**Newborn Screening Orders to the State of Florida from Cerner**

**Version 1.2**

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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 | 3/28/2017 | Lois Whitley | Added Cerner interface information |
| V1.2 | 5/8/2017 | Sailaja Parimi | Updated Cerner interface information |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to outline the Orders Interface (ORM) to the State of Florida from Cerner for newborn screening. There is also a Results Interface from the State of Florida that sends results of the testing back into Cerner.

## 1.2 Project Scope

The scope of this project is to develop an orders interface from Cerner system to the State of Florida for Newborn Dried Blood Spot Screening (NDBS). This screening is used to screen newborns routinely for certain genetic, metabolic, hormonal and functional disorders.

Integration for this project includes an orders interface from Cerner to Florida State Department of Health and a solicited Cerner results interface from Florida State Department of Health to BayCare Health System’s inpatient hospital system. Both interfaces pass through CloverLeaf and Cerner Reference Lab Hub. This document is for the ORM orders portion only.

In the past, BayCare hospitals had to complete a manual requisition for the laboratory specimen and mail them to the newborn screening laboratory for testing. While the NDBS specimens will still have to be mailed, this integration will enable the order process to occur via electronic data exchange between the hospital and the newborn screening laboratory. This will improve accuracy and completeness of the NDBS orders and potentially expedite the entire process.

BayCare Health System has implemented Newborn Screening ELO at 7 inpatient facilities:

St. Joseph's Hospital, St. Joseph's Hospital-North, St. Joseph’s South, Winter Haven Women’s Hospital, Morton Plant Hospital, Mease Countryside Hospital and South Florida Baptist Hospital.

BayCare Health System is an alpha-site in Florida State for the implementation of Newborn Screening ELO through Cerner Reference Lab and the standardization of project. Cerner supplied generic coding requiring site-specific modifications along with update modifications. All coding will be on the BayCare Cerner side and Cloverleaf will be used as a pass-through only.

ELO process begins with BayCare sending orders from Cerner system to Florida State via Cloverleaf Engine and Cerner RLN; Then State sends a flat file with orders and other required info to PerkinElmer to process the results.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

**CMRN** – Community Medical Record Number

**DOB** - Date of Birth

**ELO Electronic Laboratory Ordering**

**FSI** - Foreign System Interface; used by Cerner Millennium to exchange data with other Health Care Information

Systems.

**LOINC** – Logical Observation Identifier names and Codes

**NBS** – Newborn Screening

**NDBS** – Newborn Dried Blood Spot Screening

**NMSP** – Newborn Metabolic Screening Panel

**OML** – Lab Order Message segment; contains laboratory order information for a single NDBS card (specimen)

**RLN** - Cerner Reference Lab Network (Hub)

**SNOMED CT** – Systemized Nomenclature of Medicine – Clinical Terms

**UCUM** – Unified Code for Units of Measure

### 1.3.2 Glossary

List the terms that require definition with respect to Cloverleaf / Cerner and the product whose requirements are defined in this document. The definitions are specific to this document and may not be identical to the definitions of these terms in common use.

**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.

**Florida State Department of Health -** Reference Lab utilized by BayCare Medical Group for Newborn Screening tests.

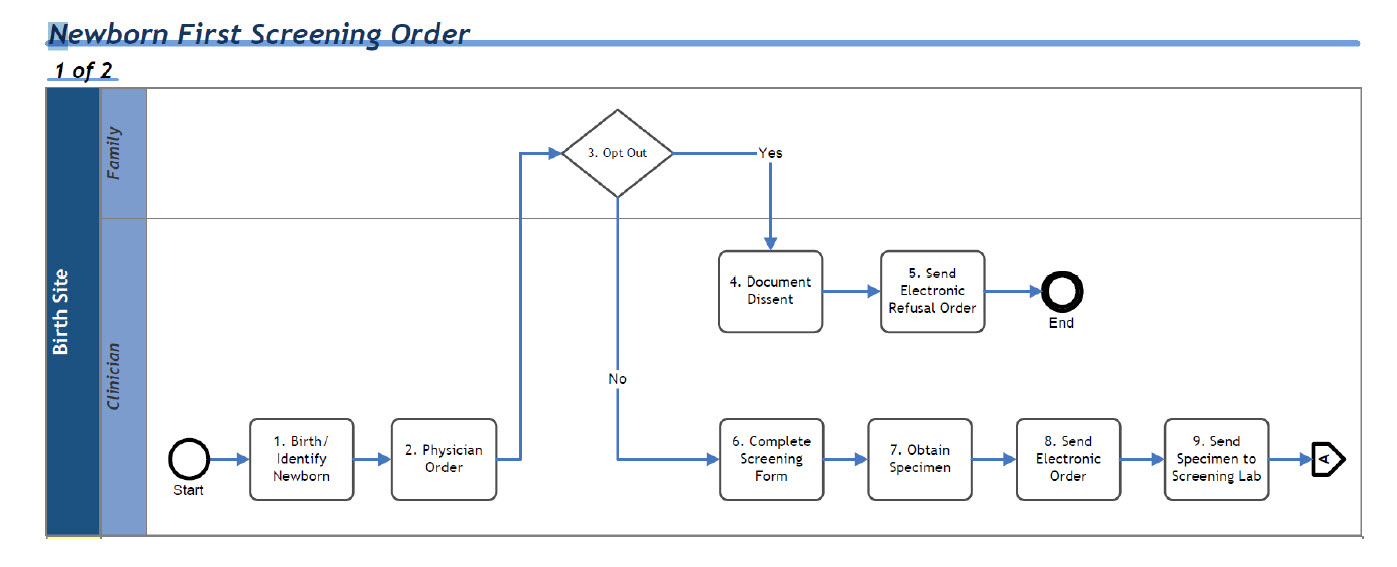
**PowerChart** – Cerner Electronic Medical Record System

