**Newborn Results Interface from State Requirements**

**Version 1.1**

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# **Document Control**

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## Document Version Control

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|  |  |  |  |
|  |  |  |  |

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to outline the Electronic Results interface (ELR) between Baycare hospital(s) Laboratory Information Management Systems (LIMS) and the Florida State Department of Health for Newborn Screening (NBS) tests via Cerner reference lab network.

## 1.2 Project Scope

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 ORU results portion only.

Baycare Health System has implemented Newborn Screening ELR 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 ELR 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.

Newborn screening bi-directional (Orders and Results) interface involves the following processing:

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; once results are processed, State receives a flat file back from PerkinElmer with results; State then translates the flat file into HL7 messages and does the further processing and transmits the results to Baycare. Thus, PerkinElmer acts as a clearing house in the results processing on the Florida State side.

The ELR from Florida State Department of Health encompasses both discrete and PDF results for NBS tests.

* Discrete result messages from State go through Cerner interface order match logic of BayCare Accession Number. Discrete results will post to Cerner Lab Pathnet.
* PDF result messages from State go through Cerner interface person match logic of BayCare MRN. PDF results post to Cerner Powerchart, and the ordering physician’s inbox in the Cerner Message Center.

Any person / order mismatch will cause the original result message to fail in Cerner. Failed message(s) along with error text is available in Cerner ESI Log table, which requires reconciliation and follow up with State for accurate result posting.

## 1.3 Terminology Standards

### 1.3.1 Acronyms

**CMRN** – Community Medical Record Number

**DOB** - Date of Birth

**DTA** – Discrete Task Assay

**ELR - Electronic Results Interface**

**ELO Electronic Laboratory Ordering**

***LIMS – Lab Information Management System***

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

Systems.

**ESI** - External Systems Inbound; Cerner’s process for handling interfaced data received from a foreign system.

**ESI Log** -The External Systems Inbound log contains queue trace reports for all inbound messages to Cerner along with processing statuses of success, failure, or warning. Failures and Warnings are accompanied by error text which describes the issue. The ESI log is used for Cerner FSI troubleshooting by the Integration Team.

**NPI** – National Provider ID

**NBS** – Newborn Screening

**ORU** - Observation result / a solicited or unsolicited HL7 message

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

**TDB** – Cerner Transaction Database

### 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.

**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

Cerner HL7 Specifications: Unit 10i - Result and Document Processing Inbound – Cerner 2016

# 2. Diagrams

2.1 **Baycare Health System - Hospital integration Diagram**



**2.2 Workflow for Newborn Metabolic Screening Well Baby:**



**2.3 Workflow for Newborn Metabolic Screening Refusal\_deceased:**



# 3. Requirements

## 3.1 Functional Requirements

Cerner

| Number | Requirement Name | Requirement Description |
| --- | --- | --- |
| FR.2017.1.0 | STATE\_NEWBORNN  STATE\_NEWBORN\_PDF | Contributor Systems |
| FR.2017.1.1 | STATE\_NEWBORN | Contributor source |
| FR.2017.1.2 | ORU\_TCP\_STATE\_NEWBORN\_IN | Results interface for Newborn |
| FR.2017.1.3 | Mod Object Script on  ORU\_TCP\_STATE\_NEWBORN\_IN  oru\_state\_newborn\_in | Move ALL OBX segments under first OBR and then remove additional OBRs  Remove NK1 segment |
| FR.2017.1.4 | Other Scripts on  ORU\_TCP\_STATE\_NEWBORN\_IN | Type – rli\_type\_script  Ack – std\_rln\_spaces\_ack |
| FR.2017.1.5 | ORU\_REFLAB\_PATH\_ESI  ORU\_REFLAB\_PDF\_ESI | ESI servers |
| FR.2017.1.6 | Mod object Script oru\_state\_newbn\_in\_esi  on ORU\_REFLAB\_PATH\_ESI | Code for removing PDF OBX segment from Result message |
| FR.2017.1.7 | Mod Object Script oru\_state\_newbn\_pdf\_esi  on ORU\_REFLAB\_PDF\_ESI | Code for removing all discrete OBX segments but PDF OBX from Result message |
| FR.2017.1.8 | Aliasing by Cerner FSI | Code sets:263,73,89,15769,16090,16092 |
| FR.2017.1.9 | Aliasing by Cerner Core |  |

## 3.2 Messaging Protocols

Below are listed the details for the messaging protocols that will be leveraged for this integration.

### Inbound to the BayCare Cloverleaf

* TCP/IP Protocol
  + HL7 2.3 ORU messages from the Cerner RLN HUB to BayCare Cloverleaf
    - CloverLeaf is set up as Multi-Thread for this interface as per Cerner RLN HUB request
    - CloverLeaf is a pass-through

### 3.2.2 Outbound from the BayCare Cloverleaf

* TCP/IP Protocol
  + HL7 2.3 Acknowledgment Messages returned from CloverLeaf to the Cerner RLN HUB
    - tpsHl7ParamAck (Parameters needed are provided by Cerner)

{VRSID 2.5.1} {SNDNGAPP 2.16.840.1.114222.4.1.217621} {SNDNGFC 2.16.840.1.114222.4.1.217621} {RCVNGAPP BAYCARE} {MSGTYPE ACK} {MULTISERVER 1} {DEBUG 1}

* + HL7 2.3 ORU messages to the BayCare Cerner

### 3.2.3 Inbound from the Vendor

* TCP/IP Protocol
  + HL7 2.3 ORU messages from Florida State Department of HealthHealth to the Cerner RLN HUB
    - This interface is supported by Cerner and Florida State Department of HealthHealth

### 3.2.4 Outbound to the Vendor

* TCP/IP Protocol
  + HL7 2.3 Custom ACK message from the Cerner RLN HUB to Florida State Department of HealthHealth
    - This interface is supported by Cerner and Florida State Department of HealthHealth

# 4. HL7 Messaging

## 4.1 Messaging Format

Solicited ORU result messages are sent from Florida State Department of Health to BayCare Cerner EMR through the Cerner RLN Hub and CloverLeaf using HL7 2.3 message format. Each ORU message is a discrete R01 result message for a NBS test, which can contain both discrete and pdf results for a patient in BayCare hospital set up.

### 4.1.1 Segments

The segments utilized for this interface are:

MSH *Message Header*

PID *Patient ID segment*

{

ORC *Common Order segment*

OBR *Observation Request segment*

[{

OBX *Observation / Result segment(s)*

[{NTE}] *Observation / Result-level comments*

}]

}

*Notes: [Square Brackets] – Optional*

*{Curly Brackets} – Repeatable*

### 4.1.2 Messaging Event Types

Below are the message types necessary for this integration

|  |  |
| --- | --- |
| **Event Type** | **Description** |
| ORU^R01 | Solicited transmission of an observation/results |
| ACK | Custom Acknowledgment messages needed by the Cerner RLN HUB |

### 4.1.3 Cloverleaf Configuration Files

CloverLeaf is only a pass-through for Newborn Screening results inbound interface on inpatients to BayCare Cerner. The Cloverleaf feed is raw with no changes to the message.

