

---

*North Carolina Local Implementation  
HL7 2.5.1 Immunization Messaging Guide for  
QBP & RSP Transfer Specifications*

---

Version 9.6.2  
08/02/2016

---

This document is the NCIR local Implementation Guide released for the purpose of pilot end-to-end testing. We expect to release the next version of this once the pilot phase is complete.

Note to reviewer: Please review the entire document and send all your questions related to QBP/RSP at one time. This allows NCIR to efficiently address issues during your developer and BA review.

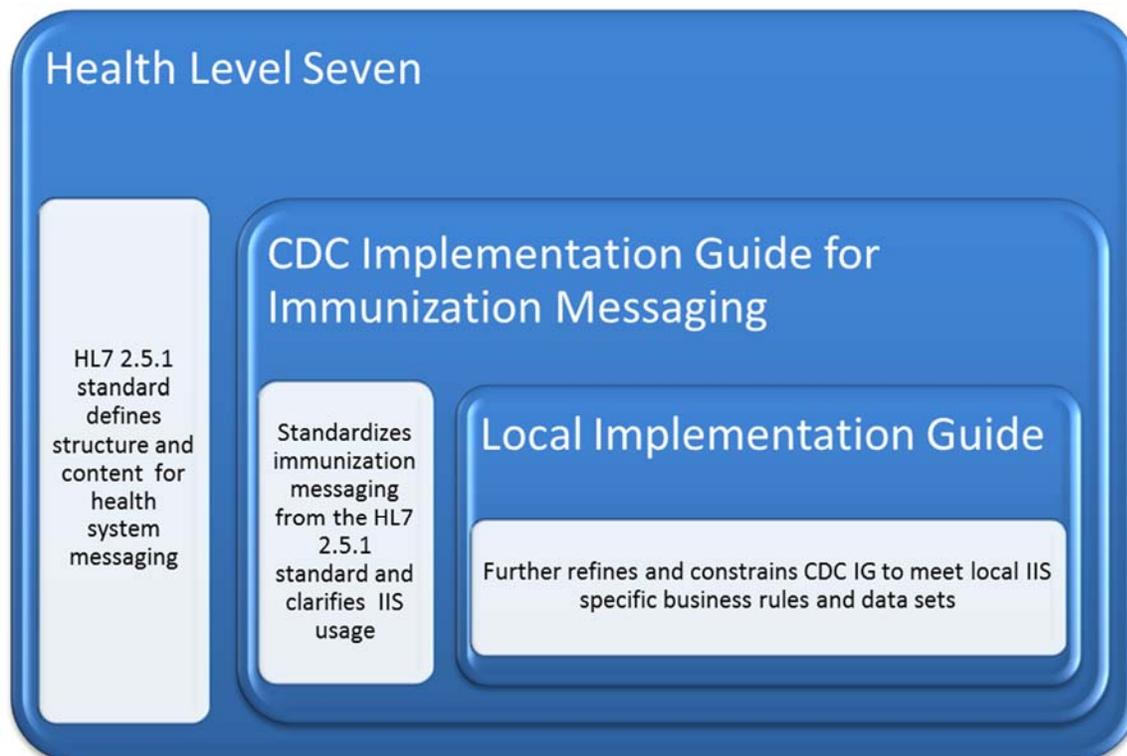
## Table of Contents

|           |   |            |
|-----------|---|------------|
| <b>1.</b> | <b>INTRODUCTION .....</b>   | <b>4</b>   |
|           | <b>INTENDED AUDIENCE .....</b>  | <b>5</b>   |
|           | <b>SCOPE .....</b>  | <b>5</b>   |
| <b>2.</b> | <b>ACTORS, GOALS, AND MESSAGING TRANSACTIONS.....</b>                   | <b>7</b>   |
| <b>3.</b> | <b>HL7 MESSAGING INFRASTRUCTURE .....</b>                               | <b>8</b>   |
| <b>4.</b> | <b>HL7 DATA TYPES .....</b>   | <b>11</b>  |
| <b>5.</b> | <b>SEGMENTS AND MESSAGE DETAILS .....</b>                               | <b>12</b>  |
|           | <b>BHS—BATCH HEADER SEGMENT .....</b>                                   | <b>19</b>  |
|           | BHS FIELD DEFINITIONS.....  | 20         |
|           | <b>BTS—BATCH TRAILER SEGMENT .....</b>                                  | <b>25</b>  |
|           | BTS FIELD DEFINITIONS .....   | 25         |
|           | <b>ERR—ERROR SEGMENT (RSP ONLY) .....</b>                               | <b>27</b>  |
|           | ERR FIELD DEFINITIONS .....   | 28         |
|           | <b>FHS—FIELD HEADER SEGMENT .....</b>                                   | <b>30</b>  |
|           | FHS FIELD DEFINITIONS.....  | 31         |
|           | <b>FTS—FILE TRAILER SEGMENT .....</b>                                   | <b>36</b>  |
|           | FTS FIELD DEFINITIONS .....   | 36         |
|           | <b>MSA—MESSAGE ACKNOWLEDGEMENT SEGMENT (RSP ONLY) .....</b>             | <b>38</b>  |
|           | MSA FIELD DEFINITIONS .....   | 39         |
|           | <b>MSH—MESSAGE HEADER SEGMENT .....</b>                                 | <b>40</b>  |
|           | MSH FIELD DEFINITIONS .....   | 42         |
|           | <b>NK1—NEXT OF KIN SEGMENTS (RSP ONLY) .....</b>                        | <b>52</b>  |
|           | NK1 FIELD DEFINITIONS .....   | 55         |
|           | <b>OBX—OBSERVATION RESULT SEGMENT (RSP ONLY).....</b>                   | <b>58</b>  |
|           | OBX FIELD DEFINITIONS .....   | 61         |
|           | <b>ORC—ORDER REQUEST SEGMENT (RSP ONLY) .....</b>                       | <b>66</b>  |
|           | ORC FIELD DEFINITIONS .....   | 69         |
|           | <b>PD1—PATIENT DEMOGRAPHIC SEGMENT (RSP ONLY) .....</b>                 | <b>71</b>  |
|           | PD1 FIELD DEFINITIONS .....   | 72         |
|           | <b>PID—PATIENT IDENTIFIER SEGMENT (RSP ONLY) .....</b>                  | <b>74</b>  |
|           | PID FIELD DEFINITIONS .....   | 77         |
|           | <b>QAK – QUERY ACKNOWLEDGEMENT SEGMENT (RSP ONLY) .....</b>             | <b>82</b>  |
|           | QAK FIELD DEFINITIONS .....   | 82         |
|           | <b>QPD – QUERY PARAMETER DEFINITION .....</b>                           | <b>84</b>  |
|           | QPD FIELD DEFINITIONS .....   | 85         |
|           | <b>RCP – RESPONSE CONTROL PARAMETER SEGMENT (QBP ONLY) .....</b>        | <b>90</b>  |
|           | RCP FIELD DEFINITIONS .....   | 90         |
|           | <b>RXA-- PHARMACY/TREATMENT ADMINISTRATION SEGMENT (RSP ONLY).....</b>  | <b>92</b>  |
|           | RXA FIELD DEFINITIONS.....  | 95         |
|           | <b>RXR-- PHARMACY/TREATMENT ROUTE SEGMENT (RSP ONLY) .....</b>          | <b>101</b> |
|           | RXR FIELD DEFINITIONS .....   | 102        |
| <b>6.</b> | <b>MESSAGES FOR TRANSMITTING IMMUNIZATION INFORMATION .....</b>         | <b>103</b> |
|           | <b>REQUEST IMMUNIZATION HISTORY--QBP .....</b>                          | <b>104</b> |
|           | <b>RESPOND TO REQUEST FOR INFORMATION--RSP .....</b>                    | <b>104</b> |
|           | <b>APPENDIX A: CODE TABLES .....</b>                                    | <b>110</b> |
|           | <b>APPENDIX B: GUIDANCE ON USAGE AND EXAMPLE MESSAGES .....</b>         | <b>137</b> |
|           | <b>EXAMPLE QBP - BASIC IMMUNIZATION HISTORY REQUEST:.....</b>           | <b>137</b> |
|           | <b>EXAMPLE RSP - BASIC Z31, Z33 AND Z32 RESPONSE: .....</b>             | <b>137</b> |
|           | <b>EXAMPLE RESPONSE – INVALID REQUIRED VALUE AND FATAL ERROR: .....</b> | <b>141</b> |