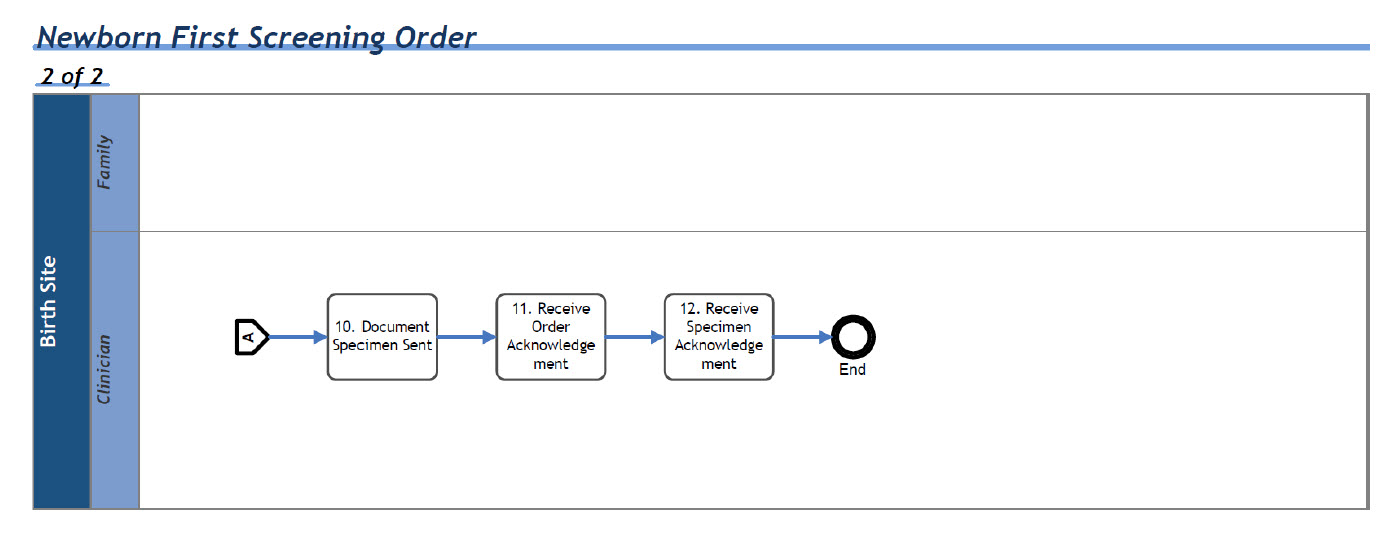
**Scripting –** Custom Cerner programs written to modify, format, and filter message transactions for the interfaces. The types of scripts used by FSI are Suppression, Route, Modify Object, Modify Original, Type, and ACK.

## 1.4 Document References

(NDBS)\_Screening\_Implementation\_Guide\_for\_Laboratory Orders

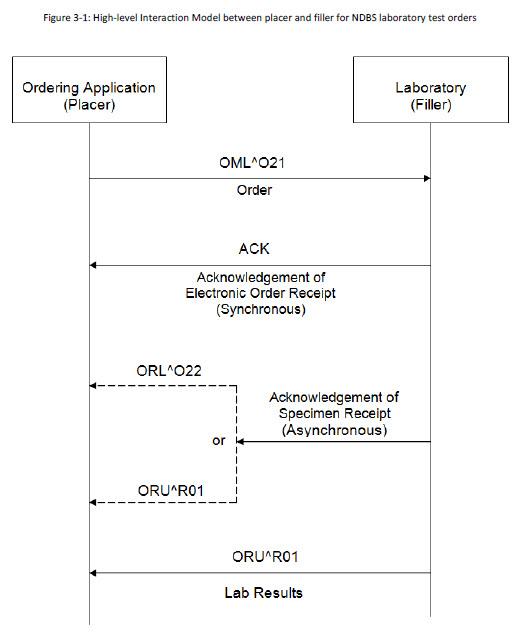
# 2. Diagrams





Cloverleaf site: fl\_gov\_10

Cerner Interface: ORM\_TCP\_STATE\_NEWBORN\_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.

