**Optum Cerner BAR Requirements**

**Version 1.3**

**Prepared By: Art Schwartz & Dan Olszewski & CJ Markwardt**

**Date: 3/12/2019**

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# **Document Control**

## Resources

|  |  |  |
| --- | --- | --- |
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## Project Distribution List

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 9/13/2016 | Art Schwartz | Originally Created |
| V1.1 | 9/19/2016 | Daniel Olszewski | Added Cerner scripting modifications |
| V1.2 | 11/6/2017 | Lois Whitley | Updated Cloverleaf site |
| V1.3 | 3/12/19 | Charles Markwardt | Updated FSI comservers |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to provide details on the build of the BAR messages interface for Optum to Cerner.

## 1.2 Project Scope

The scope of the integration is send BAR coding messages from Optum to Cerner

## 1.3 Terminology Standards

### 1.3.1 Acronyms

BAR Event – Trigger event associated with a patient billing. BAR (Billing Account Record)

### 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.

**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.

**BCFN -** Baycare FIN (financial number)

**BCCPI** – Baycare CMRN (Community Medical Record Number)

## 1.4 Document References

List all documents or Web addresses to which this IDBB refers; provide enough information so that the reader can access a copy of each reference. Include the title, author, version number, date, and source or location.

# 2. Diagram

Provide a solution diagram that depicts the integration of components specified in this IDBB. This diagram must include the data flow for the interfaces (source and target).

# 3. Requirements

## 3.1 Functional Requirements

Click here to enter text.

|  |  |  |
| --- | --- | --- |
| **Cloverleaf** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| FR.2015.10.9 | Cerner results | Provide Optum with Cerner Lab results |
| FR.2015.10.10 | Modify Object Script:  bar\_optum\_inv1 | Added this script to the interface |

|  |  |  |
| --- | --- | --- |
| **Cerner** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| FR.2019.3.1 | Contributor System:  OPTUM | Overview   * Organization: BayCare Health System * Contributor System Type: Unauth * Contributor Source: Optum * Alt Contributor Source: Invision * Message Format: HL7 Standard V2.x   Alias Translation   * PID 18 Patient Account Number: BCFN * PID 03 Internal Person ID: BCCPI   Person Matching   * PID 03 Internal Person ID: BCCPI   + Match Required   Encounter Matching   * PID 18 Patient Account Number: BCFN   + Match Required |
| FR.2019.3.2 | SCRIPTING:  Bar\_optum\_in | Logic  If the Procedure.coding\_method (PR1.2) equals “C4” and the Procedure.procedure\_code (PR1.3.1) starts with “G” then set (PR1.3) equals “HCPCS” |
|  |  |  |
|  |  |  |

## 3.2 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>

### 3.2.1 Inbound from Optum

**Prod**

Port Number: 8010

IP Address: 10.5.250.201

### 3.2.2 Outbound to Cerner

**Prod**

Port Number 10061

IP Address: 159.140.43.191

### 3.2.3 Inbound to Cerner

**PROD**

**Port:** 10061

**ComServer:** BAR\_TCP\_OPTUM\_IN

# 4. HL7 Messaging

## 4.1 Messaging Format

HL7 v. 2.4, Optum BAR\_P01

### 4.1.1 Segments

The segments utilized for this interface are:

PID

PV1

DG1

DRG

ZDR

PR1

*Message Construction Notes:*

*[Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*MSH – Message Header*

*EVN – Event segment*

*PID – Patient ID segment*

*PV1 – Patient Visit segment*

*[{DG1}]– Diagnosis segment*

*[{PR1}]– Procedure segment*

*[ZDG]– custom Diagnosis 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** |
| BAR | Coding message |

