**LabCorp to Cerner Outpatient Results Interface Requirements**

**Version 2.0**

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# **Document Control**

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## Document Version Control

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| V1.1 | 5/27/16- 6/7/16 | Hope Kaczmarczyk | Updated with Cerner FSI Information |
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| V1.3 | 5/17/17 | Hope Kaczmarczyk | Updated Risks for CloverLeaf and HL7 message examples. |
| V1.4 | 1/11/18 | Sailaja Parimi | Updated document with RFC # 8051 |
| V1.5 | 4/19/18 | Hope Kaczmarczyk | Updated for RFC 10346 - blanking out of patient address/phone fields for unmatched patients. |
| V2.0 | 4/24/2019 | Sarah Thies | Updated existing interface script, mobj\_amblc\_enc\_in, (a child script called from oru\_LCorpAMB\_modobj\_in) to include Behavioral Health encounters |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to outline the Results interface for the reference laboratory, LabCorp, and BayCare BMG/BUC Patients. On June 18, 2019, the Soarian registered behavioral health outpatient and “Between” encounters were added to this interface.

1.2 Project Scope

Integration for this project includes a Cerner orders interface to LabCorp and a solicited/unsolicited results interface from LabCorp for BayCare BMG/BUC patients. Both interfaces pass through CloverLeaf and the Cerner Reference Lab Hub. This document is for the ORU results portion only.

BayCare is a beta-site for Cerner’s Reference Lab Standardization project. Cerner supplied generic coding requiring site-specific modifications along with update modifications. All coding will be on the BayCare Cerner side and CloverLeaf will be used as a pass-through only.

All LabCorp result messages go through a person matching logic of BayCare CMRN (CPI), DOB, and Sex. Any mismatch will cause the original result message to go to the Cerner Unmatched Person Queue (UMPQ) for manual verification prior to posting. LabCorp results post in Cerner PowerChart and are viewable at all BayCare Medical Group practices. The results also post to the ordering physician’s inbox in the Cerner Message Center.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

**BMG** - BayCare Medical Group

**BUC** - BayCare Urge Care

**CMRN** – Community Medical Record Number

**DOB** - Date of Birth

**DTA** – Discrete Task Assay

**FIFO** – “first in, first out” is a method for organizing a data buffer. Messages are processed in and out of a queue

according to the order in which they were received.

**FSI** - Foreign System Interface; used by Cerner Millennium to exchange data with other Health Care Information

Systems.

**ESI** - External Systems Inbound; Cerner’s process for handling interfaced data received from a foreign system.

**ESI Log** -The External Systems Inbound log contains queue trace reports for all inbound messages to Cerner along with processing statuses of success, failure, or warning. Failures and Warnings are accompanied by error text which describes the issue. The ESI log is used for Cerner FSI troubleshooting by the Integration Team.

**NPI** – National Provider ID

**ORU** - Observation result / a solicited or unsolicited HL7 message

**RLN** - Cerner Reference Lab Network (Hub)

**TDB** – Cerner Transaction Database

**TNP** – Test Not Performed

**UMPQ** – Unmatched Person Queue is an application on Cerner where ORU result messages are sent when the

patient match fails on person matching criteria used by the contributor system (i.e., Patient’s CPI, DOB, and Sex).

Currently, Cerner has a glitch with this application: Users with more than 200 organizations on their Cerner User

Profile will not be able to see any of the messages that are posted to the UMPQ. Work-around required

additional user profiles with less than 200 Ambulatory organizations to be created for the users manually

verifying ORU messages in the UMPQ.

### 1.3.2 Glossary

**Alias** - An identifier used to represent an item, such as a location, order, specimen type, or result.

**Contributor System –** External System that sends to and/or receives data from Cerner Millennium. A “Contributor System” is built on Cerner as part of an interface or data feed.

**Contributor Source –** A source created on Cerner used to identify inbound and/or outbound aliases for data sent to and received from Foreign Systems.

**LabCorp -** Reference Lab utilized by BayCare Medical Group based on patient’s insurance.

**PowerChart** – Cerner Electronic Medical Record System

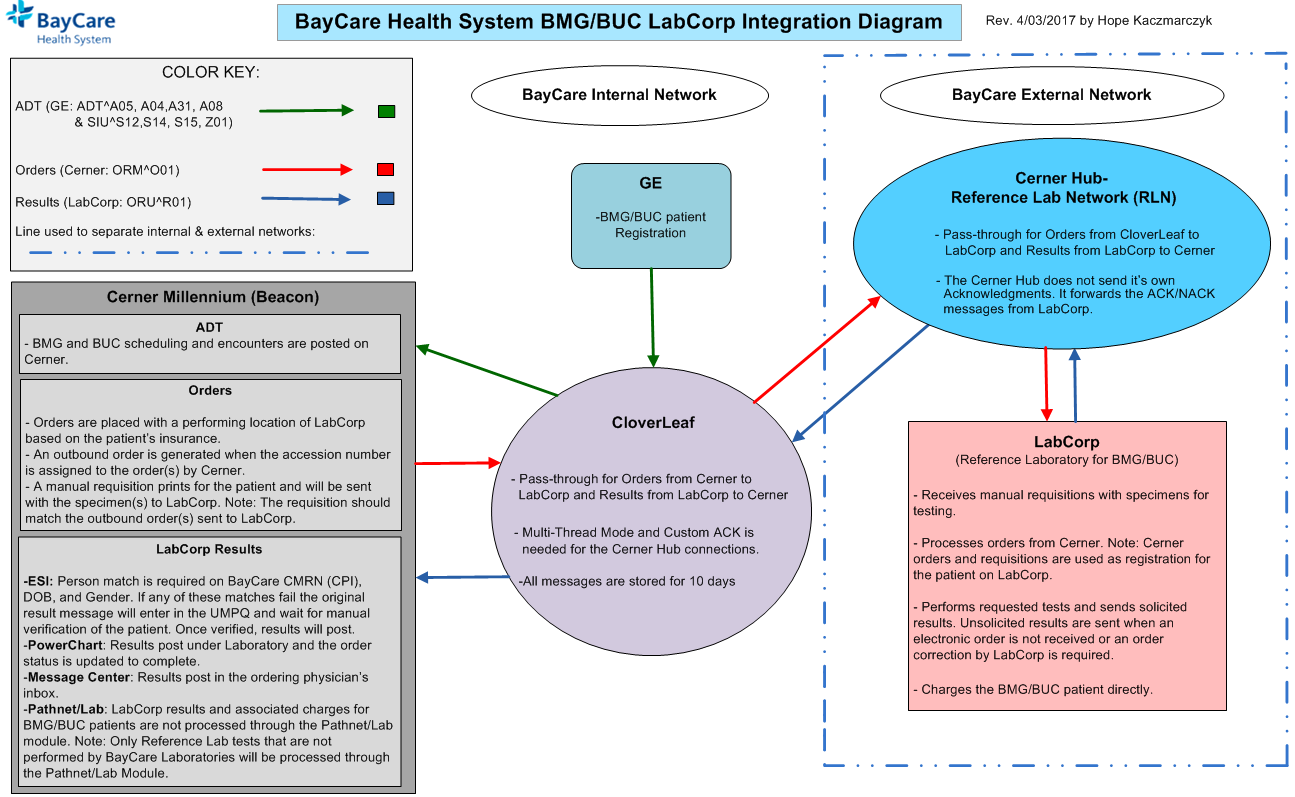
**Scripting –** Custom Cerner programs written to modify, format, and filter message transactions for the interfaces. The types of scripts used by FSI are Suppression, Route, Modify Object, Modify Original, Type, and ACK.

## 1.4 Document References

Ambulatory – Reference Lab Interface (A-RLI) Implementation Guide – Cerner November 2014

Cerner HL7 Specifications: Unit 10i - Result and Document Processing Inbound – Cerner 2016

# 2. Diagram



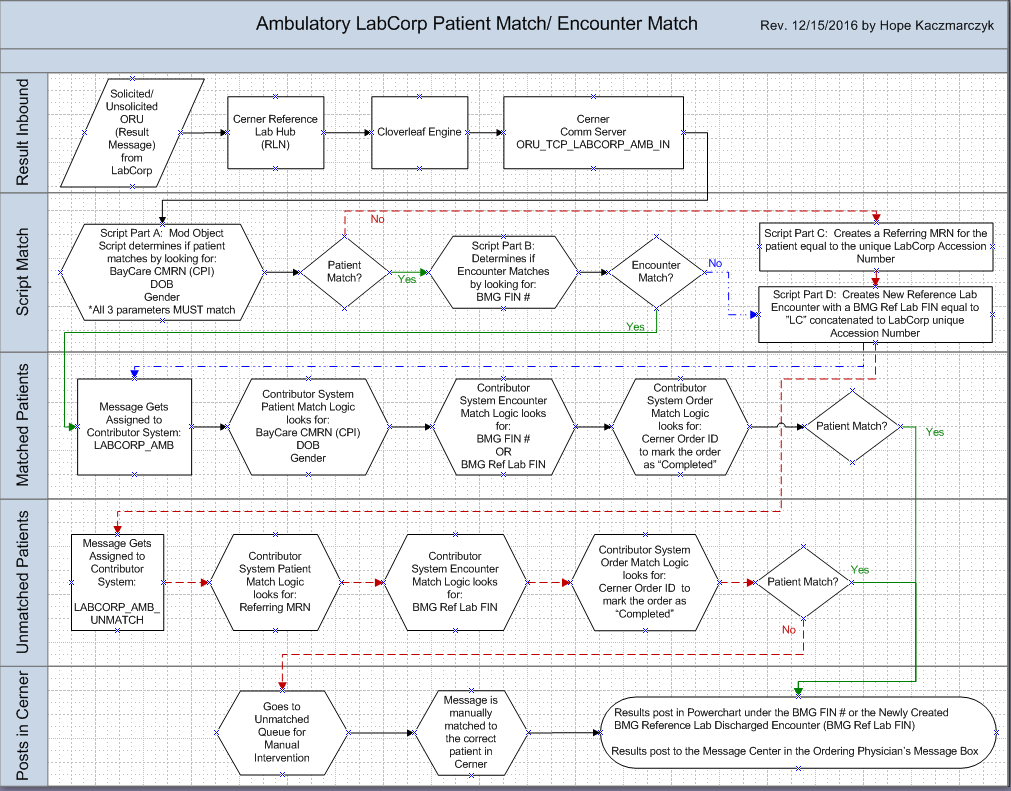
A Summary of the ESI Person and Encounter Match Logic for Ambulatory LabCorp result messages and a diagram:

* When an ORU result message fails to match the patient’s CPI, DOB, and/or Sex, the patient identifier field (CPI) is changed to “ ”(blank), the unique LabCorp accession number is marked as the patient’s Referring MRN, and the result message is assigned to the unmatched contributor system. If the result message sent on a particular LabCorp accession number is the first one and it has failed patient CPI, DOB, and/or Sex match, it will also fail the person match for Referring MRN on the unmatched contributor system and go to the unmatched person queue (UMPQ) application where manual verification of the patient is required for the results to post. Because the patient CPI, DOB, and/or Sex match failed, the FIN if present in the message cannot be trusted so a RLN encounter number is created and stored in the BMG Ref Lab FIN Alias Pool.
* When a result message fails encounter match only (FIN is missing or incorrect for the patient), a RLN encounter number is created and stored in the BMG Ref Lab FIN Alias Pool.  The results will post on the patient under this new encounter number without the result message going to the UMPQ.
* Cerner’s coding logic creates a unique RLN FIN and encounter when the person or encounter match fails.

- RLN FIN= LC concatenated with LabCorp’s unique accession number and msg\_year (e.g.,LC2022163066016)

- An encounter is created with an admit date/time equal to the specimen received date/time in the result

message.  The discharge date is equal to the admit date with a time of 2359.



# 3. Requirements

## 3.1 Functional Requirements

|  |  |  |
| --- | --- | --- |
| **Cerner** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| FR.2016.08.1  FR.2016.08.2  FR.2016.08.3  FR.2016.08.4 | **Scripts:**  - LabCorp\_AMB\_Type  - oru\_LCorpAMB\_modorig\_in  - oru\_LCorpAMB\_modobj\_in   * mobj\_amblc\_enc\_in   - LabCorp\_AMB\_Route\_In  on **ComServer:** ORU\_TCP\_LABCORP\_AMB\_IN  **New ESI Servers:**  ORU\_LABCORP\_AMB \_ESI with scripts:  - morg\_amblc\_esi\_in  - mobj\_amblc\_esi\_in  ORU\_LABCORP\_AMB\_UNMA\_ESI  **New Cerner Contributor Systems:**  LABCORP\_AMB  LABCORP\_AMB\_UNMATCH  **New Cerner Contributor Source:**  BMGLabCorp | Scripts for LabCorp result messages inbound to Cerner:  - **LabCorp AMB Type script**: Logic to format the MSH segment. This includes adding the event type (i.e., R01) and setting both, the type and trigger, as the type value of the transaction so the TDB functions properly.  -**LabCorp AMB Mod Original script** (oru\_LCorpAMB\_modorig\_in): Logic to format the ZPS segment for conversion to a ZDS “Performing Lab” segment by the LabCorp AMB Mod Object script.  - **LabCorp AMB Mod Object script** (oru\_LCorpAMB\_modobj\_in)  has logic for:   * MSH Processing * PID and PV1 Processing * ORC/OBR Processing * OBX/ZDS/NTE Processing * Assigning Authority, BMGFN or BCFN, returned in message for processing. * Executing the mobj\_amblc\_enc\_in script * Updating encounter created for unmatched queue to a generic RLN (Reference Lab Network) encounter type to include both encounter types, ambulatory and outpatient (BH).   - **mobj\_amblc\_enc\_in Mod Object script:** Logic for person match on patient’s CPI, DOB, and Sex. If any of these matches fail the LABCORP\_AMB\_UNMATCH contributor system is assigned along with the creation of a new RLN encounter. This script will also perform the encounter match on the patient’s FIN when the person match is successful. If the encounter match fails, a new RLN encounter is created. Since the person match was successful, the contributor system assigned is LABCORP\_AMB and the result message will not go to the UMPQ.  - **LabCorp\_AMB\_Route\_In custom route script**: Logic to route the LABCORP\_AMB\_UNMATCH contributor system assigned result messages to the ORU\_LABCORP\_AMB\_UNMA\_ESI and the LABCORP\_AMB contributor system assigned result messages to the ORU\_LABCORP\_AMB\_ESI.  - The **ORU\_LABCORP\_AMB \_ESI server** only processes result messages for the LABCORP\_AMB contributor system. The  morg\_amblc\_esi\_in mod original script and the mobj\_amblc\_esi\_in mod object script have logic to separate each OBR segment into separate ORU result messages when there is more than one OBR segment in the original message. This process allows for common results to post immediately even though one or more of the OBR segments in the message may have failed due to build/aliasing issues. Creating separate ORU result messages for each ORC/OBR segment also provides quicker and more accurate analysis of the missing build/aliasing for the Pathnet Team.  - The **ORU\_LABCORP\_AMB\_UNMA\_ESI server** only processes result messages for the LABCORP\_AMB\_UNMATCH contributor system. These messages are not split out into separate ORU messages when there is more than one ORC/OBR since the majority of these messages will go to the UMPQ requiring manual verification. After the message is matched in the UMPQ, the message will be sent through this ESI server again and the message will either be successful or fail. A common cause for failure is a new result item that has not been aliased in BayCare Cerner.  LABCORP\_AMB and LABCORP\_AMB\_UNMATCH are bi-directional contributor systems:  -Type: Unauth  - Organization: BayCare Health System  - Contributor Source: BMGLabCorp  - Alt Contributor Source: Invision  - Message Format: HL7 Standard V2.x  **Special Configurations**:  - Clincal Event processing done using order catalog/DTA.  **ESI Alias Translation**:  - ORC/OBR-02 Placer Order Id (Type: Internal Order Id)  - PID-02 External Person Id (Type: CMRN, ESI Assign Auth:  MRN, Alias Pool: BayCare CMRN)  - PID-18 Patient Account Number (Type: BMGFN, ESI Assign Auth: FIN, Alias Pool: BMGFN)  - PID-18 Patient Account Number (Type: BCFN, ESI Assign Auth: FIN, Alias Pool: BayCare FIN)  - PID-18 Patient Account Number (Type: FIN NBR, ESI Assign  Auth: LABCORP, Alias Pool: BMG Ref Lab FIN Alias Pool)  **ESI Ensure Parameters**:  - Person = Exists ensure  - Encounter = Update ensure  - Event = Update ensure  - Order = Complete for ORU Message\*  \*This setting causes the BayCare order to auto complete when the Cerner order\_id is returned in ORC/OBR-02 of the ORU result message from LabCorp.  **Person Match**:  - Alias of BayCare CMRN = Match Required  - Date of Birth = Match Required  - Sex = Match Required  **Encounter Match**:  - FIN NBR = Match Required on patient’s BMG FIN or BayCare FIN or BMG Ref Lab FIN (i.e., “LC”, Unique LabCorp Accession Number, Msg\_Yr)  **Personnel Alias**:  - All Personnel = NPI (Alias Pool: NPI Number)  **Order Match**:  - Internal Order Id = Match Required for automatic order completion to occur.  **Special Configurations**:  - Clincal Event processing done using order catalog/DTA.  - Person/Encounter Processing is set to queue unmatched  person result messages in UMPQ for review when person  match fails.  **ESI Alias Translation**:  - ORC/OBR-02 Placer Order Id (Type: Internal Order Id)  - PID-03 Internal Person Id (Type: Referring MRN, ESI Assign  Auth: LABCORP\_MRN, Alias Pool: LABCORP\_ACCESSION)  - PID-18 Patient Account Number (Type: FIN NBR, ESI Assign  Auth: LABCORP, Alias Pool: BMG Ref Lab FIN  Alias Pool)  **ESI Ensure Parameters**:  - Person = Add ensure  - Encounter = Update ensure  - Event = Update ensure  - Order = Complete for ORU Message\*  \*This setting causes the BayCare order to auto complete when the Cerner order\_id is returned in ORC/OBR-02 of the ORU result message from LabCorp.  **Person Match**:  - Alias of Referring MRN (LabCorp Unique Accession number)  Match Required.  This person match was added to prevent additional ORU result messages that were sent on the same LabCorp unique accession number from failing with no ability to post the updated or final result in Powerchart. By adding person match at the Referring MRN level, only the first ORU result message on the LabCorp accession number will go to the UMPQ for manual verification. Any additional ORU result messages sent on that LabCorp accession number will be automatically assigned to the LABCORP\_AMB\_UNMATCH contributor system, will person match on the Referring MRN, and process without going to the UMPQ for manual verification.  **Encounter Match**:  - FIN NBR = Match Required on BMG Ref Lab FIN (i.e., “LC”, Unique LabCorp Accession Number, Msg\_Yr)  **Personnel Alias**:  - All Personnel = NPI (Alias Pool: NPI Number)  **Order Match**:  - Internal Order Id = Match Required for automatic order completion to occur.  All LabCorp orders in codeset 200 and result items in codeset 72 have to have an inbound alias assigned to the contributor source of BMGLabCorp for the results to post in Cerner. |
| FR.2016.08.5  FR.2019.01.1 | **New Cerner Alias Pools:**  BMG Ref Lab FIN Alias Pool    LABCORP\_ACCESSION  Unmatched Queue Encounter Type and Encounter Class | BMG Ref Lab FIN Alias Pool was created for the unique FINs that are assigned for LabCorp and Quest when the ambulatory patient’s FIN in the result message fails to match or is blank.  LABCORP\_ACCESSION was created for the patient’s referring MRN which is the unique LabCorp accession number with msg\_yr concatenated to the end. The referring MRN is only assigned to a patient when the result message fails person match of CMRN, DOB, and/or sex and uses the LABCORP\_AMB\_UNMATCH contributor system.  These code sets are maintained by the Core Team:  Code Set 71 New Encounter Type Ref Lab Result Encounter RLN and linked to Outpatient group in code set 69  Code Set 321 New Encounter Class Ref Lab Result Encounter RLN |

