**Optum CAC: Outbound Document Results from Cerner**

**Version 1.3**

**Prepared By: Daniel Olszewski , Art Schwartz**

**Date: 7/31/2019**

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# **Document Control**

## Resources

|  |  |  |
| --- | --- | --- |
| **Name** | **Role** | **Email** |
| Daniel Olszewski | Integration Analyst | Daniel.olszewski@baycare.org |
| Sarah Thies | Integration Analyst | Sarah.Thies@baycare.org |
| Art Schwartz | Sr. Integration Analyst | Art.Schwartz@baycare.org |
|  |  |  |
|  |  |  |
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|  |  |  |
|  |  |  |

## Project Distribution List

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 9/28/2016 | Dan Olszewski | Originally Created |
| V1.1 | 5/25/2017 | Art Schwartz | Cloverleaf updates |
| V1.2 | 7/29/2019 | Levy Lazarre | Cloverleaf updates after Cerner Model implementation |
| V1.3 | 07/31/2019 | Yitzhak Magoon | Updates from Cerner Model project from FSI |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to provide the current configuration for the Cerner document results interface outbound to Optum CAC Information System. The intended audience would be anyone who wishes to know more about the current configurations as established in production.

## 1.2 Project Scope

Document and multimedia document (transcriptions) results from Cerner will be sent to Optum CAC. They will send us BAR messages back.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

ORU - HL7 Result message

BAR – Billing account messages

### 1.3.2 Glossary

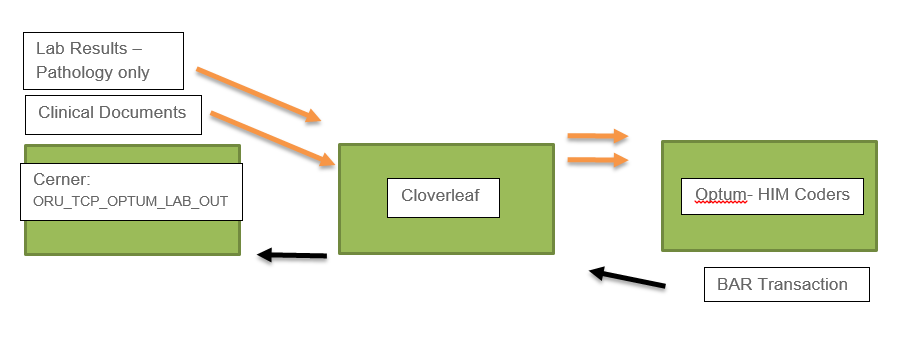
Click here to enter text.

## 1.4 Document References

**BAR message requirement document:**

http://bcspapp01:48601/sites/SecurityDataIntegrity/EnterpriseIntegration/team/Shared%20Documents/Applications%20and%20Systems/01-EIT%20Requirements/BAR\_Optum\_Cerner%20Reqs.docx

# 2. Diagram



# 3. Requirements

## 3.1 Functional Requirements

Provide detail for the below functional requirements. The message transformation requirements for the components defined in this specification should be specified in section 4.2 of this document.