### 4.1*.*3 Cloverleaf Configuration Files

Optum\_cerner\_bar\_rev2 translation file

### 4.1.4 Cloverleaf Site Location

optum

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required Y/N** | **Data Type** | **Length** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| MSH Segment | MSH Segment |  |  |  | Copy all fields |
| Sending Application | MSH-3 | Y |  |  | Copy OPTUM |
| Sending Facility | MSH-4 | Y |  |  | Copy OPTUM |
| Receiving Application | MSH-5 | Y |  |  | Copy HNAM |
|  | MSH-6 |  |  |  | Copy PV1-39 |
| Message Type | MSH-9 | Y |  |  | Copy ZF1 to MSH-9.2 |
| Set ID | PID-1 | Y |  |  | copy |
| Patient ID | PID-3 | Y |  |  | Copy to PID-3 |
| Patient ID (Internal), Assigning Authority | PID.3.4 | Y |  |  | Hard coding “BCCPI” |
| Patient Name | PID-5 | Y |  |  | Copy |
| Date of Birth | PID-7 | Y |  |  | Copy |
| Gender | PID-8 | Y |  |  | Copy |
| Patient Address | PID-11 | Y |  |  | Copy |
| Patient Account Number | PID-18 | Y |  |  | Copy,  Copy BCFN to PID18.5 |
| Set Id | PV1-1 |  |  |  | Copy |
| Patient Class | PV1-2 |  |  |  | Copy PV1-18 to PV1-2 |
| Attending Doctor | PV1-7 | Y |  |  | Copy,  Copy Baycare Doctor Number to PV1-7.13 |
| Consulting Doctor | PV1-9 | Y |  |  | Copy,  Copy Baycare Doctor Number to PV1-9.13 |
| Hospital service | PV1-10 | Y |  |  | Copy |
| Admit Source | PV1-14 | Y |  |  | Copy |
| Admitting Doctor | PV1-17 | Y |  |  | Copy DR when PV1-17.8 equals Baycare Doctor Number |
| Patient Type | PV1-18 |  |  |  | Copy |
| Financial Class | PV1-20 |  |  |  | Copy |
| Discharge Disposition | PV1-36 |  |  |  | Copy |
| Servicing facility | PV1-39 |  |  |  | Copy |
| Admit date | PV1-44 |  |  |  | Copy |
| Discharge Date | PV1-45 |  |  |  | Copy |
| Diagnosis Coding Method | DG1-2 |  |  |  | Copy,  If I9 change to ICD9  If I10 change to ICD10 |
| Diagnosis Code | DG1-3 |  |  |  | Copy |
| Diagnosis Description | DG1-4 |  |  |  | Copy |
| Diagnosis Type | DG1-6 |  |  |  | If F copy DF  Else copy DA |
| DRG grouper review code | DG1-10 |  |  |  | Code |
| POA | DG1-26 |  |  |  | Copy,  if =1 change to E |
| Set ID | PR1-1 |  |  |  | Copy |
| Procedure code Method | PR1-2 |  |  |  | Cloverleaf  If I9 copy ICD9  If I10 copy ICD-10-PCS  Else copy C4  FSI  If C4 and PR1-3.1 starts with “G” then set PR1-2 = “HCPCS |
| Procedure code name | PR1-3.3 |  |  |  | If PR1-2 = I9 copy ICD9  If I10 copy ICD-10-PCS  Else copy C4 |
| Procedure description | PR1-4 |  |  |  | copy |
| Procedure Date and time | PR1-5 |  |  |  | If PR1-17 valued copy from there else copy from Pr1-18 |
| Surgeon | PR1-11 |  |  |  | Copy MS number to PR1-11.1  Copy Baycare Dr Number to PR1-11.13 |
| Procedure practitioner | PR1-12 |  |  |  | From PR1-11  Copy MS number to PR1-11.1  Copy Baycare Dr Number to PR1-11.13 |
| Procedure DRG Type | PR1-17 |  |  |  | Copy |
| Tissue Type code | PR1-18 |  |  |  | Copy |
| **CERNER modifications:** |  |  |  |  |  |
| Set G identifiers to HCPCS instead of C4 | PR1-2 |  |  |  | IF the proc\_code starts with G and the coding method is C4 then change the coding method to HCPCS |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## 4.3 Sample Message