---

## 1. Introduction

In order for different health information systems to exchange data, the structure and content of the data to be exchanged must be standardized. Three controlling documents define how the NCIR HL7 data exchange interface works. They are arranged in a hierarchy of documents, each refining and constraining the HL7 Standard.



**Figure 1: HL7 Controlling Document Hierarchy**

The first document is the HL7 2.5.1 standard developed by Health Level Seven, a not-for-profit ANSI-accredited standards developing organization. This standard defines the structure and content of immunization messages, but leaves many specific implementation details undecided. Beneficial information on HL7 and a copy of the HL7 message standard can be obtained from the Health Level Seven website at <http://www.hl7.org>.

The second document is the CDC's **HL7 2.5.1 Implementation Guide for Immunization Messaging, Release 1.3** (CDC IG). This guide gives specific instructions regarding how to report to immunization information systems, but still leaves some implementation decisions to each

---

state IIS. This guide and other technical information can be obtained from the CDC website at <http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html>

The third document is this document. It finalizes all implementation decisions and defines exactly what NCIR will and will not accept. It is written in accordance with the standards set in the first two documents. This local implementation guide has taken great care to point out differences from the CDC IG by adding additional columns to the tables. In cases where this guide differs from the CDC IG, this guide will provide both the CDC IG column followed the local usage specification. This effort will prove highly useful in the larger interoperability effort for Electronic Health Record Systems, Indian Health Services, and any other electronic exchange that may span multiple IIS. Providing this information will allow the implementers of external systems to accurately compare the CDC IG with a local implementation guide, and compare differences between two different local implementation guides much easier than in the past.

### Intended Audience

This Local IG is intended for technical groups from IIS and EHR-S that must implement these guidelines. The reader of this Local IG should have a solid HL7 foundation and be very familiar with the contents of the CDC IG

(<http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html>). Chapters 2 and 3 of the CDC IG provide HL7 foundational concepts and set the stage for this Local IG. This document assumes the reader is already familiar with HL7 and is interested in understanding NCIR specific specifications. The goal of this Local IG is to provide an unambiguous specification for creating and interpreting messages for the NCIR.

### Scope

This Local IG is intended to facilitate the exchange of immunization records between external Health Systems and NCIR, and will only contain information related to **QBP** and its associated **RSP** transmission types. Other Transmission Types, such as, VXU, ADT, and ACK will be covered in a separate LIG document. Therefore, all usage, descriptions, rules, and examples in this document will pertain strictly to QBP and RSP. Individual Segment Types will be noted with an “XXX Only” if the Segment type is only used for that particular Transmission Type (RSP but not QBP). This document includes following workflows:

- Requesting immunization histories and recommendations for individuals
- Responding to requests for immunization histories by returning immunization histories and recommendations
- reporting errors in the messaging process

---

## Organization and Flow

This Local IG is designed to mirror the organization and flow of the CDC IG. This chapter of the guide defines the high-level use cases supported by the **NCIR**. The subsequent chapters define how the **NCIR** implements those use cases. Finally, this guide has appendices for the code tables and example messages.

It is important to note this guide adheres to the CDC IG on several key aspects including

- Data type specifications from chapter 3 of the CDC IG have not been redefined and usage has not been changed
- Standardized vocabulary is supported as specified in the CDC IG
- To the extent possible, data sets and business rules will adhere to the CDC IG.

In cases where differences exist between this guide and the CDC IG the differences will be clearly defined in the appropriate sections of this guide.

---

## 2. Actors, Goals, and Messaging Transactions

Chapter 2 of the CDC IG defines actors (entities) that may be involved in sending or receiving immunization-related messages. It describes what actors are and how use cases (goals) can be associated to those actors. Finally, it associates specific HL7 messages with these use cases.

There are nine use cases defined in Chapter 2 of the CDC IG. The use cases covered in this Local Implementation guide are listed below.

| Use Case                     | Goal   | Supported by <i>NCIR</i> |
|------------------------------|--|--------------------------|
| Request Immunization History | To request an immunization history from another system.  | Yes, will be by EHR      |
| Return Immunization History  | To return an immunization history to another system.   | Yes                      |
| Accept Requested History     | To accept an immunization history in response to a query for an immunization history from another system.                    | Yes, will be by EHR      |
| Report Error                 | To send error messages related to submitted messages. These errors could result of rejection of message or parts of message. | Yes                      |

---

### 3. HL7 Messaging Infrastructure

The CDC IG contains basic descriptions of terms and definitions that are used in both the CDC IG and this guide. To avoid potentially ambiguous situations, the majority of the terms and definitions will not be redefined in this guide.

A key attribute to HL7 fields, components, and sub-components is the Usage Code. In the table below are the acceptable Usage Codes used in this implementation guide.

| Usage Code | Interpretation            | Comment   |
|------------|---------------------------|---|
| R          | Required                  | <p>A conforming sending application shall populate all "R" elements with a non-empty value.</p> <p>Conforming receiving application shall process the information conveyed by required elements.</p> <p>A conforming receiving application must not raise an error due to the presence of a required element, but may raise an error due to the absence of a required element.</p>  |
| RE         | Required but may be empty | <p>The element may be missing from the message, but it must be sent by the sending application if there is relevant data.</p> <p>A conforming sending application should be capable of providing all "RE" elements. If the conforming sending application knows the required values for the element, then it must send that element. If the conforming sending application does not know the required values, then that element will be omitted.</p> <p>Receiving applications will be expected to process or ignore data contained in the element, but must be able to successfully process the message if the element is omitted (no error message should be generated because the element is missing).</p> |

| Usage Code | Interpretation               | Comment   |
|------------|------------------------------|---|
| C          | Conditional                  | <p>An element with a conditional usage code has an associated condition predicate that determines the operational requirements (usage code) of the element. If the condition predicate associated with the element is true, follow the rules for <b>a</b> which shall be one of “R”, “RE”, “O” or “X”: If the condition predicate associated with the element is false, follow the rules for <b>b</b> which shall be one of “R”, “RE”, “O”, or “X”. <b>a</b> and <b>b</b> can be valued the same.</p> <p>Note: When C (O/X), or similar is used, a condition predicate will not be provided.</p>  |
| CE         | Conditional but may be empty | <p>This usage has an associated condition predicate. This predicate is an attribute within the message.</p> <p><b>If the predicate is satisfied:</b></p> <p>If the conforming sending application knows the required values for the element, then the application must send the element.</p> <p>If the conforming sending application does not know the values required for this element, then the element shall be omitted. The conforming sending application should be capable of knowing the element (when the predicate is true) for all ‘CE’ elements.</p> <p>If the element is present, the conformant receiving application shall process or ignore the values of that element. If the element is not present.</p> <p>The conformant receiving application shall not raise an error due to the presence or absence of the element.</p> <p><b>If the predicate is not satisfied:</b></p> <p>The conformant sending application shall not populate the element.</p> |