## 3.2 Messaging Protocols

Below are listed the details for the messaging protocols that will be leveraged for this integration.

### Inbound to the BayCare Cloverleaf

* TCP/IP Protocol
  + HL7 2.3 ORU messages from the Cerner RLN HUB to BayCare Cloverleaf
    - CloverLeaf is set up as Multi-Thread for this interface as per Cerner RLN HUB request.

### 3.2.2 Outbound from the BayCare Cloverleaf

* TCP/IP Protocol
  + HL7 2.3 Acknowledgment Messages returned from CloverLeaf to the Cerner RLN HUB
    - tpsHl7ParamAck (Parameters needed are provided by Cerner)

{VRSID 2.3} {SNDNGAPP CERRLN} {SNDNGFC BAYC\_FL.TA010893.LC.RLN} {RCVNGAPP

BAYC\_FL.TA010893.LC.RLN} {MSGTYPE ACK} {MULTISERVER 1} {DEBUG 1}

* + HL7 2.3 ORU messages to the BayCare Cerner

### 3.2.3 Inbound from the Vendor

* TCP/IP Protocol
  + HL7 2.3 ORU messages from LabCorp to the Cerner RLN HUB
    - This interface is supported by Cerner and LabCorp

### 3.2.4 Outbound to the Vendor

* TCP/IP Protocol
  + HL7 2.3 Custom ACK message from the Cerner RLN HUB to LabCorp
    - This interface is supported by Cerner and LabCorp

# 4. HL7 Messaging

## 4.1 Messaging Format

Solicited and unsolicited ORU result messages are sent from LabCorp to BayCare Cerner through the Cerner RLN Hub and CloverLeaf using HL7 2.3 message format. Each ORU message is a discrete R01 result message for one or more LabCorp orders on a particular BayCare Ambulatory patient.

### 4.1.1 Segments

The segments utilized for this interface are:

MSH *Message Header*

PID *Patient ID segment*

[{NTE}] *Patient-level comments*

[PV1\*] *Patient Visit segment*

{

ORC\*\* *Common Order segment*

OBR\*\* *Observation Request segment*

[{

OBX *Observation / Result segment*

[{NTE}] *Observation / Result-level comments*

}]

}

[{ZPS}]  *Locally-defined segment provided by LabCorp with Performing Laboratory information. The Cerner*

*mod object script, ORU\_LCorpAMB\_modobj\_in, converts the ZPS segment found at the end of the ORU*

*message into a ZDS segment to follow each OBX segment with the same performing location; when*

*ZPS.2 matches OBX.15. If more than one Laboratory performed the results, there will be multiple*

*ZPS segments at the end of the ORU message which will be converted into ZDS segments to match on*

*the performing location of the OBX segments when OBX.15 matches ZPS.2. The script also copies each*

*ZPS segment into a NTE segment to follow only the 1st OBX segment of each OBR segment in the result*

*message that matches that performing location*.

[{ZDS}]

*Notes: [Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*\* (PVI) This segment is not sent by LabCorp and is only added to the message when the Encounter match fails.*

*\*\* (ORC & OBR) These segments do not repeat for the messages processed by the LABCORP\_AMB contributor*

*system. The mobj\_amblc\_esi\_in mod object script and the morg\_amblc\_esi\_in mod original script create*

*separate ORU result messages for each ORC/OBR segment as discussed under fundamental requirement*

*FR.2016.08.2.*

### 4.1.2 Messaging Event Types

Below are the message types necessary for this integration

|  |  |
| --- | --- |
| **Event Type** | **Description** |
| ORU^R01 | Solicited/Unsolicited transmission of an observation/results |
| ACK | Custom Acknowledgment messages needed by the Cerner RLN HUB |

### 4.1.3 Cloverleaf Configuration Files

CloverLeaf is only a pass-through for LabCorp results on Ambulatory patients to BayCare Cerner. The Cloverleaf feed is raw with no changes to the message.