|  |  |  |
| --- | --- | --- |
| **Cerner** |  |  |
| **Number** | **Requirement Name** | **Requirement Description** |
| FR.2017.1.0 | Orders interface | ORM\_TCP\_STATE\_NEWBORN\_OUT |
| Fr.2017.1.0 | Contributor System | STATE\_NEWBORN |
| FR.2017.1.1 | Contributor Source | STATE\_NEWBORN |
| FR.2017.1.2 | Route Script changes | NMSP Specimen Tracking Locations for 7 hospitals have been added to the route script to send orders outbound for Newborn screening |
|  |  |  |
| FR.2017.1.3 | Mod Object script: orm\_state\_nb\_out | 1. Child scripts called within the main mod object script:   orm\_state\_nb\_obx\_out  orm\_state\_nb\_obx\_adl\_out  orm\_state\_nb\_nk1\_out   1. Other coding in the script is listed by individual fields. |
| FR.2017.1.4 | orm\_state\_nb\_obx\_out | 1. Add OBX for Transfusion Date Time from Clinical Event table 2. Remove OBX if not NICU 3. Remove OBX for Adoption if NO 4. Remove OBX for NPO if NO 5. Remove OBX for LFF(Lactose Free Formula) if NO 6. Remove OBX for Oral if NO 7. Remove OBX for TPN/Hyperal if NO 8. Remove OBX for BBB (Baby born at BayCare) 9. Remove the OBX if any of the answers are “NO” or “Not” 10. Add OBX for NMSP-Refused order 11. Add OBX if NICU, Antibiotic and Transaction Date is present 12. Add code to send Loinc codes /identifiers in OBX to meet the requirements of State. 13. Add OBX for Feeding types |
| FR.2017.1.5 | orm\_state\_nb\_obx\_adl\_out | 1. Build additional OBX segments (for State, unique bar code of initial sample, Birth Plurality, Birth-Time, Gestational age, birthweight, collectionweight, Post-discharge Provider ID, post discharge provider name, post-discharge provider practice id, post-discharge provider practice name (This would be BayCare facility to receive the notification if there was any abnormal reports as a double check and the lab would still be responsible to reach out to the provider on record) , post-discharge provider practice address, post-discharge provider practice name, procedure date/time, OBX SPO2-preductal(RH), OBX SPO2-postductal(either foot), OBX-post-ductal probe site location, intervention) along with LOINC codes and identifiers. These OBX segments are sent with LOINC codes regardless of OBX-5 field population. 2. Code to retrieve most recent results from clinical event table. |
| FR.2017.1.6 | orm\_state\_nb\_nk1\_out | Build GT1 segment, to use it as a temporary segment |
| FR.2017.1.7 | Mod Original script:  orm\_state\_nb\_modorig\_out | Change GT1 to NK1 segment since Cerner doesn’t have an option to create NK1 for Newborn messages. |
| FR.2017.1.8 | Outbound aliasing | Code set 263, 73 |
| FR.20.17.1.9 | Cerner interface TRIGGER used to send the outbound message | Specimen Login App ORM/001 located under ORM Reference Lab  Notes on the Order flow from Cerner Powerchart to Cerner interface**:**   1. When an order for NMSP is placed, an Accession Number is assigned on the order; 2. Then the specimen is collected; 3. Then in Cerner ‘Transfer Specimens’ application, Lab needs to transfer specimen for NMSP using the Transfer List from their current location to testing lab location(for Newborn Deceased / Newborn Refused orders, Lab doesn’t need to transfer since these orders are set by rules in Powerchart) 4. Then the order hits Cerner interface trigger which transmits the order outbound. |
| FR.20.17.1.10 | Other aliasing by Core/Lab |  |

## 3.2 Non-Functional Requirements

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. |

## 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 from Cerner

**Test**

Port Number: 23012

IP Address: 10.5.250.203

**Prod**

Port Number: 23012

IP Address: 10.5.250.201

### 3.3.2 Outbound to the BayCare Cloverleaf

* Click here to enter text.

### 3.3.3 Inbound to the Vendor

* Click here to enter text.

### 3.3.4 Outbound Orders to the State of Florida Newborn Screening

Port Number: 13795

IP Address: 159.140.230.202

**Prod**

Port Number: 13795

IP Address: 159.140.230.203

# 4. HL7 Messaging

## 4.1 Messaging Format

### 4.1.1 Segments

The segments utilized for this interface are:

MSH Message Header

PID Patient ID segment

IN1 Insurance segment

NK1 *Next of Kin/Associated Parties segment*

{

ORC Common Order segment

OBR Observation Request segment

[{

{OBX} Observation/Result segment(s)

}]

}

*Message Construction Notes:*

*[Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

*[{ – 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** |
| O21 | Laboratory Order |
|  |  |

### 4.1*.*3 Cloverleaf Configuration Files

cerner\_\_optum\_oru\_soar translation file

### 4.1.4 Cloverleaf Site Location

Cloverleaf site locations for interfaces.