|  |  |  |
| --- | --- | --- |
| **Cerner** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| FR.2019.7.31.1 | Global Suppression:  eso\_get\_ce\_selection | If the result subtype is DOC, MDOC or POWERFORMS we check to determine whether the result event has an action\_type\_cd associated to “Reviewed.” If it does, we suppress the document from going outbound. If not, we execute cascading logic that determines whether to continue processing the result.  If the document is an ED Patient Summary or Discharge Summary of Care, we automatically allow the document through suppression.  If the document is not listed above, we look at the alias for the event\_cd on the Optum contributor system. If it exists, we automatically allow the document through suppression.  If the document doesn’t qualify to Optum, we check to see if it’s one of the following documents and allow the document through suppression:  History and Physicals  Discharge Summary  Consultation  Operative Reports  Cardiology Consult  Would Consult  Oncology Consult  Tele Neuro Consult  OB Procedure Note  ED Physician Note  GI Endo Report  If the result isn’t one of these documents, we determine the activity type and subactivity type of the order associated to the result. If the subactivity type matches “CARDIOLOGYNOHIE” or “CARDIONOHIE” then we suppress the document.  If the activity type matches one the following activity types then we allow the document through suppression:  Cardiac Cath Lab  Cardiac TX Procedures  PEDI Cardiology Services  BOI Cardiology  BOI Cardiovascular  OP DX Card  Ambulatory ECHO  Cardiovascular  Ambulatory Cardiovascular |
| FR.2019.7.31.2 | Route Script:  route\_out | If the FIN is a BMGFN (the patient is BMG patient) or the FIN is blank or the Filler Order Number matches “HNAM\_CEREF” (cardiology and radiology rebound results) then we don’t route the document to Optum. |
| FR.2019.7.31.2 | Mod Original Script:  Oru\_documents\_morg\_out | The mod original script replaces five different special characters to improve the read-ability of the actual document.   |  |  | | --- | --- | | ASCII Char | Replace with | | 194 | blank | | 195 | blank | | 160 | blank | | 176 | Deg | | 161 | blank | |
| FR.2019.7.31.3 | Code Set Interface Rule | A code set interface rule is built on code set 72. Any result that is not aliased will receive the alias of DONOTSEND and will be skipped by the com server. |

## 3.2 Non-Functional Requirements

|  |  |  |
| --- | --- | --- |
| **Cloverleaf** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| NFR.20XX.1.0 | Click here to enter text. | Click here to enter text. |

## 3.3 Messaging Protocols

Below are listed the details for the messaging protocols that will be leveraged for this integration. Please see the reference document located on the Integration SharePoint server: <insert link to document here>

### 3.3.1 Inbound to the BayCare Cloverleaf

* TCPIP

### 3.3.2 Outbound to the Vendor

* TCPIP

### 3.3.3 Inbound to the Cloverleaf

Test

Port Number: 23424

IP Address: 10.5.250.203

Prod

Port Number: 23424

IP Address: 10.5.250.201

### 3.3.4 Outbound to the Optum

Test

Port Number: 30106

IP Address: 161.249.96.9

Prod

Port Number: 40106

IP Address: 161.249.96.8

# 4. HL7 Messaging

## 4.1 Messaging Format

HL7 v 2.3 ORU\_R01

### 4.1.1 Segments

The segments utilized for this interface are:

MSH

PID

[PV1]

ORC

OBR

{OBX}

*Message Construction Notes:*

*[Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*MSH – Message Header*

*EVN – Event segment*

*PID – Patient ID segment*

*PV1 – Patient Visit segment*

*ORC – Common Order segment*

*IN1 – Insurance segment*

*[{ – Start of optional, repeatable group*

*}] – End of optional, repeatable group*

### 4.1*.*2 Messaging Event Types

Below are the messages types necessary for this integration

|  |  |
| --- | --- |
| **Event Type** | **Description** |
| ORU | Result message |
|  |  |
|  |  |

### 4.1*.*3 Cloverleaf Configuration Files

For each HL7 interface specified in Section 2 of this document, identify the Cloverleaf Configuration Files: Variants, TCL Scripts, Xlates, etc.

Xlate: Cerner\_optum\_trans.xlt

Tcl: tpsAdvHL7Filter.tcl, tpsCernerCommonCode.tcl, remove\_fishbone.tcl

### 4.1.4 Cloverleaf Site Location

optum\_16 (TEST), optum\_16\_p (PROD)

## 4.2 Data Transformation Requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field Description** | **HL7 Field Loc.** | **Required Y/N** | **Data Type** | **Length** | **Notes** |
| Ignore patients from BMG locations | PID18.4 | Y |  |  | If the assign auth of the FIN number is set to “BMGFN” suppress the message. |
| Ignore encounters that don’t have a FIN number | PID18.1 | Y |  |  | If PID18.1 is blank, suppress the message |
| Ignore messages with identifiers of CD: in OBR.4.1 | OBR4.1 | Y |  |  | When a Cerner event code is not aliased the identifier gets sent as CD:. The vendor does not want those values. (done in Cloverleaf by tpsAdvHL7Filter) |
| Do not send radiology results to Optum | OBR3.2 | Y |  |  | If this field doesn’t have "HNAM\_CEREF" it will not send out that message. |
| If the OBX segment is blank do not send the message. | OBX |  |  |  | The result is in the OBX segment. If there is no result, we do not send the message. |
|  |  |  |  |  |  |
| If the message type is R03, change it to R01 | MSH9.2 | Y |  |  | R03 to R01 (done in Cloverleaf Xlate) |

Changes performed by tpsCernerCommonCode.tcl:

* If the SSN == “999999999”, blank it out
* If the patient’s home address in PID.11 contains an email address, remove the email and only send the Street or Mailing address.

