**ORU from Cerner (Ht/Wt) to eCare as ADT**

**1.3**

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# **Document Control**

## Resources

|  |  |  |
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## Project Distribution List

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 11/28/2016 | Lois Whitley | Originally Created |
| V1.1 | 12/22/2016 | Tom Fredrickson | Updated Cloverleaf Technical Information |
| V1.2 | 07/12/2019 | Tiffany Bohall | Updated to include ht/wt changes from Cerner Model project |
| V1.3 | 07/29/2019 | Yitzhak Magoon | Updated requirements to include ht/wt changes from Cerner Model project from FSI |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to outline the Admission, Discharge and Transfer (ADT) interface requirements for the Philips eCareManager application (also known as Virtual ICU and eCare – formerly eICU) from Cerner for Heights and Weights. This comes from Cerner as a result (ORU), but is converted in Cloverleaf and sent to eCare as an ADT message.

## 1.2 Project Scope

The eCare program includes the Philips eCareManager application which gathers demographic, lab result, pharmacy order, charting, and vital sign information for all inpatients, ED, and outpatients in a bed.

Integration for the eCareManager (eCare) application includes an ADT interface from Soarian, ADT interface from Cerner for Heights and Weights, Orders from the Cerner PharmNet (Pharmacy) system, results from Cerner PathNet (Lab), and CCL flow sheet results from Cerner.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

ADT – Admission, Discharge and Transfer Message

eCare – electronic intensive care unit; critical care telehealth program

ORU – Observation result/unsolicited

### 1.3.2 Glossary

eCareManager – Enterprise Telehealth Software suite

Philips – vendor name

## 1.4 Document References

3.9 Patient Admin Inbound Interface Specification

eICU Integration Roadmap

# 2*.* Diagram

eCareManager IPC Interface patient Cache

Cerner ORM

oru\_cer\_in\_htwt\_xi7

eCareManager

Database

TCP/IP

TCP/IP

Orion Rhapsody Interface Gateway for eCareManager

Cloverleaf

adt\_eicu\_out

# 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.2016.1.0 | Facility filter | There is a facility filter for limiting messages to just those facilities that have implemented eCare beds. This includes the following:  MSH-5.1 = one of the following: MCS MDU MPH NBY SAH SFB SJN SJS BAH SJH BRM WHH. |
| FR.2016.2.0 | Filter unwanted transactions from eCare | Transactions >=4 days post-discharge.  Outpatients not in a bed.  Pediatric patients.  Allow only OBR-24 = "Discern Rule Order" Diagnostic Service Section ID. |
| FR.2016.3.0 | Height & Weight Filter | Filter to just Height and Weight messages. OBR-4.1 = “DEHTWT” |
| FR.2016.4.0 | Convert result to ADT | Convert ORU\_R01 to ADT\_A08 for patient height and weight. |
| FR.2019.6.24.1 | Convert ORM messages from Cerner to ORU\_R01 messages going to downstream applications | The Cerner Model project converted height and weight transactions outbound from Cerner, from ORU to ORM transactions. In order to avoid complete rebuild of variants/routes and translates, Cloverleaf added a tpsHL7ChangeData2 proc that converts MSH.8. |
| FR.2019.6.24.2 | tpsCernerHeightWeightUnits | The Cerner Model project required that Cloverleaf add units of measure to height and weight transactions: add ‘cm’ to OBX.6, when OBX.3 = HIEGHT and add ‘kg’ to OBX.6 when OBX.3 = WIEGHT |
| FR.2019.6.24.3 | tpsCernerCommonCode | The Cerner Model project required common coded elements on multiple interfaces: copy PV1.3.7 to MSH.5.1, remove email address from PID.11, only send Home address in PID.11, null SSN if all 999’s, replace & characters with the word ‘and’ in OBR.13, OBR.27 and OBR.31. |
|  |  |  |
| **Cerner** |  |  |
| Number | Requirement Name | Requirement Description |
| FR.2019.7.8.1 | Discern Rule | The Cerner Model project required that PowerChart team update their Discern Rules BCC\_DISCERN\_HT\_WT and BCC\_DISCERN\_BIRTH\_HT\_WT. The logic was changed to properly send out the height and weight in an OBX segment as well as add encounter type filtering at the rule level. Encounter type filtering was removed from the global suppression script. |
| FR.2019.7.8.2 | Order Entry Flexing | The Cerner Model Project required that the PowerChart team remove flexing from the Order Entry Format for the two height and weight orders that get triggered from the rule. |
| FR.2019.7.8.3 | ORM\_HT\_WT\_OUT | The Cerner Model Project required a new dedicated height and weight interface to be created. This is a standard TCP/IP interface with no modobj or modorig scripts. |