### 4.1.4 Cloverleaf Site Location

fl\_gov\_10\_p

## 

## 4.2 Data Transformation Requirements

| **Field Description** | **HL7 Field Loc.** | **Required Y/N**  **And C for Conditional** | **Data Type** | **Length** | **Cerner Table (T) and/or Code Set (CS)** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- |
| Message Header – Field Separator | MSH.1 | Y | ST | 01 |  | A Pipe (|) is used as the field separator and cannot be included in the transmitted data. |
| Encoding Characters | MSH.2 | Y | ST | 04 |  | “^~\&” These characters cannot be included in the transmitted data:  ^ used to separate components in a field  ~ used as a repetition separator  \ used as an escape delimiter  & used to separate sub-components |
| Sending Application | MSH.3 | Y | HD | 227 | CS 89 | Cerner Mod Object script changes “8340” to “STATE\_NEWBORN for discrete results.  Cerner Mod object script sets this field to  STATE\_NEWBORN\_PDF for pdf results when the person match was successful. This field identifies the contributor system used to process the message. |
| Sending Facility | MSH.4 | Y | HD | 227 |  | Cerner Mod Object script changes OID to “6000”. |
| Receiving Application | MSH.5 | Y | HD | 227 | CS 15679 | For discrete results, this field is blank  For pdf result messages, valued with “POSTIMAGE” by Cerner mod object script oru\_reflab\_pdf\_esi. |
| Receiving Facility | MSH.6 | Y | HD | 227 |  | For discrete results, Cerner Mod Object script changes “8340” to “RLI”  For pdf results, this field is blank. |
| Date / Time of Message | MSH.7 | N | TS | 26 |  | Date format sent from State YYYYMMDDHHMMSS-0500 |
| Message Type | MSH.9 | Y | MSG | 15 |  | HL7 message type and event triggering the message. |
| Message Code | MSH.9.1 | Y | ID |  |  | “ORU” |
| Trigger Event | MSH.9.2 | Y | ID |  |  | “R01” |
| Message Structure | MSH.9.3 | Y | ID |  |  | ORU\_R01 |
| Message Control ID | MSH.10 | Y | PT | 20 |  | Unique, generated ID from the sending system to be returned in MSA-2 of the ACK message. |
| Processing ID | MSH.11 | Y | ID | 01 |  | Defaulted to “P” for Production Environment. |
| Version ID | MSH.12 | Y | ID | 08 |  | 2.3 (HL7 version) |
| Set ID | PID.1 | N | SI | 04 |  | 1 |
| Patient ID (Internal ID) | PID.3 | Y | CX | 20 | CS 263 |  |
| Patient ID | PID.3.1 | C | ST |  | T Person\_Alias | Patient CMRN (CPI) is sent in the order message and is expected to be returned in PID.3.1. This field is used for person identification |
| Assigning Authority | PID.3.4 | C | HD |  | T Person\_Alias | **Used only when person match is successful**:  **For Discrete results:** The value of Baycare MRN is sent in the order message and is expected to be returned in PID.3.4.  **For PDF results:**  The value of “Baycare MRN” is set on the STATE\_NEWBORN\_PDF contributor system to identify the alias type as “Community Medical Record Number” with an alias pool of “BayCare CMRN”. |
| Alternate Patient ID | PID-4 | N | CX |  |  | This field is cleared by oru\_state\_newborn\_in script |
| Patient Name | PID.5 | Y | XPN | 250 | T Person\_Name | Components: <Last Name>^<First Name>^<Middle Initial or Name>^<Suffix>^<Prefix>^ <Degree> |
| Birth Date | PID.7 | Y | TS | 26 | T Person | YYYYMMDDHHMM |
| Sex | PID.8 | Y | ID | 1 | T Person  CS 57 | Patient’s Sex |
| Race | PID.10 | Y | CE | 1 | T Person  CS 282 | Patient’s Race |
| Identifier | PID.10.1 |  | ST |  |  |  |
| Text | PID.10.2 |  | ST |  |  |  |
| Name of coding System | PID.10.3 |  | ID |  |  |  |
| Patient Address | PID.11 | N | XAD | 106 | T Address | Mailing Address of Patient  Components: <street address>^<other>^<city>^<state>^<zip code> |
| Phone Number | PID.13 | N | XTN | 40 | T Phone | Patient’s home phone number in the expected format (XXX) XXX-XXXX. No phone type is sent by State; Cerner’s default is HOME. |
| Patient Account # | PID.18 |  | CX | 20 |  | This field is used by STATE\_NEWBORN\_PDF contributor system for encounter match. |
| Account Number | PID.18.1 | C | ST |  | T Encounter\_alias | Patient FIN is sent in the order message and is expected to be returned in PID.18.1. |
| Assigning Authority | PID.18.4 | C | HD |  | CS 263  Alias\_pool\_cd | For Discrete results: The value of Baycare FIN is sent in the order message and is expected to be returned in PID.18.4.  For PDF results: This value is used by the STATE\_NEWBORN\_PDF contributor system to identify the alias entity alias type as “FIN NBR” with an alias pool of “BayCare FIN”. |
| Order Control ID | ORC.1 | Y | ID | 02 |  | “RE” for Results is valued from the oru\_state\_newborn\_in script |
| Placer Order Number | ORC.2 | N | EI | 75 |  |  |
| Entity Identifier | ORC.2.1 | Y | ST |  |  | Order id echoed back from order message in ORC.2.1.  Field is cleared by mod obj script. |
| Namespace ID | ORC.2.2 | Y | IS |  |  | Order id echoed back from order message in ORC.2.2. |
| Filler Order Number | ORC.3 | N | EI | 75 |  | ORC.3.1 = Florida State Department of Healthunique filler order number.  ORC.3.2 = ISO  ORC.3.3= State OID.  This field is present in the raw message. |
| Ordering Provider | ORC.12 | N | TS | 26 |  | This field is present in the raw message. |
| Ordering Facility Name | ORC.21 | N | XON | 80 |  | This field is present in the raw message. |
| Ordering Facility Address | ORC.22 | N | XAD | 250 |  | This field is present in the raw message. |
| Ordering facility Phone Number | ORC-23 | N | XTN |  |  | This field is present in the raw message. |
| Set ID | OBR.1 | Y | SI | 04 |  | The raw message may be multiple OBR segments where first OBR starts at 1 and is incremented by 1 for each OBR.  Mod obj script oru\_state\_newborn\_in keeps the original first OBR and moves ALL other OBX segments under first OBR and then removes additional OBRs. |
| Placer Order Number | OBR.2 | Y | EI | 75 |  |  |
| Entity Identifier | OBR.2.1 |  |  |  |  | Baycare Cerner Order ID number.  Mod obj script oru\_state\_newborn\_in copies ORC-2 with OBR-2. |
| Namespace ID | OBR.2.2 |  |  |  |  | This field is valued with HNAM\_ORDERID in the raw message.  Then it is cleared by Cerner mod obj script. |
| Filler Order Number | OBR.3 | Y | EI | 75 | T Clinical\_Event |  |
| Entity Identifier | OBR.3.1 | Y |  |  |  | Florida State Department of HealthHealth unique accession number. |
| Namespace ID | OBR.3.2 | N |  |  |  | This field is valued with ISO in the raw message.  This value is cleared. |
| Universal ID | OBR.3.3 | N |  |  |  | This field is valued with OID for State in the raw message.  This value is cleared. |
| Universal Service ID | OBR.4 |  | CE | 200 | T Clinical\_Event |  |
| Identifier | OBR.4.1 | Y | ST |  | CS 200 | Newborn order alias on STATE\_NEWBORN contributor source.  Since Clinical Event processing is set at the Order Catalog/DTA level, the interface first looks at the aliasing on code set 200 (Order Catalog) to identity the event code. When the alias is not found on code set 200, then then it returns to the default event code look up on code set 72.  Note: Cerner recommends aliases be limited to 10-12 characters since functional size is limited for clinical event processing. |
| Text | OBR.4.2 | N | ST |  |  | This value is present in the raw message, and then it is cleared. |
| Name of Coding System | OBR.4.3 | N | ID |  |  | This value is present in the raw message, and then it is cleared. |
| Observation (Collection) Date / Time | OBR.7 | Y | TS | 26 | T CE\_SPECIMEN\_  COLL | Specimen Collection Date/Time: YYYYMMDDHHMM |
| Collector Identifier | OBR.10 |  | XCN | 60 |  | Name of the Collector Identifier |
| Specimen Received Date / Time | OBR.14 | Y | TS | 26 | T CE\_SPECIMEN\_ TRANS | The date/time when the specimen was received at State. |
| Ordering Provider | OBR.16 |  | CN | 60 | T CE\_EVENT\_PRSNL | Components: <ID Number>^<Last Name>^<First Name>^<Middle Initial or Name>^<Suffix>^<Prefix>^ <Degree>^<Source Table>  This field is required for the ordering physician to receive the results in his/her Cerner Message Center inbox. |
| ID Number | OBR.16.1 | Y |  |  |  | Providers NPI number |
| Last Name | OBR.16.2 | Y |  |  |  | Provider last name- |
| First Name | OBR.16.3 | Y |  |  |  | Provider first name or Initial- |
| Placer Field 2 | OBR.19 | R | ST | 60 |  | Internal Accession Number.  Cerner ESI Alias Translation is set on this field; Cerner ESI Order Match is required on Internal Accession Number.  Value present in the message. |
| Results Report / Status Change – Date / Time | OBR.22 | Y | TS | 26 |  | Format: YYYYMMDDHHMM  Most recent date/time for result verification or status change. |
| Results Status | OBR.25 | Y | ID | 01 | CS 8  CS 6003  CS 6004 | Codes for the status of the results at the order level (OBR Order Status):  I = In Progress  P = Preliminary  F = Auth (Verified)  C = Modified (Corrected)  The contributor systems, STATE\_NEWBORN and STATE\_NEWBORN\_PDF, are set up to allow the order status to change to In-Process or Complete when the ORU result message is received. [check on if State sends any results for In Process results] |
| Set ID – OBX (may be multiple segments) | OBX.1 | Y | SI | 10 |  | Starts at 1 and is incremented by 1 for all of the results associated with the OBR segment. |
| Value Type | OBX.2 | Y | ID | 02 | CS 53 | The value type of the result sent in OBX.5:  ST = String  NM = Number  TX = Text  CE = Coded Element  These are valid values with default processing that do not require aliasing on code set 53 (EVENT\_CLASS).  All OBX-2 values with an exception to “ED” are changed to “ST” by the Cerner mod obj script oru\_state\_newborn\_in. |
| Observation Identifier | OBX.3 |  | CE | 80 |  | Result alias |
| Procedure ID | OBX.3.1 | Y | ID |  | T Clinical\_Event  CS 14003  CS 72 | Florida State Department of HealthHealth result item  Since Clinical Event processing is set at the Order Catalog/DTA level, the interface first looks at the aliasing on code set 14003 (Discrete Task Assay Code) to identity the event code. When the alias is not found on code set 14003, then then it returns to the default event code look up on code set 72. |
| Procedure  Description | OBX.3.2 | N |  |  | T Clinical\_Event | Result item name |
| Coding  scheme | OBX.3.3 | N |  |  | T Code\_Value  CS 400 | Florida State Department of Health sends a “LN” in this field. “LN” is aliased on code set 400 on the primary contributor source is STATE\_NEWBORN. |
| Observation Sub-ID | OBX.4 | C | ST | 20 |  | This field is valued sometimes more on the ESI message(s). |
| Observation Value | OBX.5 | Y | R | 64k | T CE\_STRING\_  RESULT  T CE\_BLOB | The actual result for the result item identified in OBX.3. This field varies based on the data type sent in OBX.2 |
| Identifier | OBX.5.1 |  | ST |  |  |  |
| Text | OBX.5.2 |  | ST |  |  |  |
| Name of Coding System | OBX.5.3 |  | ID |  |  | This field contains a value of “SCT” in this field |
| Units | OBX.6 | C | CE | 60 | T CE\_STRING\_  RESULT  CS 54 | This field is populated when applicable. This value is the alias on the primary / alternate contributor source |
| Reference Range | OBX.7 | C | ST | 60 | T Clinical\_Event |  |
| Abnormal Flags | OBX.8 | C | ID | 10 | T Clinical\_Event  CS 52 | This field contains result when applicable. This value is the alias from contributor source STATE\_NEWBORN on code set 52: RES\_INTRP:  A = ABN (Abnormal)  N = NML (Normal) |
| Observation Result Status | OBX.11 | Y | ID | 02 | T Clinical\_Event  CS 8 | Codes for the status of the result item:  I = In Progress  P = Preliminary  F = Auth (Verified)  C = Modified (Corrected) |
| User\_def\_access\_checks | OBX.13 | O | ST | 20 |  | For PDF results, Cerner mod obj script oru\_state\_newborn\_in sets this field to “Newborn Screen.pdf” based on ED value OBX-2 field. |
| Date / Time of Observation | OBX.14 | Y | TS | 26 |  | This field is empty in the result OBX segments that State sent it.. Looks like this field is required. [check with Hope] |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Set ID – NET (may be multiple segments) | NTE.1 | C | SI | 4 |  | Starts at 1 and is incremented by 1 for all of the result comments associated with the OBX segment. The mod obj script will renumber the NTE segments when applicable-   * Converting the patient level (PID NTE) comments to result comments (OBX NTE) following the 1st OBX only. * Adding the Performing Laboratory information following the 1st OBX only.   The mod obj script will put the result comments in the following order when all are present in the ORU message:   * 1st- NTE result comment associated with the OBX segment. * 2nd - Performing Lab location information following the first OBX segment only. * 3rd- Patient Level (PID) comment following the first OBX segment only. |
| Source of Comment | NTE.2 | C | ID | 8 | T CE\_EVENT\_  NOTE  CS 14 | State sends this field with a value of RC. |
| Comment | NTE.3 | C | FT | 64k | T CE\_EVENT\_  NOTE  T LONG\_TEXT  T LONG\_BLOB | 1st- Valued with RC for result comment associated with the OBX segment.  2nd NTE result comment: “Test(s) performed at:”  3rd NTE result comment: Laboratory Name  4th NTE result comment – Laboratory Person Name  5th  NTE result comment – Address  6th NTE – City and State  7th NTE – valued with RC |

