the order has been transmitted, the Transmit Data, Deny Order, and Re-route Order buttons are now disabled.

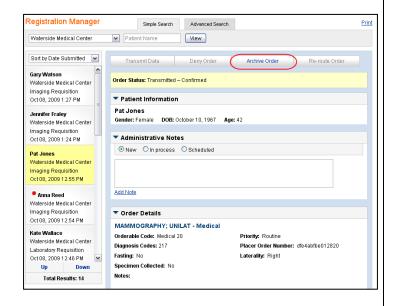
To add a tag and/or notes to this order, use the radio buttons and text box provided in the *Administrative Notes* section.

Note: Tags allow facility users to perform Advanced Searches for orders using 'order tag' criteria. Additionally, tags provide visual indicators in the queue, which allow users to rapidly scan the queue and evaluate order processing. For example, orders that have an 'in process' tag will display with a red circle in the queue and orders with a 'scheduled' tag display with a yellow circle. The default tag is New, which does not display an icon in the queue. Laboratory orders include New and In process tags only. Imaging orders include an additional 'Scheduled' tag option.

Tag icons display in the queue when facility users select criteria for a Simple or Advanced search, resort the queue, or refresh the screen.

 You may optionally **Archive Order** at this time or move to another order in the queue. Once an order has been transmitted, it will automatically archive in 24 hours.

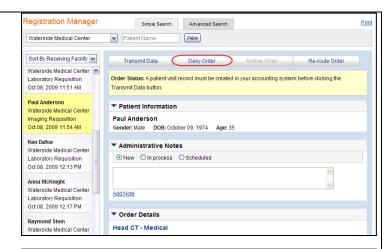


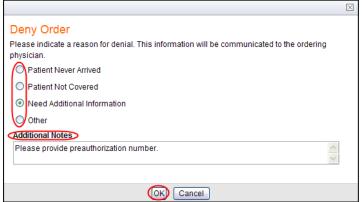


 If it is necessary to deny an order, facility users can accomplish this action with just a few clicks. After reviewing the order details, click **Deny Order**.

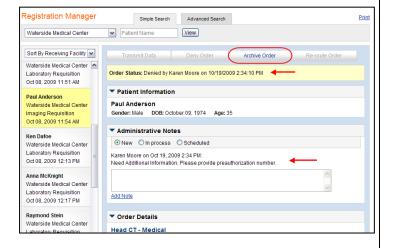
**Note**: It is not necessary to create or resolve patient records in the facility system prior to denying an order.

 The Deny Order pop in displays. Use the radio buttons to indicate the reason for the denial and the Additional Notes text box to enter any comments to the ordering physician. Click OK.





- The Order Status now displays: Denied by <user name> on <date, time>. Additionally, the Administrative Notes section now includes the denial reason and any comments.
- You may optionally archive the order to remove it from the queue. Click **Archive Order**. Denied orders will automatically archive after 7 days.

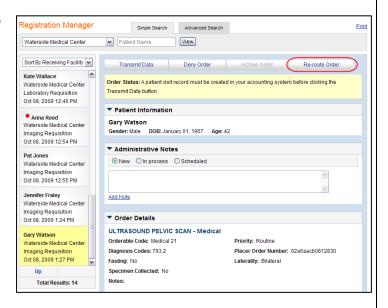


 The Archive Order button is now marked with a green (completed) checkmark and all order action buttons are disabled. The order displays in a grey front in the queue; however, it is accessible for review if necessary.

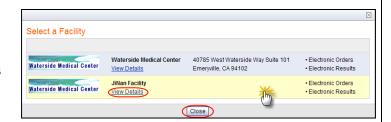


#### Re-route Order

 Facility users may occasionally need to re-route orders to an alternate facility. Click Re-route Order.



 In the Select a Facility pop in, highlight and click the alternate facility from the pop in box or click Close to close the box. You may optionally view details of listed facilities (i.e., address, phone, fax number, patient service centers information) by clicking the View Details link.



 The Order Re-routed pop in confirms the order has been re-routed to the selected facility. The order has also been removed from the queue.