fl\_gov\_10

## 4.2 Data Transformation Requirements

No Cloverleaf data transformation; raw route

Cerner:

| **Field Description** | **HL7 Field Loc.** | **Required Y/N** | **Data Type** | **Length** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| Message Header | MSH |  |  |  |  |
| Field Separator | MSH.1 | R | ST | 1 |  |
| Encoding Char | MSH.2 | R | ST | 4 |  |
| Sending Application | MSH.3 | Y | HD | 227 | Cerner Mod obj script orm\_state\_nb\_out sets this field to an OID value of 2.16.480.1.113883.3.13.2.7.2. |
| Sending Facility | MSH.4 | Y | HD | 227 | Use NPI. If NPI is not available, use a different unique identifier, such as OID, CLIA, CAP or State-designated identifier  Cerner Mod obj script orm\_state\_nb\_out sets this field to an OID value of 2.16.840.1.114222.4.1.217621 |
| Receiving Application | MSH.5 | Y | HD | 227 | Cerner Mod obj script orm\_state\_nb\_out sets this field to an OID value of 2.16.840.1.114222.4.3.3.8.1.5 |
| Receiving Facility | MSH.6 | Y | HD | 227 | The laboratory receiving the order message  Cerner Mod obj script orm\_state\_nb\_out sets this field to an OID value of 2.16.840.1.114222.4.1.10000 |
| Date/Time of Message | MSH.7 | Y | TS | 26 | Date/time sending application created the message YYYYMMDDHHMMSS |
| Message Type | MSH.9 | Y | MSG | 15 | Components: <message type>^<trigger event>  Cerner Mod obj script orm\_state\_nb\_out sets this field to value: OML^O21^OML\_O21 |
| Message Control ID | MSH.10 | Y | PT | 20 | Unique ID for the order message is sent from Cerner with an exception of when different orders for different patients are tied to the same packing list, all those order messages will be sent with the same Message Control ID. |
| Processing ID | MSH.11 | Y | PT | 3 | Indicator for the Intent for processing the message;  Cerner Mod obj script orm\_state\_nb\_out sets this field to value: ‘P’ to indicate Production |
| Version ID | MSH.12 | Y | VID | 60 | Cerner Mod obj script orm\_state\_nb\_out sets this field to value: 2.5.1 |
|  |  |  |  |  |  |
| Patient Identification Segment | PID |  |  |  | PID |
| Set ID | PID.1 | Y | SI | 4 | Use literal value: ‘1’ |
| External Patient ID | PID.2 | N |  |  | Cerner Mod Object script orm\_state\_nb\_out clears this field completely. |
| Internal Patient Id | PID.3 | Y | CX | 250 | Unique identifier for baby.  Baby’s MRN must be sent and should be in the first instance of PID-3 if this field repeats |
| Alternate Patient ID | PID.4 | N |  |  | Cerner Mod Object script orm\_state\_nb\_out clears this field completely |
| Patient Name | PID.5 | Y | XPN | 250 | Baby’s Name including aliases.  Field is repeating. The primary or legal name is reported first with Name Type Code (PID.5.7) as literal value ‘L’ for Legal Name.  For alias. Use Name Type Code (PID.5.7) literal value ‘A’ for Alias.  Note that in the case with newborn screening, ‘Baby boy’ may be the legal name at birth and then may become an alias by the time the results are reported.  Components: <family name>^<given name>^ |
|  | PID.5.7 |  |  |  | Example values are:  A = Alias Name  B = Name at Birth  C = Adopted Name  L= Legal Name |
| Mother’s Maiden Name | PID.6 | N |  |  | Baby’s mother’s maiden name |
| Date Of Birth | PID.7 | N | TS | 26 | Cerner Mod Object script orm\_state\_nb\_out formats this field to 8 characters YYYYMMDD.    Baby’s date of birth  Use OBX segment to report time of birth separately, even if time of birth is included in this field |
| Gender | PID.8 | N | IS | 1 | Baby’s Sex |
| Patient Alias | PID.9 | N |  |  | Cerner Mod Object script orm\_state\_nb\_out has code to clear out. |
| Race | PID.10 | N | CE | 250 | Baby’s Race  Cerner Mod Object script orm\_state\_nb\_out adds Codes/Coding system based on the patient’s race. |
| Patient Address | PID.11 | N | XAD | 250 | Address where the baby resides; if baby resides with mother, then enter mother’s address; if baby does not reside with mother, then enter where baby specifically resides  Cerner Mod Object script orm\_state\_nb\_out  clears out Country, Type and County. |
| County Code | PID.12 | N |  |  | County where baby resides  Cerner Mod Object script orm\_state\_nb\_out  Clears out |
| Phone Number – Home | PID.13 | N | XTN | 250 | Baby’s phone number  Cerner Mod Object script orm\_state\_nb\_out  has code to send the phone number unformatted. |
| Phone Number - Business | PID.14 | N |  |  | Cerner Mod Object script orm\_state\_nb\_out  clears this field. |
| Patient Account Number | PID.18 | Y | CX | 250 | Financial Number |
| SSN Number | PID.19 | N |  |  | Cerner Mod Object script orm\_state\_nb\_out  clears this field. |
| Ethnicity | PID.22 | N | CE | 250 | Baby’s ethnicity  Cerner Mod Object script orm\_state\_nb\_out  sends coding system. |
| Multiple Birth Indicator | PID.24 | N | ID | 1 | Enter (Y/N) to indicate whether baby is part of a multiple birth  Cerner Mod Object script orm\_state\_nb\_out  has coding based on the birth\_type. |
| Birth Order | PID.25 | N | NM | 2 | If Multiple Birth Indicator is ‘Y’, then enter the number indicating the baby’s birth order, with literal value ‘1’ for first born child, ‘2’ for the second child, and so on.  If Multiple Birth Indicator is ‘N’, then leave empty or enter ‘1’ |