Data Type Acronyms:

CE - CODED ENTRY

CM - COMPOSITE

CWE- CODED WITH EXCEPTIONS

CX - EXTENDED COMPOSITE ID WITH CHECK DIGIT

DT - DATE

DTM - DATE/TIME

FT - FORMATTED TEXT DATA

HD - HIERARCHIC DESIGNATOR

ID - CODED VALUE FOR HL7 DEFINED TABLESMSG - MESSAGE TYPE

MSG - MESSAGE TYPE

PT - PROCESSING TYPE

R - WIDE VARIETY OF DATA TYPES

SI - SEQUENCE ID

ST - STRING DATA

TS - TIME STAMP

XAD - EXTENDED ADDRESS

XCN - EXTENDED COMPOSITE ID NUMBER AND NAME FOR PERSONS

XPN - EXTENDED PERSON NAME

XTN - EXTENDED TELECOMMUNICATION NUMBER

## 4.3 Sample Messages

**Sample Message # 1:**

**Inbound Result Message from Florida State Department of HealthHealth (RAW):**

MSH|^~\&|8340|2.16.840.1.114222.4.1.10000||8340|20170308210331-0500||ORU^R01^ORU\_R01|a0c1d18c-2991-487f-8f19-dfc255a5dcb5|P|2.5.1

PID|1||9999999999^^^^^^MR||XXXXXX^XXXXXX^^^^^X||201601011218|F||2106-3^Hispanic^HL70005|102 T PLACE^^MIAMI^FL^33624^USA^^^12127||8133820294|||||9999999999^^^BayCare FIN^FIN NBR^SOARIAN|||~U^Unknown^HL70189|||N||||||N

NK1|1|MORBACH^DAWN|MTH^Mother^HL70063|15812 SEA OATS PLACE^^TAMPA^FL^33624^USA^H^^12127|8133820294||||||||||||||||||||||||||||^^^FL^2.16.840.1.113883.4.3.10^ISO

ORC|RE|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|||||||||3556^GOMES^ANTHONY^^^^^^|||||||||ST JOSEPHS WOMENS HOSPITAL^^^^^^^^^8340|3030 W DR MARTIN L KING BLVD^ATTN: LAB^TAMPA^FL^33607|8139637788||||||

OBR|1|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|54089-8^NB Screen Pnl Patient AHIC^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBR|2|1000000119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|57128-1^Newborn Screening Report summary panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|57721-3^Reason for lab test in Dried Blood Spot^LN||LA12421-6^Initial screen^LN|||N|||F

OBX|2|CE|57718-9^Sample quality of Dried blood spot^LN||LA12432-3^Acceptable^LN^48883003^Specimen satisfactory for interpretation^SCT|||N|||F