### 4.1.4 Cloverleaf Site Location

bmg\_1\_p

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required Y/N**  **And C for Conditional** | **Data Type** | **Length** | **Cerner Table (T) and/or Code Set (CS)** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- |
| Message Header – Field Separator | MSH.1 | Y | ST | 01 |  | A Pipe (|) is used as the field separator and cannot be included in the transmitted data. |
| Encoding Characters | MSH.2 | Y | ST | 04 |  | “^~\&” These characters cannot be included in the transmitted data:  ^ used to separate components in a field  ~ used as a repetition separator  \ used as an escape delimiter  & used to separate sub-components |
| Sending Application | MSH.3 | Y | HD | 227 | CS 89 | Cerner Mod Object script, oru\_LCorpAMB\_modobj\_in, changes “1100” to “LABCORP\_AMB” if the person match was successful or to“LABCORP\_AMB\_UNMATCH” if the person match failed. This field identifies the contributor system used to process the message. |
| Sending Facility | MSH.4 | Y | HD | 227 |  | Cerner Mod Object script changes “TA” to “LABCORP\_AMB”. |
| Receiving Application | MSH.5 | Y | HD | 227 | CS 15679 | “CERRLN” |
| Receiving Facility | MSH.6 | Y | HD | 227 |  | “BAYC\_FL.TAO10893.LC.RLN” |
| Date / Time of Message | MSH.7 | N | TS | 26 |  | YYYYMMDDHHMM |
| Message Type | MSH.9 | Y | MSG | 15 |  | HL7 message type and event triggering the message. |
| Type | MSH.9.1 | Y |  |  |  | “ORU” |
| Event | MSH.9.2 | Y |  |  |  | “R01” |
| Message Control ID | MSH.10 | Y | PT | 20 |  | Unique, generated ID from the sending system to be returned in MSA-2 of the ACK message. |
| Processing ID | MSH.11 | Y | ID | 01 |  | Defaulted to “P” for Production Environment. |
| Version ID | MSH.12 | Y | ID | 08 |  | 2.3 (HL7 version) |
| Set ID | PID.1 | N | SI | 04 |  | 1 |
| Patient ID (External ID) | PID.2 |  | CX | 20 |  |  |
| Patient ID | PID.2.1 | C | ST |  | T Person\_Alias | Patient CMRN (CPI) is sent in the order message and is expected to be returned in PID.2.1. This field will be cleared by the mobj\_amblc\_enc\_in script only when person match fails and the contributor system of “LABCORP\_AMB\_UNMATCH” is assigned. |
| Assigning Authority | PID.2.4 | C | HD |  | T Person\_Alias  CS 263 | **Used only when person match is successful**: The value of MRN is hard-coded by the oru\_LCorpAMB\_modobj\_in script. This value is used by the LABCORP\_AMB contributor system to identify the alias type as “Community Medical Record Number” with an alias pool of “BayCare CMRN”. |
| Patient ID (Internal ID) | PID.3 |  | CX | 20 |  | This field is only used for person identification when the contributor system of LABCORP\_AMB\_UNMATCH is assigned due to person match failure. |
| Patient ID | PID.3.1 | C | ST |  |  | LabCorp unique accession number. The mobj\_amblc\_enc\_in script concatenates the msg\_yr to the end of this number only when person match has failed. |
| Assigning Authority | PID.3.4 | C | HD |  | T Person\_Alias  CS 263 | **Used only when person match fails**: The value of LABCORP\_MRN is hard-coded by the oru\_LCorpAMB\_modobj\_in script. This value is used by the LABCORP\_AMB\_UNMATCH contributor system to identify the alias type as “Referring MRN” with an alias pool of “LABCORP\_ACCESSION”. |
| Alternate Patient ID | PID.4.1 | Y | CX | 20 |  | The patient’s encounter Financial Identifier Number (FIN) is submitted and expected to be returned in PID.4.1 The oru\_LCorpAMB\_modobj\_in script will copy the FIN to PID.18.1 if the person match is successful. |
| Assigning  Authority | PID.4.4 |  |  |  | T Enctr\_ALias | The FIN Assigning Authority (BMGFN or BCFN) is expected to be returned in PID.4.4. The oru\_LCorpAMB\_modobj\_in script will copy the FIN Assigning Authority (BMGFN or BCFN\*) to PID.18.1 if the person match is successful.  \*BCFN is changed to BayCare FIN by the oru\_LCorpAMB\_modobj\_in script. |
| Patient Name | PID.5 | Y | XPN | 250 | T Person\_Name | Components: <Last Name>^<First Name>^<Middle Initial or Name>^<Suffix>^<Prefix>^ <Degree> Note: If the transmitted name does not match the existing name in the table, ESI will update the existing name’s Name Type from CURRENT to PREVIOUS in the table. |
| Birth Date | PID.7 | Y | TS | 8 | T Person | YYYYMMDD |
| Sex | PID.8 | Y | ID | 1 | T Person  CS 57 | Patient’s Sex |
| Patient Address | PID.11 | N | XAD | 106 | T Address | Mailing Address of Patient  Components: <street address>^<other>^<city>^<state>^<zip code>  This field will be cleared by the mobj\_amblc\_enc\_in mod object script only when person match fails and the contributor system of “LABCORP\_AMB\_UNMATCH” is assigned. |
| Phone Number | PID.13 | N | XTN | 25 | T Phone | Patient’s home phone number in the expected format (XXX) XXX-XXXX. No phone type is sent by LabCorp; Cerner’s default is HOME.  This field will be cleared by the mobj\_amblc\_enc\_in mod object script only when person match fails and the contributor system of “LABCORP\_AMB\_UNMATCH” is assigned. |
| Patient Account Number | PID.18 |  |  |  |  |  |
| Patient Account # | PID.18.1 | C | CX | 20 |  | The LabCorp Client Number for the BMG office is sent in this field and is replaced with a copy of the patient’s FIN from PID.4 by the oru\_LCorpAMB\_modobj\_in script when the person match is successful. If the person match fails, the mobj\_amblc\_enc\_in script creates a unique LabCorp FIN number by concatenating “LC” at the beginning and the msg\_yr at the end of the LabCorp accession number copied from PID.3.1. |
| Assigning Authority | PID.18.4 | C | HD |  | CS 263 | When person match is successful:  The value of FIN is hard-coded by the oru\_LCorpAMB\_modobj\_in script. This value is used by the LABCORP\_AMB contributor system to identify the alias type as “FIN NUM” with an alias pool of “BMGFN”.  When person match fails:  The value of LABCORP is hard-coded by the oru\_LCorpAMB\_modobj\_in script. This value is used by the LABCORP\_AMB\_UNMATCH contributor system to identify the alias type as “FIN NBR” with an alias pool of “BMG Ref Lab FIN Alias Pool”. |
|  | PV1 |  |  |  |  | The PV1 segment is not sent by LabCorp. The Mod Object script,mobj\_amblc\_enc\_in, creates the PV1 segment when there is a patient and/or encounter match failure. |
| Patient Class | PV1.2 | Y\* | ID | 1 | CS 321 | Populated with “A” for Ambulatory Office by the mobj\_amblc\_enc\_in script. \*Required if PV1 segment has been created. |
| Patient Location | PV1.3 |  |  |  | T Encounter |  |
| Point of Service Location | PV1.3.1 | Y\* |  |  | CS 220 | The mobj\_amblc\_enc\_in script adds a value of “REF” which displays a location of ‘Ref Lab Result’ in Powerchart.    \* Required if PV1 segment has been created. |
| Facility ID | PV1.3.4 | Y\* |  |  | CS 220 | The mobj\_amblc\_enc\_in script adds a value of “REF” which displays a location of ‘Ref Lab Result’ in Powerchart.    \* Required if PV1 segment has been created. |
| Building | PV1.3.7 | Y\* |  |  | CS 220 | The mobj\_amblc\_enc\_in script adds a value of “REF” which displays a location of ‘Ref Lab Result’ in Powerchart.    \* Required if PV1 segment has been created. |
| Patient Type | PV1.18 | Y\* | ID | 2 | CS 71 | Populated with “A” for Ambulatory Office by the mobj\_amblc\_enc\_in script. \*Required if PV1 segment has been created. |
| Account Status | PV1.41 | Y\* | ID | 2 |  | Populated with “D” for Discharge by the mobj\_amblc\_enc\_in script. \*Required if PV1 segment has been created. |
| Admit Date/Time | PV1.44 | Y\* | TS | 26 |  | Populated with the Specimen Received Date and Time from OBR.14by the mobj\_amblc\_enc\_in script.  Format: YYYYMMDDHHMM  \* Required if PV1 segment has been created. |
| Discharge Date/Time | PV1.45 | Y\* | TS | 26 |  | Populated with the Specimen Received Date from OBR.14 and concatenated to the time of 235959 by the mobj\_amblc\_enc\_in script.  Format: YYYYMMDDHHMM  \*Required if PV1 segment has been created. |
| Order Control ID | ORC.1 | Y | ID | 02 |  | “RE” for Results is sent from LabCorp. **This is the only ORC field not cleared by the oru\_LCorpAMB\_modobj\_in script.** |
| Placer Order Number | ORC.2 | N | CM | 75 |  | This number was sent to LabCorp in the order and is being returned.  ORC.2.1 = patient FIN concatenated to a specimen status code\* from the bundler table concatenated to BayCare Cerner’s Conversation ID from order entry.  \*Specimen Status Codes:  For Nurse collect “No”  L = frozen, room temp, or refrigerated  APL =Pathology specimen  MICL = Microbiology specimen  UNKL = Unknown  For Nurse collect “Yes”:  FR = Frozen  RR = Room Temp or refrigerated  AP =Pathology specimen  MIC = Microbiology specimen  UNK = Unknown  ORC.2.2 = LAB  Field is cleared by the oru\_LCorpAMB\_modobj\_in script. |
| Filler Order Number | ORC.3 | N | CM | 75 |  | ORC.3.1 = LabCorp unique accession number.  ORC.3.2 = LAB  Field is cleared by the oru\_LCorpAMB\_modobj\_in script. |
| Date / Time of Transactions | ORC.9 | N | TS | 26 |  | YYYYMMDDHHMM  Field is cleared by the oru\_LCorpAMB\_modobj\_in script. |
| Ordering Provider | ORC.12 |  | XCN | 80 | T CE\_EVENT\_PRSNL | Components: <ID Number>^<Last Name>^<First Name>^<Middle Initial or Name>^<Suffix>^<Prefix>^ <Degree>^<Source Table>  Note: This is the field LabCorp values for the ordering provider and they will not always populate OBR.16 which is the field that Cerner values for the ordering provider. Therefore,  oru\_LCorpAMB\_modobj\_in script copies this data to OBR.16, then clears the field. |
| ID Number | ORC.12.1 | Y\* |  |  |  | Providers NPI number-  \*Field is copied to OBR.16.1 by the oru\_LCorpAMB\_modobj\_in script, then cleared. |
| Last Name | ORC.12.2 | Y\* |  |  |  | Provider last name-  \*Field is copied to OBR.16.2 by the oru\_LCorpAMB\_modobj\_in script, then cleared. |
| First Name | ORC.12.3 | Y\* |  |  |  | Provider first name or Initial-  \*Field is copied to OBR.16.3 by the oru\_LCorpAMB\_modobj\_in script, then cleared. |
| Source Table | ORC.12.8 | N |  |  |  | LabCorp sends “N” as the value for their source table. This value is not used by BayCare Cerner and is cleared by the oru\_LCorpAMB\_modobj\_in script. |
| Set ID - OBR | OBR.1 | Y | SI | 04 |  | Starts at 1 and is incremented by 1 for all of the orders resulted in the ORU message. |
| Placer Order Number | OBR.2 | Y | CM | 75 |  | OBR.2.1 = patient FIN concatenated to a specimen status code\* from the bundler table concatenated to BayCare Cerner’s Conversation ID from order entry.  \*Specimen Status Codes:  For Nurse collect “No”  L = frozen, room temp, or refrigerated  APL =Pathology specimen  MICL = Microbiology specimen  UNKL = Unknown  For Nurse collect “Yes”:  FR = Frozen  RR = Room Temp or refrigerated  AP =Pathology specimen  MIC = Microbiology specimen  UNK = Unknown  OBR.2.2 = LAB; this sub-field is cleared by the oru\_LCorpAMB\_modobj\_in script.  **For solicited results:** The field is replaced with the BayCare Cerner Order ID number from OBR.18 by the oru\_LCorpAMB\_modobj\_in script.  **For unsolicited results:** This field is populated with the LabCorp order identifier or LabCorp accession number. |
| Filler Order Number | OBR.3 | Y | CM | 75 | T Clinical\_Event | LabCorp unique accession number. The value stored in Cerner is a unique reference number: 100 characters which includes the transmitted value. |
| Universal Service ID | OBR.4 |  | CE | 200 | T Clinical\_Event | LabCorp Order Information |
| Test Code | OBR.4.1 | Y |  |  | CS 200 | LabCorp order alias for contributor source BMGLabCorp.  Note: Cerner recommends aliases be limited to 10-12 characters since functional size is limited for clinical event processing. |
| Test Description | OBR.4.2 | Y |  |  |  | LabCorp Order Name (e.g., Basic Metabolic Panel) |
| Coding System | OBR.4.3 | N |  |  |  | LabCorp sends a “L”. Field is not supported by Cerner. |
| Observation (Collection) Date / Time | OBR.7 | Y | TS | 26 | T CE\_SPECIMEN\_  COLL | Specimen Collection Date/Time: YYYYMMDDHHMM |
| Specimen Received Date / Time | OBR.14 | Y | TS | 26 | T CE\_SPECIMEN\_ TRANS | The date/time when the specimen was received at LabCorp. |
| Specimen Source | OBR.15 | N | CE | 300 | T CE\_SPECIMEN\_ TRANS  CS 2052 | LabCorp will occasionally send a specimen source code when the specimen source is not blood or urine (e.g., ST for Stool or SP for Sputum). This is not a required result field and BayCare Cerner does not have these inbound aliases coded at this time. |
| Ordering Provider | OBR.16 |  | CN | 60 | T CE\_EVENT\_PRSNL | Components: <ID Number>^<Last Name>^<First Name>^<Middle Initial or Name>^<Suffix>^<Prefix>^ <Degree>^<Source Table>  LabCorp will populate OBR.16, however, ORC.12 is more reliable since it is the field LabCorp values as the ordering provider. The oru\_LCorpAMB\_modobj\_in script copies ORC.12 to OBR.16.  This field is required for the ordering physician to receive the results in his/her Cerner Message Center inbox. |
| ID Number | OBR.16.1 | Y |  |  |  | Providers NPI number-  Field is copied from ORC.12.1 by the  oru\_LCorpAMB\_modobj\_in script |
| Last Name | OBR.16.2 | Y |  |  |  | Provider last name-  Field is copied from ORC.12.2 by the oru\_LCorpAMB\_modobj\_in script |
| First Name | OBR.16.3 | Y |  |  |  | Provider first name or Initial-  Field is copied from ORC.12.3 by the oru\_LCorpAMB\_modobj\_in script |
| Source Table | OBR.16.8 | N |  |  |  | LabCorp may send “N” as the value for their source table. This value is not used by BayCare Cerner and is cleared by the oru\_LCorpAMB\_modobj\_in script. |
| Placer Field 1 | OBR.18 | N | ST | 60 |  | BayCare Cerner Order ID is submitted and expected to be returned in OBR.18. If this is an unsolicited result, the field will be blank or populated with the same data as OBR.20. |
| Filler Field 1 | OBR.20 | N | ST | 60 |  | Patient FIN concatenated to a specimen status code\* from the bundler table concatenated to BayCare Cerner’s Conversation ID from order entry.  \*Specimen Status Codes:  For Nurse collect “No”  L = frozen, room temp, or refrigerated  APL =Pathology specimen  MICL = Microbiology specimen  UNKL = Unknown  For Nurse collect “Yes”:  FR = Frozen  RR = Room Temp or refrigerated  AP =Pathology specimen  MIC = Microbiology specimen  UNK = Unknown  For unsolicited results: This field is populated with LabCorp order identifier or LabCorp accession number. |
| Results Report / Status Change – Date / Time | OBR.22 | Y | TS | 26 |  | Format: YYYYMMDDHHMM  Most recent date/time for result verification or status change. |
| Results Status | OBR.25 | Y | ID | 01 | CS 8  CS 6003  CS 6004 | Codes for the status of the results at the order level (OBR Order Status):  I = In Progress  P = Preliminary  F = Auth (Verified)  C = Modified (Corrected)  The contributor systems, LABCORP\_AMB and LABCORP\_AMB\_UNMATCH, are set up to allow the order status to change to In-Process or Complete when the ORU result message is received. |
| Quantity / Timing | OBR.27.4 | Y | TS | 26 |  | Format: YYYYMMDDHHMM  Field is copied from OBR.22 by the oru\_LCorpAMB\_modobj\_in script. This field is needed for the results to populate the ordering physician’s inbox correctly. |
| Set ID – OBX (may be multiple segments) | OBX.1 | Y | SI | 10 |  | Starts at 1 and is incremented by 1 for all of the results associated with the OBR segment. |
| Value Type | OBX.2 | Y | ID | 02 | CS 53 | The value type of the result sent in OBX.5:  ST = String  NM = Number  TX = Text  CE = Coded Element  These are valid values with default processing that do not require aliasing on code set 53 (EVENT\_CLASS).  All “NM” values are changed to “ST” by the oru\_LCorpAMB\_modobj\_in script. |
| Observation Identifier | OBX.3 |  | CE | 80 |  | LabCorp Result Information |
| Procedure ID | OBX.3.1 | Y | ID |  | T Clinical\_Event  CS 72 | LabCorp result item alias  Note: Cerner recommends aliases be limited to 10-12 characters since functional size is limited for clinical event processing. |
| Procedure Description | OBX.3.2 | N |  |  | T Clinical\_Event | LabCorp result item name |
| Coding scheme | OBX.3.3 | N |  |  | T Code\_Value  CS 73 | LabCorp sends an “L” in this field. “L” is currently not aliased to code set 73 so the primary contributor source assigned to the contributor system of LABCORP\_AMB or LABCORP\_AMB\_UNMATCH will be used to identify the alias sent in OBX.3.1. The primary contributor source is BMGLabCorp. |
| Alternate Procedure ID | OBX.3.4 | N | ST |  | T REF\_CD\_MAP\_  HEADER  T REF\_CD\_MAP\_  DETAIL  T Clinical\_Event | LOINC code sent by LabCorp for the result item. This value will post to the REF tables so the LOINC code is associated with the clinical event being written. |
| Alternate Procedure Description | OBX.3.5 | N | ST |  |  | LabCorp LOINC procedure name |
| Alternate  Coding scheme | OBX.3.6 | N | ID |  | CS 400 | LabCorp is sending “LN” the alias for LOINC on code set 400 (Source Vocabulary) for the contributor source of BMGLabCorp. This assigns OBX.3.4 identifier to the result clinical event. |
| Observation Value | OBX.5 | Y | R | 64k | T CE\_STRING\_  RESULT  T CE\_MICRO  BIOLOGY  T CE\_BLOB | The actual LabCorp result for the result item identified in OBX.3. This field varies based on the data type sent in OBX.2    Note: LabCorp sends antimicrobial susceptibility results in NTE (result comment) segments following the OBX segment for the “Antimicrobial Susceptibility” result item. See Sample Message # 4 as an example. |
| Units | OBX.6 | C | CE | 60 | T CE\_STRING\_  RESULT  CS 54 | LabCorp sends the “Unit of Measure” when applicable. This value is the alias for contributor source BMGLabCorp in code set 54: Units of Measure. |
| Reference Range | OBX.7 | C | ST | 60 | T Clinical\_Event | LabCorp does not use the sub-components of OBX.7.2 Low and OBX.7.3 High. The Cerner ESI server will parse out the normal\_low and normal\_high elements from the range provided.  Examples:  |134-144| range parses to normal\_low of 134 and normal\_high of 144.  | >59| range parses to normal\_low of 59 and normal\_high of empty.  | <73 | range parses to normal\_low of empty and normal\_high of 73. |
| Abnormal Flags | OBX.8 | C | ID | 10 | T Clinical\_Event  CS 52 | LabCorp sends the “Abnormal Flags” when applicable. This value is the alias for contributor source BMGLabCorp in Codeset 52: RES\_INTRP:  A = ABN (Abnormal)  AA = VABN (Very Abnormal)  L = Low  < = LLOW (Panic Low)  LL = <LLOW (Extreme Low)  H = HI (High)  > = HHI (Panic High)  HH = >HHI (Extreme High)  NEG = REVIEW (Negative)  POS = REVIEW (Positive) |
| Nature of Abnormal Test | OBX.10 | N | ID | 05 |  | N is sent by LabCorp for all result items. |
| Observation Result Status | OBX.11 | Y | ID | 02 | T Clinical\_Event  CS 8 | Codes for the status of the result item:  I = In Progress  P = Preliminary  F = Auth (Verified)  C = Modified (Corrected)  X = result item (DTA) was deleted on the LabCorp side and does not need to be performed or result could not be performed. LabCorp sends OBX.5 as blank or with the result of TNP (Test Not Performed). The oru\_LCorpAMB\_modobj\_in script changes the result status from “X” to “F” and populates OBX.5 with TNP if it is blank. |
| Date Last Observe Normal Values | OBX.12 | N | TS | 26 |  | LabCorp sends the effective start date for the reference range sent in OBX.7 |
| Date / Time of Observation | OBX.14 | Y | TS | 26 |  | Format: YYYYMMDDHHMM  The Date/Time when the result item in OBX.3 was performed/resulted. |
| Producer ID Code | OBX.15 | Y | CE | 60 |  | Unique ID of the Performing Laboratory for this result. This value is matched to the value sent by LabCorp in ZPS.2 so the proper performing lab ZDS segment will be created to follow each OBX segment.  The oru\_LCorpAMB\_modobj\_in script will clear this field. |
| Local Process Control | OBX.28 | N | CWE |  |  | LabCorp sends Laboratory department acronyms in this field such as AC, CY, HE, MIC.  This field is not supported by Cerner and is not stored in the BayCare Cerner database. |
| Set ID – NET (may be multiple segments) | NTE.1 | C | SI | 4 |  | Starts at 1 and is incremented by 1 for all of the result comments associated with the OBX segment. The oru\_LCorpAMB\_modobj\_in script will renumber the NTE segments when applicable-   * Converting the patient level (PID NTE) comments to result comments (OBX NTE) following the 1st OBX only. * Adding the Performing Laboratory information following the 1st OBX only.   The oru\_LCorpAMB\_modobj\_in script will put the result comments in the following order when all are present in the ORU message:   * 1st- NTE result comment associated with the OBX segment. * 2nd - Performing Lab location information following the first OBX segment only. * 3rd- Patient Level (PID) comment following the first OBX segment only. |
| Source of Comment | NTE.2 | C | ID | 8 | T CE\_EVENT\_  NOTE  CS 14 | LabCorp sends a value of “L” and the oru\_LCorpAMB\_modobj\_in script changes it to “RC” which is aliased on code set 14 for “Result Comment” |
| Comment | NTE.3 | C | FT | 64k | T CE\_EVENT\_  NOTE  T LONG\_TEXT  T LONG\_BLOB | 1st- The NTE result comment associated with the OBX segment.  2nd- The oru\_LCorpAMB\_modobj\_in script will copy the ZPS segment information into NTE segments following only the first OBX segment:   1. “Lab test performed by:” 2. Laboratory Name 3. Laboratory Address 4. Laboratory Phone Number 5. Laboratory Director   3rd- The oru\_LCorpAMB\_modobj\_in script will copy the Patient Level (PID) comment (if present) into NTE segments following the performing lab location for the first OBX segment only:   1. “LabCorp Comments:” 2. NTE.3 comments from PID segment. |
| LabCorp Performing Laboratory Information | ZPS |  |  |  |  | Cerner does not support the ZPS segment.  LabCorp sends the ZPS segment with the performing Lab ID code, Lab name, Lab address, Lab phone number, and Lab director information.  The oru\_LCorpAMB\_modobj\_in script converts the ZPS segment into a ZDS segment following each OBX segment when the values in OBX.15 match the values in ZPS.2. The ZDS segment information is viewable at the result item level in Cerner PowerChart under “View Details…” and the Action List Tab. |
| Action Code | ZDS.1 |  |  |  |  | The oru\_LCorpAMB\_modobj\_in script hard codes “PERFORM” in this field. |
| Provider | ZDS.2 |  |  |  |  | The oru\_LCorpAMB\_modobj\_in script copies the Laboratory Name from ZPS.3 into this field. (e.g., LabCorp Tampa) |
| Action Date and Time | ZDS.3 |  |  |  |  | Format: YYYYMMDDHHMM  Field is copied from OBR.22 by the oru\_LCorpAMB\_modobj\_in script.  Most recent date/time for result verification or status change |
| Action Status | ZDS.4 |  |  |  |  | The oru\_LCorpAMB\_modobj\_in script hard codes “F” in this field. |
| Action Comment | ZDS.7 |  |  |  |  | The oru\_LCorpAMB\_modobj\_in script copies and concatenates ZPS.3 through ZPS.7 into this field. The script also adds punctuation and the following headers: “Lab Director:” and “Phone:” (e.g., LabCorp Tampa - 5610 W LaSalle Street Tampa, FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227). |