## 3.2 Non-Functional Requirements –N/A

Provide concise detail for the below non-functional requirements. The below requirements must be evaluated for every project.

|  |  |  |
| --- | --- | --- |
| **Cloverleaf** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| NFR.20XX.1.0 | Click here to enter text. | Click here to enter text. |
| **Cerner** |  |  |
| Number | Requirement Name | Requirement Description |
| NFR.2019.7.8.1 | Encounter type suppression for height and weight | Height and weight is not sent out BMG / BUC patients with one of the following encounter types:  AMBULATORYMATERNITYOFFICE  AMBULATORYOFFICE  WORKERSCOMP  URGENTCARE  URGENTCAREOCCMED |

## 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 from Soarian to Cloverleaf

* Site: eicu\_9\_p Thread: oru\_cer\_in\_htwt\_xi7

### 3.3.2 Outbound to eICU

* Site: eicu\_9\_p Thread: adt\_eicu\_out

### 3.3.3 Inbound from Cerner to Cloverleaf

Test

IP Address: 10.5.250.203

Port Number: 13192

Prod

IP Address: 10.5.250.201

Port Number: 23417

### 3.3.4 Outbound to eICU

Test

IP Address: 10.44.110.109

Port Number: 10001

Prod

IP Address: 10.44.110.77

Port Number: 10001

# 4. HL7 Messaging

## 4.1 Messaging Format

### 4.1.1 Segments

The segments utilized for this interface are:

MSH

PID

PV1

OBX

*Message Construction Notes:*

*[Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*MSH – Message Header*

*PID – Patient ID segment*

*PV1 – Patient Visit segment*

*OBX – Observation/Result 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** |
| ADT^A08 | Update Patient Information |
| ORU^R01 | Unsolicited transmission of an observation |

### 4.1*.*3 Cloverleaf Configuration Files

From source Cerner connection:

* tpsChangeData
* tpsCernerHeightWeightUnits
* tpsCernerCommonCode

From source inbound transfer connection on eICU site:

* tpsAdvHL7Filter
* tpsFilterEICU
* cerner\_eicu\_hw\_oru.xlt

### 4.1.4 Cloverleaf Site Location

eicu\_9

## 

## 4.2 Data Transformation Requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field Description** | **HL7 Field Loc.** | **Required Y/N** | **Data Type** | **Length** | **Notes** |
| Message Header | MSH |  |  |  |  |
| Sending Application | MSH.3 |  |  |  | BCHS\_ADT; used to identify the ADT system that produced the message - required |
| Sending Facility | MSH.4 |  |  |  | \*\*\*\_CERNER |
| Receiving Application | MSH.5 |  |  |  | eICU |
| Receiving Facility | MSH.6 |  |  |  |  |
| Date/Time of Message | MSH.7 |  |  |  | YYYYMMDDHHMMSS |
| Message Type | MSH.9 |  |  |  | ADT^A08 |
| Message Control ID | MSH.10 |  |  |  | Unique identifier for the message |
| Patient Identification | PID |  |  |  |  |
| Patient ID (External ID) | PID.2 |  |  |  | Primary identifier that clinicians use to most commonly refer to patient (CPI?) |
| Patient ID (Internal ID) | PID.3 |  |  |  | Unique for instance of care (FIN#?) |
| Patient Name | PID.5 |  |  |  | FamilyName^GivenName |
| Date/Time of Birth | PID.7 |  |  |  | YYYYMMDD |
| Sex | PID.8 |  |  |  | M=Male  F=Female  U=Unknown |
| Race | PID.10 |  |  |  |  |
| Patient Account Number | PID.18 |  |  |  |  |
| Patient Visit | PV1 |  |  |  |  |
| Admit Date/Time | PV1.44 |  |  |  | Required for A01 (Admit) |
| Observation/Result | OBX |  |  |  | Used for height and admission weight only |
| Observation Identifier Text | OBX.3 |  |  |  | Height or Weight; i.e.|^WEIGHT| |
| Observation value | OBX.5 |  |  |  | Height must be in centimeters  Weight must be in kilograms  Clinicians can manually enter or adjust height and admission weight; system will not overwrite existing data with interfaced data |

## 4.3 Sample Message

Height and Weight

MSH|^~\&|BCHS\_ADT|BRM\_CERNER|eICU|BRM|20190709105150||ADT^A08|Q4432191496T5825914777|P|2.3

PID||7000111576|6000144836^^^&BCHS^FIN^&BRM||BRMTEST^TWELVE||19401201|F||W||||||||6000144836

PV1||||||||||||||||||||||||||||||||||||||||||||20190708174500

OBX|||^HEIGHT||185.42

OBX|||^WEIGHT||90

# **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