**ADT\_Cerner Ht-Wt\_Glucommander Requirements**

**Version 1.1**

**Prepared By: Lois Whitley & Tom Fredrickson**

**Date: 9/17/2019**

[Document Control 3](#_Toc19629644)

[Resources: 3](#_Toc19629645)

[Document Version Control 3](#_Toc19629646)

[1. Introduction 4](#_Toc19629647)

[1.1 Purpose 4](#_Toc19629648)

[1.2 Project Scope 4](#_Toc19629649)

[1.3 Terminology Standards 4](#_Toc19629650)

[1.3.1 Acronyms 4](#_Toc19629651)

[1.3.2 Glossary 4](#_Toc19629652)

[1.4 Document References 4](#_Toc19629653)

[2. Diagram 5](#_Toc19629654)

[3. Core Requirements 6](#_Toc19629655)

[3.1 Cloverleaf Functional Requirements 6](#_Toc19629656)

[3.2 Cerner FSI Functional Requirements 7](#_Toc19629657)

[3.3 Non-Functional Requirements 7](#_Toc19629658)

[3.4 Messaging Protocols 8](#_Toc19629659)

[3.4.1 Protocol From or to Vendor 8](#_Toc19629660)

[3.4.2 FSI Comm Server Names 8](#_Toc19629661)

[4. HL7 Messaging 8](#_Toc19629662)

[4.1 Messaging Format 8](#_Toc19629663)

[4.1.1 Segments 8](#_Toc19629664)

[4.1*.*2 Messaging Event Types 9](#_Toc19629665)

[4.1*.*3 Cloverleaf Configuration Files 9](#_Toc19629666)

[4.1.4 Cloverleaf Site Location 9](#_Toc19629667)

[4.1.5 Cerner FSI Impacted Scripts 9](#_Toc19629668)

[4.2 Data Transformation Requirements 9](#_Toc19629669)

[4.3 Sample Message 11](#_Toc19629670)

[4.3.1 Inbound to Cloverleaf 11](#_Toc19629671)

[4.3.2 Outbound from Cloverleaf 12](#_Toc19629672)

[5. Alerts 13](#_Toc19629673)

[Appendix A: Risks, Concerns & Issues 13](#_Toc19629674)

# **Document Control**

## Resources:

Project Distribution List*:* (include Project Team Members, Liaisons, Vendor Contacts, etc.)

|  |  |  |
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|  |  |  |
|  |  |  |

## Document Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Modifier** | **Description** |
| V1.0 | 9/12/2019 | Lois Whitley | Originally Created |
| V1.1 | 9/17/2019 | Tom Fredrickson | Added Technical specifications |
|  |  |  |  |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to describe the Admission, Discharge, Transfer (ADT) interface from Cerner Millennium to Glytec Glucommander for the purpose of transmission of height/weight information from Cerner to Glucommander. Glucommander is a clinical decision support application for personalized insulin dosing.

An HL7 order message (ORM^O01) is triggered in Cerner when height and/or weight information is entered on a patient. This ORM message is transformed to an ORU (Result Message) and then to an ADT^A08 message by the Cloverleaf interface engine, so it appears that Glucommander is simply receiving a regular A08 update message, with the height/weight information being contained in OBX segments.

## 1.2 Project Scope

The scope of this project is to automate the integration of the Glytec Glucommander application with Soarian via an HL7 ADT interface and the Cerner EMR via HL7 ADT and Results interfaces.