| Usage Code | Interpretation | Comment   |
|------------|----------------|---|
|            |                | <p>The conformant receiving application may raise an application error if the element is present.</p>   |
| O          | Optional       | <p>This element may be present if specified in local profile. Local partners may develop profiles that support use of this element. In the absence of a profile, conformant sending applications will not send the element.</p> <p>Conformant receiving applications will ignore the element if it is sent, unless local profile specifies otherwise. Conformant receiving applications may not raise an error if it receives an unexpected optional element.</p> |
| X          | Not Supported  | <p>The element is not supported. Sending applications should not send this element. Receiving applications should ignore this element if present. A receiving application may raise an error if it receives an unsupported element. Any profile based on this Guide should not specify use of an element that is not supported in this Guide.</p>   |

---

## 4. HL7 Data Types

Understanding this document requires knowledge of HL7 data types listed in chapter 4 of the CDC IG. (<http://www.cdc.gov/vaccines/programs/iis/technical-guidance/hl7.html>) Data type definitions and descriptions are not repeated here. This LIG highlights the difference in field usage within respective segments. The LIG may tighten usage, but will not loosen.

Any differences between NCIR and the CDC IG will be clearly defined within each Segment table contained within this document. A separate column titled 'NCIR Usage' was created to highlight any and all HL7 Data Type changes decided upon by NCIR.

Example:

| SEQ | LEN | Data Type | Cardinality | Value set | ELEMENT NAME              | CDC IG Usage | NCIR Usage | Constraint                    |
|-----|-----|-----------|-------------|-----------|---------------------------|--------------|------------|-------------------------------|
| 1   | 1   | ST        | [1..1]      |           | Batch Field Separator     | R            | R          | The BHS.1 field shall be      |
| 2   | 3   | ST        | [1..1]      |           | Batch Encoding Characters | R            | R          | The BHS.2 field shall be ^~\& |

## 5. Segments and Message Details

This chapter will contain specifications for each segment used with a **QBP** or **RSP** transmission. The QBP is a real time web service transaction. NCIR does not permit batch QBP transactions. It will indicate which fields are supported or required and describe any constraints on these fields. Chapter 6 will address how these building blocks are assembled into specific messages that meet the use cases listed in Chapter 2.

**Table 5-1 Message Segments for QBP and/or RSP**

| Segment (Name/Role)        | Definition   | Message Usage | CDC IG Usage | NCIR Usage | Note  |
|----------------------------|--|---------------|--------------|------------|---|
| BHS (Batch Header Segment) | The Batch Header Segment wraps a group of 1 or more messages. These may be a mixture of acceptable message types. This segment is not required for real-time messaging. That is, a stream of messages may be sent without a BHS. A system may choose to require BHS for all groups of messages, but should specify this requirement in a local implementation Guide. | Any           | Optional     | Optional   | Used at the beginning of any batch of messages. |

| Segment (Name/Role)         | Definition   | Message Usage | CDC IG Usage  | NCIR Usage                 | Note  |
|-----------------------------|--|---------------|---|----------------------------|---|
| BTS (Batch Trailer Segment) | The BTS segment defines the end of a batch. It is required if the message has a matching BHS.  | Any           | Required if message starts with BHS.                              | C (if txn starts with BHS) | Used to mark the end of any batch of messages. If the batch of messages starts with a BHS, then this segment is required. |
| ERR (Error Segment)         | The error segment reports information about errors in processing the message. The segment may repeat. Each error will have its' own ERR segment.   | RSP           | Ability to create and process is required for conformant systems. | Required                   | Used to return information about errors.  |
| FHS (File Header Segment)   | The file header segment may be used to group one or more batches of messages. This is a purely optional segment, even if batches are sent. Its' use is not anticipated for use in real-time transactions. Any system that anticipates its use should specify this in a local implementation Guide. | Any           | Optional  | Optional                   | Used to mark the beginning of a file of batches.  |

| Segment (Name/Role)                   | Definition   | Message Usage | CDC IG Usage  | NCIR Usage                 | Note   |
|---------------------------------------|--|---------------|---|----------------------------|--|
| FTS (File Trailer Segment)            | The FTS segment defines the end of a file of batches. It is only used when the FHS segment is used.  | Any           | Required to terminate a file of batches. (Matches FHS)            | C (if txn starts with FHS) | Used to mark the end of a file of batches. If a file of batches has an FHS at the beginning, then this segment is required.  |
| MSA (Message Acknowledgement Segment) | This segment is included in the query response (RSP) and acknowledgment (ACK) messages. It contains information used to identify the receiver's acknowledgement response to an identified prior message. | RSP           | Ability to create and process is required for conformant systems. | Required                   |  |
| MSH (Message Segment Header)          | The MSH segment defines the intent, source, destination, and some specifics of the syntax of a message.  | All           | Ability to create and process is required for conformant systems. | Required                   | This begins every message and includes information about the type of message, how to process it, and by whom it was created. |

| <b>Segment (Name/Role)</b>          | <b>Definition</b>  | <b>Message Usage</b> | <b>CDC IG Usage</b>   | <b>NCIR Usage</b>                      | <b>Note</b>   |
|-------------------------------------|--|----------------------|---|--|---|
| NK1<br>(Next of Kin Segment)        | The NK1 segment contains information about the patient's next of kin or other related parties. Any associated parties may be identified.   | RSP                  | Ability to create and process is required for conformant systems. | Required if available but may be empty | Used to carry information about the next of kin for a client. |
| OBX<br>(Observation Result Segment) | The observation result segment has many uses. It carries observations about the object of its parent segment. In the VXU/RSP it is associated with the RXA or immunization record. The basic format is a question and an answer. | RSP                  | Ability to create and process is required for conformant systems. | Required if available but may be empty | Used to report one atomic part of an observation.             |

| Segment (Name/Role)                  | Definition  | Message Usage | CDC IG Usage  | NCIR Usage  | Note  |
|--------------------------------------|---|---------------|---|---|---|
| ORC<br>(Order Request Segment)       | The Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested). While not all immunizations recorded in an immunization message are able to be associated with an order, each RXA must be associated with one ORC, based on HL7 2.5.1 standard. | RSP           | Ability to create and process is required for conformant systems. | Required (Each order group must have one ORC segment) | Used to give information about a group of one or more orders (typically RXA).   |
| PD1<br>(Patient Demographic Segment) | The patient additional demographic segment contains demographic information that is likely to change about the patient. In immunization messages, this is information about the need to protect the client's information, how they should be part of reminder efforts and their current status in the IIS.          | RSP           | Ability to create and process is required for conformant systems. | Required but may be empty                             | Used to give information about a patient. A primary use in immunization messages is to give information about privacy and whether contact is allowed. |

| Segment (Name/Role)                 | Definition  | Message Usage | CDC IG Usage  | NCIR Usage | Note  |
|-------------------------------------|---|---------------|---|------------|---|
| PID (Patient Identifier Segment)    | This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change. Used by all applications as the primary means of communicating patient identification information frequently. | RSP           | Ability to create and process is required for conformant systems. | Required   | Used to carry information about the patient/client. |
| QAK (Query acknowledgement segment) | The QAK segment contains information sent with responses to a query.  | RSP           | Ability to create and process is required for conformant systems. | Required   |   |
| QPD                                 | Query parameter definition  | QBP, RSP      | Ability to create and process is required for conformant systems. | Required   |   |

| Segment (Name/Role) | Definition                                | Message Usage | CDC IG Usage  | NCIR Usage  | Note |
|---------------------|---|---------------|---|---|------|
| RCP                 | Response control parameter segment        | QBP           | Ability to create and process is required for conformant systems. | Required  |      |
| RXA                 | Pharmacy/Treatment Administration Segment | RSP           | Ability to create and process is required for conformant systems. | Required (Each order group must have one RXA segment) |      |
| RXR                 | Pharmacy/Treatment Route Segment          | RSP           | Ability to create and process is required for conformant systems. | Required if available but may be empty                |      |