OBX|3|CE|57130-7^Newborn screening report - overall interpretation^LN||LA18944-1^Screen is out of range for at least one condition^LN^394416003^Outside reference range^SCT|||N|||F

OBX|4|CE|57131-5^Newborn conditions with positive markers [Identifier] in Dried blood spot^LN||LA12487-7^CUD^LN^21764004^Renal carnitine transport defect^SCT|||N|||F

OBX|5|CE|57720-5^Newborn conditions with equivocal markers [Identifier] in Dried blood spot^LN||LA137-2^None^LN^260413007^None^SCT|||N|||F

OBX|6|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|1|LA12463-8^HEAR^LN^15188001^Hearing loss^SCT|||N|||F

OBX|7|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|2|LA11980-2^Hb F,C^LN^51053007^Hemoglobin C disease^SCT|||N|||F

OBX|8|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|3|LA11981-0^Hb F,C,A^LN^61777009^Thalassemia-hemoglobin C disease^SCT|||N|||F

OBX|9|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|4|LA11982-8^Hb F,D^LN^66729008^Hemoglobin D disease^SCT|||N|||F

OBX|10|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|5|LA11984-4^Hb F Only^LN^365614008^Hemoglobin variant NOS^SCT|||N|||F

OBX|11|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|6|LA11985-1^Hb F,E^LN^25065001^Hemoglobin E disease^SCT|||N|||F

OBX|12|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|7|LA11986-9^Hb F,E,A^LN^234392002^Hemoglobin E/beta thalassemia disease^SCT|||N|||F

OBX|13|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|8|LA11987-7^Hb F,S^LN^127040003^Hb SS disease^SCT|||N|||F

OBX|14|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|9|LA11988-5^Hb F,S,A^LN^127041004^Sickle cell-beta-thalassemia^SCT|||N|||F

OBX|15|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|10|LA11989-3^Hb F,S,C^LN^35434009^Sickle cell-hemoglobin C disease^SCT|||N|||F

OBX|16|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|11|LA11990-1^Hb F,S,D^LN^25472008^Sickle cell-hemoglobin D disease^SCT|||N|||F

OBX|17|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|12|LA11991-9^Hb F,S,E^LN^47024008^Sickle cell-hemoglobin E disease^SCT|||N|||F

OBX|18|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|13|LA12466-1^3-MCC^LN^13144005^Methylcrotonyl-CoA carboxylase deficiency^SCT|||N|||F

OBX|19|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|14|LA12471-1^ASA^LN^41013004^Argininosuccinate lyase deficiency^SCT|||N|||F

OBX|20|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|15|LA12474-5^BKT^LN^237953006^Mitochondrial 2-methylacetoacetyl-CoA thiolase deficiency - potassium stimulated^SCT|||N|||F

OBX|21|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|16|LA12485-1^CPT-Ia^LN^238001003^Carnitine palmitoyltransferase I deficiency^SCT|||N|||F

OBX|22|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|17|LA12486-9^CPT-II^LN^238002005^Carnitine palmitoyltransferase II deficiency^SCT|||N|||F

OBX|23|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|18|LA12487-7^CUD^LN^21764004^Renal carnitine transport defect^SCT|||N|||F

OBX|24|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|19|LA12493-5^GA-1^LN^76175005^Glutaric aciduria, type 1^SCT|||N|||F

OBX|25|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|20|LA12495-0^GA-2^LN^22886006^Glutaric aciduria, type 2^SCT|||N|||F

OBX|26|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|21|LA12496-8^HCY^LN^11282001^Homocystinuria^SCT|||N|||F

OBX|27|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|22|LA12499-2^HMG^LN^410059004^Hydroxymethylglutaric aciduria^SCT|||N|||F

OBX|28|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|23|LA12505-6^IVA^LN^87827003^Isovaleryl-CoA dehydrogenase deficiency^SCT|||N|||F

OBX|29|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|24|LA12509-8^MCAD^LN^128596003^Medium-chain acyl-coenzyme A dehydrogenase deficiency^SCT|||N|||F

OBX|30|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|25|LA12510-6^MCD^LN^360369003^Holocarboxylase synthase deficiency^SCT|||N|||F

OBX|31|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|26|LA12513-0^MSUD^LN^27718001^Maple syrup urine disease^SCT|||N|||F

OBX|32|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|27|LA12515-5^MUT^LN^124680001^Deficiency of methylmalonyl-CoA mutase^SCT|||N|||F

OBX|33|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|28|LA12520-5^PKU^LN^7573000^Classical phenylketonuria^SCT|||N|||F

OBX|34|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|29|LA12524-7^SCAD^LN^124166007^Deficiency of butyryl-CoA dehydrogenase^SCT|||N|||F

OBX|35|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|30|LA12528-8^TYR-1^LN^410056006^Tyrosinemia type I^SCT|||N|||F

OBX|36|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|31|LA12529-6^TYR-II^LN^4887000^Hypertyrosinemia, Richner-Hanhart type^SCT|||N|||F

OBX|37|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|32|LA12531-2^VLCAD^LN^237997005^Very long chain acyl-CoA dehydrogenase deficiency^SCT|||N|||F

OBX|38|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|33|LA12532-0^BIO^LN^8808004^Biotinidase deficiency^SCT|||N|||F

OBX|39|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|34|LA12533-8^CAH^LN^124214007^Deficiency of steroid 11-beta-monooxygenase^SCT|||N|||F

OBX|40|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|35|LA12537-9^CF^LN^190905008^Cystic fibrosis^SCT|||N|||F

OBX|41|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|36|LA12538-7^CH^LN^190268003^Congenital hypothyroidism^SCT|||N|||F

OBX|42|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|37|LA12543-7^GALT^LN^398664009^Deficiency of UTP-hexose-1-phosphate uridylyltransferase^SCT|||N|||F

OBX|43|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|38|LA12566-8^SCID^LN^31323000^Severe combined immunodeficiency disease^SCT|||N|||F

OBX|44|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|39|LA12607-0^Hb C-disease^LN^51053007^Hemoglobin C disease^SCT|||N|||F

OBX|45|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|40|LA12609-6^Hb D-disease^LN^66729008^Hemoglobin D disease^SCT|||N|||F

OBX|46|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|41|LA12610-4^Hb D beta-thalassemia^LN^47047009^Thalassemia with other hemoglobinopathy^SCT|||N|||F

OBX|47|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|42|LA12612-0^Hb E-disease^LN^25065001^Hemoglobin E disease^SCT|||N|||F

OBX|48|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|43|LA12614-6^Hb SS-disease (sickle cell anemia)^LN^127040003^Hb SS disease^SCT|||N|||F

OBX|49|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|44|LA12615-3^Hb S beta-thalassemia^LN^127041004^Sickle cell-beta-thalassemia^SCT|||N|||F

OBX|50|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|45|LA12616-1^Hb SC-disease^LN^35434009^Sickle cell-hemoglobin C disease^SCT|||N|||F

OBX|51|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|46|LA12618-7^Hb SE-disease^LN^47024008^Sickle cell-hemoglobin E disease^SCT|||N|||F

OBX|52|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|47|LA12968-6^Hb F,A, C and other than D, E, S, O-Arab^LN^76050008^Hemoglobin C trait^SCT|||N|||F

OBX|53|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|48|LA12970-2^Hb F,A, D and other than C, E, S, O-Arab^LN^7391009^Hemoglobin D trait^SCT|||N|||F

OBX|54|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|49|LA12971-0^Hb F,A, E and other than C,D, S, O-Arab^LN^46248003^Hemoglobin E trait^SCT|||N|||F

OBX|55|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|50|LA12972-8^Hb F,A, S and other than C,D, E, O-Arab^LN^16402000^Hemoglobin S trait^SCT|||N|||F

OBX|56|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|51|LA12974-4^Hb Barts, F, A^LN^252291001^Hemoglobin Barts identification^SCT|||N|||F

OBX|57|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|52|LA12977-7^Hb F,A,C, Barts^LN^76050008^Hemoglobin C trait^SCT|||N|||F

