**ORM Requirements for**

**Cerner to Computrition**

**Version 1.0**

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[Document Control 3](#_Toc16760494)

[Resources 3](#_Toc16760495)

[Project Distribution List 3](#_Toc16760496)

[Document Version Control 3](#_Toc16760497)

[1. Introduction 4](#_Toc16760498)

[1.1 Purpose 4](#_Toc16760499)

[1.2 Project Scope 4](#_Toc16760500)

[1.3 Terminology Standards 4](#_Toc16760501)

[1.3.1 Acronyms 4](#_Toc16760502)

[1.3.2 Glossary 4](#_Toc16760503)

[1.4 Document References 4](#_Toc16760504)

[2. Diagram – N/A 5](#_Toc16760505)

[3. Requirements 5](#_Toc16760506)

[3.1 Functional Requirements 5](#_Toc16760507)

[3.2 Non-Functional Requirements 6](#_Toc16760508)

[3.3 Messaging Protocols 6](#_Toc16760509)

[3.3.1 Inbound to the BayCare Cloverleaf 6](#_Toc16760510)

[3.3.2 Outbound to the BayCare Cloverleaf 6](#_Toc16760511)

[3.3.3 Inbound to the Vendor 6](#_Toc16760512)

[3.3.4 Outbound to the Vendor 6](#_Toc16760513)

[3.3.5 Inbound to the BayCare Cerner – N/A 6](#_Toc16760514)

[3.3.6 Outbound to the BayCare Cerner 7](#_Toc16760515)

[4. HL7 Messaging 7](#_Toc16760516)

[4.1 Messaging Format 7](#_Toc16760517)

[4.1.1 Segments 7](#_Toc16760518)

[4.1*.*2 Messaging Event Types 7](#_Toc16760519)

[4.1*.*3 Cloverleaf Configuration Files 8](#_Toc16760520)

[4.1.4 Cloverleaf Site Location 8](#_Toc16760521)

[4.2 Data Transformation Requirements - CLOVERLEAF 8](#_Toc16760522)

[4.3 Sample Messages 10](#_Toc16760523)

[5. Testing 11](#_Toc16760524)

[5.1. Unit Testing Scenarios 11](#_Toc16760525)

[5.2 Integrated Testing Scenarios 12](#_Toc16760526)

[5.3 Testing Approvals 12](#_Toc16760527)

[5.4 Piloting 12](#_Toc16760528)

[5.5 Approvals 12](#_Toc16760529)

[6. Deployment / Implementation Model 13](#_Toc16760530)

[6.1 Alerts 13](#_Toc16760531)

[Appendix A: Risks and Concerns 13](#_Toc16760532)

[Appendix B: Issues List 14](#_Toc16760533)

# **Document Control**

## Resources

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|  |  |  |

## Project Distribution List

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 6/6/2017 | Levy Lazarre | Originally Created |
| V1.1 | 6/16/17 | Dan Olszewski | Added Cerner Modifications |
|  |  |  |  |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The goal of this document is to outline the interface requirements for the ORM interface from Cerner Millennium to Computrition for the purpose of diet orders integration.

This is a one-way interface. Diet, Supplements, and Tube Feeding orders are entered, modified, discontinued in Cerner Millennium and all those transactions are sent to Computrition via real-time HL7 interface.

## 1.2 Project Scope

The scope of this project is to migrate all BayCare hospitals using other diet systems (VST Carex, CBORD…) to Computrition and upgrade all hospitals already using Computriton to the Enterprise version of the software.

Integration for this application includes an ADT interface from Soarian Financials for patient demographics, an ADT interface from Cerner Millennium for allergies, a diet orders interface from Cerner Millennium, and a result interface from Cerner Millennium for patient height / weight information.

This document describes the ORM interface from Cerner to Computrition, which includes data for BayCare inpatients and outpatients.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

ADT - Admission, Discharge and Transfer

ORM – Order Message

HIS – Hospital Information System

### 1.3.2 Glossary

**Hospitality Suite** is the name of the application suite used by BayCare

**Room Service** is the name of an add-on to Hospitality Suite used by BayCare

## 1.4 Document References

1. HL7-Interface-Specifications-ADT-v-2010.pdf
2. Interface Schema Document.docx

# 2. Diagram – N/A

# 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.

|  |  |  |
| --- | --- | --- |
| **Cloverleaf** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
|  |  |  |
| FR.2017.1.0 | Pad the MRN out of Cerner to match Invision to other systems | Cerner sends the BayCare MRN in PID.2. This MRN must be padded with a certain number of leading zeros, depending on the facility code. |

|  |  |  |
| --- | --- | --- |
| FR.2017.2.0 | For SJW MRN conversion to 7 digits, strip leading 0 on 6-digit MRNs, 11/05/10 | If the facility code in MSH.5 is SJW and there is a leading zero in a six-digit MRN, the leading zero must be suppressed. |