**The current document describes the ADT interface from Cerner Millennium to Glucommander for the purpose of sending height and weight** **information to Glucommander.**

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## 1.3 Terminology Standards

### 1.3.1 Acronyms

ADT – Admission, Discharge, Transfer: mainly patient demographic and location information

ORM – Order Entry message

ORU – Observation Result Unsolicited message

### 1.3.2 Glossary

Glytec – vendor name

Glucommander - software

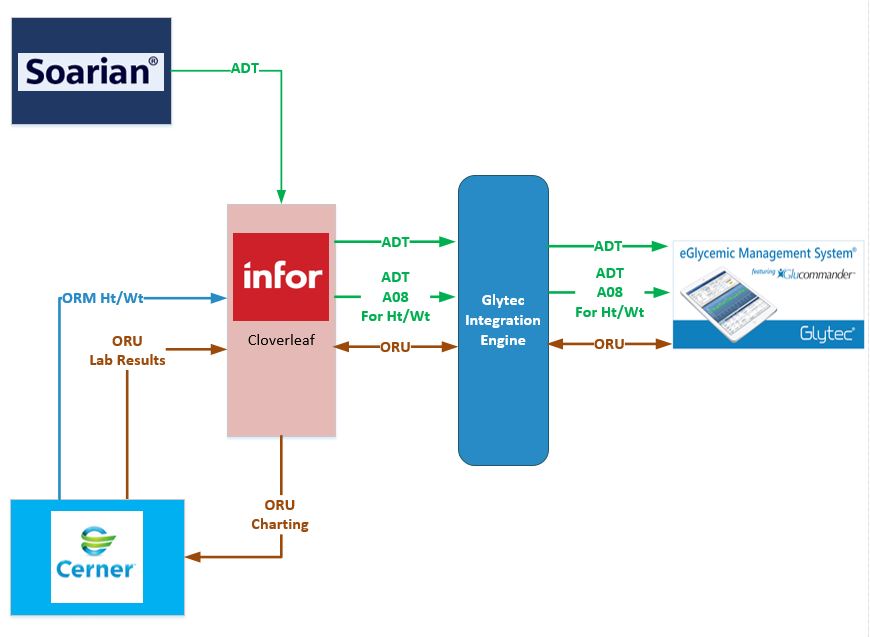
## 1.4 Document References

Documents located on SharePoint in the Application Folder:

1. Technical Assessment Deck
2. Glytec Interface Planning and Implementation Guide\_

# 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).



Soarf ADT Enterprise Site 18

Cerner Results Site 7

# 3. Core Requirements

## 3.1 Cloverleaf 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** | **Description** |
| FR.2019.9.1 | ADT A08 messages only allowed. | A08 is the only ADT message type allowed to pass through this ADT interface. The Cerner ORU message will be converted to an ADT^A08 message via the tpsCernerHeightWeightToGlytecAdt.tcl proc. |
| FR.2019.9.2 | Filter down to just the main hospital facilities. | Filtering on the MSH-4 Sending Facility field. Valid codes:  BAH BRM MCS MDU MPH NBY SAH SFB SJH SJN SJS SJW WHH WHW |
| FR.2019.9.3 | Filter out any messages that are not height and weight messages. | If OBR-4.1 Universal Service Identifier is not equal to “DEHTWT” the filter out the message. |
| FR.2019.9.4 | Filter out any messages with no Date/Time of Birth | If the PID-7 Date/Time of Birth field is blank kill the message. |
| FR.2019.9.5 | Limit the type of segments outbound to Glytec. | Filter down to just the following segment types:  MSH EVN PID PV1 OBX DG1 IN1 |
| FR.2019.9.6 | Create an EVN segment as one is not supplied by Cerner. | "EVN|A08|${msgDateTime}|||CERNER|${msgDateTime}||||" |
| FR.2019.9.7 | Copy the FIN to the Visit Number. | Set the PV1-19 Visit Number to PID-18.1 Account Number |
| FR.2019.9.9 | Set fixed assigning authorities for the CPI, MRN, and the FIN identifiers. | Set the PID-2.4 field to “BCCPI”  Set the PID-3.4 field to “BCMRN”  Set the PID-18.4 field to “BCFN” |
| FR.2019.9.10 | Set PV1-3.4 Facility to MSH-4 Sending Facility. |  |
| FR.2019.9.11 | Strip off the assigning authority and other sub-fields for PV1-19 Visit Number. |  |
| FR.2019.9.12 | 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 ORM^O01 to ORU^R01 transactions. In order to avoid complete rebuild of variants/routes and translates, Cloverleaf added a tpsHL7ChangeData2 proc that converts MSH.8. |