| Patient Death Date and Time | PID.29 | N | TS | 26 | Date and time that patient death occurred. If PID.30 is ‘Y’ to indicate the patient is deceased, then populate this field |
| Patient Death Indicator | PID.30 | N | ID | 1 | Indicates whether patient is deceased  Cerner Mod Object script orm\_state\_nb\_out  has coding to send Y or N based on NMSP-Deceased value. |
|  |  |  |  |  |  |
| Insurance Information | IN1 |  |  |  |  |
| Set ID | IN1.1 | Y |  | 4 |  |
| Insurance Plan ID | IN1.2 | Y | CE | 60 |  |
| Identifier | IN1.2.1 |  | ST |  |  |
| Text | IN1.2.2 |  | ST |  |  |
| Alternate Text | IN1.2.5 |  | ST |  |  |
| Insurance Company ID | IN1.3 | Y | CX | 69 |  |
| Insurance Company Name | IN1.4 | O | XON | 130 |  |
| Insurance Company Address | IN1.5 | O | XAD | 106 |  |
| Insurance Co Contact Person | IN1.6 | O | XPN | 48 |  |
| Insurance Co Phone Number | IN1.7 | O | XTN | 40 |  |
| Group Number | IN1.8 | O | ST | 12 |  |
| Group Name | IN1.9 | O | XON | 130 |  |
| Plan Effective Date | IN1.12 | O | DT | 8 |  |
| Plan Expiration Date | IN1.13 | O | DT | 8 |  |
| Plan Type | IN1.15 | O | IS | 3 |  |
| Name of Insured | IN1.16 | O | ID | 48 |  |
| Insured’s Relation to Patient | IN1.17 | O | CE | 2 |  |
| Insured’s Date of Birth | IN1.18 | O | DT | 26 |  |
| Insured’s Address | IN1.19 | O | XAD | 106 |  |
| Coord of Ben. Priority | IN1.22 | O | ST | 2 |  |
| Company Plan Code | IN1.35 | O | IS | 8 |  |
| Insured’s Administrative Sex | IN1.43 | O | IS | 1 |  |
| Insured’s ID Number | IN1.49 | O | CX | 12 |  |
|  |  |  |  |  |  |
| Next of Kin/Associated Parties Segment | NK1 |  |  |  |  |
| Set ID | NK1.1 | Y |  |  | Literal value: ‘1’ |
| Name | NK1.2 |  |  |  | Baby’s mother/father/caregiver’s name.  Baby’s mother’s name is required and must be provided  Father/caregiver’s name is optional  Cerner Mod object script  orm\_state\_nb\_nk1\_out has coding to populate this field. |
| Relationship | NK1.3 |  |  |  | Relationship of mother/father/caregiver to baby  MTH = Mother  Cerner Mod object script orm\_state\_nb\_nk1\_out has coding to populate this field. |
| Address | NK1.4 |  |  |  | Address of baby’s mother/father/caregiver.  Mother’s address is required and must be provided. Father/caregiver’s address is optional  Cerner Mod object script  orm\_state\_nb\_nk1\_out has coding to populate this field. |
| Phone Number | NK1.5 |  |  |  | Mother/father/caregiver’s phone number.  Mother’s phone number is required and must be provided. Father/caregiver’s phone number is optional  Cerner Mod object script  orm\_state\_nb\_nk1\_out has coding to populate this field. |
| Date/Time of Birth | NK1.16 |  |  |  | Date of birth of mother/father/caregiver.  Mother’s DOB is required and must be provided. Father/caregiver’s DOB is optional  Cerner Mod object script  orm\_state\_nb\_nk1\_out has coding to populate this field. |
| Next of Kin/Associated Party’s Identifiers | NK1.33 |  |  |  | Baby’s mother’s:   1. Medicaid Number (if eligible) 2. Social Security Number   Cerner Mod object script  orm\_state\_nb\_nk1\_out has coding to populate this field. |
|  | PV1 |  |  |  | This segment is removed in Cerner Mod Object script orm\_state\_nb\_out. |
| Common Order Segment | ORC |  |  |  |  |
| Order Control | ORC.1 |  | ID |  | Describes the type of action of trigger event related to the order message.  Enter the order control code that corresponds to the message action.  Literal value: ‘NW’ to indicate new order/service  Resubmissions or repeat screenings still use the value ‘NW’. Matching of resubmitted orders to the original order will be done by the laboratory.  Cerner mod object script orm\_state\_nb\_out sets the value to NW. |
| Placer Order Number | ORC.2 | R | EI |  | Order number for the message assigned by the order placer (hospital)  Same value as OBR.2 |
| Date Of Transaction | ORC.9 | N | DTM |  | Cerner mod object script orm\_state\_nb\_out clears this field. |
| Entered By | ORC.10 | N | XCN |  | Cerner mod object script orm\_state\_nb\_out clears this field. |
| Ordering Provider | ORC.12 |  | XCN |  | Provider ordering the laboratory test.  Same value as OBR.16  Cerner mod object script orm\_state\_nb\_out has coding to send only NPI in Assigning Authority. If NPI is not available, it clears out the field. |
| Person Identifier | ORC.12.1 | R | ST |  | Provider Name |
| Assigning Authority | ORC.12.9 |  | HD |  |  |
| Namespace ID | ORC.12.9.1 |  | IS |  | Cerner mod object script orm\_state\_nb\_out sets the value to ‘NPI’ |
| Universal ID | ORC.12.9.2 |  | ST |  | Cerner mod object script orm\_state\_nb\_out sets the value to 2.16.840.1.113883.4.6 |
| Universal ID Type | ORC.12.9.3 |  | ID |  | Cerner mod object script orm\_state\_nb\_out sets the value to ‘ISO’ |
| Enterer’s Location | ORC.13 | N | PL |  | Cerner mod object script orm\_state\_nb\_out clears this field. |
| Order Effective Dt. | ORC.15 | N | TS |  | Cerner mod object script orm\_state\_nb\_out clears this field. |
| Entering Device | ORC.18 | N | CE |  | Cerner mod object script orm\_state\_nb\_out clears this field. |