OBX|58|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|53|LA12979-3^Hb F,A,E, Barts^LN^46248003^Hemoglobin E trait^SCT|||N|||F

OBX|59|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|54|LA12981-9^Hb F,A,S, Barts^LN^16402000^Hemoglobin S trait^SCT|||N|||F

OBX|60|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|55|LA12994-2^Hb F, and other than A,C,D,E,O-Arab,S plus Barts^LN^^^SCT|||N|||F

OBX|61|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|56|LA12995-9^Hb F,A and other than C,D, E, S, O-Arab plus Barts^LN^252291001^Hemoglobin Barts identification^SCT|||N|||F

OBX|62|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|57|LA13017-1^Hb F,E,Barts^LN^47047009^Thalassemia with other hemoglobinopathy^SCT|||N|||F

OBX|63|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|58|LA13018-9^Hb F,S,Barts^LN^127045008^Sickle cell anemia with coexistent alpha-thalassemia^SCT|||N|||F

OBX|64|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|59|LA13019-7^Hb F,S,C,Barts^LN^^^SCT|||N|||F

OBX|65|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|60|LA11976-0^Hb F,A,C^LN^76050008^Hemoglobin C trait^SCT|||N|||F

OBX|66|CE|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|61|LA11979-4^Hb F,A,S^LN^16402000^Sickle cell trait^SCT|||N|||F

OBR|3|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|57717-1^Newborn screen card data panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|ST|57716-3^State printed on filter paper card [Identifier] in NBS card^LN||FL|||N|||F

OBX|2|NM|8339-4^Birth weight Measured^LN||3330|g||N|||F

OBX|3|NM|58229-6^Body weight Measured --when specimen taken^LN||3070|g||N|||F

OBX|4|TM|57715-5^Birth time^LN||1218|||N|||F

OBX|5|CE|57722-1^Birth plurality of Pregnancy^LN||LA12411-7^Singleton^LN^315991004^Singelton^SCT|||N|||F

OBX|6|NM|57714-8^Obstetric estimation of gestational age^LN||39|||N|||F

OBX|7|CE|67704-7^Feeding types^LN||LA46-8^Other^LN|||N|||F

OBX|8|TX|67705-4^Other Feeding Types^LN||Oral|||N|||F

OBX|9|CE|57713-0^Infant NICU factors that affect newborn screening interpretation^LN||LA137-2^None^LN^260413007^None^SCT|||N|||F

OBX|10|CE|58232-0^Hearing loss risk indicators [Identifier]^LN||LA4489-6^Unknown^LN^261665006^Unknown^SCT|||N|||F

OBX|11|ST|57723-9^Unique bar code number of Current sample^LN||0006408564|||N|||F

OBX|12|ST|57711-4^Unique bar code number of Initial sample^LN|||||N|||F

OBX|13|TX|62324-9^Post-discharge provider name in Provider^LN||Anthony Gomes|||N|||F

OBX|14|TX|62325-6^Post-discharge provider practice ID^LN|||||N|||F

OBX|15|TX|62326-4^Post-discharge provider practice name^LN||St. Joseph's Women's Hospital|||N|||F

OBX|16|TX|62327-2^Post-discharge provider practice address^LN|1|10330 N Dale Maybry Hwy Suite 190, , Tampa, FL 33618|||N|||F

OBX|17|TX|62327-2^Post-discharge provider practice address^LN|2|ATTN: LAB|||N|||F

OBX|18|TN|62328-0^Post-discharge provider practice telephone number in Provider^LN||8139637788|8139637788||N|||F

OBX|19|TX|62329-8^Birth hospital facility ID [Identifier] in Facility^LN|||||N|||F

OBX|20|TX|62330-6^Birth hospital facility name^LN||ST JOSEPHS WOMENS HOSPITAL|||N|||F

OBX|21|TX|62331-4^Birth hospital facility address^LN|||||N|||F

OBX|22|TN|62332-2^Birth hospital facility phone number in Facility^LN|||||N|||F

OBR|4|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|57794-0^Newborn screening test results panel in Dried blood spot^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBR|5|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|53261-4^Amino acid newborn screen panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|46733-2^Amino acidemias newborn screen interpretation^LN||LA18592-8^In range^LN^281301001^Within reference range^SCT|||N|||F

OBR|6|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|57084-6^Fatty acid oxidation newborn screen panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|46736-5^Fatty acid oxidation defects newborn screen interpretation^LN||LA18593-6^Out of range^LN^394416003^Outside reference range^SCT|||A|||F

OBX|2|CE|57792-4^Fatty acid oxidation conditions suspected [Identifier] in Dried blood spot^LN||LA12487-7^CUD^LN^21764004^Renal carnitine transport defect^SCT|||A|||F

OBX|3|NM|38481-8^Carnitine free (C0) [Moles/volume] in Dried blood spot^LN||5.4|ÂµM|>= 6 ÂµM and < 90 ÂµM|A|||F

OBX|4|TX|57709-8^Fatty acid oxidation defects newborn screening comment-discussion^LN||A REPEAT dried blood specimen should be properly collected and resubmitted to the Newborn Screening Program Laboratory in Jacksonville immediately.|||A|||F

OBX|5|TX|57709-8^Fatty acid oxidation defects newborn screening comment-discussion^LN||This infant may be at risk for an inborn error of metabolism. Another specimen is required.|||A|||F

OBX|6|NM|50157-7^Acetylcarnitine (C2) [Moles/volume] in Dried blood spot^LN||9.0|ÂµM|>= 4 ÂµM|A|||F

OBX|7|NM|53160-8^Propionylcarnitine (C3) [Moles/volume] in Dried blood spot^LN||0.53|ÂµM|< 7 ÂµM|A|||F

OBX|8|NM|53199-6^Palmitoylcarnitine (C16) [Moles/volume] in Dried blood spot^LN||1.59|ÂµM|>=0.35 ÂµM and <= 8.5 ÂµM|A|||F

OBX|9|NM|53241-6^Stearoylcarnitine (C18) [Moles/volume] in Dried blood spot^LN||0.46|ÂµM|>= 0.2 ÂµM and <= 2.85 ÂµM|A|||F

OBX|10|NM|53202-8^Oleoylcarnitine (C18:1) [Moles/volume] in Dried blood spot^LN||0.54|ÂµM|>= 0.2 ÂµM and < 3.0 ÂµM|A|||F

OBX|11|NM|53161-6^Propionylcarnitine (C3)/Methionine [Molar ratio] in Dried blood spot^LN||0.03||< 0.4|A|||F

OBX|12|CE|FL-NBS-009^All Others^L||LA18592-8^In range^LN^281301001^Within reference range^SCT|||N|||F

OBR|7|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|57085-3^Organic acid newborn screen panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|46744-9^Organic acidemias newborn screen interpretation^LN||LA18592-8^In range^LN^281301001^Within reference range^SCT|||N|||F

OBR|8|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|57086-1^Congenital adrenal hyperplasia newborn screening panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|46758-9^Congenital adrenal hyperplasia newborn screen interpretation^LN||LA18592-8^In range^LN^281301001^Within reference range^SCT|||N|||F

OBR|9|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|54090-6^Thyroid newborn screening panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|46762-1^Congenital hypothyroidism newborn screen interpretation^LN||LA18592-8^In range^LN^281301001^Within reference range^SCT|||N|||F

OBR|10|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|54079-9^Galactosemia newborn screening panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|46737-3^Galactosemias newborn screen interpretation^LN||LA18592-8^In range^LN^281301001^Within reference range^SCT|||N|||F

OBR|11|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|57087-9^Biotinidase newborn screening panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|46761-3^Biotinidase deficiency newborn screen interpretation^LN||LA18592-8^In range^LN^281301001^Within reference range^SCT|||N|||F

OBR|12|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|54081-5^Hemoglobinopathies newborn screening panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|46740-7^Hemoglobin disorders newborn screen interpretation^LN||LA11995-0^Normal hemoglobins^LN^17621005^Normal^SCT|||N|||F

OBR|13|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|54078-1^Cystic fibrosis newborn screening panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|46769-6^Cystic fibrosis newborn screen interpretation^LN||LA18592-8^In range^LN^281301001^Within reference range^SCT|||N|||F