Cloverleaf Xlate – cerner\_optum\_trans.xlt

| **Field Description** | **HL7 Field Loc.** | **Required Y/N** | **Data Type** | **Length** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| MSH Segment |  | Y |  |  | Pathcopy |
| Sending Facility | MSH.4 |  |  |  | Copy from PV1-39 |
| Receiving Application | MSH.5 |  |  |  | null |
| Receiving Facility | MSH.6 |  |  |  | null |
| Message Type. Trigger Event | MSH.9.2 |  |  |  | If trigger event == “R03”, change it to “R01” |
| Version ID | MSH.12 |  |  |  | Defaulted to “2.4” |
| Set ID | PID.1 |  |  |  | copy |
| Patient ID | PID.3 |  |  |  | Copy PID-2 |
| Patient Name | PID.5 |  |  | 50^50^30^10^50 | Components: <family name>^<given name>^<middle initial or name>^<suffix>^<prefix>^ <degree> |
| Birth Date | PID.7 |  |  | 8 | YYYYMMDD |
| Sex | PID.8 |  |  | 1 | Patient’s sex |
| Patient Account Number | PID.18 |  |  | 100 | Copy |
| Attending Doctor | PV1.7 |  |  | 50^50^30^10^50 | Copy Baycare Dr number |
| Hospital Service | PV1.10 |  |  | 50 | Copy |
| VIP Indicator | PV1.14 |  |  |  | Copy |
| Admitting Doctor | PV1.17 |  |  | 50^50^30^10^50 | Copy Baycare Dr number |
| Site ID OBR | OBR.1 |  |  |  | Copy |
| Filler Order Number | OBR.3 |  |  |  | Copy |
| Universal Service Identifier | OBR.4 |  |  |  | Copy |
| Universal Service Identifier Text | OBR.4.2 |  |  |  | Copy OBR.4.1 to this subfield |
| Danger Code | OBR.12 |  |  |  | Copy |
| Observation Date/Time | OBR.7 |  |  |  | Copy |
| Result Status | OBR.25 |  |  |  | Copy |
| Results Report / Status Change – Date/Time | OBR.22 |  |  |  | Order Date/Time |
| Diagnostic Serv Sect ID | OBR.24 |  |  |  | Activity Type populated when order is built in Cerner |
| Quantity / Timing | OBR.27 |  |  |  | Signature Date/Time |
| Notes and Comments | NTE.3 |  |  |  | Hard-coded in from the order comment field; only used for Admit to IP |
| Set ID OBX | OBX.1 |  |  |  | copy |
| If OBR-25 = INERROR and NTE-2 = RESCOM – code starts here |  |  |  |  |  |
| Value Type | OBX.2 |  |  |  | Hardcode TX |
| Observation Identifier | OBX.3 |  |  |  | Hardcode RESCOM |
| Observation Value | OBX.5 |  |  |  | Hard code In Error Comment +  NTE-3 |
| If OBR-25 = INERROR and NTE-2 = RESCOM – code ends here |  |  |  |  |  |
| Value Type | OBX.2 |  |  |  | If OBX.5.2 (Observation Value) == “OTG” for the first OBX segment  Loop through each OBX segment and set OBX.2 (Value Type) = “RP”  Else  Set OBX.2 (Value Type) = “TX” for the first OBX segment |
| Observation Value | OBX.5 |  |  |  | Copy |
| Observ Result Status | OBX.11 |  |  |  | Copy |
| Date Time of Observation | OBX.14 |  |  |  | Copy |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## 4.3 Sample Message