## BHS—Batch Header Segment

*Table 5-2 Batch Header Segment (BHS)*

| SEQ | LEN | Data Type | Cardinality | Value set | ELEMENT NAME                | CDC IG Usage | NCIR Usage | Constraint                    |
|-----|-----|-----------|-------------|-----------|-----------------------------|--------------|------------|-------------------------------|
| 1   | 1   | ST        | [1..1]      |           | Batch Field Separator       | R            | R          | The BHS.1 field shall be      |
| 2   | 3   | ST        | [1..1]      |           | Batch Encoding Characters   | R            | R          | The BHS.2 field shall be ^~\& |
| 3   |     | HD        | [0..1]      |           | Batch Sending Application   | O            | O          |                               |
| 4   |     | HD        | [0..1]      |           | Batch Sending Facility      | O            | R          |                               |
| 5   |     | HD        | [0..1]      |           | Batch Receiving Application | O            | X          |                               |
| 6   |     | HD        | [0..1]      |           | Batch Receiving Facility    | O            | R          |                               |
| 7   |     | TS        | [0..1]      |           | Batch Creation Date/Time    | O            | O          | Use (yyyymmdd) format         |
| 8   | 40  | ST        | [0..1]      |           | Batch Security              | O            | X          |                               |
| 9   | 20  | ST        | [0..1]      |           | Batch Name/ID/Type          | O            | O          |                               |
| 10  | 80  | ST        | [0..1]      |           | Batch Comment               | O            | O          |                               |
| 11  | 20  | ST        | [0..1]      |           | Batch Control ID            | O            | O          |                               |
| 12  | 20  | ST        | [0..1]      |           | Reference Batch Control ID  | O            | O          |                               |

### Example:

QBP: BHS|^~\&|EMR| NCIR-SHORT-ORG|NCIR|NCIR|20130315|||||

RSP: BHS|^~\&|NCIR8.9.0|NCIR||ORG SHORT NAME|||||

---

## BHS Field Definitions

### *BHS-1 Batch Field Separator*

**Definition:** This field contains the separator between the segment ID and the first real field, BHS-2-batch encoding characters. As such it serves as the separator and defines the character to be used as a separator for the rest of the segment. NCIR requires the “|” symbol (ASCII 124).

BHS|

↑

Separator

#### ***Inbound –***

If BHS-1 field is missing or has a value other than the one specified, reject the message and send an error: "BHS-1: Batch field separator missing or invalid"

#### ***Outbound –***

NCIR sends | (ASCII 124).

### *BHS-2 Batch Encoding Characters*

**Definition:** This field contains the four characters in the following order: the component separator, repetition separator, escape characters and sub-component separator. NCIR requires ^~\&, (ASCII 94, 126, 92 and 38 respectively).

BHS|^~\&|

#### ***Inbound –***

If BHS-2 field is missing or has values other than the ones specified, reject the message and send an error: "BHS-2: Batch Encoding Characters missing or invalid."

---

**Outbound –**

NCIR sends ^~\&, (ASCII 94, 126, 92 and 38 respectively). This field contains the four characters in the following order: the component separator, repetition separator, escape characters and sub-component separator.

***BHS-3 Batch Sending Application***

**Definition:** This field contains the name of the sending application. This field is an optional convenience

BHS|^~\&|NCIR|

**Inbound –**

Provide the Batch sending application if available.

**Outbound –**

NCIR will use “NCIR” followed by the current version number of the registry. (e.g. NCIR8.9.0)

***BHS-4 Batch Sending Facility***

**Definition:** This field contains the name of the sending facility, identifying for whom the message is being sent. Value: NCIR requires “Organization short name”.

**Example:** BHS|^~\&|Sending Application|NCIR-SHORT-ORG|

**Inbound –**

Contact NCIR staff for value of FHS-4, BHS-4 and MSH-4. This will be provided as part of onboarding process.

1. If the field is blank, an informational error message will be sent, “BSH-4: Batch Sending Facility missing.”

2. BHS-4 will match the value in MSH-4 when the sending organization is the same as owning organization. Use the NCIR short name of the organization (e.g., NCIR-SHORT-ORG). NCIR will provide the NCIR short name at the time of onboarding.

---

3. When the Provider Organization owning the information is different than the organization transmitting the message, (BHS-4 is different than MSH-4); an informational warning message is sent if that sending org does not have permission to send on behalf of the owning org (Sending Org is a Vendor or Parent to the Owing Client or Child Org):

ERR||MSH^3^4^^^0^0|102^Data type error^HL70357^^^|E||||BHS-4 does not match MSH-4||||

***Outbound –***

When sending, NCIR will use “NCIR”

BHS|^~\&|NCIR8.9.0|**NCIR**

***BHS-5 Batch Receiving Application***

***Definition:*** This field is not used. NCIR does not populate this field and will ignore value if sent.

***BHS-6 Batch Receiving Facility***

***Definition:*** This field identifies the message receiver.

***Example:*** BHS|^~\&|Sending Application|NCIR-SHORT-ORG|**NCIR**|

***Inbound –***

When sending data to NCIR, use “NCIR.” If this field has other value or it is blank, return an informational error message: "BHS-6: Batch Receiving Facility missing or invalid."

***Outbound –***

NCIR will send out the owning organization from the incoming query (MSH-4 of the QBP)

When sending, NCIR will use the short Provider Organization name assigned when the provider first registers with the NCIR database and NCIR-Web interface.

***BHS-7 Batch Creation Date/Time***

***Definition:*** Date and time the message was created. NCIR ignores any time component. See the TS data type.

---

BHS|^~\&|Sending Application|NCIR-SHORT-ORG||NCIR|20121218134335|

***Inbound –***

Date and time the message was created (yyyymmdd)

***Outbound –***

Date and time the message was created (yyyymmdd)

***BHS-8 Batch Security***

***Definition:*** This field is not used. NCIR does not populate this field and will ignore value if sent.

***BHS-9 Batch Name/ID/Type***

***Definition:*** This field is not used. NCIR does not populate this field and will ignore value if sent.

***BHS-10 Batch Comment***

***Definition:*** This field is not used. NCIR does not populate this field and will ignore value if sent.

***BHS-11 Batch Control ID***

***Definition:*** This field is used to uniquely identify a particular batch. It will be echoed back in BHS-12-reference batch control ID if an answering batch is needed. That is, BHS-12 of RSP will contain the BHS-11 of QBP.