## 3.2 Cerner FSI Functional Requirements

|  |  |  |
| --- | --- | --- |
| **Cerner FSI** | | |
| **Number** | **Requirement Name** | **Description** |
| FR.2019.9.1 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## 3.3 Non-Functional Requirements

Provide concise detail for the below non-functional requirements. This would include external table ownership, hours of support, etc. The below requirements must be evaluated for every project.

|  |  |  |
| --- | --- | --- |
| **Number** | **Requirement Name** | **Description** |
| NFR.2019.9.1 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## 3.4 Messaging Protocols

Below are listed the details for the messaging protocols that will be leveraged for this integration. This includes: TCP/IP, FTP, Web Services, etc.

### 3.4.1 Protocol From or to Vendor

|  |  |
| --- | --- |
| FTP |  |
| MLLP Socket Connection (TCP/IP) |  |
| Local File Drop by Midrange Team |  |
| Other | Click here to enter text. |

### 3.4.2 FSI Comm Server Names

|  |  |
| --- | --- |
| Names | Click here to enter text. |
|  |  |

# 4. HL7 Messaging

## 4.1 Messaging Format

### 4.1.1 Segments

The segments utilized for this interface are:

MSH

EVN

PID

PV1

[{IN1}]

[{OBX}]

*Message Construction Notes:*

*[Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*MSH – Message Header*

*EVN – Event segment*

*PID – Patient ID segment*

*PV1 – Patient Visit segment*

*IN1 – Insurance 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; informs Glucommander of the modification of patient date in the external system |
| ORM^O01 | Order Message; Transmission of height and weight via an order |
| ORU^R01 | Unsolicited Transmission of an observation |

### 4.1*.*3 Cloverleaf Configuration Files

The main TCL Script responsible for the transformation from an ORM message to an ADT^A08 message is tpsCernerHeightWeightToGlytecAdt.tcl.

### 4.1.4 Cloverleaf Site Location

cerner\_results\_7\_p

soarf\_adt\_ent\_18\_p

### 4.1.5 Cerner FSI Impacted Scripts

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required R/O/C** | **Notes** | **Middleware (CL / FSI / Mule)** |
| --- | --- | --- | --- | --- |
| Message Header Segment | MSH |  | Path copy the entire segment | CL |
| Receiving Application | MSH.5 |  | Hard code “GLYTEC” | CL |
| Event Type Code | EVN.1 |  | ORM^O01 from MSH.9 changed to A08 | CL |
| Recorded Date/Time | EVN.2 |  | Copy MSH.7 | CL |
| Operator ID | ENV.5 |  | Hardcoded “CERNER’ | Cl |
| Event Occurred | EVN.6 |  |  |  |
| Patient Identifier | PID.2 |  | BayCare CPI | CL |
| Patient Identifier List | PID.3 |  | BayCare MRN | CL |
| Patient Name | PID.5 |  | Copy entire field | CL |
| Date/Time of Birth | PID.7 |  | Copy entire field | CL |
| Administrative Sex | PID.8 |  | Copy entire field | CL |
| Race | PID.10 |  | Copy entire field | CL |
| Patient Address | PID.11 |  | Copy entire field | CL |
| Patient Phone Number | PID.13 |  | Copy | CL |
| Primary Language | PID.15 |  | Copy entire field | CL |
| Marital Status | PID.16 |  | Copy entire field | CL |
| Religion | PID.17 |  | Copy entire field | CL |
| Patient Account Number | PID.18 |  | Copy PID.18, first subfield | CL |
| Patient Class | PV1.2 |  | Copy | CL |
| Assigned Patient Location | PV1.3 |  | Copy | CL |
| Admission Type | PV1.4 |  | Copy | CL |
| Attending Doctor | PV1.7 |  | Copy once | CL |
| Hospital Service | PV1.10 |  | Copy | CL |
| Admit Source | PV1.14 |  | Copy | CL |
| Admitting Doctor | PV1.17 |  | Copy once | CL |
| Patient Type | PV1.18 |  | Copy | CL |
| Visit Number | PV1.19 |  | Copy | CL |
| Financial Class | PV1.20 |  | Copy | CL |
| Servicing Facility | PV1.39 |  | Copy | CL |
| Account Status | PV1.41 |  | Copy | CL |
| Admit Date/Time | PV1.44 |  | Copy | CL |
| Insurance Segment | IN1 |  | Path copy entire segment | CL |
| Value Type | OBX.2 |  | Copy | CL |
| Observation Identifier | OBX.3 |  | Copy; “HEIGHT” or “WEIGHT” | CL |
| Observation Value | OBX.5 |  | Copy | CL |
| Units | OBX.6 |  | Copy; i.e. cm or kg | CL |