Data Type Acronyms:

CE - CODED ENTRY

CM - COMPOSITE

CWE- CODED WITH EXCEPTIONS

CX - EXTENDED COMPOSITE ID WITH CHECK DIGIT

DT - DATE

DTM - DATE/TIME

FT - FORMATTED TEXT DATA

HD - HIERARCHIC DESIGNATOR

ID - CODED VALUE FOR HL7 DEFINED TABLESMSG - MESSAGE TYPE

MSG - MESSAGE TYPE

PT - PROCESSING TYPE

R - WIDE VARIETY OF DATA TYPES

SI - SEQUENCE ID

ST - STRING DATA

TS - TIME STAMP

XAD - EXTENDED ADDRESS

XCN - EXTENDED COMPOSITE ID NUMBER AND NAME FOR PERSONS

XPN - EXTENDED PERSON NAME

XTN - EXTENDED TELECOMMUNICATION NUMBER

## 4.3 Sample Messages

**Sample Message # 1:**

**Inbound LabCorp Result Message (RAW):**

MSH|^~\&|1100|TA|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703130806||ORU^R01|0480|P|2.3 PID|1|70147023|06921652970|2618907|TEST^C AROL||19550818|F|||5000 ELM ST^^NEW PORT RICHEY^FL^34652-||(727)842-6912|||||09251530^^^XI^^F^N

ORC|RE|2618907L58171^LAB|0692 1652970^LAB||||||201703100000|||1568892677^DENKA^P^^^^^N OBR|1|2618907L58171^LAB|06921652970^LAB|322758^Basic Metabolic Panel (8)^L| ||201703101015||||||SRC:ST |201703100000||1568892677^DENKA^P^^^^^N||10072249181||2618907L58171||20 1703130806|||F OBX|1|NM|001032^Glucose, Serum^L^2345-7^Glucose^LN||74|mg/dL|65-99|||N|F|20170309||201703110024|TA|||||||||||| |AC

OBX|2|NM|001040^BUN^L^3094-0^Urea nitrogen^LN||10|mg/dL|8-27|||N|F|20170309||201703110024|TA|||||||||||||AC

OBX|3|NM|0013 70^Creatinine, Serum^L^2160-0^Creatinine^LN||0.99|mg/dL|0.57-1.00|||N|F|20170309||201703110024|TA|||||||||||||AC

OBX|4|NM|100 791^eGFR If NonAfricn Am^L^48642-3^Glomerular filtration rate/1.73 sq M.predicted.non^LN||62|mL/min/1.73| >59|||N|F|201703 07||201703110024|TA|||||||||||||AC OBX|5|NM|100797^eGFR If Africn Am^L^48643-1^Glomerular filtration rate/1.73 sq M.predicted .bla^LN||71|mL/min/1.73| >59|||N|F|20161206||201703110024|TA|||||||||||||AC OBX|6|NM|011577^BUN/Creatinine Ratio^L^3097-3^ Urea nitrogen/Creatinine^LN||10||11-26|L||N|F|20170301||201703110024|TA|||||||||||||AC

OBX|7|NM|001198^Sodium, Serum^L^2951-2 ^Sodium^LN||139|mmol/L|134-144|||N|F|20170309||201703110015|TA|||||||||||||AC

OBX|8|NM|001180^Potassium, Serum^L^2823-3^Potas sium^LN||4.2|mmol/L|3.5-5.2|||N|F|20170309||201703110015|TA|||||||||||||AC

OBX|9|NM|001206^Chloride, Serum^L^2075-0^Chloride^ LN||102|mmol/L|96-106|||N|F|20170309||201703110015|TA|||||||||||||AC

OBX|10|NM|001578^Carbon Dioxide, Total^L^2028-9^Carbon d ioxide^LN||24|mmol/L|18-29|||N|F|20170309||201703110024|TA|||||||||||||AC

OBX|11|NM|001016^Calcium, Serum^L^17861-6^Calcium^L N||8.9|mg/dL|8.7-10.3|||N|F|20170309||201703110024|TA|||||||||||||AC ORC|RE|2618907L58171^LAB|06921652970^LAB||||||2017031000 00|||1568892677^DENKA^P^^^^^N OBR|2|2618907L58171^LAB|06921652970^LAB|182949^Occult Blood, Fecal, IA^L|||201703101015|||||||2 01703100000|ST|1568892677^DENKA^P^^^^^N||2618907L581||2618907L58171||201703130806|||F OBX|1|ST|182950^Occult Blood, Fecal, IA ^L^29771-3^Hemoglobin.gastrointestinal^LN||Negative||Negative|||N|F|||201703121728|TA|||||||||||||MIC ZPS|1|TA|LabCorp Tampa| 5610 W LaSalle Street^^Tampa^FL^336071770|8008775227||MD^Farrier^Sean^^^^MD

**Person match was successful on Cerner for patient’s CPI, DOB, and Sex; encounter match was successful on patient’s FIN. The contributor system of LABCORP\_AMB was assigned and the message was split out into two separate ORU messages. (See *fundamental requirement FR.2015.10.2 and 4.2 Data Transformation Requirements for details.*):**

Message 1:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703130806||ORU^R01|0480|P|2.3 PID|1|70147023^^^MRN|0692165 2970|2618907|TEST^CAROL||19550818|F|||5000 ELM ST^^NEW PORT RICHEY^FL^34652-||(727)842-6912|||||2618907^^^FIN

ORC|RE

OBR|1 |10072249181|06921652970|322758^Basic Metabolic Panel (8)^L|||201703101015||||||SRC:ST |201703100000||156 8892677^DENKA^P||10072249181||2618907L58171||201703130806|||F||^^^201703130806 OBX|1|ST|001032^Glucose, Serum^L^2345-7^Glucos e^LN||74|mg/dL|65-99|||N|F|20170309||201703110024 NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Tampa

NTE| 4|RC|5610 W LaSalle Street Tampa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD

NTE|7|RC|

ZDS|PERFORM|LabCorp Tampa|201703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 80087 75227

OBX|2|ST|001040^BUN^L^3094-0^Urea nitrogen^LN||10|mg/dL|8-27|||N|F|20170309||201703110024 ZDS|PERFORM|LabCorp Tampa|201 703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|3|ST|001370^Creatinine, Serum^L^2160-0^Creatinine^LN||0.99|mg/dL|0.57-1.00|||N|F|20170309||201703110024

ZDS|PERFORM|LabCorp T ampa|201703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775 227

OBX|4|ST|100791^eGFR If NonAfricn Am^L^48642-3^Glomerular filtration rate/1.73 sq M.predicted.non^LN||62|mL/min/1.73| >59|||N|F|20170307||201703110024

ZDS|PERFORM|LabCorp Tampa|201703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|5|ST|100797^eGFR If Africn Am^L^48643-1^Glomerular filtration r ate/1.73 sq M.predicted.bla^LN||71|mL/min/1.73| >59|||N|F|20161206||201703110024

ZDS|PERFORM|LabCorp Tampa|201703130806|F| ||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|6|ST|011577^ BUN/Creatinine Ratio^L^3097-3^Urea nitrogen/Creatinine^LN||10||11-26|L||N|F|20170301||201703110024

ZDS|PERFORM|LabCorp Tampa| 201703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|7|ST|001198^Sodium, Serum^L^2951-2^Sodium^LN||139|mmol/L|134-144|||N|F|20170309||201703110015 ZDS|PERFORM|LabCorp Tampa|20 1703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|8|ST|001180^Potassium, Serum^L^2823-3^Potassium^LN||4.2|mmol/L|3.5-5.2|||N|F|20170309||201703110015

ZDS|PERFORM|LabCorp Tamp a|201703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|9|ST|001206^Chloride, Serum^L^2075-0^Chloride^LN||102|mmol/L|96-106|||N|F|20170309||201703110015

ZDS|PERFORM|LabCorp Tam pa|201703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 800877522 7

OBX|10|ST|001578^Carbon Dioxide, Total^L^2028-9^Carbon dioxide^LN||24|mmol/L|18-29|||N|F|20170309||201703110024

ZDS|PERFORM |LabCorp Tampa|201703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phon e: 8008775227

OBX|11|ST|001016^Calcium, Serum^L^17861-6^Calcium^LN||8.9|mg/dL|8.7-10.3|||N|F|20170309||201703110024

ZDS|PERFO RM|LabCorp Tampa|201703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Ph one: 8008775227

Message 2:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703130806||ORU^R01|0480|P|2.3 PID|1|70147023^^^MRN|0692165 2970|2618907|TEST^CAROL||19550818|F|||5000 ELM ST^^NEW PORT RICHEY^FL^34652-||(727)842-6912|||||2618907^^^FIN

ORC|RE

OBR|2 |2618907L581|06921652970|182949^Occult Blood,Fecal,IA^L| ||201703101015|||||||201703100000|ST|1568892677^DENKA^P||2618907L58 1||2618907L58171||201703130806|||F||^^^201703130806

OBX|1|ST|182950^Occult Blood, Fecal, IA^L^29771-3^Hemoglobin.gastrointest inal^LN||Negative||Negative|||N|F|||201703121728

NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Tampa

NTE|4 |RC|5610 W LaSalle Street Tampa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD

NTE|7|RC|

ZDS|PERFORM|LabCorp Tampa|201703130806|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 800877 5227

**Sample Message # 2:**

**Inbound LabCorp Result Message (RAW):**

MSH|^~\&|1100|TA|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703090832||ORU^R01|1251|P|2.3 PID|1|70429250|06721607560|70429259|TEST^J UDITH||19581007|F|||200 MAIN ST STE 207 SUITE 207^^SAFETY HARBOR^FL^34695-||(727)421-7622|||||09215240^^^XI^^P^Y

ORC|RE|30090 219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N OBR|1|30090219001^LAB|06721607560^LAB|322000^Comp. Metabolic Panel (14)^L| ||201703080722|||||||201703080000||1033317250^SIDDIQUI^M^^^^^N||30090219001||30090219001||20170309083 2|||F

OBX|1|NM|001032^Glucose, Serum^L^2345-7^Glucose^LN||109|mg/dL|65-99|H||N|F|20170308||201703090023|TA|||||||||||||AC

OBX |2|NM|001040^BUN^L^3094-0^Urea nitrogen^LN||15|mg/dL|6-24|||N|F|20170307||201703090023|TA|||||||||||||AC

OBX|3|NM|001370^Crea tinine, Serum^L^2160-0^Creatinine^LN||0.73|mg/dL|0.57-1.00|||N|F|20170307||201703090023|TA|||||||||||||AC

OBX|4|NM|100791^eGF R If NonAfricn Am^L^48642-3^Glomerular filtration rate/1.73 sq M.predicted.non^LN||91|mL/min/1.73| >59|||N|F|20170307||201 703090023|TA|||||||||||||AC OBX|5|NM|100797^eGFR If Africn Am^L^48643-1^Glomerular filtration rate/1.73 sq M.predicted.bla^LN ||105|mL/min/1.73| >59|||N|F|20161206||201703090023|TA|||||||||||||AC

OBX|6|NM|011577^BUN/Creatinine Ratio^L^3097-3^Urea n itrogen/Creatinine^LN||21||9-23|||N|F|20170301||201703090023|TA|||||||||||||AC

OBX|7|NM|001198^Sodium, Serum^L^2951-2^Sodium^ LN||140|mmol/L|134-144|||N|F|20170307||201703090002|TA|||||||||||||AC

OBX|8|NM|001180^Potassium, Serum^L^2823-3^Potassium^LN| |4.8|mmol/L|3.5-5.2|||N|F|20170308||201703090002|TA|||||||||||||AC

OBX|9|NM|001206^Chloride, Serum^L^2075-0^Chloride^LN||101| mmol/L|96-106|||N|F|20170307||201703090002|TA|||||||||||||AC

OBX|10|NM|001578^Carbon Dioxide, Total^L^2028-9^Carbon dioxide^L N||22|mmol/L|18-29|||N|F|20170307||201703090006|TA|||||||||||||AC

OBX|11|NM|001016^Calcium, Serum^L^17861-6^Calcium^LN||9.9|m g/dL|8.7-10.2|||N|F|20170307||201703090023|TA|||||||||||||AC

OBX|12|NM|001073^Protein, Total, Serum^L^2885-2^Protein^LN||6.8| g/dL|6.0-8.5|||N|F|20170307||201703090023|TA|||||||||||||AC

OBX|13|NM|001081^Albumin, Serum^L^1751-7^Albumin^LN||4.1|g/dL|3.5 -5.5|||N|F|20170307||201703090023|TA|||||||||||||AC

OBX|14|NM|012039^Globulin, Total^L^10834-0^Globulin^LN||2.7|g/dL|1.5-4.5| ||N|F|20170301||201703090023|TA|||||||||||||AC

OBX|15|NM|012047^A/G Ratio^L^1759-0^Albumin/Globulin^LN||1.5||1.1-2.5|||N|F|20 170301||201703090023|TA|||||||||||||AC

NTE|1|L|\*\*Effective March 13, 2017 the reference interval\*\*

NTE|2|L| for A/G Ratio wi ll be changing to:

NTE|3|L| Age Male Female

NTE|4|L| 0 - 7 days 1.1 - 2.3 1.1 - 2.3

NTE|5|L| 8 - 30 days 1.2 - 2.8 1.2 - 2.8

NTE|6|L| 1 - 6 months 1.3 - 3.6 1.3 - 3.6

NTE|7|L| 7 months - 5 years 1.5 - 2.6 1.5 - 2.6

NTE|8|L| > 5 years 1.2 - 2.2 1.2 - 2.2

OBX|16|NM|001099^Bilirubin, Total^L^1975-2^Bilirubin^LN||0.5|mg/dL|0.0-1.2|||N|F|20170307||201703090023|TA|||| |||||||||AC

OBX|17|NM|001107^Alkaline Phosphatase, S^L^6768-6^Alkaline phosphatase^LN||84|IU/L|39-117|||N|F|20170307||2017030 90023|TA|||||||||||||AC

OBX|18|NM|001123^AST (SGOT)^L^1920-8^Aspartate aminotransferase^LN||28|IU/L|0-40|||N|F|20170307||2017 03090023|TA|||||||||||||AC

OBX|19|NM|001545^ALT (SGPT)^L^1742-6^Alanine aminotransferase^LN||49|IU/L|0-32|H||N|F|20170307||20 1703090023|TA|||||||||||||AC ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N OBR|2|30090219001^LAB|06721607560^LAB|001974^Thyroxine (T4) Free, Direct, S^L| ||201703080722|||||||201703080000||1033317250^SIDDIQUI^M ^^^^^N||30090219001||30090219001||201703090832|||F OBX|1|NM|019745^T4,Free(Direct)^L^3024-7^Thyroxine.free^LN||1.33|ng/dL|0.8 2-1.77|||N|F|20170111||201703090407|TA|||||||||||||RI ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^S IDDIQUI^M^^^^^N OBR|3|30090219001^LAB|06721607560^LAB|004051^Cortisol^L|||201703080722|||||||201703080000||1033317250^SIDDIQU I^M^^^^^N||30090219001||30090219001||201703090832|||F OBX|1|NM|004055^Cortisol^L^2143-6^Cortisol^LN||16.6|ug/dL||||N|F|201603 04||201703090229|TA|||||||||||||RI NTE|1|L| Cortisol AM 6.2 - 19.4 NTE|2|L| Cortisol PM 2.3 - 11.9 ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N OBR|4|30090219001^LAB|06721607560^LAB|004259^TSH^L|||201703080722|||||||201703080000||1033317250^SIDDIQUI^M^^^^^N||30090219001| |30090219001||201703090832|||F

OBX|1|NM|004264^TSH^L^11580-8^Thyrotropin^LN||7.740|uIU/mL|0.450-4.500|H||N|F|20170104||201703 090407|TA|||||||||||||RI ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N

OBR|5|3009021 9001^LAB|06721607560^LAB|010363^IGF-1^L| ||201703080722|||||||201703080000||1033317250^SIDDIQUI^M^^^^^N||30090219001||30090219 001||201703090832|||P