BHS|^~\&|NCIR|NCIR-SHORT-ORG||NCIR|20121218134335|||**batch001**|

***Inbound –***

Provide a value that is used to identify the batch. Provide unique batch id.

---

***Outbound –***

NCIR will send unique batch ID. Batch id will be generated in the following format: yyyymmddhhmmssb00.

BHS|^~\&|NCIR8.9.0|NCIR||110038|20130225174751.394-0500||||20130225174751b00|

***BHS-12 Reference Batch Control ID***

***Definition:*** This field contains the value of BHS-11-batch control ID when this batch was originally transmitted.

***Inbound –***

Null for QBP

***Outbound –*** NCIR sends out the BHS-11 value of the incoming QBP message.

BHS|^~\&|NCIR8.9.0|NCIR||110038|20130225174751.394-0500||||20130225174751b00|

---

## BTS—Batch Trailer Segment

*Table 5-3 Batch Trailer Segment (BTS)*

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME        | CDC IG Usage | NCIR Usage | Constraint |
|-----|-----|-----------|-------------|-----------|---------------------|--------------|------------|------------|
| 1   | 10  | ST        | [0..1]      |           | Batch Message Count | O            | O          |            |
| 2   | 80  | ST        | [0..1]      |           | Batch Comment       | O            | O          |            |
| 3   | 100 | NM        | [0..1]      |           | Batch Totals        | O            | X          |            |

### Example:

QBP: BTS|1|COMMENT|

RSP: BTS|1||

## BTS Field Definitions

### *BTS-1 Batch Message Counts*

**Definition:** This field contains the count of the individual messages contained within the batch.

BTS|1|

**Inbound** – Inconsistency in inbound count is ignored and is not validated with actual number of messages.

**Outbound** – Populates the count of messages when sending out.

### *BTS-2 Batch Comments*

**Definition:** Free text, which can be included for convenience, has no effect on processing. NCIR will not populate this field.

BTS|1|free text

---

***Inbound*** – This field is not used.

***Outbound*** – NCIR will not populate this field.

## ERR—Error Segment (RSP Only)

*Table 5-4 Error Segment (ERR)*

| SEQ | LEN  | Data Type | Cardinality         | Value Set | ELEMENT NAME                | CDC IG Usage | NCIR Usage | Constraint   |
|-----|------|-----------|---------------------|-----------|-----------------------------|--------------|------------|--|
| 1   |      | ELD       | [0..0]              |           | Error Code and Location     | X            | X          | Not supported for Version 2.5 and above.   |
| 2   | 18   | ERL       | [0..1] <sup>1</sup> |           | Error Location              | RE           | RE         | If an error involves the entire message (e.g. the message is not parse-able.) then location has no meaning. In this case, the field is left empty. |
| 3   |      | CWE       | [1..1]              | 0357      | HL7 Error Code              | R            | R          |  |
| 4   | 2    | ID        | [1..1]              | 0516      | Severity                    | R            | R          |  |
| 5   |      | CWE       | [0..1]              | 0533      | Application Error Code      | O            | O          |  |
| 6   | 80   | ST        | [0..1]              |           | Application Error Parameter | O            | X          |  |
| 7   | 2048 | TX        | [0..1]              |           | Diagnostic Information      | O            | X          |  |
| 8   | 250  | TX        | [0..1]              |           | User Message                | O            | O          | This field may contain free text that may be displayed to a user. It is not intended for any further processing.                                   |
| 9   | 20   | IS        | [0..1]              | 0517      | Inform Person Indicator     | O            | X          |  |
| 10  |      | CWE       | [0..1]              | 0518      | Override Type               | O            | X          |  |
| 11  |      | CWE       | [0..1]              | 0519      | Override Reason Code        | O            | X          |  |
| 12  |      | XTN       | [0..1]              |           | Help Desk Contact Point     | O            | X          |  |

<sup>1</sup> This Guide does not support repeat of this field. It assumes that each error will be contained in one ERR segment. If the same error occurs more than once, there will be one ERR for each.

---

Examples:

Warning message: ERR||PD1^1^16^^|102^Data type error^HL70357^^|W||||PD1-16: Defaulted to A.||||

Error message: ERR||PID^1^7^1^^|102^Data type error^HL70357^^|E||||PID-7: Date of birth invalid or missing.||||

## ERR Field Definitions

### *ERR-2 Error Location*

**Definition:** Identifies the location in a message related to the identified error, warning or message. Each error will have an ERR, so no repeats are allowed on this field (e.g. OBX^1^5^^1^0). This field may be left empty if location is not meaningful. For example, if the message or segment is unable to be parsed, an ERR to that effect may be returned.

**NOTE:** For application level errors (ERR-3 is 207) ERR-2 (field location) is not populated.

ERR||PD1^1^16^^

Error Location is ERL Data type and above example states that the error is in the PD1 segment, first segment occurrence within the message and in the sixteenth field of the segment.

### *Outbound –*

Since only one error segment per RSP is allowed, when multiple errors/warnings exist, only one will be sent out. Order for the error chosen to be sent out is:

1. An error that is causing the message to be rejected
2. Number of search results exceed maximum limit reached
3. Warning message.
4. If multiple message in same category occur, send the first occurrence.

This field may be left empty if location is not meaningful. For example, if it is unable to be parsed or the error/warning message applies to entire segment, this field may be empty. .

---

### ***ERR-3 HL7 Error Code***

**Definition:** Identifies the HL7 (communications) error code. Refer to HL7 Table 0357 – Message Error Condition Codes for valid values. When transaction accepted without error or warning, this field value will be zero. If transaction rejected, the status code will be populated with a value other than 0 per HL7 table 0357.

ERR||PD1^1^16^0^0|102^Data type error^HL70357^^^|

ERR|||207^Application Internal Error^HL70357^^^|

### ***ERR-4 Severity***

**Definition:** Identifies the severity of an application error. Knowing if something is Error, Warning or Information is intrinsic to how an application handles the content. Valid values are: W - warning, I - information, E – error

ERR||PD1^1^16^0^0|102^Data type error^HL70357^^^|W|

### ***ERR-5 Application Error Code***

**Definition:** Application specific code identifying the specific error that occurred. Refer to User-Defined Table 0533. For application specific error, ERR-3 will be 207 and this field (ERR-5) will be populated based on a value from User Defined table 0533.

**NOTE:** ERR|||207^Application Internal Error^HL70357^^^|W|207.5^DateInvalid^HL70533|

ERR-3 is not populated for HL7 errors and only application levels errors use this field.