|  |  |  |
| --- | --- | --- |
| FR.2017.3.0 | Set Order Control Code for Cancel/DC action on future diet orders. | If user performs a Cancel/DC action on an order with a future date/time, Cerner will send an “**SC**” in ORC.1 and “**77**” in ORC.5. In order for Computrition to cancel the order, Cloverleaf must change ORC.1 to “**CA**”. |

|  |  |  |
| --- | --- | --- |
| FR.2017.4.0 | Skip ODS segments where the diet description is “NANO”or “PNO” or “KNO” | Check the diet description in ODS.3, second component. If equal to “NANO” or “PNO” or “KNO”, suppress this ODS segment. |

|  |  |  |
| --- | --- | --- |
| FR.2017.5.0 | Send order comments in ODS.4 | Each diet order may be accompanied by a user comment (Text Instruction). This should be sent in ODS.4. |

|  |  |  |
| --- | --- | --- |
| FR.2017.6.0 | Send ODT segments across | ODT (Diet Tray Instruction) segments must be sent at the end of the message. |

|  |  |  |
| --- | --- | --- |
| FR.2017.7.0 | Admit Patient on Order Message. | **T**he following rule is set in Computrition**:** SETRULE ADMITTING\_MESSAGES\_IF\_NOT\_IN\_SYSTEM=O01|A02, so if a patient is not in the database and a diet order is sent on that patient, the system will admit the patient, based on the order. |
| FR.2017.8.0 | Remove delete order reason from being sent out as ODS | If ODS has “DONOTSEND” remove the delete order reason. |

## 3.2 Non-Functional Requirements

None related to interfacing.

|  |  |  |
| --- | --- | --- |
| **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.

### 3.3.1 Inbound to the BayCare Cloverleaf

* No inbound since this is a one-way outbound interface from Cloverleaf to Computrition

### 3.3.2 Outbound to the BayCare Cloverleaf

### 3.3.3 Inbound to the Vendor

### 3.3.4 Outbound to the Vendor

* Protocol: TCP/IP MLLP
* TEST IP 10.44.184.237
* PROD IP 10.44.184.231

Both interface servers are running Linux OS, RedHat Enterprise Linux (RHEL) version 7.

The port numbers for the different connections are listed in the document named “Interface Schema Document.docx”.

### 

### 3.3.5 Inbound to the BayCare Cerner – N/A

### 3.3.6 Outbound to the BayCare Cerner

# 4. HL7 Messaging

## 4.1 Messaging Format

### 4.1.1 Segments

The segments utilized for this interface are:

MSH

PID

PV1

ORC

{ODS}

{ODT}

*Message Construction Notes:*

*[Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*MSH – Message Header*

*EVN – Event segment*

*PID – Patient ID segment*

*PV1 – Patient Visit segment*

*PV2 – Patient Visit – additional information 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** |
| ORM^O01 | Order Message |

### 4.1*.*3 Cloverleaf Configuration Files

The following Cloverleaf configuration files were used:

Xlate: cerner\_comp\_orm\_p2.xlt

Variants: HL7 2.3 cerner\_emr and HL7 2.3 comp

TCL filters: None

### 4.1.4 Cloverleaf Site Location

Cloverleaf site locations for the Computrition interfaces:

TEST: dietary\_8

PROD: dietary\_8\_p

## 4.2 Data Transformation Requirements - CLOVERLEAF

| **Field Description** | **System** | **HL7 Field Loc.** | **Required Y/N** | **Data Type** | **Length** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- |
| Message Header Segment | Cloverleaf | MSH | Y | Misc | Varies | PathCopy the entire segment |
| Encoding Characters | Cloverleaf | MSH.2 | Y | ST | 4 | Copy “^~\&” |
| Sending Application | Cloverleaf | MSH.3 | N | HD | 180 | Copy “HNAM” |
| Sending Facility | Cloverleaf | MSH.4 | N | HD | 180 | Copy “BAYCARE” |
| Receiving Application | Cloverleaf | MSH.5 | N | HD | 180 | Copy |
| Receiving Facility | Cloverleaf | MSH.6 | Y | HD | 180 | Copy MSH.5. However, if the patient resides at the Recovery Center of North Bay Hospital, copy “NBRECOV” to this field in order to route the printing of error messages to the Recovery Center. |
| Version ID | Cloverleaf | MSH.12 | Y | HD | 60 | Copy “2.3” |
| Patient ID – Internal ID (BayCare MRN) | Cloverleaf | PID.3 | Y | CX | 20 | Copy PID.2 (Pad with leading zeros as indicated in functional requirements) |
| Patient Name | Cloverleaf | PID.5 | Y | XPN | 48 | Copy subfields 0, 1, 2 (Last name, First name, Middle name) |
| Date of Birth | Cloverleaf | PID.7 | N | TS | 8 | Copy the entire field |
| Gender | Cloverleaf | PID.8 | N | IS | 1 | Copy the entire field |
| Patient Account Number | Cloverleaf | PID.18 | N | CX | 20 | Copy PID.18, first subfield |
| SSN Number - Patient | Cloverleaf | PID.19 | N | ST | 16 | Copy |
| Set ID – PV1 | Cloverleaf | PV1.1 | N | SI | 4 | Copy |
| Patient Class | Cloverleaf | PV1.2, first component | N | ID | 1 | Copy |
| Patient Location | Cloverleaf | PV1.3 | Y | ID | 32 | Copy subfields 0, 1, 2 (Nursing Station, Room, Bed) |
| Patient Type | Cloverleaf | PV1.18, first component | N | ID | 3 | Copy |
| Order Control | Cloverleaf | ORC.1 | Y | ID | 2 | Copy  If ORC.1 = SC and ORC.5 =77, Copy “CA” to this field |
| Placer Order Number | Cloverleaf | ORC.2 | Y | EI | 22 | Copy |
| Order Effective Date/Time | Cloverleaf | ORC.15 | Y | TS | 26 | Copy |
| Dietary Orders, Supplements, and Preferences Segments | Cloverleaf | {ODS} | Y | Misc | Varies | ITERATE  Suppress ODS segments where the Diet Description in ODS.3, second component is equal to “NANO” or “PNO” or “KNO” |
| Type | Cloverleaf | ODS.1 | Y | ID | 1 | Copy (Typical Values D = Diet Order, S = Supplement Order) |
| Service Period | Cloverleaf | ODS.2 | N | CE | 60 | Copy |
| Diet, Supplement, or Preference Code | Cloverleaf | ODS.3, first component | N | CE | 60 | Copy |
| Diet, Supplement, or Preference Text (Description) | Cloverleaf | ODS.3, second component | N | ST | Varies | Copy |
| Text Instruction (Diet Order Comment) | Cloverleaf | ODS.4 | N | ST | 80 | Copy |
| Diet Tray Instruction Segments | Cloverleaf | {ODT} | N | Misc | Varies | ITERATE  PathCopy each segment |
| Hardcode "NW" into ORC;1 for new orders going outbound- | Cerner | ORC:1 | Y | ID | 2 | If ORC;1 = SN; Set ORC:1 = NW |
| Hardcode "CA" into ORC;1 for new orders going outbound- | Cerner | ORC:1 | Y | ID | 2 | If ORC;1 = SN; Set ORC:1 = NW |
| Start date/time needed in ORC;15 | Cerner |  |  |  |  | Set OBR27.4 |
|  | Cerner |  |  |  |  |  |
|  | Cerner |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

### 

## 4.3 Sample Messages

Sample ORM messages to Computrition:

**Diets:**

MSH|^~\&|HNAM|BAYCARE|MPH|MPH|20170515101154||ORM^O01|Q3313753877T41986465|P|2.3||||||8859/1

PID|||7000012447||COMPUTRITION^ENTERPCRRISEONE||19700701|F||||||||||6000027761|262781887

PV1||I|MO3S^0358^01|||||||||||||||I

ORC|NW|10164605567^HNAM\_ORDER|||||||||||||20170324153100

ODS|D||^HH

ODS|D||^VEG

**Supplement**:

MSH|^~\&|HNAM|BAYCARE|MPH|MPH|20170515101154||ORM^O01|Q3313753878T41986465|P|2.3||||||8859/1

PID|||7000012447||COMPUTRITION^ENTERPCRRISEONE||19700701|F||||||||||6000027761|262781887

PV1||I|MO3S^0358^01|||||||||||||||I

ORC|NW|10164640411^HNAM\_ORDER|||||||||||||20170324160000

ODS|S|ALL^1700|ELB^1

ODT:

MSH|^~\&|HNAM|BAYCARE|MPH|MPH|20170515101224||ORM^O01|Q3313753986T41986467|P|2.3||||||8859/1

PID|||7000012449||COMPUTRITION^ENTERPRISETWO||19740311|M||||||||||6000027763

PV1||I|CCUA^0480^01|||||||||||||||I

ORC|CA|10162643645^HNAM\_ORDER|||||||||||||20170323135700

ODS|D||^REG

ODT|NSLT|730^ALL

ODT|NSLT|1200^ALL

ODT|NSLT|1700^ALL

# **5. Testing**

## 5.1. Unit Testing Scenarios

Perform various allergy add/remove in Cerner and verify that the information is correctly reflected in the application.

|  |  |
| --- | --- |
| **Scenario** | **Expected Result** |
| Admit patients in Soarian Financials | Patients are found in Computrition with the proper demographics |
| Enter/Modify/Discontinue diet and supplement orders on those patients in Cerner Millennium | All orders are seen in Computrition |

## 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

Go-live dates for the Computrition Application (with Cutover the night before):

MPH, MCS, MDU, BAH: May 3, 2017

NBY: May 14. 2017

## 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