OBX|1|NM|010369^Insulin-Like Growth Factor I^L^2484-4^Insulin-like growth factor-I^LN|||||||N|P|2014010 6|||BN|||||||||||||RI ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N

OBR|6|3009021900 1^LAB|06721607560^LAB|004275^Growth Hormone, Serum^L|| |201703080722|||||||201703080000||1033317250^SIDDIQUI^M^^^^^N||30090219 001||30090219001||201703090832||BN|P

OBX|1|NM|004275^Growth Hormone, Serum^L^2963-7^Somatotropin^LN|||||||N|P|20140317|||BN|| |||||||||||RI ZPS|1|TA|LabCorp Tampa|5610 W LaSalle Street^^Tampa^FL^336071770|8008775227||MD^Farrier^Sean^^^^MD ZPS|2|BN|Lab Corp Burlington|1447 York Court^^Burlington^NC^272153361|8007624344||MD^Hancock^William F^^^^MD

**Person match was successful on Cerner for patient’s CPI, DOB, and Sex. The encounter match failed on patient’s FIN causing the creation of a BMG Ref Lab FIN for the patient (i.e., “LC” concatenated in front of the unique LabCorp accession number with Msg\_Yr concatenated at the end) in PID.18. The contributor system of LABCORP\_AMB was assigned and the message was split out into six separate ORU messages. (See *fundamental requirement FR.2015.10.2 and 4.2 Data Transformation Requirements for details.*):**

Message 1:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703090832||ORU^R01|1251|P|2.3 PID|1|70429250^^^MRN|0672160 7560|70429259|TEST^JUDITH||19581007|F|||1200 MAIN ST STE 207 SUITE 207^^SAFETY HARBOR^FL^34695-||(727)421-7622|||||LC0672160756017^^^LABCORP

PV1||A|REF^^^REF^^^REF|||||||||||||||A|||||||||||||||||||||||D|||201703080000|201703 08235959 ORC|RE OBR|1|30090219001|06721607560|322000^Comp. Metabolic Panel (14)^L|| |201703080722|||||||201703080000||10333172 50^SIDDIQUI^M||30090219001||30090219001||201703090832|||F||^^^201703090832 OBX|1|ST|001032^Glucose, Serum^L^2345-7^Glucose^LN ||109|mg/dL|65-99|H||N|F|20170308||201703090023 NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Tampa

NTE|4|RC|5610 W LaSalle Street Tampa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD

NTE|7|RC| ZDS|PERFORM|LabCorp T ampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775 227

OBX|2|ST|001040^BUN^L^3094-0^Urea nitrogen^LN||15|mg/dL|6-24|||N|F|20170307||201703090023 ZDS|PERFORM|LabCorp Tampa|20170 3090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|3| ST|001370^Creatinine, Serum^L^2160-0^Creatinine^LN||0.73|mg/dL|0.57-1.00|||N|F|20170307||201703090023

ZDS|PERFORM|LabCorp Tam pa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 800877522 7

OBX|4|ST|100791^eGFR If NonAfricn Am^L^48642-3^Glomerular filtration rate/1.73 sq M.predicted.non^LN||91|mL/min/1.73| >5 9|||N|F|20170307||201703090023

ZDS|PERFORM|LabCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 33 6071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|5|ST|100797^eGFR If Africn Am^L^48643-1^Glomerular filtration rat e/1.73 sq M.predicted.bla^LN||105|mL/min/1.73| >59|||N|F|20161206||201703090023

ZDS|PERFORM|LabCorp Tampa|201703090832|F|| |LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|6|ST|011577^B UN/Creatinine Ratio^L^3097-3^Urea nitrogen/Creatinine^LN||21||9-23|||N|F|20170301||201703090023

ZDS|PERFORM|LabCorp Tampa|201 703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX| 7|ST|001198^Sodium, Serum^L^2951-2^Sodium^LN||140|mmol/L|134-144|||N|F|20170307||201703090002 ZDS|PERFORM|LabCorp Tampa|20170 3090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|8| ST|001180^Potassium, Serum^L^2823-3^Potassium^LN||4.8|mmol/L|3.5-5.2|||N|F|20170308||201703090002

ZDS|PERFORM|LabCorp Tampa|2 01703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|9|ST|001206^Chloride, Serum^L^2075-0^Chloride^LN||101|mmol/L|96-106|||N|F|20170307||201703090002

ZDS|PERFORM|LabCorp Tampa| 201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|10|ST|001578^Carbon Dioxide, Total^L^2028-9^Carbon dioxide^LN||22|mmol/L|18-29|||N|F|20170307||201703090006

ZDS|PERFORM|La bCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|11|ST|001016^Calcium, Serum^L^17861-6^Calcium^LN||9.9|mg/dL|8.7-10.2|||N|F|20170307||201703090023

ZDS|PERFORM| LabCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone : 8008775227

OBX|12|ST|001073^Protein, Total, Serum^L^2885-2^Protein^LN||6.8|g/dL|6.0-8.5|||N|F|20170307||201703090023

ZDS|PERFORM|LabCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|13|ST|001081^Albumin, Serum^L^1751-7^Albumin^LN||4.1|g/dL|3.5-5.5|||N|F|20170307||201703090023 ZDS|PERFORM|LabCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|14|ST|012039^Globulin, Total^L^10834-0^Globulin^LN||2.7|g/dL|1.5-4.5|||N|F|20170301||201703090023

ZDS|PERFORM|LabCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier M D Phone: 8008775227

OBX|15|ST|012047^A/G Ratio^L^1759-0^Albumin/Globulin^LN||1.5||1.1-2.5|||N|F|20170301||201703090023

NTE|1| RC|\*\*Effective March 13, 2017 the reference interval\*\*

NTE|2|RC| for A/G Ratio will be changing to:

NTE|3|RC| Ag e Male Female

NTE|4|RC| 0 - 7 days 1.1 - 2.3 1.1 - 2.3

NTE|5|RC| 8 - 3 0 days 1.2 - 2.8 1.2 - 2.8

NTE|6|RC| 1 - 6 months 1.3 - 3.6 1.3 - 3.6

NTE|7|RC| 7 months - 5 years 1.5 - 2.6 1.5 - 2.6

NTE|8|RC| > 5 years 1.2 - 2.2 1.2 - 2.2

ZDS|PERFORM|LabCorp Ta mpa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 80087752 27

OBX|16|ST|001099^Bilirubin, Total^L^1975-2^Bilirubin^LN||0.5|mg/dL|0.0-1.2|||N|F|20170307||201703090023

ZDS|PERFORM|LabCor p Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008 775227

OBX|17|ST|001107^Alkaline Phosphatase, S^L^6768-6^Alkaline phosphatase^LN||84|IU/L|39-117|||N|F|20170307||201703090023

ZDS|PERFORM|LabCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Far rier MD Phone: 8008775227

OBX|18|ST|001123^AST (SGOT)^L^1920-8^Aspartate aminotransferase^LN||28|IU/L|0-40|||N|F|20170307||20 1703090023

ZDS|PERFORM|LabCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director : Sean Farrier MD Phone: 8008775227

OBX|19|ST|001545^ALT (SGPT)^L^1742-6^Alanine aminotransferase^LN||49|IU/L|0-32|H||N|F|201 70307||201703090023

ZDS|PERFORM|LabCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

Message 2:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703090832||ORU^R01|1251|P|2.3 PID|1|70429250^^^MRN|0672160 7560|70429259|TEST^JUDITH||19581007|F|||200 MAIN ST STE 207 SUITE 207^^SAFETY HARBOR^FL^34695-||(727)421-7622|||||LC0672160756017^^^LABCORP

PV1||A|REF^^^REF^^^REF|||||||||||||||A|||||||||||||||||||||||D|||201703080000|201703 08235959

ORC|RE

OBR|2|30090219001|06721607560|001974^Thyroxine (T4) Free, Direct, S^L| ||201703080722|||||||201703080000||1033 317250^SIDDIQUI^M||30090219001||30090219001||201703090832|||F||^^^201703090832

OBX|1|ST|019745^T4,Free(Direct)^L^3024-7^Thyro xine.free^LN||1.33|ng/dL|0.82-1.77|||N|F|20170111||201703090407

NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabC orp Tampa

NTE|4|RC|5610 W LaSalle Street Tampa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD NTE|7|RC|

ZDS|P ERFORM|LabCorp Tampa|201703090832|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier M D Phone: 8008775227

Message 3:

Message 3 failed due to the procedure alias of 004051 sent in OBR.4 not PRESENT on codeset 200 in BayCare Cerner. By parsing out and sending the OBRs in separate ORU result messages, the other five procedure results were able to post in Powerchart immediately. The Pathnet Team will investigate/update codesets 200/72 for the failed procedure/result. Below is part of the Que Trace Report from the ESI\_Log which shows the raw inbound message and identifies the HL7 entity code causing the Error of “*Failed to construct Child Clinical Event structure in EsiGenEvent::process”*:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MSH|^~\&|1100|TA|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703090832||ORU^R01|1251|P|2.3 PID|1|70429250|06721607560|70429259|TEST^J UDITH||19581007|F|||200 MAIN ST STE 207 SUITE 207^^SAFETY HARBOR^FL^34695-||(727)421-7622|||||09215240^^^XI^^P^Y ORC|RE|30090 219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N OBR|1|30090219001^LAB|06721607560^LAB|322000^Comp. Metabolic Panel (14)^L|||201703080722|||||||201703080000||1033317250^SIDDIQUI^M^^^^^N||30090219001||30090219001||20170309083 2|||F OBX|1|NM|001032^Glucose, Serum^L^2345-7^Glucose^LN||109|mg/dL|65-99|H||N|F|20170308||201703090023|TA|||||||||||||AC OBX |2|NM|001040^BUN^L^3094-0^Urea nitrogen^LN||15|mg/dL|6-24|||N|F|20170307||201703090023|TA|||||||||||||AC OBX|3|NM|001370^Crea tinine, Serum^L^2160-0^Creatinine^LN||0.73|mg/dL|0.57-1.00|||N|F|20170307||201703090023|TA|||||||||||||AC OBX|4|NM|100791^eGF R If NonAfricn Am^L^48642-3^Glomerular filtration rate/1.73 sq M.predicted.non^LN||91|mL/min/1.73| >59|||N|F|20170307||201 703090023|TA|||||||||||||AC OBX|5|NM|100797^eGFR If Africn Am^L^48643-1^Glomerular filtration rate/1.73 sq M.predicted.bla^LN ||105|mL/min/1.73| >59|||N|F|20161206||201703090023|TA|||||||||||||AC OBX|6|NM|011577^BUN/Creatinine Ratio^L^3097-3^Urea n itrogen/Creatinine^LN||21||9-23|||N|F|20170301||201703090023|TA|||||||||||||AC OBX|7|NM|001198^Sodium, Serum^L^2951-2^Sodium^ LN||140|mmol/L|134-144|||N|F|20170307||201703090002|TA|||||||||||||AC OBX|8|NM|001180^Potassium, Serum^L^2823-3^Potassium^LN| |4.8|mmol/L|3.5-5.2|||N|F|20170308||201703090002|TA|||||||||||||AC OBX|9|NM|001206^Chloride, Serum^L^2075-0^Chloride^LN||101| mmol/L|96-106|||N|F|20170307||201703090002|TA|||||||||||||AC OBX|10|NM|001578^Carbon Dioxide, Total^L^2028-9^Carbon dioxide^L N||22|mmol/L|18-29|||N|F|20170307||201703090006|TA|||||||||||||AC OBX|11|NM|001016^Calcium, Serum^L^17861-6^Calcium^LN||9.9|m g/dL|8.7-10.2|||N|F|20170307||201703090023|TA|||||||||||||AC OBX|12|NM|001073^Protein, Total, Serum^L^2885-2^Protein^LN||6.8| g/dL|6.0-8.5|||N|F|20170307||201703090023|TA|||||||||||||AC OBX|13|NM|001081^Albumin, Serum^L^1751-7^Albumin^LN||4.1|g/dL|3.5 -5.5|||N|F|20170307||201703090023|TA|||||||||||||AC OBX|14|NM|012039^Globulin, Total^L^10834-0^Globulin^LN||2.7|g/dL|1.5-4.5| ||N|F|20170301||201703090023|TA|||||||||||||AC OBX|15|NM|012047^A/G Ratio^L^1759-0^Albumin/Globulin^LN||1.5||1.1-2.5|||N|F|20 170301||201703090023|TA|||||||||||||AC NTE|1|L|\*\*Effective March 13, 2017 the reference interval\*\* NTE|2|L| for A/G Ratio wi ll be changing to: NTE|3|L| Age Male Female NTE|4|L| 0 - 7 days 1.1 - 2.3 1.1 - 2.3 NTE|5|L| 8 - 30 days 1.2 - 2.8 1.2 - 2.8 NTE|6|L| 1 - 6 months 1.3 - 3.6 1.3 - 3.6 NTE|7|L| 7 months - 5 years 1.5 - 2.6 1.5 - 2.6 NTE|8|L| > 5 years 1.2 - 2.2 1.2 - 2.2 OBX|16|NM|001099^Bilirubin, Total^L^1975-2^Bilirubin^LN||0.5|mg/dL|0.0-1.2|||N|F|20170307||201703090023|TA|||| |||||||||AC OBX|17|NM|001107^Alkaline Phosphatase, S^L^6768-6^Alkaline phosphatase^LN||84|IU/L|39-117|||N|F|20170307||2017030 90023|TA|||||||||||||AC OBX|18|NM|001123^AST (SGOT)^L^1920-8^Aspartate aminotransferase^LN||28|IU/L|0-40|||N|F|20170307||2017 03090023|TA|||||||||||||AC OBX|19|NM|001545^ALT (SGPT)^L^1742-6^Alanine aminotransferase^LN||49|IU/L|0-32|H||N|F|20170307||20 1703090023|TA|||||||||||||AC ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N OBR|2|300 90219001^LAB|06721607560^LAB|001974^Thyroxine (T4) Free, Direct, S^L|||201703080722|||||||201703080000||1033317250^SIDDIQUI^M ^^^^^N||30090219001||30090219001||201703090832|||F OBX|1|NM|019745^T4,Free(Direct)^L^3024-7^Thyroxine.free^LN||1.33|ng/dL|0.8 2-1.77|||N|F|20170111||201703090407|TA|||||||||||||RI ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^S IDDIQUI^M^^^^^N OBR|3|30090219001^LAB|06721607560^LAB|004051^Cortisol^L|||201703080722|||||||201703080000||1033317250^SIDDIQU I^M^^^^^N||30090219001||30090219001||201703090832|||F OBX|1|NM|004055^Cortisol^L^2143-6^Cortisol^LN||16.6|ug/dL||||N|F|201603 04||201703090229|TA|||||||||||||RI NTE|1|L| Cortisol AM 6.2 - 19.4 NTE|2|L| Cortisol PM 2.3 - 11.9 ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N OBR|4|30090219001^LAB|06721607560^LAB|004259^TSH^L|||201703080722|||||||201703080000||1033317250^SIDDIQUI^M^^^^^N||30090219001| |30090219001||201703090832|||F OBX|1|NM|004264^TSH^L^11580-8^Thyrotropin^LN||7.740|uIU/mL|0.450-4.500|H||N|F|20170104||201703 090407|TA|||||||||||||RI ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N OBR|5|3009021 9001^LAB|06721607560^LAB|010363^IGF-1^L|||201703080722|||||||201703080000||1033317250^SIDDIQUI^M^^^^^N||30090219001||30090219 001||201703090832|||P OBX|1|NM|010369^Insulin-Like Growth Factor I^L^2484-4^Insulin-like growth factor-I^LN|||||||N|P|2014010 6|||BN|||||||||||||RI ORC|RE|30090219001^LAB|06721607560^LAB||||||201703080000|||1033317250^SIDDIQUI^M^^^^^N OBR|6|3009021900 1^LAB|06721607560^LAB|004275^Growth Hormone, Serum^L|||201703080722|||||||201703080000||1033317250^SIDDIQUI^M^^^^^N||30090219 001||30090219001||201703090832||BN|P OBX|1|NM|004275^Growth Hormone, Serum^L^2963-7^Somatotropin^LN|||||||N|P|20140317|||BN|| |||||||||||RI ZPS|1|TA|LabCorp Tampa|5610 W LaSalle Street^^Tampa^FL^336071770|8008775227||MD^Farrier^Sean^^^^MD ZPS|2|BN|Lab Corp Burlington|1447 York Court^^Burlington^NC^272153361|8007624344||MD^Hancock^William F^^^^MD   |  |  | | --- | --- | | **Field** | **Data** | | Contributor System | LABCORP\_AMB | | Contributor System Code | 1781370267 | | Create Date Time | 09-MAR-2017 08:32:25.00 | | Encounter ID | 92849683 | | Entity List |  | | Entity Name | CLINICAL\_EVENT | | Error Stat | ESI\_STAT\_FAILURE | | Error Text | Failed to construct Child Clinical Event structure in EsiGenEvent::process. | | | ESI Log ID | 457496031 | | | ESI TX\_KEY | 16467932830745030000008793 | | | Event ID | 0 | | | HL7 Entity Code | 004051^ | | | MSH Control Identifier | 1251 | | | MSH Message Trigger | R01 | | | MSH Message Type | ORU | | | Name Full Formatted | SNYDER, JUDITH | | | Order Control |  | | | Order ID | 0 | | | Person ID | 1456417 | | | Queue ID | 3518000805 | | | Schedule Event ID | 0 | | | TX\_KEY | 16477932830739490000003114 | | | Update Date Time | 09-MAR-2017 08:32:25.00 | | |