## 4.3 Sample Message

### 4.3.1 Inbound to Cloverleaf

MSH|^~\&|HNAM|CERNER|INVISION|BAYCARE|20190815135334||ORM^O01|Q5536906735T7529935296||2.3||||||8859/1

PID|1|7000111740^^^BayCare MRN^MRN^SOARIAN|7000111740^^^BayCare MRN^MRN^SOARIAN~810123863^^^BayCare CMRN^Community Medical Record Number^SOARIAN||GLYTEC^INTEGRATIONIV^^^^^Current||19701025|M||W|1234 COOKIE DR^^Odessa^FL^33556^^Home||(727)281-9101^PRN||ENG|S|CHR|6000145184^^^BayCare FIN^FIN NBR^SOARIAN||||NOH|||0

PV1|1|E|ERDSH^^^SJS^^Ambulatory(s)^SJS|X|||66666^GAJDDLQAHM^HS MFYNFS^^^^^^MCS^Personnel^^^ORGANIZATION DOCTOR~66666^GAJDDLQAHM^HS MFYNFS^^^^^^MDU^Personnel^^^ORGANIZATION DOCTOR~66666^GAJDDLQAHM^HS MFYNFS^^^^^^MPH^Personnel^^^ORGANIZATION DOCTOR~66666^GAJDDLQAHM^HS MFYNFS^^^^^^NBY^Personnel^^^ORGANIZATION DOCTOR~66666^GAJDDLQAHM^HS MFYNFS^^^^^^SFB^Personnel^^^ORGANIZATION DOCTOR~66666^GAJDDLQAHM^HS MFYNFS^^^^^^SAH^Personnel^^^ORGANIZATION DOCTOR~66666^GAJDDLQAHM^HS MFYNFS^^^^^^SJH^Personnel^^^ORGANIZATION DOCTOR~66666^GAJDDLQAHM^HS MFYNFS^^^^^^SJW^Personnel^^^ORGANIZATION DOCTOR~66666^GAJDDLQAHM^HS MFYNFS^^^^^^SJN^Personnel^^^ORGANIZATION DOCTOR~MS666666^GAJDDLQAHM^HS MFYNFS^^^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR|||ERD||||EO|||55555^AF^VYV VHS VJNLHAN^^^^^^SAH^Personnel^^^ORGANIZATION DOCTOR~55555^AF^VYV VHS VJNLHAN^^^^^^MCS^Personnel^^^ORGANIZATION DOCTOR~55555^AF^VYV VHS VJNLHAN^^^^^^MDU^Personnel^^^ORGANIZATION DOCTOR~55555^AF^VYV VHS VJNLHAN^^^^^^MPH^Personnel^^^ORGANIZATION DOCTOR~55555^AF^VYV VHS VJNLHAN^^^^^^NBY^Personnel^^^ORGANIZATION DOCTOR~55555^AF^VYV VHS VJNLHAN^^^^^^SFB^Personnel^^^ORGANIZATION DOCTOR~55555^AF^VYV VHS VJNLHAN^^^^^^SJH^Personnel^^^ORGANIZATION DOCTOR~55555^AF^VYV VHS VJNLHAN^^^^^^SJW^Personnel^^^ORGANIZATION DOCTOR~55555^AF^VYV VHS VJNLHAN^^^^^^SJN^Personnel^^^ORGANIZATION DOCTOR~MS555555^AF^VYV VHS VJNLHAN^^^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR|E||8|||||||||||||||||||SJS||Active|||20190814101000