### ***ERR-8 User Message***

**Definition:** The text message to be displayed to the application user. This is not to be processed further by the receiving system

ERR||PID^1^7^^|102^Data type error^HL70357^^^|E|||PID-7: Date of birth invalid or missing.||||

## FHS—Field Header Segment

*Table 5-5 File Header Segment (FHS)*

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME               | CDC IG Usage | NCIR Usage | Comment                       |
|-----|-----|-----------|-------------|-----------|----------------------------|--------------|------------|-------------------------------|
| 1   | 1   | ST        | [1..1]      |           | File Field Separator       | R            | R          | The FHS.1 field shall be      |
| 2   | 4   | ST        | [1..1]      |           | File Encoding Characters   | R            | R          | The FHS.2 field shall be ^~\& |
| 3   |     | HD        | [0..1]      |           | File Sending Application   | O            | O          |                               |
| 4   |     | HD        | [0..1]      |           | File Sending Facility      | O            | R          |                               |
| 5   |     | HD        | [0..1]      |           | File Receiving Application | O            | X          |                               |
| 6   |     | HD        | [0..1]      |           | File Receiving Facility    | O            | O          |                               |
| 7   |     | TS        | [0..1]      |           | File Creation Date/Time    | O            | O          |                               |
| 8   | 40  | ST        | [0..1]      |           | File Security              | O            | X          |                               |
| 9   | 20  | ST        | [0..1]      |           | File Name/ID               | O            | O          |                               |
| 10  | 80  | ST        | [0..1]      |           | File Header Comment        | O            | O          |                               |
| 11  | 20  | ST        | [0..1]      |           | File Control ID            | O            | O          |                               |
| 12  | 20  | ST        | [0..1]      |           | Reference File Control ID  | O            | O          |                               |

---

**Example:**

QBP: FHS|^~\&|EMR|ORG SHORT NAME^999999||NCIR|20130315|||||

RSP: FHS|^~\&|NCIR8.9.0|NCIR||ORG SHORT NAME|||||

## FHS Field Definitions

### *FHS-1 File Field Separator*

**Definition:** This field contains the separator between the segment ID and the first real field, FHS-2-batch encoding characters. As such it serves as the separator and defines the character to be used as a separator for the rest of the segment. NCIR requires the | symbol.

FHS|

↑

Separator

#### ***Inbound –***

If FHS-1 field is missing or has a value other than the one specified, reject the message and send an error: "FHS-1: File field separator missing or invalid"

#### ***Outbound –***

NCIR sends “|” (pipe symbol). This field contains the separator between the segment ID and the first real field, FHS-2-file encoding characters. As such it serves as the separator and defines the character to be used as a separator for the rest of the segment

### *FHS-2 File Encoding Characters*

**Definition:** This field contains the four characters in the following order: the component separator, repetition separator, escape characters and sub-component separator. NCIR requires the ^~\& character set.

FHS|^~\&|

---

***Inbound –***

If FHS-2 field is missing or has values other than the ones specified, reject the message and send an error: "FHS-2: File Encoding Characters missing or invalid."

***Outbound –***

NCIR sends ^~\&. This field contains the four characters in the following order: the component separator, repetition separator, escape characters and sub-component separator. Outbound NCIR requires the ^~\& character set.

***FHS-3 Batch Sending Application***

***Definition:*** Name of sending application. Values: NCIR will use "NCIR". This field is an optional convenience.

FHS|^~\&|NCIR|

***Inbound –***

Provide the Batch sending application.

***Outbound –***

NCIR will use "NCIR" followed by the current version number of the registry (e.g. FHS|^~\&|NCIR8.9.0).

***FHS-4 Batch Sending Facility***

***Definition:*** identifies for whom the message is being sent. Value: "Organization Short Name".

FHS|^~\&|NCIR|NCIR-SHORT-ORG|

***Inbound –***

Contact NCIR staff for value of FHS-4, BHS-4 and MSH-4. These must be the owning organization and provided as part of onboarding process.

1. If the field is blank, send an informational error message "FHS-4: File Sending Facility missing."

---

2. Usually FHS-4 matches the value in MSH-4 (i.e., sending organization is the same as owning organization). Use the NCIR short name of the organization e.g., NCIR-SHORT-ORG. NCIR will provide the NCIR short name at the time of onboarding.

3. When the Provider Organization owning the information is different than the organization transmitting the message, (FHS-4 is different than MSH-4); an error message is sent:

```
ERR||MSH^3^4^^^0^0|102^Data type error^HL70357^^^|E||||FHS-4 does not match MSH-4||||
```

**Outbound –**

When sending, NCIR will use “NCIR”

```
FHS|^~\&|NCIR8.9.2|NCIR
```

***FHS-5 Batch Receiving Application***

**Definition:** This field is not used. NCIR does not populate this field and will ignore value if sent.

***FHS-6 Batch Receiving Facility***

**Definition:** Identifies the message receiver.

```
FHS|^~\&|NCIR|NCIR-SHORT-ORG||NCIR|
```

**Inbound –**

When sending data to NCIR, use “NCIR.” If this field has other value or it is blank, return an informational error message: "FHS-6: Batch Receiving Facility missing or invalid."

**Outbound –**

For batch, NCIR will send out the org the user is logged in.

For Webservices, NCIR will send out the owning org.

NCIR will use the short Provider Organization name assigned when the provider first registers with the NCIR database and NCIR-Web interface.

***FHS-7 Batch Creation Date/Time***

---

**Definition:** Date and time the message was created. NCIR ignores any time component. See the TS data type.

FHS|^~\&|NCIR|NCIR-SHORT-ORG||NCIR|20121218134335|

***Inbound –***

Date and time the message was created (yyyymmdd)

***Outbound –***

Date and time the message was created (yyyymmdd)

***FHS-8 Batch Security***

**Definition:** This field is not used. NCIR does not populate this field and will ignore value if sent.

***FHS-9 Batch Name/ID/Type***

**Definition:** This field is not used. NCIR does not populate this field and will ignore value if sent.

***FHS-10 Batch Comment***

**Definition:** This field is not used. NCIR does not populate this field and will ignore value if sent.

***FHS-11 Batch Control ID***

**Definition:** This field is used to uniquely identify a particular file. If received, save value and echo back in RSP FHS-12 to enable cross reference. For NCIR purposes, the answering batch will contain RSP messages.

FHS|^~\&|NCIR|NCIR-SHORT-ORG||NCIR|20121218134335|||file001|

***Inbound –***

Used to identify unique file id.

---

***Outbound –***

NCIR will send unique file ID. File id will be generated in the following format: yyyymmddhhmmssf00. It will be echoed back in ACK FHS-12 to enable cross reference:

FHS|^~\&|NCIR8.9.0|NCIR||110038|20130225174751.394-0500||||20130225174751f00|

***FHS-12 Reference Batch Control ID***

***Definition:*** This field contains the value of FHS-11-file control ID when this file was originally transmitted. Not present if this file is being sent for the first time.

***Inbound –***

Null for QBP

***Outbound –***

FHS-12 of RSP will contain FHS-11 of QBP:

FHS|^~\&|NCIR8.9.0|NCIR||110038|20130225174751.394-0500||||**20130225174751f00**|

---

## FTS—File Trailer Segment

*Table 5-6 File Trailer Segment (FTS)*

| SEQ | LEN | Data Type | Cardinality | Value set | ELEMENT NAME         | CDC IG Usage | NCIR Usage | Comment |
|-----|-----|-----------|-------------|-----------|----------------------|--------------|------------|---------|
| 1   | 10  | NM        | [0..1]      |           | File Batch Count     | ○            | ○          |         |
| 2   | 80  | ST        | [0..1]      |           | File Trailer Comment | ○            | ○          |         |

### Example:

QBP: FTS|1|COMMENT

RSP: FTS|1|

## FTS Field Definitions

### *FTS-1 File Batch Count*

**Definition:** The number of files contained in this transmission. NCIR will always send one batch per file. Providers can only send one batch per file.

#### ***Inbound –***

There would be a value of 1 in this field.

FTS|1

#### ***Outbound –***

NCIR will always send a value of 1 in this field since there is only one batch per file.

---

### ***FTS-2 File Trailer Comment***

***Definition:*** Free text, which may be included for convenience, but has no effect on processing.

FTS|1|free text

#### ***Inbound –***

If text sent, it will not be processed.

#### ***Outbound –***

NCIR does not populate this field.