**Pre-Manipulation:**

**MSH|^~\&|ACTUS|ACTUS|COMMON|EXTERNAL|201708230949||BAR^P01|20170823094906e32|P|2.3**

**EVN|P01|201708230549|||dmw77131**

**PID|1||103315821||KRIZAN^VICTOR^A||193603250000|M|||5235 BOWLINE BND^^NEW PORT RICHEY^FL^34652|||||||1104873123**

**PV1|1||||||MS063770|||MED||||EO|||MS063770|I||N||||||||||||||||01|||MCS|||||201708151108|201708181028**

**DG1|0|I10|Z51.81|ENC THERAPEUTC DRUG LEVL MONITORING||A|||||||||1|||||**

**DG1|1|I10|Z51.81|ENC THERAPEUTC DRUG LEVL MONITORING||F||||1|||||2|||||||||||1**

**DG1|2|I10|I13.0|HTN HRT CKD W/HF STAGE 1-4/UNS CKD ||F||||Y|||||3|||||||||||Y**

**DG1|3|I10|N18.4|CKD STAGE 4 SEVERE ||F||||Y|||||4|||||||||||Y**

**DG1|4|I10|I50.32|CHRONIC DIASTOLIC HEART FAILURE ||F||||Y|||||5|||||||||||Y**

**DG1|5|I10|C67.0|MALIGNANT NEOPLASM TRIGONE BLADDER ||F||||Y|||||6|||||||||||Y**

**DG1|6|I10|I48.2|CHRONIC ATRIAL FIBRILLATION ||F||||Y|||||7|||||||||||Y**

**DG1|7|I10|D63.1|ANEMIA IN CHRONIC KIDNEY DISEASE ||F||||Y|||||8|||||||||||Y**

**DG1|8|I10|E03.9|HYPOTHYROIDISM UNSPECIFIED ||F||||Y|||||9|||||||||||Y**

**DG1|9|I10|R79.1|ABNORMAL COAGULATION PROFILE ||F||||Y|||||10|||||||||||Y**

**DG1|10|I10|R31.0|GROSS HEMATURIA ||F||||Y|||||11|||||||||||Y**

**DG1|11|I10|I25.10|ASHD NATIVE CA W/O ANGINA PECTORIS ||F||||Y|||||12|||||||||||Y**

**DG1|12|I10|K86.9|DISEASE OF PANCREAS UNSPECIFIED ||F||||Y|||||13|||||||||||Y**

**DG1|13|I10|N40.1|BENIGN PROSTATIC HYPERPLASIA W/LUTS||F||||Y|||||14|||||||||||Y**

**DG1|14|I10|R35.0|FREQUENCY OF MICTURITION ||F||||Y|||||15|||||||||||Y**

**DG1|15|I10|R82.8|ABN FIND CYTOLOG HISTOLOG EXAM URIN||F||||Y|||||16|||||||||||Y**

**DG1|16|I10|K21.9|GERD WITHOUT ESOPHAGITIS ||F||||Y|||||17|||||||||||Y**

**DG1|17|I10|E66.9|OBESITY UNSPECIFIED ||F||||Y|||||18|||||||||||Y**

**DG1|18|I10|N52.9|MALE ERECTILE DYSFUNCTION UNS ||F||||Y|||||19|||||||||||Y**

**DG1|19|I10|E78.00|PURE HYPERCHOLESTEROLEMIA UNSPEC ||F||||Y|||||20|||||||||||Y**

**DG1|20|I10|G47.30|SLEEP APNEA UNSPECIFIED ||F||||Y|||||21|||||||||||Y**

**DG1|21|I10|Z86.73|PERS HX TIA \T\ CI NO RESID DEFICIT ||F||||1|||||22|||||||||||1**

**DG1|22|I10|Z86.711|PERSONAL HISTORY PULMONARY EMBOLISM||F||||1|||||23|||||||||||1**

**DG1|23|I10|Z95.2|PRESENCE OF PROSTHETIC HEART VALVE ||F||||1|||||24|||||||||||1**

**DG1|24|I10|Z87.891|PERSONAL HISTORY OF NICOTINE DEPEND||F||||1|||||25|||||||||||1**

**PR1|1|I10|0TBB8ZX|EXC BLADDER NATRL/ART OPNG ENDO DX ||||||||||||**

**PR1|2|I10|0VB08ZZ|EXCISION PROSTATE NAT/ART OPEN ENDO||||||||||||**

**PR1|3|I10|0TBC8ZX|EXC BLADDER NCK NAT/ART OP ENDO DX ||||||||||||**

**PR1|4|I10|BT141ZZ|FLUORO KIDNEYS URETERS BLADDER LOC ||||||||||||**

**ZDG|dmw77131|201708230949|11608.76|940|23|1.97400|3.8000|5.4000||||0|0||||||||||||||||OR PX W DX OTH CNTCT W HLTH SRV W CC||||||I10|A|Medicare DRG**

**Post-Manipulation:**

**MSH|^~\&|OPTUM|OPTUM|HNAM|MCS|201708230949||BAR^ZF1|20170823094906e32|P|2.3**

**PID|1||103315821^^^^BCCPI||KRIZAN^VICTOR^A||19360325|M|||5235 BOWLINE BND^^NEW PORT RICHEY^FL^34652|||||||1104873123^^^^BCFN**

**PV1|1|I|||||MS063770^^^^^^^^^^^^BayCare Dr Number|||MED||||EO||||I||N||||||||||||||||01|||MCS|||||201708151108|201708181028**