OBR|14|10708259119^HNAM\_ORDERID|170306SF0637^ISO^2.16.840.1.114222.4.3.3.8.1.5|62333-0^Severe combined immunodeficiency (SCID) newborn screening panel^LN|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY^^^^^^|||000002017061016129|||201703080000|||||||

OBX|1|CE|62321-5^Severe combined immunodeficiency newborn screen interpretation^LN||LA18592-8^In range^LN^281301001^Within reference range^SCT|||N|||F

OBX|999|ED|NBS PDF Report^^||^APPLICATION^PDF^BASE64^||||||F

NTE|1|RC|

NTE|2|RC|Test(s) performed at:

NTE|3|RC|PerkinElmer Specimen Gate LIMS located at the Florida Dept of Heath - Bureau of Labs

NTE|4|RC|Susanne Crowe, MHA

NTE|5|RC|1217 N. Pearl Street

NTE|6|RC|Jacksonville, FL 32202

NTE|7|RC|

**Discrete results from ORU\_REFLAB\_PATH\_ESI**

MSH|^~\&|STATE\_NEWBORN|6000||RLI|20170308210331-0500||ORU^R01|a0c1d18c-2991-487f-8f19-dfc255a5dcb5|P|2.3

PID|1||9999999999^^^BayCare MRN||XXXXX^XXXXX^^^^^L||201703011218|F||2106-3^White^HL70005|12 SEA PLACE^^TAMPA^FL^33624^USA^^^12127||8133820294|||||9999999999^^^BayCare FIN^FIN NBR^SOARIAN|||~U^Unknown^HL70189|||N||||||N

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OBR|1|10708259119|170306SF0637|54089-8|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY|||000002017061016129|||201703080000|||F

OBX|1|ST|57721-3^Reason for lab test in Dried Blood Spot^LN|1|Initial screen^Initial screen^LN|||N|||F

OBX|2|ST|57718-9^Sample quality of Dried blood spot^LN|2|Specimen satisfactory for interpretation^Acceptable^LN^48883003^Specimen satisfactory for interpretation^SCT|||N|||F

OBX|3|ST|57130-7^Newborn screening report - overall interpretation^LN|3|Outside reference range^Screen is out of range for at least one condition^LN^394416003^Outside reference range^SCT|||N|||F

OBX|4|ST|57131-5^Newborn conditions with positive markers [Identifier] in Dried blood spot^LN|4|Renal carnitine transport defect^CUD^LN^21764004^Renal carnitine transport defect^SCT|||N|||F

OBX|5|ST|57720-5^Newborn conditions with equivocal markers [Identifier] in Dried blood spot^LN|5|None^None^LN^260413007^None^SCT|||N|||F

OBX|6|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|6|Hearing loss^HEAR^LN^15188001^Hearing loss^SCT|||N|||F

OBX|7|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|7|Hemoglobin C disease^Hb F,C^LN^51053007^Hemoglobin C disease^SCT|||N|||F

OBX|8|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|8|Thalassemia-hemoglobin C disease^Hb F,C,A^LN^61777009^Thalassemia-hemoglobin C disease^SCT|||N|||F

OBX|9|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|9|Hemoglobin D disease^Hb F,D^LN^66729008^Hemoglobin D disease^SCT|||N|||F

OBX|10|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|10|Hemoglobin variant NOS^Hb F Only^LN^365614008^Hemoglobin variant NOS^SCT|||N|||F

OBX|11|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|11|Hemoglobin E disease^Hb F,E^LN^25065001^Hemoglobin E disease^SCT|||N|||F

OBX|12|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|12|Hemoglobin E/beta thalassemia disease^Hb F,E,A^LN^234392002^Hemoglobin E/beta thalassemia disease^SCT|||N|||F

OBX|13|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|13|Hb SS disease^Hb F,S^LN^127040003^Hb SS disease^SCT|||N|||F

OBX|14|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|14|Sickle cell-beta-thalassemia^Hb F,S,A^LN^127041004^Sickle cell-beta-thalassemia^SCT|||N|||F

OBX|15|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|15|Sickle cell-hemoglobin C disease^Hb F,S,C^LN^35434009^Sickle cell-hemoglobin C disease^SCT|||N|||F

OBX|16|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|16|Sickle cell-hemoglobin D disease^Hb F,S,D^LN^25472008^Sickle cell-hemoglobin D disease^SCT|||N|||F

OBX|17|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|17|Sickle cell-hemoglobin E disease^Hb F,S,E^LN^47024008^Sickle cell-hemoglobin E disease^SCT|||N|||F

OBX|18|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|18|Methylcrotonyl-CoA carboxylase deficiency^3-MCC^LN^13144005^Methylcrotonyl-CoA carboxylase deficiency^SCT|||N|||F

OBX|19|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|19|Argininosuccinate lyase deficiency^ASA^LN^41013004^Argininosuccinate lyase deficiency^SCT|||N|||F

OBX|20|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|20|Mitochondrial 2-methylacetoacetyl-CoA thiolase deficiency - potassium stimulated^BKT^LN^237953006^Mitochondrial 2-methylacetoacetyl-CoA thiolase deficiency - potassium stimulated^SCT|||N|||F

OBX|21|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|21|Carnitine palmitoyltransferase I deficiency^CPT-Ia^LN^238001003^Carnitine palmitoyltransferase I deficiency^SCT|||N|||F

OBX|22|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|22|Carnitine palmitoyltransferase II deficiency^CPT-II^LN^238002005^Carnitine palmitoyltransferase II deficiency^SCT|||N|||F

OBX|23|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|23|Renal carnitine transport defect^CUD^LN^21764004^Renal carnitine transport defect^SCT|||N|||F

OBX|24|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|24|Glutaric aciduria, type 1^GA-1^LN^76175005^Glutaric aciduria, type 1^SCT|||N|||F

OBX|25|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|25|Glutaric aciduria, type 2^GA-2^LN^22886006^Glutaric aciduria, type 2^SCT|||N|||F

OBX|26|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|26|Homocystinuria^HCY^LN^11282001^Homocystinuria^SCT|||N|||F

OBX|27|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|27|Hydroxymethylglutaric aciduria^HMG^LN^410059004^Hydroxymethylglutaric aciduria^SCT|||N|||F

OBX|28|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|28|Isovaleryl-CoA dehydrogenase deficiency^IVA^LN^87827003^Isovaleryl-CoA dehydrogenase deficiency^SCT|||N|||F

OBX|29|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|29|Medium-chain acyl-coenzyme A dehydrogenase deficiency^MCAD^LN^128596003^Medium-chain acyl-coenzyme A dehydrogenase deficiency^SCT|||N|||F

OBX|30|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|30|Holocarboxylase synthase deficiency^MCD^LN^360369003^Holocarboxylase synthase deficiency^SCT|||N|||F

OBX|31|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|31|Maple syrup urine disease^MSUD^LN^27718001^Maple syrup urine disease^SCT|||N|||F

OBX|32|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|32|Deficiency of methylmalonyl-CoA mutase^MUT^LN^124680001^Deficiency of methylmalonyl-CoA mutase^SCT|||N|||F

OBX|33|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|33|Classical phenylketonuria^PKU^LN^7573000^Classical phenylketonuria^SCT|||N|||F

OBX|34|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|34|Deficiency of butyryl-CoA dehydrogenase^SCAD^LN^124166007^Deficiency of butyryl-CoA dehydrogenase^SCT|||N|||F

OBX|35|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|35|Tyrosinemia type I^TYR-1^LN^410056006^Tyrosinemia type I^SCT|||N|||F

OBX|36|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|36|Hypertyrosinemia, Richner-Hanhart type^TYR-II^LN^4887000^Hypertyrosinemia, Richner-Hanhart type^SCT|||N|||F

OBX|37|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|37|Very long chain acyl-CoA dehydrogenase deficiency^VLCAD^LN^237997005^Very long chain acyl-CoA dehydrogenase deficiency^SCT|||N|||F