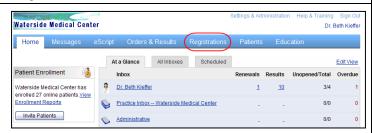


# **Connected Orders**

# **ORD 1.7 – Printing Individual or Batch Orders**

# Point Person: Laboratory and Radiology Facility Users

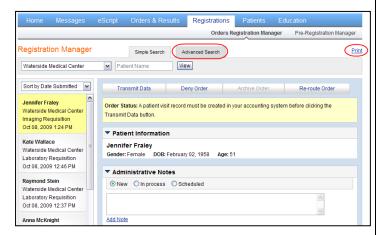
1. From the Home page, click the **Registrations** tab.



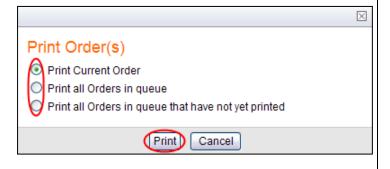
Orders Registration Manager displays. To print results from the current queue display, click Print.

#### OR

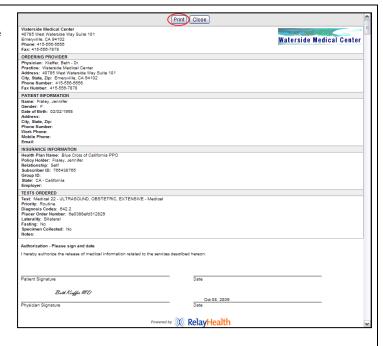
To filter the contents of the Orders Registration Manager queue (for example, by time frame, practice, order tag, etc.), click the **Advanced Search** tab. On the **Advanced Search** tab, use the drop-down, radio button, check box, and free-text options to enter the criteria by which you wish to filter the queue and click **View**, then click **Print**.



- 3. In the Print Orders pop in, use the radio buttons to select a print range:
  - Print Current Order (prints the order currently displayed on screen)
  - Print all Orders In queue (batch print)
  - Print all Orders in queue that have not yet printed (batch print).
- 4. Click Print.



 Orders Registration Manager displays the order(s) to be printed in a web browser window. Click **Print** to send the report to your printer. Click **Close** to return to Orders Registration Manager.



# **Appendix A: Connected Orders FAQs**

### Can I copy another provider on the results of the order?

Yes. In the Connected Orders creation workflow, you have the option to enter a CC provider. Use the typeahead search feature in the **Send Results To** field to search for the provider's name. At this time, you can CC providers only within the same health system as the ordering provider.

### How does the orderable Favorites feature work?

You can save an unlimited number of individual orderables or create order sets for commonly grouped tests you often order. When selecting an orderable, click **Favorites** to review your list and select an orderable with a single click. To add an orderable or build a set, first click **Favorites** then click **Add or Remove Favorites in the top right of the pop-in box**.

## Can multiple providers share the same Favorites list?

No. Favorites lists are saved and displayed based on the logged-in provider or staff member. This allows each provider or staff member to have a unique list of favorites.

#### How do I delete a Favorite?

In the order creation process, click the **Favorites** button. Then, click **Add or Remove Favorites**. Hover your mouse over the orderable and click the red X to remove the item from your Favorites list.

## I want to send the order to a different facility than the one displayed.

Click the "Change Facility" link and select from the facility list.

# How do I track order activity?

In the Order Status area, you can search for and review the status of orders created in your organization. The Order Status area defaults to Simple Search view. Advanced Search view allows providers and staff to select orders by multiple criteria including Patient, Practice, Time Frame, Order Status (Draft, Sent, Archived), and Order Type. This area of the Connected Orders feature also allows providers and staff to take actions against existing orders. For example, in the Order Status area, you may view, cancel, delete, or print orders.

### Can I delay sending an order?

Yes. To delay sending an order, use the **Save as Draft** option. Draft orders allow designated members of your practice to review orders before transmitting to the facility. You can easily locate the draft orders using the Simple or Advanced Search features provided in the Order Status area of the application.