| Action By | ORC.19 | N | XCN | 80 | Cerner mod object script orm\_state\_nb\_out clears this field. |
| Ordering Facility Name | ORC.21 |  | XON | 199 | Name of the facility or hospital placing the order message  Cerner mod object script orm\_state\_nb\_out has coding to send only NPI identifier. |
| Organization Name | ORC.21.1 |  |  |  | Facility Name |
| ID Number | ORC.21.3 |  | NM |  | Cerner mod object script orm\_state\_nb\_out has coding to retrieve Facility NPI in this field. However since State wants this value in 21.10 field, Cloverleaf moves this value to 21.10 field and then sends this field blank. |
| Assigning Authority | ORC.21.6 | R | HD |  | Cerner mod object script orm\_state\_nb\_out populates this field. |
| Namespace ID | ORC.21.6.1 |  | IS |  | Cerner mod object script orm\_state\_nb\_out sets the value to ‘NPI’ |
| Universal ID | ORC.21.6.2 |  | ST |  | Cerner mod object script orm\_state\_nb\_out sets the value to 2.16.840.1.113883.4.6 |
| Universal ID Type | ORC.21.6.3 |  | ID |  | Cerner mod object script orm\_state\_nb\_out sets the value to ‘ISO’ |
| Identifier Type Code | ORC.21.7 |  | ID |  | Sent with a value of ‘NPI’ |
| Organization Identifier | ORC.21.10 |  | ST |  | Sent with Provider Practice ID NPI Alias. |
| Ordering Facility Address | ORC.22 |  | XAD |  | Address of the facility placing the order message |
| Ordering Facility Phone # | ORC.23 |  | XTN |  | Phone number of facility placing the order message  Cerner mod object script orm\_state\_nb\_out populates this field. |
| Ordering Providing Address | ORC.24 |  | XAD |  | Cerner mod object script orm\_state\_nb\_out clears this out. |
| Order Type | ORC.29 |  | CWE |  | Literal value: ‘I’ for Inpatient or ‘O’ for Outpatient |
| Observation Request Segment | OBR |  |  |  |  |
| Set ID | OBR.1 | N |  |  | Literal value: ‘1’ for the first OBR segment transmitted; ‘2’ for the next OBR segment and so on |
| Placer Order Number | OBR.2 | C | EI |  | Order number for the message assigned by the order placer (hospital)  Same value as ORC.2 |
| Entity Identifier | OBR.2.1 | R | ST |  | Order ID |
| Namespace ID | OBR.2.2 |  | IS |  | Valued with HNAM ORDERID |
| Universal Service ID | OBR.4 | R | CWE |  | Code for the observation request  Cerner Mod Object Script orm\_state\_nb\_out has coding to set the literal values. |
| Identifier | OBR.4.1 |  |  |  | Identifier: Use literal value: ‘54089-8’ |
| Text | OBR.4.2 |  |  |  | Text: Use literal value ‘Newborn screening panel AHIC’ |
| Coding System | OBR.4.3 |  |  |  | Name of Coding System: Use literal value ‘LN’ |
| Observation Date/Time | OBR.7 | C | DTM |  | Enter the specimen collection date/time |
| Collector Identifier | OBR.10 | N | XCN |  | Person that collected the specimen.  Cerner mod object script orm\_state\_nb\_out clears this field. |
| Specimen Action Code | OBR.11 | N | ID |  | Cerner mod object script orm\_state\_nb\_out clears this field. |
| Specimen Received Date/Time | OBR.14 | N |  |  | Cerner mod object script orm\_state\_nb\_out clears this field. |
| Specimen source | OBR.15 | N |  |  | Cerner mod object script orm\_state\_nb\_out clears this field. |
| Ordering Provider | OBR.16 |  | XCN |  | Provider Ordering the laboratory test.  Same value as ORC.12  Cerner mod object script orm\_state\_nb\_out has coding to send only NPI identifier. |
| Identifier | OBR.12.1 |  |  |  | Provider Name |
| Assigning Authority | OBR.12.9 | R | HD |  | Cerner mod object script orm\_state\_nb\_out populates this field. |
| Namespace ID | OBR.12.9.1 |  | IS |  | Cerner mod object script orm\_state\_nb\_out sets the value to ‘NPI’ |
| Universal ID | OBR.12.9.2 |  | ST |  | Cerner mod object script orm\_state\_nb\_out sets the value to 2.16.840.1.113883.4.6 |
| Universal ID Type | OBR.12.9.3 |  | ID |  | Cerner mod object script orm\_state\_nb\_out sets the value to ‘ISO’ |
| Observation Result Segment | OBX |  |  |  | Coding in Cerner Mod Object script to format OBX segments that come as Prompts. |
| Set ID | OBX.1 | R |  |  | Literal value: ‘1’ for the first OBX segment transmitted; ‘2’ for the next OBX segment, and so on |
| Value Type | OBX.2 | C |  |  | Enter the data type of the observation value. In addition to the data type accepted in HL7, the TN data type is allowed in the OBX segment  CE = Coded Element  DT = Date/Time  NM = Numeric  ST = String Data  TM = Time  TX = Text Data |
| Observation Identifier | OBX.3 | R |  |  | Unique identifier for the observation. Use the appropriate LOINC Code and text that represents the “question” that needs to be answered |
| Observation Sub-ID | OBX.4 | N |  |  | Field is required if there are multiple OBX with the same OBX.3 associated with the same OBR  When valued, this field shall contain integer values, with the first occurrence starting at ‘1’; ‘2’ for the next occurrence, etc. |
| Observation Value | OBX.5 | N |  |  | Data type of this field matches the data type specified in OBX.2 |
| Units | OBX.6 | N |  |  | Units of the Observation value, if applicable |
| Observation Result Status | OBX.11 | R |  |  | Use literal value: ‘O’ to indicate Order Detail Description Only (No Result) |