Message 4:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703090832||ORU^R01|1251|P|2.3 PID|1|70429250^^^MRN|0672160 7560|70429259|TEST^JUDITH||19581007|F|||200 MAIN ST STE 207 SUITE 207^^SAFETY HARBOR^FL^34695-||(727)421-7622|||||LC0672160756017^^^LABCORP

PV1||A|REF^^^REF^^^REF|||||||||||||||A|||||||||||||||||||||||D|||201703080000|201703 08235959 ORC|RE OBR|4|30090219001|06721607560|004259^TSH^L|||201703080722|||||||201703080000||1033317250^SIDDIQUI^M||30090219 001||30090219001||201703090832|||F||^^^201703090832

OBX|1|ST|004264^TSH^L^11580-8^Thyrotropin^LN||7.740|uIU/mL|0.450-4.500|H| |N|F|20170104||201703090407

NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Tampa

NTE|4|RC|5610 W LaSalle St reet Tampa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD

NTE|7|RC|

ZDS|PERFORM|LabCorp Tampa|201703090832|F| ||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

Message 5:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703090832||ORU^R01|1251|P|2.3 PID|1|70429250^^^MRN|0672160 7560|70429259|TEST^JUDITH||19581007|F|||200 MAIN ST STE 207 SUITE 207^^SAFETY HARBOR^FL^34695-||(727)421-7622|||||LC0672160756017^^^LABCORP

PV1||A|REF^^^REF^^^REF|||||||||||||||A|||||||||||||||||||||||D|||201703080000|201703 08235959 ORC|RE OBR|5|30090219001|06721607560|010363^IGF-1^L|| |201703080722|||||||201703080000||1033317250^SIDDIQUI^M||300902 19001||30090219001||201703090832|||P||^^^201703090832

OBX|1|ST|010369^Insulin-Like Growth Factor I^L^2484-4^Insulin-like grow th factor-I^LN|||||||N|P|20140106

NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Burlington

NTE|4|RC|1447 Y ork Court Burlington NC 272153361

NTE|5|RC|8007624344

NTE|6|RC|William F Hancock MD

NTE|7|RC|

ZDS|PERFORM|LabCorp Burlin gton|201703090832|F|||LabCorp Burlington - 1447 York Court Burlington , NC 272153361 Lab Director: William F Hancock MD Phone : 8007624344

Message 6:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703090832||ORU^R01|1251|P|2.3 PID|1|70429250^^^MRN|0672160 7560|70429259|TEST^JUDITH||19581007|F|||200 MAIN ST STE 207 SUITE 207^^SAFETY HARBOR^FL^34695-||(727)421-7622|||||LC0672160756017^^^LABCORP

PV1||A|REF^^^REF^^^REF||||||||||||||A|||||||||||||||||||||||D|||201703080000|201703 08235959 ORC|RE OBR|6|30090219001|06721607560|004275^Growth Hormone, Serum^L|| |201703080722|||||||201703080000||1033317250^SI DDIQUI^M||30090219001||30090219001||201703090832||BN|P||^^^201703090832

OBX|1|ST|004275^Growth Hormone, Serum^L^2963-7^Somato tropin^LN|||||||N|P|20140317 NTE|1|RC| NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Burlington

NTE|4|RC|1447 York C ourt Burlington NC 272153361

NTE|5|RC|8007624344

NTE|6|RC|William F Hancock MD

NTE|7|RC| ZDS|PERFORM|LabCorp Burlington| 201703090832|F|||LabCorp Burlington - 1447 York Court Burlington , NC 272153361 Lab Director: William F Hancock MD Phone: 800 7624344

**Sample Message # 3:**

**Inbound LabCorp Result Message (RAW):**

MSH|^~\&|1100|TA|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703140812||ORU^R01|2689|P|2.3 PID|1||07221639900|2622420|TEST^ALONA^G| |19720402|F|||PO BOX 1422^^TARPON SPRINGS^FL^34688-||(727)808-8822|||||09098920^^^XI^^F^Y

ORC|RE|2622420L46263^LAB|072 21639900^LAB||||||201703130000|||1568416816^FOX^D^^^^^N OBR|1|2622420L46263^LAB|07221639900^LAB|322000^Comp. Metabolic Panel (14)^L|

||201703130920|||||||201703130000||1568416816^FOX^D^^^^^N||10035239097||2622420L46263||201703140812|||F OBX|1|NM|00103 2^Glucose, Serum^L^2345-7^Glucose^LN||123|mg/dL|65-99|H||N|F|20170309||201703140042|TA|||||||||||||AC

OBX|2|NM|001040^BUN^L^3 094-0^Urea nitrogen^LN||18|mg/dL|6-24|||N|F|20170309||201703140042|TA|||||||||||||AC

OBX|3|NM|001370^Creatinine, Serum^L^2160 -0^Creatinine^LN||0.88|mg/dL|0.57-1.00|||N|F|20170309||201703140049|TA|||||||||||||AC

OBX|4|NM|100791^eGFR If NonAfricn Am^L^ 48642-3^Glomerular filtration rate/1.73 sq M.predicted.non^LN||80|mL/min/1.73| >59|||N|F|20170307||201703140049|TA|||||||| |||||AC OBX|5|NM|100797^eGFR If Africn Am^L^48643-1^Glomerular filtration rate/1.73 sq M.predicted.bla^LN||92|mL/min/1.73| >59|||N|F|20161206||201703140049|TA|||||||||||||AC OBX|6|NM|011577^BUN/Creatinine Ratio^L^3097-3^Urea nitrogen/Creatinine^LN ||20||9-23|||N|F|20170301||201703140049|TA|||||||||||||AC

OBX|7|NM|001198^Sodium, Serum^L^2951-2^Sodium^LN||142|mmol/L|134-14 4|||N|F|20170309||201703140023|TA|||||||||||||AC

OBX|8|NM|001180^Potassium, Serum^L^2823-3^Potassium^LN||5.2|mmol/L|3.5-5.2|| |N|F|20170309||201703140023|TA|||||||||||||AC

OBX|9|NM|001206^Chloride, Serum^L^2075-0^Chloride^LN||106|mmol/L|96-106|||N|F|2 0170309||201703140023|TA|||||||||||||AC

OBX|10|NM|001578^Carbon Dioxide, Total^L^2028-9^Carbon dioxide^LN||18|mmol/L|18-29||| N|F|20170309||201703140042|TA|||||||||||||AC

OBX|11|NM|001016^Calcium, Serum^L^17861-6^Calcium^LN||9.6|mg/dL|8.7-10.2|||N|F|2 0170309||201703140032|TA|||||||||||||AC

OBX|12|NM|001073^Protein, Total, Serum^L^2885-2^Protein^LN||7.1|g/dL|6.0-8.5|||N|F|20 170307||201703140042|TA|||||||||||||AC

OBX|13|NM|001081^Albumin, Serum^L^1751-7^Albumin^LN||4.3|g/dL|3.5-5.5|||N|F|20170307|| 201703140042|TA|||||||||||||AC

OBX|14|NM|012039^Globulin, Total^L^10834-0^Globulin^LN||2.8|g/dL|1.5-4.5|||N|F|20170301||20170 3140042|TA|||||||||||||AC

OBX|15|NM|012047^A/G Ratio^L^1759-0^Albumin/Globulin^LN||1.5||1.2-2.2|||N|F|||201703140042|TA|||||| |||||||AC NTE|1|L| \*\*Please note reference interval change\*\*

OBX|16|NM|001099^Bilirubin, Total^L^1975-2^Bilirubi n^LN||0.4|mg/dL|0.0-1.2|||N|F|20170310||201703140042|TA|||||||||||||AC

OBX|17|NM|001107^Alkaline Phosphatase, S^L^6768-6^Alka line phosphatase^LN||64|IU/L|39-117|||N|F|20170307||201703140045|TA|||||||||||||AC

OBX|18|NM|001123^AST (SGOT)^L^1920-8^Aspar tate aminotransferase^LN||35|IU/L|0-40|||N|F|20170310||201703140042|TA|||||||||||||AC

OBX|19|NM|001545^ALT (SGPT)^L^1742-6^Al anine aminotransferase^LN||46|IU/L|0-32|H||N|F|20170307||201703140042|TA|||||||||||||AC

ORC|RE|2622420L46263^LAB|07221639900^ LAB||||||201703130000|||1568416816^FOX^D^^^^^N OBR|2|2622420L46263^LAB|07221639900^LAB|303756^Lipid Panel^L|||201703130920||| ||||201703130000||1568416816^FOX^D^^^^^N||10035239827||2622420L46263||201703140812|||F OBX|1|NM|001065^Cholesterol, Total^L^2 093-3^Cholesterol^LN||141|mg/dL|100-199|||N|F|20161206||201703140054|TA|||||||||||||AC

OBX|2|NM|001172^Triglycerides^L^2571-8 ^Triglyceride^LN||121|mg/dL|0-149|||N|F|20170124||201703140054|TA|||||||||||||AC

OBX|3|NM|011817^HDL Cholesterol^L^2085-9^Cho lesterol.in HDL^LN||57|mg/dL|>39|||N|F|20170127||201703140054|TA|||||||||||||AC

OBX|4|NM|011916^VLDL Cholesterol Cal^L^13458- 5^Cholesterol.in VLDL^LN||24|mg/dL|5-40|||N|F|20161116||201703140054|TA|||||||||||||AC

OBX|5|NM|012054^LDL Cholesterol Calc^L ^13457-7^Cholesterol.in LDL^LN||60|mg/dL|0-99|||N|F|20160419||201703140054|TA|||||||||||||AC ORC|RE|2622420L46263^LAB|0722163 9900^LAB||||||201703130000|||1568416816^FOX^D^^^^^N OBR|3|2622420L46263^LAB|07221639900^LAB|001453^Hemoglobin A1c^L|||2017031 30920|||||||201703130000||1568416816^FOX^D^^^^^N||10035238847||2622420L46263||201703140812|||F OBX|1|NM|001481^Hemoglobin A1c ^L^4548-4^Hemoglobin A1c/Hemoglobin.total^LN||6.8|%|4.8-5.6|H||N|F|20170124||201703140407|TA|||||||||||||AC

NTE|1|L| .

NTE|2|L| Pre-diabetes: 5.7 - 6.4

NTE|3|L| Diabetes: >6.4

NTE| 4|L| Glycemic control for adults with diabetes: <7.0

ZPS|1|TA|LabCorp Tampa|5610 W LaSalle Street^^Tampa^FL^336071770 |8008775227||MD^Farrier^Sean^^^^MD

**Person Match failed; the contributor system of LABCORP\_AMB\_UNMATCH was assigned and the message was not split out into separate ORU messages due to the need for manual verification in the UMPQ:**

* The unique LabCorp accession number was assigned as the patient’s Referring MRN in PID.3 with the msg\_yr concatenated to the end.
* The patient CPI was not sent in PID.2. If it had been and the Person Match still failed, PID.2 would have been cleared.
* “LC” was concatenated to the front of the Referring MRN for the patient’s new FIN in PID.18.
* The following warning posted with the ORU message in the ESI\_LOG:
  + ESI\_STAT\_WARNING “The person information in this message could not be matched and unmatched message processing is active. This message will be stored on the unmatched message table.
* The message was sent to the UMPQ (Unmatched Person Queue) for manually verification. After the message was manually matched, it was sent through the ORU\_LABCORP\_AMB\_UNMA\_ESI again and was successful.

MSH|^~\&|LABCORP\_AMB\_UNMATCH|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703140812||ORU^R01|2689|P|2.3

PID|1||0722163990017 ^^^LABCORP\_MRN|2622420|TEST^ALONA^G||19720402|F|||PO BOX 1422^^TARPON SPRINGS^FL^34688-||(727)808-8822|||||LC0722163990017^^^LABCORP

PV1||A|REF^^^REF^^^REF|||||||||||||||A|||||||||||||||||||||||D| ||201703130000|2017 0313235959 ORC|RE

OBR|1|10035239097|07221639900|322000^Comp. Metabolic Panel (14)^L|

||201703130920|||||||201703130000||156841 6816^FOX^D||10035239097||2622420L46263| |201703140812|||F||^^^201703140812

OBX|1|ST|001032^Glucose, Serum^L^2345-7^Glucose^LN| |123|mg/dL|65-99|H||N|F|20170309||201703140042 NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Tampa

NTE|4|R C|5610 W LaSalle Street Tampa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD

NTE|7|RC|

ZDS|PERFORM|LabCorp Ta mpa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 80087752 27

OBX|2|ST|001040^BUN^L^3094-0^Urea nitrogen^LN||18|mg/dL|6-24|||N|F|20170309||201703140042 ZDS|PERFORM|LabCorp Tampa|201703 140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|3|S T|001370^Creatinine, Serum^L^2160-0^Creatinine^LN||0.88|mg/dL|0.57-1.00|||N|F|20170309||201703140049

ZDS|PERFORM|LabCorp Tamp a|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|4|ST|100791^eGFR If NonAfricn Am^L^48642-3^Glomerular filtration rate/1.73 sq M.predicted.non^LN||80|mL/min/1.73| >59 |||N|F|20170307||201703140049

ZDS|PERFORM|LabCorp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336 071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|5|ST|100797^eGFR If Africn Am^L^48643-1^Glomerular filtration rate /1.73 sq M.predicted.bla^LN||92|mL/min/1.73| >59|||N|F|20161206||201703140049

ZDS|PERFORM|LabCorp Tampa|201703140812|F|||L abCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|6|ST|011577^BUN /Creatinine Ratio^L^3097-3^Urea nitrogen/Creatinine^LN||20||9-23|||N|F|20170301||201703140049

ZDS|PERFORM|LabCorp Tampa|20170 3140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|7| ST|001198^Sodium, Serum^L^2951-2^Sodium^LN||142|mmol/L|134-144|||N|F|20170309||201703140023 ZDS|PERFORM|LabCorp Tampa|2017031 40812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|8|ST |001180^Potassium, Serum^L^2823-3^Potassium^LN||5.2|mmol/L|3.5-5.2|||N|F|20170309||201703140023

ZDS|PERFORM|LabCorp Tampa|201 703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX| 9|ST|001206^Chloride, Serum^L^2075-0^Chloride^LN||106|mmol/L|96-106|||N|F|20170309||201703140023 ZDS|PERFORM|LabCorp Tampa|20 1703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|10|ST|001578^Carbon Dioxide, Total^L^2028-9^Carbon dioxide^LN||18|mmol/L|18-29|||N|F|20170309||201703140042

ZDS|PERFORM|LabC orp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 80 08775227

OBX|11|ST|001016^Calcium, Serum^L^17861-6^Calcium^LN||9.6|mg/dL|8.7-10.2|||N|F|20170309||201703140032 ZDS|PERFORM|La bCorp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|12|ST|001073^Protein, Total, Serum^L^2885-2^Protein^LN||7.1|g/dL|6.0-8.5|||N|F|20170307||201703140042

ZDS|PERF ORM|LabCorp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD P hone: 8008775227

OBX|13|ST|001081^Albumin, Serum^L^1751-7^Albumin^LN||4.3|g/dL|3.5-5.5|||N|F|20170307||201703140042 ZDS|PERFO RM|LabCorp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Ph one: 8008775227