OBX|38|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|38|Biotinidase deficiency^BIO^LN^8808004^Biotinidase deficiency^SCT|||N|||F

OBX|39|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|39|Deficiency of steroid 11-beta-monooxygenase^CAH^LN^124214007^Deficiency of steroid 11-beta-monooxygenase^SCT|||N|||F

OBX|40|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|40|Cystic fibrosis^CF^LN^190905008^Cystic fibrosis^SCT|||N|||F

OBX|41|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|41|Congenital hypothyroidism^CH^LN^190268003^Congenital hypothyroidism^SCT|||N|||F

OBX|42|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|42|Deficiency of UTP-hexose-1-phosphate uridylyltransferase^GALT^LN^398664009^Deficiency of UTP-hexose-1-phosphate uridylyltransferase^SCT|||N|||F

OBX|43|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|43|Severe combined immunodeficiency disease^SCID^LN^31323000^Severe combined immunodeficiency disease^SCT|||N|||F

OBX|44|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|44|Hemoglobin C disease^Hb C-disease^LN^51053007^Hemoglobin C disease^SCT|||N|||F

OBX|45|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|45|Hemoglobin D disease^Hb D-disease^LN^66729008^Hemoglobin D disease^SCT|||N|||F

OBX|46|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|46|Thalassemia with other hemoglobinopathy^Hb D beta-thalassemia^LN^47047009^Thalassemia with other hemoglobinopathy^SCT|||N|||F

OBX|47|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|47|Hemoglobin E disease^Hb E-disease^LN^25065001^Hemoglobin E disease^SCT|||N|||F

OBX|48|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|48|Hb SS disease^Hb SS-disease (sickle cell anemia)^LN^127040003^Hb SS disease^SCT|||N|||F

OBX|49|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|49|Sickle cell-beta-thalassemia^Hb S beta-thalassemia^LN^127041004^Sickle cell-beta-thalassemia^SCT|||N|||F

OBX|50|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|50|Sickle cell-hemoglobin C disease^Hb SC-disease^LN^35434009^Sickle cell-hemoglobin C disease^SCT|||N|||F

OBX|51|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|51|Sickle cell-hemoglobin E disease^Hb SE-disease^LN^47024008^Sickle cell-hemoglobin E disease^SCT|||N|||F

OBX|52|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|52|Hemoglobin C trait^Hb F,A, C and other than D, E, S, O-Arab^LN^76050008^Hemoglobin C trait^SCT|||N|||F

OBX|53|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|53|Hemoglobin D trait^Hb F,A, D and other than C, E, S, O-Arab^LN^7391009^Hemoglobin D trait^SCT|||N|||F

OBX|54|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|54|Hemoglobin E trait^Hb F,A, E and other than C,D, S, O-Arab^LN^46248003^Hemoglobin E trait^SCT|||N|||F

OBX|55|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|55|Hemoglobin S trait^Hb F,A, S and other than C,D, E, O-Arab^LN^16402000^Hemoglobin S trait^SCT|||N|||F

OBX|56|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|56|Hemoglobin Barts identification^Hb Barts, F, A^LN^252291001^Hemoglobin Barts identification^SCT|||N|||F

OBX|57|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|57|Hemoglobin C trait^Hb F,A,C, Barts^LN^76050008^Hemoglobin C trait^SCT|||N|||F

OBX|58|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|58|Hemoglobin E trait^Hb F,A,E, Barts^LN^46248003^Hemoglobin E trait^SCT|||N|||F

OBX|59|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|59|Hemoglobin S trait^Hb F,A,S, Barts^LN^16402000^Hemoglobin S trait^SCT|||N|||F

OBX|60|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|60|Hb F, and other than A,C,D,E,O-Arab,S plus Barts^Hb F, and other than A,C,D,E,O-Arab,S plus Barts^LN^^Hb F, and other than A,C,D,E,O-Arab,S plus Barts^SCT|||N|||F

OBX|61|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|61|Hemoglobin Barts identification^Hb F,A and other than C,D, E, S, O-Arab plus Barts^LN^252291001^Hemoglobin Barts identification^SCT|||N|||F

OBX|62|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|62|Thalassemia with other hemoglobinopathy^Hb F,E,Barts^LN^47047009^Thalassemia with other hemoglobinopathy^SCT|||N|||F

OBX|63|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|63|Sickle cell anemia with coexistent alpha-thalassemia^Hb F,S,Barts^LN^127045008^Sickle cell anemia with coexistent alpha-thalassemia^SCT|||N|||F

OBX|64|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|64|Hb F,S,C,Barts^Hb F,S,C,Barts^LN^^Hb F,S,C,Barts^SCT|||N|||F

OBX|65|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|65|Hemoglobin C trait^Hb F,A,C^LN^76050008^Hemoglobin C trait^SCT|||N|||F

OBX|66|ST|57719-7^Conditions tested for in this newborn screening study [Identifier] in Dried blood spot^LN|66|Sickle cell trait^Hb F,A,S^LN^16402000^Sickle cell trait^SCT|||N|||F

OBX|67|ST|57716-3^State printed on filter paper card [Identifier] in NBS card^LN|67|FL|||N|||F

OBX|68|ST|8339-4^Birth weight Measured^LN|68|3330|g||N|||F

OBX|69|ST|58229-6^Body weight Measured --when specimen taken^LN|69|3070|g||N|||F

OBX|70|ST|57715-5^Birth time^LN|70|1218|||N|||F

OBX|71|ST|57722-1^Birth plurality of Pregnancy^LN|71|Singelton^Singleton^LN^315991004^Singelton^SCT|||N|||F

OBX|72|ST|57714-8^Obstetric estimation of gestational age^LN|72|39|||N|||F

OBX|73|ST|67704-7^Feeding types^LN|73|Other^Other^LN|||N|||F

OBX|74|ST|67705-4^Other Feeding Types^LN|74|Oral|||N|||F

OBX|75|ST|57713-0^Infant NICU factors that affect newborn screening interpretation^LN|75|None^None^LN^260413007^None^SCT|||N|||F

OBX|76|ST|58232-0^Hearing loss risk indicators [Identifier]^LN|76|Unknown^Unknown^LN^261665006^Unknown^SCT|||N|||F

OBX|77|ST|57723-9^Unique bar code number of Current sample^LN|77|0006408564|||N|||F

OBX|78|ST|57711-4^Unique bar code number of Initial sample^LN|78|None|||N|||F

OBX|79|ST|62324-9^Post-discharge provider name in Provider^LN|79|Anthony Gomes|||N|||F

OBX|80|ST|62325-6^Post-discharge provider practice ID^LN|80|None|||N|||F

OBX|81|ST|62326-4^Post-discharge provider practice name^LN|81|St. Joseph's Women's Hospital|||N|||F

OBX|82|ST|62327-2^Post-discharge provider practice address^LN|82|10330 N Dale Maybry Hwy Suite 190, , Tampa, FL 33618|||N|||F

OBX|83|ST|62327-2^Post-discharge provider practice address^LN|83|ATTN: LAB|||N|||F

OBX|84|ST|62328-0^Post-discharge provider practice telephone number in Provider^LN|84|8139637788|8139637788||N|||F

OBX|85|ST|62329-8^Birth hospital facility ID [Identifier] in Facility^LN|85|None|||N|||F

OBX|86|ST|62330-6^Birth hospital facility name^LN|86|ST JOSEPHS WOMENS HOSPITAL|||N|||F

OBX|87|ST|62331-4^Birth hospital facility address^LN|87|None|||N|||F

OBX|88|ST|62332-2^Birth hospital facility phone number in Facility^LN|88|None|||N|||F

OBX|89|ST|46733-2^Amino acidemias newborn screen interpretation^LN|89|Within reference range^In range^LN^281301001^Within reference range^SCT|||N|||F

OBX|90|ST|46736-5^Fatty acid oxidation defects newborn screen interpretation^LN|90|Outside reference range^Out of range^LN^394416003^Outside reference range^SCT|||A|||F

OBX|91|ST|57792-4^Fatty acid oxidation conditions suspected [Identifier] in Dried blood spot^LN|91|Renal carnitine transport defect^CUD^LN^21764004^Renal carnitine transport defect^SCT|||A|||F