## 4.3 Sample Message

MSH|^~\&|2.16.480.1.113883.3.13.2.7.2|2.16.840.1.114222.4.1.217621|2.16.840.1.114222.4.3.3.8.1.5|2.16.840.1.114222.4.1.10000|20170227142648||OML^O21^OML\_O21|Q2878145673T3603095286|P|2.5.1||||||8859/1

PID|1||7000011900^^^BayCare MRN^MR||TestingNBS^Baby^^^^^B||20170222|F||2106-3^White^HL70005|1025 Leisure Ave^^Tampa^FL^33613|||||S|None|6000026972^^^BayCare FIN^FIN NBR^SOARIAN||||NOH^^HL70189||N|1|||||N

IN1|1|589946^CIGNA OPEN ACCESS^^^CIGNA OPEN ACCESS|1048061|Cigna|PO BOX 182223^LOCAL 15 MEDICAL FUN^CHATTANOOGA^TN^37422^UNITED STATES^business||(800)244-6224^WPN|3338043|Cigna Open Access|||20170530000000|21001231000000||O|KINSLEY^JOSEPH^^^^^B|18|19771218||||1|||||||||||||H||||||||M||||||U38681044

NK1|1||^^HL70063|||||||||||||19990309|||||||||||||||||^^^SSA&2.16.840.1.113883.4.1&ISO

ORC|NW|8810007393^HNAM\_ORDERID|||64|||||^SYSTEM^Donotchange||1770695728^Silverfield^Joel^C^^^^^NPI&2.16.840.1.113883.4.6&ISO|||||||||South Florida Baptist Hospital^^^^^NPI&2.16.840.1.113883.4.6&ISO^1770695728|301 N Alexander St^^Plant City^FL^33563^USA|9163831200||||||I

OBR|1|8810007393^HNAM\_ORDERID||54089-9^Newborn Screening Panel AHIC^LN|||20170227142520|||MIB67367^Gmcagfk^ Ymlxnf^^^^^^External Id||||||1770695728^Silverfield^Joel^C^^^^^NPI&2.16.840.1.113883.4.6&ISO|||000002017058000489| ||||Lab

OBX|1|CE|57721-3^Reason for lab test in Dried blood spot^LN||LA12421-6^Initial Screen^LN||||||O

OBX|2|CE|57713-0^Infant NICU factors that affect newborn screening interpretation^LN||LA12419-0^Infant in ICU at time of specimen collection^LN||||||O

OBX|3|CE|CD:1723487895^Feeding types^LN||LA14041-0^Lactose free formula (including soy or hydrolyzed)^LN||||||O