**DG1|1|ICD10|Z51.81|ENC THERAPEUTC DRUG LEVL MONITORING||DA|||||||||1**

**DG1|2|ICD10|Z51.81|ENC THERAPEUTC DRUG LEVL MONITORING||DF||||1|||||2|||||||||||E**

**DG1|3|ICD10|I13.0|HTN HRT CKD W/HF STAGE 1-4/UNS CKD ||DF||||Y|||||3|||||||||||Y**

**DG1|4|ICD10|N18.4|CKD STAGE 4 SEVERE ||DF||||Y|||||4|||||||||||Y**

**DG1|5|ICD10|I50.32|CHRONIC DIASTOLIC HEART FAILURE ||DF||||Y|||||5|||||||||||Y**

**DG1|6|ICD10|C67.0|MALIGNANT NEOPLASM TRIGONE BLADDER ||DF||||Y|||||6|||||||||||Y**

**DG1|7|ICD10|I48.2|CHRONIC ATRIAL FIBRILLATION ||DF||||Y|||||7|||||||||||Y**

**DG1|8|ICD10|D63.1|ANEMIA IN CHRONIC KIDNEY DISEASE ||DF||||Y|||||8|||||||||||Y**

**DG1|9|ICD10|E03.9|HYPOTHYROIDISM UNSPECIFIED ||DF||||Y|||||9|||||||||||Y**

**DG1|10|ICD10|R79.1|ABNORMAL COAGULATION PROFILE ||DF||||Y|||||10|||||||||||Y**

**DG1|11|ICD10|R31.0|GROSS HEMATURIA ||DF||||Y|||||11|||||||||||Y**

**DG1|12|ICD10|I25.10|ASHD NATIVE CA W/O ANGINA PECTORIS ||DF||||Y|||||12|||||||||||Y**

**DG1|13|ICD10|K86.9|DISEASE OF PANCREAS UNSPECIFIED ||DF||||Y|||||13|||||||||||Y**

**DG1|14|ICD10|N40.1|BENIGN PROSTATIC HYPERPLASIA W/LUTS||DF||||Y|||||14|||||||||||Y**

**DG1|15|ICD10|R35.0|FREQUENCY OF MICTURITION ||DF||||Y|||||15|||||||||||Y**

**DG1|16|ICD10|R82.8|ABN FIND CYTOLOG HISTOLOG EXAM URIN||DF||||Y|||||16|||||||||||Y**

**DG1|17|ICD10|K21.9|GERD WITHOUT ESOPHAGITIS ||DF||||Y|||||17|||||||||||Y**

**DG1|18|ICD10|E66.9|OBESITY UNSPECIFIED ||DF||||Y|||||18|||||||||||Y**

**DG1|19|ICD10|N52.9|MALE ERECTILE DYSFUNCTION UNS ||DF||||Y|||||19|||||||||||Y**

**DG1|20|ICD10|E78.00|PURE HYPERCHOLESTEROLEMIA UNSPEC ||DF||||Y|||||20|||||||||||Y**

**DG1|21|ICD10|G47.30|SLEEP APNEA UNSPECIFIED ||DF||||Y|||||21|||||||||||Y**

**DG1|22|ICD10|Z86.73|PERS HX TIA \T\ CI NO RESID DEFICIT ||DF||||1|||||22|||||||||||E**

**DG1|23|ICD10|Z86.711|PERSONAL HISTORY PULMONARY EMBOLISM||DF||||1|||||23|||||||||||E**

**DG1|24|ICD10|Z95.2|PRESENCE OF PROSTHETIC HEART VALVE ||DF||||1|||||24|||||||||||E**

**DG1|25|ICD10|Z87.891|PERSONAL HISTORY OF NICOTINE DEPEND||DF||||1|||||25|||||||||||E**

**DRG|940^OR PX W DX OTH CNTCT W HLTH SRV W CC^MS-DRG|201708230949**

**ZDR|1|23||0|0**

**PR1|1|ICD-10-PCS|0TBB8ZX^^ICD-10-PCS|EXC BLADDER NATRL/ART OPNG ENDO DX ||U**

**PR1|2|ICD-10-PCS|0VB08ZZ^^ICD-10-PCS|EXCISION PROSTATE NAT/ART OPEN ENDO||U**

**PR1|3|ICD-10-PCS|0TBC8ZX^^ICD-10-PCS|EXC BLADDER NCK NAT/ART OP ENDO DX ||U**

**PR1|4|ICD-10-PCS|BT141ZZ^^ICD-10-PCS|FLUORO KIDNEYS URETERS BLADDER LOC ||U**

# **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** |
|  |  |  |  |
|  |  |  |  |

## 5.4 Piloting

N/A

## 5.5 Approvals

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

# 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