## MSA—Message Acknowledgement Segment (RSP Only)

The MSA segment will be included in the RSP in the scenario where:

- No records are found
- Exactly one match is found
- Multiple candidates are found with the total exceeding the maximum allowed
- Multiple candidates are found with the total less than the maximum allowed

**Table 5-7 Message Acknowledgement Segment (MSA)**

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                | CDC IG Usage | NCIR Usage | Comment |
|-----|-----|-----------|-------------|-----------|-----------------------------|--------------|------------|---------|
| 1   | 2   | ID        | [1..1]      | 0008      | Acknowledgment Code         | R            | R          |         |
| 2   | 20  | ST        | [1..1]      |           | Message Control ID          | R            | R          |         |
| 3   | 80  | ST        | [0..1]      |           | Text Message                | X            | X          |         |
| 4   | 15  | NM        | [0..1]      |           | Expected Sequence Number    | O            | X          |         |
| 5   |     |           | [0..1]      |           | Delayed Acknowledgment Type | O            | X          |         |
| 6   |     | CE        | [0..0]      | 0357      | Error Condition             | X            | X          |         |

### Example:

RSP: MSA|AA|QUERY\_NAME|||

---

## MSA Field Definitions

### *MSA-1 Acknowledgment Code*

**Definition:** This is a required field. Acknowledgement code is given to receiver's response to a message. AA (Application Accept) means the message was processed normally. AR (Application Rejected) indicates message was rejected. AE (Application Error) means an error prevented normal processing –warning messages are sent. The optional ERR segment will be included when MSA-1 is an AR or AE.

Example 1: MSA|AA|1|||

Example 2: MSA|AR|1|||

ERR||PID^1^7^2^0|102^Data type error^HL70357^^|E|||PID-7: Date of birth invalid or missing.|||

Example 3: MSA|AE|1|||

ERR||PD1^1^16^0^0|102^Data type error^HL70357^^|W|||PD1-16: Defaulted to A.|||

### *MSA-2 Message Control ID*

**Definition:** This is a required field. This field contains the message control ID from MSH-10 from the message being acknowledged. This allows the sending system to associate this response with the message being responded to.

Example 1: MSA|AA|UNIQ1|||

## MSH—Message Header Segment

The MSH segment will be included in the RSP in the scenario where:

- No records are found
- Exactly one match is found
- Multiple candidates are found with the total exceeding the maximum allowed
- Multiple candidates are found with the total less than the maximum allowed

*Table 5-8 Message Header Segment (MSH)*

| SEQ | LEN | Data Type | Cardinality | Value set | ELEMENT NAME          | CDC IG Usage | NCIR Usage | Constraint  |
|-----|-----|-----------|-------------|-----------|-----------------------|--------------|------------|---|
| 1   | 1   | ST        | [1..1]      |           | Field Separator       | R            | R          | The MSH.1 field shall be  |
| 2   | 4   | ST        | [1..1]      |           | Encoding Characters   | R            | R          | The MSH.2 field shall be ^~\&   |
| 3   |     | HD        | [0..1]      | 0361      | Sending Application   | RE           | RE         | No constraint   |
| 4   |     | HD        | [0..1]      | 0362      | Sending Facility      | RE           | R          |   |
| 5   |     | HD        | [0..1]      | 0361      | Receiving Application | RE           | O          | No constraint   |
| 6   |     | HD        | [0..1]      | 0362      | Receiving Facility    | RE           | RE         |   |
| 7   |     | TS        | [1..1]      |           | Date/Time Of Message  | R            | R          | The degree of precision must be at least to the minute, and the time zone must be included (format YYYYMMDDHHMM[SS[.S[S[S[S]]]])+/-ZZZZ). |

| SEQ | LEN | Data Type | Cardinality | Value set | ELEMENT NAME                            | CDC IG Usage | NCIR Usage | Constraint  |
|-----|-----|-----------|-------------|-----------|---|--------------|------------|---|
| 8   | 40  | ST        | [0..1]      |           | Security                                | O            | X          |   |
| 9   | 15  | MSG       | [1..1]      |           | Message Type                            | R            | R          |   |
| 10  | 20  | ST        | [1..1]      |           | Message Control ID                      | R            | R          |   |
| 11  | 3   | PT        | [1..1]      | 0103      | Processing ID                           | R            | R          |   |
| 12  |     | VID       | [1..1]      | 0104      | Version ID                              | R            | R          | 2.5.1   |
| 13  | 15  | NM        | [0..1]      |           | Sequence Number                         | O            | X          |   |
| 14  | 180 | ST        | [0..1]      |           | Continuation Pointer                    | O            | X          |   |
| 15  | 2   | ID        | [0..1]      | 0155      | Accept Acknowledgement Type             | RE           | RE         |   |
| 16  | 2   | ID        | [0..1]      | 0155      | Application Acknowledgment Type         | RE           | X          |   |
| 17  | 3   | ID        | [0..1]      | 0399      | Country Code                            | O            | X          | Use 3 character country code from ISO 3166. If is empty, assume USA   |
| 18  | 16  | ID        | [0..1]      | 0211      | Character Set                           | O            | X          | blank defaults to ASCII printable                                     |
| 19  |     | CE        | [0..1]      |           | Principal Language Of Message           | O            | X          | blank   |
| 20  | 20  | ID        | [0..1]      | 0356      | Alternate Character Set Handling Scheme | O            | X          | blank   |
| 21  |     | EI        | [0..*]      |           | Message Profile Identifier              | O            | O          | This field will be required for use whenever a Profile is being used. |

---

**Example:**

RSP: MSH|^~\&|NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130315||RSP^K11^RSP\_K11|20130315173457RM00|P^|2.5.1^^|||NE|

## MSH Field Definitions

### *MSH-1 Field Separator*

**Definition:** This is a required field. It determines the field separator in effect for the rest of this message. NCIR requires the HL7 field separator of “|”.

**Inbound –**

Error message sent if field is missing or invalid: “Transaction is invalid. Field Separator missing or invalid.”

**Outbound –**

NCIR sends out the HL7 field separator of “|”.

### *MSH-2 Encoding Characters*

**Definition:** This is a required field. This field determines the component separator, repetition separator, escape character, and sub-component separator in effect for the rest of this message. NCIR requires the HL7 values of ^~\&.

MSH|^~\&|

**Inbound –**

Error message sent if field is missing or invalid (values other than the ones specified above): “MSH-2: Encoding Characters missing or invalid.”

**Outbound –**

NCIR sends out the HL7 values of ^~\&.

---

### ***MSH-3 Sending Application***

**Definition:** Name of the sending application. NCIR will use “NCIR”. This field is an optional convenience.

MSH|^~\&|NCIR|

#### ***Inbound –***

Name of the sending application.

#### ***Outbound –***

When sending, NCIR will use “NCIR” followed by the current version number of the registry.

MSH|^~\&|NCIR8.9.0|

### ***MSH-4 Sending Facility***

**Definition:** This is a required field. This field identifies for whom the message is being sent (the owner of the message information).

MSH|^~\&|NCIR|NCIR-SHORT-ORG|

#### ***Inbound –***

Contact NCIR staff for value of FHS-4, BHS-4 and MSH-4 and will be provided as part of onboarding process. These must be the owning organization.

1. If the field is blank, send an error message and reject the message: “MSH-4: Sending Facility missing.”
2. MSH-4 is the owning organization. Sending organization is decided depending on method of transmission. For web services, NCIR staff will provide the Sending Facility (MSH-4) value during onboarding process. For Batch, the sending organization is the organization user is logged in to submit the batch job. The following edit applies.
3. Use the NCIR short name of the organization (e.g., NCIR-SHORT-ORG). NCIR will provide the NCIR short name at the time of onboarding.