PV2|||^GLYTEC|||||||0||||||||||||CONFID|^^6121415

IN1|1|590194^Uninsured^^^Uninsured|6311702|Uninsured|||||Uninsured|||20190815000000|||O|GLYTEC^INTEGRATIONIV^^^^^Current|1|19701025|1234 COOKIE DR^^Odessa^FL^33556^^Home|||1|||||||||||||S||||||||M||||||NONE

IN2|0||||||||||||||||||||||||NONE||||||||||||||||||||||||||||||||||||NONE||(727)281-9101^PRN

ORC|NW|18847658933^HNAM\_ORDERID|||65||||20190815135330|^DUDNHX^Mfafnywjaqh^^^^^^^Personnel||^DUDNHX^Mfafnywjaqh^^^^^^^Personnel|||20190815135331|||Discern Expert^Discern Expert|^DUDNHX^Mfafnywjaqh^^^^^^^Personnel

OBR|1|18847658933^HNAM\_ORDERID||DEHTWT^Discern HT WT||||||||||||^DUDNHX^Mfafnywjaqh^^^^^^^Personnel||||||20190815135331||Discern Rule Order|||1^^0^20190815135330

NTE|1|ORDCOM| Discern Order entered secondary to height and/or weight being entered on a patient in MedManager, PowerForm, or Direct Flow Sheet Charting.

OBX|1|ST|HEIGHT^DE Height||1706.88

OBX|2|ST|WEIGHT^DE Weight||40

### 4.3.2 Outbound from Cloverleaf

MSH|^~\&|CERNER|SJS|GLYTEC|SJS|20190814101000||ADT^A08|Q5536906735T7529935296||2.7||||||8859/1

EVN|A08|20190814101000|||CERNER|20190814101000||||

PID|1|810123863^^^BCCPI|7000111740^^^BCMRN||GLYTEC^INTEGRATIONIV^^^^^Current||19701025|M||W|1234 COOKIE DR^^Odessa^FL^33556^^Home||(727)281-9101^PRN||ENG|S|CHR|6000145184^^^BCFN||||NOH|||0

PV1|1|E|ERDSH^^^SJS^^Ambulatory(s)^SJS|X|||MS666666^GAJDDLQAHM^HS MFYNFS^^^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR|||ERD||||EO|||MS555555^AF^VYV VHS VJNLHAN^^^^^^BayCare Dr Number^Personnel^^^ORGANIZATION DOCTOR|E|6000145184|8|||||||||||||||||||SJS||Active|||20190814101000

IN1|1|590194^Uninsured^^^Uninsured|6311702|Uninsured|||||Uninsured|||20190815000000|||O|GLYTEC^INTEGRATIONIV^^^^^Current|1|19701025|1234 COOKIE DR^^Odessa^FL^33556^^Home|||1|||||||||||||S||||||||M||||||NONE

OBX|1|ST|HEIGHT^DE Height||1706.88|cm

OBX|2|ST|WEIGHT^DE Weight||40|kg

# 5. 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** |
|  |  |  |  |
| soarf\_adt\_ent\_18\_p | 24/7 | ISClinAppsPowerchartTeam@baycare.org | Primary: PowerChart team/Cerner Orders/Clin Doc  IS Application Owner / IS Liaison: Deb McCracken, Manager, Clinical Systems |

# Appendix A: Risks, Concerns & Issues

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Name** | |  | |
| **Number** | **Risk/Concern/Issue** | **Comment** | **Mitigation** |
|  |  |  |  |
| RCI.2019.9.1 |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

* End of document