MSH|^~\&|HNAM|CERNER|OPTUM|BAYCARE|20160927143903||ORU^R01|Q2640618910T3268953184||2.3||||||8859/1

PID|1|2005001169^^^BayCare MRN^MRN|2005001169^^^BayCare MRN^MRN||CUPCAKE^ALMOND^^^^^Current||19670926|M||""|||||""|""|""|1005001361^^^BayCare FIN^FIN NBR||||""|||0|""|""|""||""

NTE|1|CD:469|Bed 32a

PD1|""|""|ZZBLANK^^0||""||""|""

PV1|1|E|ERDCH^^^MCS^^Ambulatory(s)^MCS|""||||||""|""|""|""|""|""|""||E||""||""||||||||||||||""|""|""|MCS||Active|||20160927134500

ORC|RE||4142119397.000000!2016092714384600 EDT!3^HNAM\_CEREF~10143294071^HNAM\_EVENTID||||||20160927143846|^Godfrey^Robert^^^^^^^Personnel

OBR|1||4142119397.000000!2016092714384600 EDT!3^HNAM\_CEREF~10143294071^HNAM\_EVENTID|PFEDD^PFEDD^^^ED ADT|||20160927143800|20160927143800||||||||||||||20160927143846||MDOC|F|||||||&Godfrey&Robert||&Godfrey&Robert

ZDS|VERIFY|^Godfrey^Robert^^^^^^^Personnel|20160927143846|Com

ZDS|SIGN|^Godfrey^Robert^^^^^^^Personnel|20160927143846|Com

ZDS|PERFORM|^Godfrey^Robert^^^^^^^Personnel|20160927143846|Com

OBX|1|TX|PFEDD^ED Documentation||ED ADT Entered On: 9/27/2016 14:39 EDT \.br\ Performed On: 9/27/2016 14:38 EDT by Godfrey , Robert \.br\ \.br\ \.br\ \.br\ \.br\ED ADT \.br\ED Patient's Condition : Fair \.br\Godfrey , Robert - 9/27/2016 14:38 EDT|""||""||""|F|||20160927143846||^Godfrey^Robert^^^^^^^Personnel

# **5. Testing**

## 5.1. Unit Testing Scenarios

|  |  |
| --- | --- |
| **Scenario** | **Expected Result** |
|  |  |
|  |  |
|  |  |
|  |  |

## 5.2 Integrated Testing Scenarios

|  |  |
| --- | --- |
| **Scenario** | **Expected Result** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## 5.3 Testing Approvals

|  |  |  |  |
| --- | --- | --- | --- |
| **Testing Phase** | **Date** | **Department** | **Team Member** |
| PH1.UNIT |  |  |  |
| PH1.INTEGRATED |  |  |  |

### 

## 5.4 Piloting

List the facilities and associated networks in scope for pilot testing.

## 5.5 Approvals

|  |  |  |  |
| --- | --- | --- | --- |
| **Testing Phase** | **Date** | **Department** | **Team Member** |
| PH1.0 |  |  |  |
|  |  |  |  |
|  |  |  |  |

# 6. Deployment / Implementation Model

Provide the detail as to how to deploy the solution defined in the IDBB from both the BAYCARE and vendor perspective.

## 6.1 Alerts

Are you going to need alerting on this connection?

|  |  |
| --- | --- |
| Yes |  |
| No |  |

If the answer is yes, please complete the table below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Site Name** | **Hours of Support** | **Distribution Group** | **Comments** |
|  |  |  |  |
|  |  |  |  |

# Appendix A: Risks and Concerns

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Name** |  |  | | |  |  |  |  |
| **Number** | **Risk / Concern** | **Comment** | **Mitigation** | | |  |  |  |
| RC.2013.1.0 |  |  | |  | |  |  |  |

# Appendix B: Issues List

This is a dynamic list of the open issues related to the IDBB that remain to be solved, including but not limited to TBDs, pending decisions, information needed, conflict awaiting resolution, and the like.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Name** |  |  | | |  |  |  |  |
| **Number** | **Issue** | **Comment** | **Fix** | | |  |  |  |
| I.2013.1.0 |  |  | |  | |  |  |  |

* End of document