OBX|4|CE|CD:1723489253^Feeding types^LN||LA16914-6^Breast milk^LN||||||O

OBX|5|CE|FL-NBS-008^Baby Born at BayCare^LN||Y^Yes^HL70136||||||O

OBX|6|CE|67704-7^Feeding types^LN||LA16915-3^Lactose Formula^LN||||||O

OBX|7|ST|57716-3^State Identifier^LN||FL||||||O

OBX|8|ST|57711-4^Unique bar code of original sample^LN||||||||O

OBX|9|CE|57722-1^Birth pluarlity of Pregnancy^LN||LA12914-0^Unknown plurality^LN||||||O

OBX|10|TM|57715-5^Birth time^LN||1500-0500||||||O

OBX|11|NM|57714-8^Obstetric estimation of gestational age^LN|||wk^weeks|||||O

OBX|12|NM|8339-4^Birthweight^LN||0|g^gram|||||O

OBX|13|NM|58229-6^Body weight Measured --when specimen taken^LN||0|g^gram|||||O

OBX|14|TX|62323-1^Post-discharge provider ID^LN||||||||O

OBX|15|TX|62324-9^Post-discharge provider Name^LN||||||||O

OBX|16|TX|62325-6^Post-discharge provider practice ID^LN||||||||O

OBX|17|TX|62326-4^Post-discharge provider practice name^LN||South Florida Baptist Hospital||||||O

OBX|18|TX|62327-2^Post-discharge provider practice address^LN||, , ,||||||O

OBX|19|TX|62328-0^Post-discharge provider practice phone^LN||||||||O

OBX|20|DT|FL-NBS-010^Procedure Date/Time^LN||||||||O

OBX|21|NM|FL-NBS-011^SPO2 - preductal (RH)^LN||||||||O

OBX|22|NM|FL-NBS-012^SPO2 - post ductal (either foot)^LN||||||||O

OBX|23|TX|FL-NBS-013^Post-ductal probe site location^LN||||||||O

OBX|24|TX|FL-NBS-014^Intervention^LN||Not Tested||||||O

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

# Appendix A: Risks and Concerns

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Name** |  |  | |
| **Number** | **Risk / Concern** |  | **Mitigation** |
| RC.2013.1.0 | Cloverleaf receives NAKs whenever Florida State is down OR any issues with VPN connectivity from RLN to State. As a result messages go to Cloverleaf error log. Current threshold for error log is 40, that’s when Cloverleaf team will start to monitor the error log. The risk is when messages go to Cloverleaf error log, they go unnoticed and State will not have the electronic order messages from Baycare. RLN doesn’t hold any messages in queue, so they cann’t resend the messages from error log. Cloverleaf can resend the messages from error log if the order date is not old. If the messages are old, then State should have them with a manual entry by using the scanned card. Generally, Cloverleaf holds messages for 14 days.  ~~The Cerner RLN Hub does not ACK BayCare Cloverleaf when they receive order messages for Newborn Metabolic Screening Panel.  Instead, the Cerner RLN Hub sends the ACK received from State to Cloverleaf.~~ **~~This is an issue when the Hub’s interface connection with State is down~~**~~.  This causes the same message to be csent from CloverLeaf over and over again until the Cerner Hub interface with State is brought back up.  Then, the Cerner RLN Hub sends all of the duplicate messages that have queued while the connection was down which floods State with unnecessary messages~~ |  | 5/23/17, 5/28/17 and 6/5/17  Cloverleaf has logic to send a message to HUB till they get acknowledgement. |

# 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.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Issue  # | Issue | Cause/Assigned To | Resolution/Date Resolved | Comments | | --- | --- | --- | --- | --- | | 1 | Newborn orders to State didn’t go outbound | Newborn orders are set based off the specimen tracking locations. In the location tool, the specimen tracking location was not checked to transmit orders outbound. | The specimen tracking location is checked to transmit orders outbound, orders started to transmit. | Other place to check is Cerner Route script has all the specimen tracking location ids accurate. | | 2 | Newborn deceased order to State didn’t go outbound | The newborn orders needs to have the virtual view turned on by the orders team in order to transmit the orders. | NMSP-deceased order was a new order, virtual view is enabled, order transmitted outbound. |  | | 3 | Newborn orders to State didn’t go outbound | New Cerner package loaded; When newborn orders process requires unique bar code scanning. The new Cerner package broke all front end scanning. As a result the orders are not going outbound | Manual entry of orders is the work around till the problem is fixed. |  | | 4 | Newborn orders to State didn’t go outbound (date 5/23/17, 5/28/17 and 6/5/17) | Orders from Cerner went fine to Cloverleaf; Cloverleaf was getting NAKs which went to Cloverleaf error log. | The orders from 5/23 and 5/28 were too old to send, the orders must have been manually entered. The orders from 6/5 were sent because the problem was found on the same day. | Cloverleaf added fix to resend a message to HUB till they get acknowledgement. No messages will be processed till Cloverleaf get an acknowledgement for the order message. | | 5. |  |  |  |  | |  |  |  |  |  |  |

* End of document