OBX|14|ST|012039^Globulin, Total^L^10834-0^Globulin^LN||2.8|g/dL|1.5-4.5|||N|F|20170301||201703140042 ZDS|PER FORM|LabCorp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|15|ST|012047^A/G Ratio^L^1759-0^Albumin/Globulin^LN||1.5||1.2-2.2|||N|F|||201703140042 NTE|1|RC| \*\*Please note reference interval change\*\*

ZDS|PERFORM|LabCorp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle St reet Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|16|ST|001099^Bilirubin, Total^L^1975-2^Bilirubi n^LN||0.4|mg/dL|0.0-1.2|||N|F|20170310||201703140042

ZDS|PERFORM|LabCorp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSall e Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227 OBX|17|ST|001107^Alkaline Phosphatase, S^L^6768 -6^Alkaline phosphatase^LN||64|IU/L|39-117|||N|F|20170307||201703140045

ZDS|PERFORM|LabCorp Tampa|201703140812|F|||LabCorp Ta mpa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|18|ST|00112

3^AST (SGOT)^ L^1920-8^Aspartate aminotransferase^LN||35|IU/L|0-40|||N|F|20170310||201703140042 ZDS|PERFORM|LabCorp Tampa|201703140812|F||| LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|19|ST|001545^A LT (SGPT)^L^1742-6^Alanine aminotransferase^LN||46|IU/L|0-32|H||N|F|20170307||201703140042

ZDS|PERFORM|LabCorp Tampa|20170314 0812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

ORC|RE

OBR|2|10035239827|07221639900|303756^Lipid Panel^L|| |201703130920|||||||201703130000||1568416816^FOX^D||10035239827||2622420L46 263||201703140812|||F||^^^201703140812

OBX|1|ST|001065^Cholesterol, Total^L^2093-3^Cholesterol^LN||141|mg/dL|100-199|||N|F|20 161206||201703140054

NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Tampa

NTE|4|RC|5610 W LaSalle Street Ta mpa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD

NTE|7|RC|

ZDS|PERFORM|LabCorp Tampa|201703140812|F|||LabCo rp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|2|ST|001172^Triglyc erides^L^2571-8^Triglyceride^LN||121|mg/dL|0-149|||N|F|20170124||201703140054 ZDS|PERFORM|LabCorp Tampa|201703140812|F|||LabC orp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227 OBX|3|ST|011817^HDL Ch olesterol^L^2085-9^Cholesterol.in HDL^LN||57|mg/dL|>39|||N|F|20170127||201703140054 ZDS|PERFORM|LabCorp Tampa|201703140812|F| ||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227 OBX|4|ST|011916^ VLDL Cholesterol Cal^L^13458-5^Cholesterol.in VLDL^LN||24|mg/dL|5-40|||N|F|20161116||201703140054 ZDS|PERFORM|LabCorp Tampa|2 01703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|5|ST|012054^LDL Cholesterol Calc^L^13457-7^Cholesterol.in LDL^LN||60|mg/dL|0-99|||N|F|20160419||201703140054 ZDS|PERFORM|La bCorp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227 ORC|RE

OBR|3|10035238847|07221639900|001453^Hemoglobin A1c^L|||201703130920|||||||201703130000| |1568416816^FOX^D|| 10035238847||2622420L46263||201703140812|||F||^^^201703140812

OBX|1|ST|001481^Hemoglobin A1c^L^4548-4^Hemoglobin A1c/Hemoglob in.total^LN||6.8|%|4.8-5.6|H||N|F|20170124||201703140407

NTE|1|RC| .

NTE|2|RC| Pre-diabetes: 5.7 - 6.4

NTE|3|RC| Diabetes: >6.4

NTE|4|RC| Glycemic control for adults with diabetes: <7.0

NTE|5|RC|

NTE|6|RC|Lab test performed by:

NTE|7|RC|LabCorp Tampa

NTE|8|RC|5610 W LaSalle Street Tampa FL 336071770

NTE|9|RC|8008775227

NTE|10|RC|Sean Farrier MD

NTE|11|RC|

ZDS|PERFORM|LabCorp Tampa|201703140812|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

**Sample Message # 4:**

**Inbound LabCorp Result Message (RAW):**

MSH|^~\&|1100|TA|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703151412||ORU^R01|0726|P|2.3

PID|1|300673390|06975505830|300673390|TEST^LAURIE||19590813|F|||3000 ALT 19 LOT 52^^DUNEDIN^FL^34698-0000||(508)259-3300|||||09142910^^^XI^^F

ORC|RE|06975505830^LAB|06975505830^LAB||||||201703100000|||1275586885^MILLER^C^^^^^N

OBR|1|06975505830^LAB|06975505830^LAB|377036^UA/M w/rflx Culture, Routine^L|||201703100000||||

|||201703100000||1275586885^MILLER^C^^^^^N||||06975505830||201703151412|||F

OBX|1|NM|013060^Specific Gravity^L^2965-2^Specific gravity^LN||1.007||1.005-1.030|||N|F|20170306||201703110030|TA|||||||||||||UR

OBX|2|NM|013078^pH^L^5803-2^pH^LN||6.0||5.0-7.5|||N|F|20170306||201703110030|TA|||||||||||||UR

OBX|3|ST|013045^Urine-Color^L^5778-6^Color^LN||Yellow||Yellow|||N|F|||201703110030|TA|||||||||||||UR

OBX|4|ST|013052^Appearance^L^5767-9^Appearance^LN||Clear||Clear|||N|F|||201703110030|TA|||||||||||||UR

OBX|5|ST|013185^WBC Esterase^L^5799-2^Leukocyte esterase^LN||2+||Negative|A||N|F|||201703110030|TA|||||||||||||UR

OBX|6|ST|013094^Protein^L^20454-5^Protein^LN||Negative||Negative/Trace|||N|F|19960813||201703110030|TA|||||||||||||UR

OBX|7|ST|013086^Glucose^L^2349-9^Glucose^LN||Negative||Negative|||N|F|||201703110030|TA|||||||||||||UR

OBX|8|ST|013110^Ketones^L^2514-8^Ketones^LN||1+||Negative|A||N|F|||201703110030|TA|||||||||||||UR

OBX|9|ST|013102^Occult Blood^L^5794-3^Hemoglobin^LN||Negative||Negative|||N|F|||201703110030|TA|||||||||||||UR

OBX|10|ST|013104^Bilirubin^L^5770-3^Bilirubin^LN||Negative||Negative|||N|F|||201703110030|TA|||||||||||||UR

OBX|11|NM|013105^Urobilinogen,Semi-Qn^L^20405-7^Urobilinogen^LN||0.2|mg/dL|0.2-1.0|||N|F|20160518||201703110030|TA|||||||||||||UR

OBX|12|ST|013106^Nitrite, Urine^L^5802-4^Nitrite^LN||Positive||Negative|A||N|F|||201703110030|TA|||||||||||||UR

OBX|13|ST|012237^Microscopic Examination^L^12235-8^Microscopic observation^LN||See below:|||||N|F|||201703110030|TA|||||||||||||UR

NTE|1|L|Microscopic was indicated and was performed.

OBX|14|TX|377202^Urinalysis Reflex^L||Comment|||||N|F|||201703110327|TA|||||||||||||UR

NTE|1|L|This specimen has reflexed to a Urine Culture.

ORC|RE|06975505830^LAB|06975505830^LAB||||||201703100000|||1275586885^MILLER^C^^^^^N

OBR|2|06975505830^LAB|06975505830^LAB|333328^Microscopic Examination^L|||201703100000||

||G|||201703100000||1275586885^MILLER^C^^^^^N||||06975505830||201703151412|||F|012237|||377036

OBX|1|ST|013128^WBC^L^5821-4^Leukocytes^LN||6-10|/hpf|0 - 5|A||N|F|19960313||201703110327|TA|||||||||||||UR

OBX|2|ST|013136^RBC^L^13945-1^Erythrocytes^LN||0-2|/hpf|0 - 2|||N|F|19960313||201703110327|TA|||||||||||||UR

OBX|3|ST|013148^Epithelial Cells (non renal)^L^5787-7^Epithelial cells^LN||0-10|/hpf|0 - 10|||N|F|20160315||201703110327|TA|||||||||||||UR

OBX|4|ST|333344^Bacteria^L^5769-5^Bacteria^LN||Few||None seen/Few|||N|F|19960813||201703110327|TA|||||||||||||UR

ORC|RE|06975505830^LAB|06975505830^LAB||||||201703100000|||1275586885^MILLER^C^^^^^N

OBR|3|06975505830^LAB|06975505830^LAB|008848^Urine Culture, Routine^L|||201703100000||||G|

||201703100000||1275586885^MILLER^C^^^^^N||||06975505830||201703151412|||F|377202|||377036

OBX|1|ST|008847^Urine Culture, Routine^L^630-4^Bacteria identified^LN||Final report|||A||N|F|20031013||201703151335|TA|||||||||||||MIC

OBX|2|ST|997131^Result 1^L^630-4^Bacteria identified^LN||Escherichia coli|||A||N|F|||201703151335|TA|||||||||||||MIC

NTE|1|L|Greater than 100,000 colony forming units per mL

NTE|2|L|This specimen was submitted in a sterile cup which requires

NTE|3|L|refrigerated temperatures to maintain the organisms without

NTE|4|L|excessive growth in transport. LabCorp recommends the use of the

NTE|5|L|urine culture transport device (available from your professional

NTE|6|L|services representative) for clean catch urine specimens.

OBX|3|TX|997135^Antimicrobial Susceptibility^L^23658-8^Antibiotic XXX^LN||Comment|||||N|F|||201703151335|TA|||||||||||||MIC

NTE|1|L| \*\* S = Susceptible; I = Intermediate; R = Resistant \*\*

NTE|2|L| P = Positive; N = Negative

NTE|3|L| MICS are expressed in micrograms per mL

NTE|4|L| Antibiotic RSLT#1 RSLT#2 RSLT#3 RSLT#4

NTE|5|L|Amoxicillin/Clavulanic Acid R>=32

NTE|6|L|Ampicillin R>=32

NTE|7|L|Cefazolin R =8

NTE|8|L|Cefepime S<=1

NTE|9|L|Ceftriaxone S<=1

NTE|10|L|Cefuroxime I =16

NTE|11|L|Cephalothin R>=64

NTE|12|L|Ciprofloxacin S<=0.25

NTE|13|L|Ertapenem S<=0.5

NTE|14|L|Gentamicin S<=1

NTE|15|L|Imipenem S<=1

NTE|16|L|Levofloxacin S<=0.12

NTE|17|L|Nitrofurantoin S<=16

NTE|18|L|Piperacillin S =8

NTE|19|L|Tetracycline S<=1

NTE|20|L|Tobramycin S<=1

NTE|21|L|Trimethoprim/Sulfa S<=20

ZPS|1|TA|LabCorp Tampa|5610 W LaSalle Street^^Tampa^FL^336071770|8008775227||MD^Farrier^Sean^^^^MD

**Person match was successful on Cerner for patient’s CPI, DOB, and Sex. The encounter match failed on patient’s FIN causing the creation of a BMG Ref Lab FIN for the patient (i.e., “LC” concatenated in front of the unique LabCorp accession number with Msg\_Yr concatenated at the end) in PID.18. The contributor system of LABCORP\_AMB was assigned and the message was split out into three separate ORU messages. (See *fundamental requirement FR.2015.10.2 and 4.2 Data Transformation Requirements for details.*):**

Message 1:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703151412||ORU^R01|0726|P|2.3

PID|1|300673390^^^MRN|06975505830|300673390|TEST^LAURIE||19590813|F|||3000 ALT 19 LOT 52^^DUNEDIN^FL^34698-0000||(508)259-3300|||||LC0697550583017^^^LABCORP

PV1||A|REF^^^REF^^^REF|||||||||||||||A|||||||||||||||||||||||D|||201703100000|20170310235959

ORC|RE

OBR|1|06975505830|06975505830|377036^UA/M w/rflx Culture, Routine^L|||201703100000|||||||201703100000| |1275586885^MILLER^C||||06975505830||201703151412|||F||^^^201703151412

OBX|1|ST|013060^Specific Gravity^L^2965-2^Specific gravity^LN||1.007||1.005-1.030|||N|F|20170306||201703110030

NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Tampa

NTE|4|RC|5610 W LaSalle Street Tampa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD

NTE|7|RC|

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|2|ST|013078^pH^L^5803-2^pH^LN||6.0||5.0-7.5|||N|F|20170306||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|3|ST|013045^Urine-Color^L^5778-6^Color^LN||Yellow||Yellow|||N|F|||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|4|ST|013052^Appearance^L^5767-9^Appearance^LN||Clear||Clear|||N|F|||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|5|ST|013185^WBC Esterase^L^5799-2^Leukocyte esterase^LN||2+||Negative|A||N|F|||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|6|ST|013094^Protein^L^20454-5^Protein^LN||Negative||Negative/Trace|||N|F|19960813||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|7|ST|013086^Glucose^L^2349-9^Glucose^LN||Negative||Negative|||N|F|||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|8|ST|013110^Ketones^L^2514-8^Ketones^LN||1+||Negative|A||N|F|||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|9|ST|013102^Occult Blood^L^5794-3^Hemoglobin^LN||Negative||Negative|||N|F|||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|10|ST|013104^Bilirubin^L^5770-3^Bilirubin^LN||Negative||Negative|||N|F|||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|11|ST|013105^Urobilinogen,Semi-Qn^L^20405-7^Urobilinogen^LN||0.2|mg/dL|0.2-1.0|||N|F|20160518||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|12|ST|013106^Nitrite, Urine^L^5802-4^Nitrite^LN||Positive||Negative|A||N|F|||201703110030

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|13|ST|012237^Microscopic Examination^L^12235-8^Microscopic observation^LN||See below:|||||N|F|||201703110030

NTE|1|RC|Microscopic was indicated and was performed.

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|14|TX|377202^Urinalysis Reflex^L||Comment|||||N|F|||201703110327

NTE|1|RC|This specimen has reflexed to a Urine Culture.

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

Message 2:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703151412||ORU^R01|0726|P|2.3

PID|1|300673390^^^MRN|06975505830|300673390|TEST^LAURIE||19590813|F|||3000 ALT 19 LOT 52^^DUNEDIN^FL^34698-0000||(508)259-3300|||||LC0697550583017^^^LABCORP

PV1||A|REF^^^REF^^^REF|||||||||||||||A|||||||||||||||||||||||D|||201703100000|20170310235959

ORC|RE

OBR|2|06975505830|06975505830|333328^Microscopic Examination^L|||201703100000||||G|||201703100000|

|1275586885^MILLER^C||||06975505830||201703151412|||F|012237|^^^201703151412||377036

OBX|1|ST|013128^WBC^L^5821-4^Leukocytes^LN||6-10|/hpf|0 - 5|A||N|F|19960313||201703110327

NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Tampa

NTE|4|RC|5610 W LaSalle Street Tampa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD

NTE|7|RC|

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|2|ST|013136^RBC^L^13945-1^Erythrocytes^LN||0-2|/hpf|0 - 2|||N|F|19960313||201703110327

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|3|ST|013148^Epithelial Cells (non renal)^L^5787-7^Epithelial cells^LN||0-10|/hpf|0 - 10|||N|F|20160315||201703110327

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|4|ST|333344^Bacteria^L^5769-5^Bacteria^LN||Few||None seen/Few|||N|F|19960813||201703110327

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

Message 3:

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TA010893.LC.RLN|201703151412||ORU^R01|0726|P|2.3

PID|1|300673390^^^MRN|06975505830|300673390|TEST^LAURIE||19590813|F|||3000 ALT 19 LOT 52^^DUNEDIN^FL^34698-0000||(508)259-3300|||||LC0697550583017^^^LABCORP

PV1||A|REF^^^REF^^^REF|||||||||||||||A|||||||||||||||||||||||D|||201703100000|20170310235959

ORC|RE

OBR|3|06975505830|06975505830|008848^Urine Culture, Routine^L|||201703100000||||G|

||201703100000||1275586885^MILLER^C||||06975505830||201703151412|||F|377202|^^^201703151412||377036

OBX|1|ST|008847^Urine Culture, Routine^L^630-4^Bacteria identified^LN||Final report|||A||N|F|20031013||201703151335

NTE|1|RC|

NTE|2|RC|Lab test performed by:

NTE|3|RC|LabCorp Tampa

NTE|4|RC|5610 W LaSalle Street Tampa FL 336071770

NTE|5|RC|8008775227

NTE|6|RC|Sean Farrier MD

NTE|7|RC|

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|2|ST|997131^Result 1^L^630-4^Bacteria identified^LN||Escherichia coli|||A||N|F|||201703151335

NTE|1|RC|Greater than 100,000 colony forming units per mL

NTE|2|RC|This specimen was submitted in a sterile cup which requires

NTE|3|RC|refrigerated temperatures to maintain the organisms without

NTE|4|RC|excessive growth in transport. LabCorp recommends the use of the

NTE|5|RC|urine culture transport device (available from your professional

NTE|6|RC|services representative) for clean catch urine specimens.