OBX|92|ST|38481-8^Carnitine free (C0) [Moles/volume] in Dried blood spot^LN|92|5.4|ÂµM|>= 6 ÂµM and < 90 ÂµM|A|||F

OBX|93|ST|57709-8^Fatty acid oxidation defects newborn screening comment-discussion^LN|93|A REPEAT dried blood specimen should be properly collected and resubmitted to the Newborn Screening Program Laboratory in Jacksonville immediately.|||A|||F

OBX|94|ST|57709-8^Fatty acid oxidation defects newborn screening comment-discussion^LN|94|This infant may be at risk for an inborn error of metabolism. Another specimen is required.|||A|||F

OBX|95|ST|50157-7^Acetylcarnitine (C2) [Moles/volume] in Dried blood spot^LN|95|9.0|ÂµM|>= 4 ÂµM|A|||F

OBX|96|ST|53160-8^Propionylcarnitine (C3) [Moles/volume] in Dried blood spot^LN|96|0.53|ÂµM|< 7 ÂµM|A|||F

OBX|97|ST|53199-6^Palmitoylcarnitine (C16) [Moles/volume] in Dried blood spot^LN|97|1.59|ÂµM|>=0.35 ÂµM and <= 8.5 ÂµM|A|||F

OBX|98|ST|53241-6^Stearoylcarnitine (C18) [Moles/volume] in Dried blood spot^LN|98|0.46|ÂµM|>= 0.2 ÂµM and <= 2.85 ÂµM|A|||F

OBX|99|ST|53202-8^Oleoylcarnitine (C18:1) [Moles/volume] in Dried blood spot^LN|99|0.54|ÂµM|>= 0.2 ÂµM and < 3.0 ÂµM|A|||F

OBX|100|ST|53161-6^Propionylcarnitine (C3)/Methionine [Molar ratio] in Dried blood spot^LN|100|0.03||< 0.4|A|||F

OBX|101|ST|FL-NBS-009^All Others^L|101|Within reference range^In range^LN^281301001^Within reference range^SCT|||N|||F

OBX|102|ST|46744-9^Organic acidemias newborn screen interpretation^LN|102|Within reference range^In range^LN^281301001^Within reference range^SCT|||N|||F

OBX|103|ST|46758-9^Congenital adrenal hyperplasia newborn screen interpretation^LN|103|Within reference range^In range^LN^281301001^Within reference range^SCT|||N|||F

OBX|104|ST|46762-1^Congenital hypothyroidism newborn screen interpretation^LN|104|Within reference range^In range^LN^281301001^Within reference range^SCT|||N|||F

OBX|105|ST|46737-3^Galactosemias newborn screen interpretation^LN|105|Within reference range^In range^LN^281301001^Within reference range^SCT|||N|||F

OBX|106|ST|46761-3^Biotinidase deficiency newborn screen interpretation^LN|106|Within reference range^In range^LN^281301001^Within reference range^SCT|||N|||F

OBX|107|ST|46740-7^Hemoglobin disorders newborn screen interpretation^LN|107|Normal^Normal hemoglobins^LN^17621005^Normal^SCT|||N|||F

OBX|108|ST|46769-6^Cystic fibrosis newborn screen interpretation^LN|108|Within reference range^In range^LN^281301001^Within reference range^SCT|||N|||F

OBX|109|ST|62321-5^Severe combined immunodeficiency newborn screen interpretation^LN|109|Within reference range^In range^LN^281301001^Within reference range^SCT|||N|||F

**PDF from ORU\_REFLAB\_PDF\_ESI**

MSH|^~\&|STATE\_NEWBORN\_PDF|6000|POSTIMAGE||20170308210331-0500||ORU^R01|a0c1d18c-2991-487f-8f19-dfc255a5dcb5|P|2.3

PID|1||9999999999^^^BayCare MRN||XXXXXXX^XXXXXX^^^^^L||201703011218|M||2106-3^White^HL70005|15812 SEA OATS PLACE^^TAMPA^FL^33624^USA^^^12127||8133820294|||||9999999999^^^BayCare FIN^FIN NBR^SOARIAN|||~U^Unknown^HL70189|||N||||||N

ORC|RE

OBR|1|10708259119|170306SF0637|54089-8|||201703021339|||Dawson Lila||||201703060000||3556^GOMES^ANTHONY|||000002017061016129|||201703080000|||F

OBX|1|ED|NBS PDF Report|1|None^APPLICATION^PDF^BASE64^JVBERi0xLjMNCjEgMCBvYmoNClsv……. =||||||F||Newborn Screen.pdf|201703021339

**Custom acknowledgement message from Cloverleaf to HUB:**

MSH|^~\&|2.16.840.1.114222.4.1.217621|2.16.840.1.114222.4.1.217621|BAYCARE|2.16.840.1.114222.4.1.10000|20170516210445-0400||ACK|fb918fef-ab13-4fbe-b80f-555651ddd179|P|2.5.1

MSA|AA|fb918fef-ab13-4fbe-b80f-555651ddd179

# 5. Alerts

Are you going to need alerting on this connection?

|  |  |
| --- | --- |
| Yes | ☐ |
| No | X |

# Appendix A: Risks and Concerns

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Project: Newborn Screening Results Inbound Interface** |  | | |  |  | |  | |  | |
| **Number** | **Risk / Concern** |  | **Mitigation** | | | |  | |  | |  | |
| RC.2017.3.1  RC.2017.3.2 | Florida State Department of Health do not have any TEST environment to perform any testing. The result messages were manually manipulated to produce the result message.  The Cerner RLN Hub does not use FIFO (i.e., first in, first out).  Instead, they require Multi-Thread for their interface connections.  This raised concerns about partial and preliminary result messages being received after the final result message or a correction message being received prior to the result message needing the correction. This was discussed and the chances of an older result posting over the most recent result on Cerner is very low. Cerner will fail a Partial or Prelim result message received after the final result message because the observation dates/times are earlier than the observation dates/times on the Final results already posted in the Cerner database.  The same is true with a correction messages, Cerner will not allow a result with an earlier observation date/time to overwrite a result already posted with a later observation date/time. |  | | Parallel testing in Production took place with the implementation since State has no test environment. | |  | |  | |  | |

# Appendix B: Issues List

**Project: Newborn Screening Results Inbound Interface**

| Issue  # | Issue | Cause/Assigned To | Resolution/Date Resolved | Comments |
| --- | --- | --- | --- | --- |
| 1 | ESI Failure Error: Failed to construct Child Clinical Event structure in ESiGenEvent::process | Result Items (Event Codes) have not been aliased | Pathnet shall find the result item(s) in the ORU result message that are not aliased on code set 200 OR 72/14003 and alias on the STATE\_NEWBORN source with Newborn codes. When aliasing is completed, ask FSI to cycle Cerner servers and State to resend.  Date Resolved: This will be an on-going issue. |  |
| 2 | Lab enquiry to Integration team on “Results are missing for from 09/30/17”. When researched came to know some results are coming. However, results are missing for Morton Plant, Winder Haven and South FLA Baptist hospitals. | State had an internal issue on their side which reverted some of the hospital names to an older version which caused the issue. | State updated their channels with the names as they appear SC.  All result messages from 10/01/17 onwards have been re-played by State. Lab has manually adjusted anything outstanding with collection dates from September. | Replay by State will fill in the missing results and it should not cause a problem with results that have been verified.  The order would have been completed and won’t cause duplicate results. |
| 3 | 09/01/18 – Footprints ticket 560077  Newborn Metabolic Screening PDF result printing in Chart XR templates across ECD's | PDF result did not have any encounter ID associated to it even though message has FIN. As a result, it was set at person level. | BayCare Cerner FSI changed the Alias Trans & Ensure Rules for Encounter Match on the STATE\_NEWBORN\_PDF contributor system to post the encounter id on the PDF result from State to resolve the issue with printing the Newborn PDF report at the encounter level. | FSI validated with Lab and HIM that results posting fine after the fix. |
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* End of document