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

OBX|3|TX|997135^Antimicrobial Susceptibility^L^23658-8^Antibiotic XXX^LN||Comment|||||N|F|||201703151335

NTE|1|RC| \*\* S = Susceptible; I = Intermediate; R = Resistant \*\*

NTE|2|RC| P = Positive; N = Negative

NTE|3|RC| MICS are expressed in micrograms per mL

NTE|4|RC| Antibiotic RSLT#1 RSLT#2 RSLT#3 RSLT#4

NTE|5|RC|Amoxicillin/Clavulanic Acid R>=32

NTE|6|RC|Ampicillin R>=32

NTE|7|RC|Cefazolin R =8

NTE|8|RC|Cefepime S<=1

NTE|9|RC|Ceftriaxone S<=1

NTE|10|RC|Cefuroxime I =16

NTE|11|RC|Cephalothin R>=64

NTE|12|RC|Ciprofloxacin S<=0.25

NTE|13|RC|Ertapenem S<=0.5

NTE|14|RC|Gentamicin S<=1

NTE|15|RC|Imipenem S<=1

NTE|16|RC|Levofloxacin S<=0.12

NTE|17|RC|Nitrofurantoin S<=16

NTE|18|RC|Piperacillin S =8

NTE|19|RC|Tetracycline S<=1

NTE|20|RC|Tobramycin S<=1

NTE|21|RC|Trimethoprim/Sulfa S<=20

ZDS|PERFORM|LabCorp Tampa|201703151412|F|||LabCorp Tampa - 5610 W LaSalle Street Tampa , FL 336071770 Lab Director: Sean Farrier MD Phone: 8008775227

**Behavioral Health Sample Messages**

ORU\_LABCORP\_AMB\_ESI

*(Post mod object)*

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TE032003.LC.RLN|201902041330||ORU^R01|0334|P|2.3

PID|1|810120268^^^MRN|035X83100002019|6000141659^^^BCFN|QUESTTEST^THURSDAY||19711115|F|||1234 MAIN STREET^^Tampa^FL^33611-|||||||6000141659^^^BayCare FIN

ORC|RE

OBR|1|14877506887|035X83100002019|004259^TSH^L|||201902041252||||||SRC:Blood |201902040000|Blood|^Boyette^S||14877506887||6000141659L07593||201902041330|||F||^^^201902041330

OBX|1|ST|004264^TSH^L^11580-8^Thyrotropin^LN||1.256|uIU/mL|0.450-4.500|||N|F|20190116||201902041330

NTE|1|RC|Please be advised that this report contains fictitious

NTE|2|RC|results to be used for interface program validation.

NTE|3|RC|This report does not contain real patient results.

NTE|4|RC|

NTE|5|RC|Lab test performed by:

NTE|6|RC|LabCorp EDI Testing

NTE|7|RC|3060 S Church Street Burlington NC 272150000

NTE|8|RC|3365845171

NTE|9|RC|EDI

NTE|10|RC|

ZDS|PERFORM|LabCorp EDI Testing|201902041330|F|||LabCorp EDI Testing - 3060 S Church Street Burlington , NC 272150000 Lab Director: EDI

MSH|^~\&|LABCORP\_AMB|LABCORP\_AMB|CERRLN|BAYC\_FL.TE032003.LC.RLN|201902041330||ORU^R01|0334|P|2.3

PID|1|810120268^^^MRN|035X83100002019|6000141659^^^BCFN|QUESTTEST^THURSDAY||19711115|F|||1234 MAIN STREET^^Tampa^FL^33611-|||||||6000141659^^^BayCare FIN

ORC|RE

OBR|2|14877507027|035X83100002019|007401^Phenytoin (Dilantin), Serum^L|||201902041252|||||||201902040000|Blood|^Boyette^S||14877507027||6000141659L07593||201902041330|||F||^^^201902041330

OBX|1|ST|007512^Phenytoin (Dilantin), Serum^L^3968-5^Phenytoin^LN||1.6|ug/mL|10.0-20.0|L||N|F|20190201||201902041330

NTE|1|RC| Detection Limit = 0.8

NTE|2|RC| <0.8 Indicates None Detected

NTE|3|RC|

NTE|4|RC|Lab test performed by:

NTE|5|RC|LabCorp EDI Testing

NTE|6|RC|3060 S Church Street Burlington NC 272150000

NTE|7|RC|3365845171

NTE|8|RC|EDI

NTE|9|RC|

ZDS|PERFORM|LabCorp EDI Testing|201902041330|F|||LabCorp EDI Testing - 3060 S Church Street Burlington , NC 272150000 Lab Director: EDI

# 5. Alerts

Are you going to need alerting on this connection?

|  |  |
| --- | --- |
| Yes | ☐ |
| No | X |

# Appendix A: Risks and Concerns

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Project: LabCorp Ambulatory Results Interface** |  | | |  |  | |  | |  | |
| **Number** | **Risk / Concern** |  | **Mitigation** | | | |  | |  | |  | |
| RC.2016.8.1  RC.2016.8.2  RC.2016.11.3  RC.2019.06.4 | The Cerner RLN Hub does not use FIFO (i.e., first in, first out). Instead, they require Multi-Thread for their interface connections. This raised concerns about partial and preliminary result messages being received after the final result message or a correction message being received prior to the result message needing the correction. This was discussed and the chances of an older result posting over the most recent result on Cerner is very low. Cerner will fail a Partial or Prelim result message received after the final result message because the observation dates/times are earlier than the observation dates/times on the Final results already posted in the Cerner database. The same is true with a correction messages, Cerner will not allow a result with an earlier observation date/time to overwrite a result already posted with a later observation date/time.  There were concerns about splitting original LabCorp result message into separate messages per OBR segment. Analysis showed the average increase would be 5 new messages for every one original message. Due to this increase, it was decided by the HIM Team responsible for manual patient matching in the UMPQ app to only split the original messages that pass person match of CPI, DOB, and Sex and not the messages that are assigned to the LABCORP\_AMB\_UNMATCH contributor system.  There were concerns about assigning the unique LabCorp accession number as the patient’s referring MRN, however, this was the only unique number available for use when a result message failed person match of CMRN (CPI), DOB, and/or sex. A unique patient identifier was needed or final results that went to the UMPQ after a partial or preliminary result message would never post in Cerner. It was decided by the project team that the referring MRN would only be used when the person match failed and the message was assigned to the LABCORP\_AMB\_UNMATCH contributor system. It was also decided to name the alias pool LABCORP\_ACCESSION as to not confuse it with real MRN alias pools.  Risk – After Cut Over, there will still be gaps on returning FIN TAGS due to patient flow. This is handled already by creating a LabCorp & Quest FIN when blank. End-users are familiar with the process. |  | | 1/20/16  8/19/16  11/9/16  06/17/2019 | |  | |  | |  | |

# Appendix B: Issues List

**Project: LabCorp Ambulatory Results Interface**

| Issue  # | Issue | Cause/Assigned To | Resolution/Date Resolved | Comments |
| --- | --- | --- | --- | --- |
| 1 | LabCorp: Some results posted on the wrong patient when result messages failed CPI, DOB, and/or Sex match and the CPI(BayCare CMRN) in the message belongs to a different patient. | Issue when LabCorp was set up to send only results. Without the orders interface, LabCorp sent the patient's CMRN in PID.4 and not in PID.2. Cerner coding was blanking out PID.2 where LabCorp sends Patient FIN when it should have blanked out the patient's identifier (CMRN) in PID.4 when there was a patient mis-match on CMRN, DOB, and/or Sex. After a patient mis-match occurs, the message is sent to the Unmatched contributor system where it looks for a CMRN match before sending to the unmatched queue. Since Cerner coding did not blank out the CMRN field, the CMRN occasionally matched another patient.  Assigned To: Cerner-Viet Cao/Hope Kaczmarczyk and Sailaja Parimi | When LabCorp results only interface was up and running (No LabCorp orders interface), Cerner wrote coding for the oru\_LCorpAMB\_modobj\_in to blank out PID.4 instead of PID.2 in the result message when a patient mismatch occurs. Note: PID.2 is used for the patient's CPI when the LabCorp orders interface went live and the mobj\_amblc\_enc\_in script now blanks out PID.2. LabCorp send the patient's FIN in PID.4  Date Resolved: Urgent CAB fix In Prod on 11/9/15 | Cerner coding was written for the majority of reference labs that send the patient identifier (MRN) in PID.2 not PID.4. LabCorp only sends the patient identifier (MRN) in PID.4 when it is a results only interface. When we switched to an orders and results interface with LabCorp, they began sending the patient identifier (MRN) in PID.2 with the patient's FIN in PID.4- mod object scripts were adjusted. |
| 2 | LabCorp ESI Failure Error: Failed to construct Child Clinical Event structure in ESiGenEvent::process | Result Items (Event Codes) have not been aliased for Quest or LabCorp  Assigned To: Pathnet Team- Jeff Jung, and Linda Lefebvre | Find the result item(s) in the ORU result message that are not aliased on code set 72 and alias with LabCorp's codes. When aliasing is completed, ask FSI to cycle Cerner servers and LabCorp to resend.  Date Resolved: This will be an on-going issue. The BayCare Pathnet Team will be monitoring the inbound LabCorp results for errors. | Originally, CloverLeaf would resend the result messages after the Pathnet Team fixed them (max limit = 10 days); this was a temporary curtosy. Results need to be resent from LabCorp to ensure the last result message is sent and not an earlier preliminary result message. |
| 3 | LabCorp ESI Failure Error: Failed when calling finish from EsiGenEvent::process. | New orderable was created and the Gen Lab CCL programs needs to be run to associate the order catalog with the DTAs.  Assigned To: Pathnet Team- Jeff Jung, and Linda Lefebvre | Run the Gen Lab CCL programs as needed depending on the Prod build, cycle servers.  Date Resolved: This will be an on-going issue. The BayCare Pathnet Team will be monitoring the inbound LabCorp results for errors. |  |
| 4 | Multiple LC encounter rows are being created per patient with the same LC encounter FIN. | Coding change is needed to prevent the same LC encounter row from being created with every result message that is sent on it. There should only be one row per unique LC FIN.  Assigned To: Cerner-Viet Cao/Hope Kaczmarczyk and Sailaja Parimi | Change "encounter ensure type" from "Add ensure" to "Update ensure" for contributor systems, LABCOPR\_AMB and LABCOPR\_AMB\_UNMATCH, to prevent additional rows from being added when the same LC encounter FIN is used.  Date Resolved: RFC # 11074 in Prod on 3/24/16 |  |
| 5 | Physicians are seeing only partial results on some patients in PowerChart and their Message Center Inboxes. UMPQ Only: When additional result messages are matched on the same Cerner accession number as the first result message that was matched; they fail person match at the Clinical Event (CE) server level and do not post. | UMPQ Only: When additional result messages are matched on the same Cerner accession number as the first result message that was matched; they fail person match at the Clinical Event (CE) server level and do not post. Person identifiers in the additional result messages do not match the ones with the results already posted in the CE table.  Assigned To: Cerner-Viet Cao/Hope Kaczmarczyk and Sailaja Parimi | Use the unique LabCorp Accession number with the Msg\_Yr concatenated as the patient's referring MRN only when the message is sent to LABCORP\_AMB\_UNMATCH contributor System. The Referring MRN will be assigned to the patient when the first result message is sent to the UMPQ. Any additional result messages sent on that same accession number will be assigned to the LABCORP\_AMB\_ UNMATCH contributor System and will post automatically without being matched on the UMPQ due to the person match on the referring MRN.  Date Resolved: RFC# 15097 in Prod on 11/9/16 |  |
| 6 | LabCorp ESI Failure Error: FAILURE!!! -Error calling Clinical Event Server. CRMStatus: 32-OCF error: (Day, Date/Time) ReqFld Missing: location: file: "ee\_ensure\_base.cpp" line: 138 message: ------------------------- Missing a required field: table: "clinical\_event" field: "event\_cd" ------------------------- | ESI server was unable to match or provide a person id to clinical event which is required for event processing.  Assigned To: Cerner-Viet Cao/Hope Kaczmarczyk and Sailaja Parimi | See Issue # 5 for resolution  Date Resolved: RFC# 15097 in Prod on 11/9/16 |  |
| 7 | LabCorp: When a Reference Lab FIN is created because the patient or the FIN in the result message does not match Cerner patient data, the "LC" FIN that is created is often missing a unique identifier. Many patients have only LC as their FIN. | Original problem was with Cerner coding erasing PID;2 patient FIN before it could be concatenated with LC. After Cerner's script fix, issue still occurring because many LabCorp messages are sent with a blank PID;2 patient FIN field.  Assigned To: Cerner-Viet Cao/Hope Kaczmarczyk and Sailaja Parimi | It was decided to use "LC" concatenated with the unique LabCorp accession number concatenated with the Msg\_Yr  Date Resolved: RFC# 15097 in Prod on 11/9/16 | Hope to evaluate the unique patient identifiers that can be used to prevent this from occurring, then Cerner can write the code needed. Cerner also needs to address whether or not many patients all having LC as their FIN is an issue. |
| 8 | Some LabCorp orders are not automatically changing to the status of "Complete" when results are posted on Cerner. Wrong Order ID is being sent back on some orders when they are accidentally combined with the original ORM message. | Wrong Order ID is being sent back on some orders when they are accidentally combined with the original ORM message at LabCorp. This tends to happen when an extra order is added after the requisition has already printed.  Assigned To: LabCorp/ Pathnet Team- Jeff Jung, and Linda Lefebvre | This is a work flow issue:  1. Correct LabCorp requisitions need to accompany specimens to LabCorp  2. LabCorp should not combine new orders on to existing orders.  Date resolved: Discussed during weekly project call |  |
| 9 | Many order results are not posting because of one order in the result messages that has not been aliased. | New order or result item on the LabCorp side that has not been aliased on the BayCare Cerner side.  Assigned To: Cerner-Viet Cao/Hope Kaczmarczyk and Sailaja Parimi | The morg\_amblc\_esi\_in mod original script was written to separate each OBR segment into separate ORU result messages when there is more than one OBR segment in the original message. This process allows for common results to post immediately even though one or more of the OBR segments may have failed due to build/aliasing issues. This functionality was only added for messages that pass the person match on CMRN (CPI), DOB, and sex.  Date resolved: RFC# 13583 in Prod on 8/19/16 |  |
| 10 | When an encounter match fails and a LabCorp encounter is created, no location is being assigned. | This caused a problem for Pharmacy when medication orders are entered incorrectly on these encounters; the Pharmacy was unable to delete the orders without a location.  Assigned to: Sailaja Parimi | Sailaja Parimi worked with Cindy Barone, Linda Lefebvre, and LabCorp to create, code, and test the new Ambulatory location of “Ref Lab Result”, alias is REF.  Resolved on 01/10/18: RFC # 8051 |  |
| 11 | Addition of an incorrect address row is occasionally occurring on unmatched patients. | This problem is occurring when an incorrect manual match happens in the Unmatched Queue- When the match is corrected, the wrong patient's address sent from LabCorp is left as an active row on the other patient.  Also, if LabCorp has the wrong address for a patient and the result goes to the Unmatched Queue, it will post in Cerner.  Assigned to: Hope Kaczmarczyk | Hope Kaczmarczyk made coding changes to the mobj\_amblc\_enc\_in script clearing the patient’s address/phone fields. Fix was tested in c30 with Linda Lefebvre and LabCorp.  Resolved on 04/09/18: RFC # 10346 |  |
| 12 | Messages were not displaying in the Cerner Message Center. | The *new* RLN Encounter Type/Class was not configured in P30 Message Center. It was done in non-prod and tested successfully. | 6/18/2019, The App team added the new RLN Encounter Type, Ref Lab Result Encounter, in the Cerner Message Center. |  |

* End of document