---

4. MSH-4 (owning organization) value generally matches the sending organization in FHS/BHS-4. When the Provider Organization owning the information is different than the organization transmitting the message, an error message is shown: ERR||MSH^3^4^^0^0|102^Data type error^HL70357^^|E||||FHS-4 does not match MSH-4|||| or ERR||MSH^3^4^^0^0|102^Data type error^HL70357^^|E||||BHS-4 does not match MSH-4||||.

5. Hub (Vendor/Client or Parent/Child) setup: An organization defined as a Vendor (or parent) can be set to make a single connection to NCIR, where all the client (or child) organizations can submit files using this connection. In this scenario, the client (or child) organization's organization id and short name must be used in MSH-4. A vendor organization may not submit data for any organization that is not defined as a client (or child) to their organization. NC HIE may submit data for any organization.

**Outbound** – When sending, NCIR will use “NCIR”.

MSH|^~\&|NCIR8.9.2|NCIR

### ***MSH-5 Receiving Application***

**Definition:** This field is optional.

**Inbound –**

This field is not used. NCIR does not populate this field and will ignore value if sent.

**Outbound –**

NCIR will not populate this field when sending a message.

### ***MSH-6 Receiving Facility***

**Definition:** Identifies the message receiver.

MSH|^~\&|NCIR|NCIR-SHORT-ORG||**NCIR**|

---

***Inbound –***

When sending data to NCIR, use “NCIR.” If value other than "NCIR" reject the message with error: "MSH-6: Message not intended for NCIR."

***Outbound –***

NCIR will send out the owning organization.

When sending, NCIR will use the short Provider Organization name assigned when the provider first registers with the NCIR database and NCIR-Web interface.

***MSH-7 Date/Time Of Message***

***Definition:*** This is a required field. Date and time the message was created. NCIR ignores any time component. See the TS data type. (yyyymmdd)

***Inbound –***

Message rejection will result if an invalid date or the date is missing: “MSH-7: Date of Message missing or invalid”

***Outbound –***

Date the message was created (yyyymmdd)

***MSH-8 Security***

***Definition:*** This field is not used. NCIR does not populate this field.

***Inbound –***

This field is not used. NCIR will ignore value if sent.

---

**Outbound –**

NCIR will not populate this field

**MSH-9 Message Type**

**Definition:** This is a required field. Within HL7, the triggering event is considered to be the real-world circumstance causing the message to be sent.

MSH|^~\&|NCIR|NCIR-SHORT-ORG||**NCIR**|2010082411452311111||**QBP^Q11^QBP\_Q11**|

**Inbound –**

Value accepted is QBP^Q11^QBP\_Q11.

If field is missing or invalid (values other than the ones specified above), reject the message and send an error message: “MSH-9: Required field. Please enter valid values.

**Outbound –**

Value sent out for RSP: **RSP^K11^RSP\_K11**.

MSH|^~\&|NCIR8.9.2|NCIR||ORGANIZATION^^|20131025114021.213-0400||**RSP^K11^RSP\_K11**|

**MSH-10 Message Control ID**

**Definition:** This is a required field. The message control ID is a string (which may be a number) uniquely identifying the message among all those ever sent by the sending system. It is assigned by the sending system and echoed back in the RSP message sent in response in MSA-2.

MSH|^~\&|NCIR|NCIR-SHORT-ORG||**NCIR**|2010082411452311111||QBP^Q11^QBP\_Q11|**20131025114021RM00**|

**Inbound –**

If field is empty, the message will be rejected and an error message will be sent: “MSH-10: Message Control-id missing.”

---

**Outbound –**

For NCIR the string is the date and time of the transaction and the order of the message in a batch (last 2 digits)- Ex: the following message was sent on 07/03/2012 at 16:41:30 and it was the first message in the batch: 2012070316413000

MSH|^~\&|NCIR8.9.0^|NCIR^M||12345^|20130225174751.398-0500||RSP^K11^RSP\_K11|20131025114021RM00

**MSH-11 Processing ID**

**Definition:** This is a required field. The processing ID to be used by NCIR is P for production processing. NCIR will always send out a value of “P” in this field.

MSH|^~\&|NCIR|NCIR-SHORT-ORG||**NCIR**|2010082411452311111||QBP^Q11^QBP\_Q11|20131025114021RM00|**P**^

**Inbound –**

For incoming messages, the value in this field must always be “P”. If not “P” or if the field is blank, reject transaction and send an error message: “MSH-11: Processing Id missing or invalid.”

**Outbound –**

NCIR will always send out a value of “P” in this field.

**MSH-12 Version ID**

**Definition:** This is a required field. For example, use a value of “2.5.1” to indicate HL7 Version.

MSH|^~\&|NCIR|NCIR-SHORT-ORG||**NCIR**|2010082411452311111||QBP^Q11^QBP\_Q11|20131025114021RM00||**2.5.1**|

**Inbound –**

NCIR will accept the value “2.5.1”. If there is no version number found in the MSH segment, or the value is not 2.5.1, the file will not be processed. Error message will be sent “File Rejected. MSH-12: Version Id missing.”

If the case of mixed HL7 transactions, the file will be rejected and error message sent: "FILE REJECTED - MIXED HL7 VERSIONS. HL7 VERSION 2.5.1 REQUIRED. "

---

**Outbound** – Providers submitting information to NCIR must communicate by HL7 2.5.1 only. For these providers, NCIR will also return files in version 2.5, indicated in MSH-12. Providers not submitting information to NCIR may request to download client updates by HL7 version 2.5.1, or 2.4.

### ***MSH-13 Sequence Number***

**Definition:** This field is not used. NCIR does not populate this field.

***Inbound*** –

This field is not used. NCIR will ignore value if sent.

***Outbound*** –

NCIR will not populate this field.

### ***MSH-14 Continuation Number***

**Definition:** This field is not used. NCIR does not populate this field.

***Inbound*** –

This field is not used. NCIR will ignore value if sent.

***Outbound*** –

NCIR will not populate this field.

### ***MSH-15 Accept Acknowledgment Type***

**Definition:** This field controls whether an acknowledgement is generated for the message sent. Please send NE in this field.

---

MSH|^~\&|NCIR|NCIR-SHORT-ORG||NCIR|2010082411452311111||QBP^Q11^QBP\_Q11|20131025114021RM00||2.5.1|||NE

***Inbound –***

This field controls whether an acknowledgement is generated for the message sent. NCIR requires a value of NE.

If the field is empty, NCIR will default to NE. If a value other than NE is sent, a warning message will be provided: "MSH-15: Accept Acknowledgement Type invalid value. QBP accepts NE"

***Outbound –***

NCIR will send NE in this field.

### ***MSH-16 Application Acknowledgment Type***

***Definition:*** This field contains the conditions under which application acknowledgements are required to be returned in response to a message.

MSH|^~\&|NCIR|NCIR-SHORT-ORG||**NCIR**|2010082411452311111||QBP^Q11^QBP\_Q11|20131025114021RM00||2.5.1|||NE|AL

***Inbound –***

Constrained to AL (Always). If field is empty, NCIR will default to AL. If value other than AL, a warning message will be sent: "MSH-16: Application Acknowledgment Type invalid value. QBP accepts AL"

***Outbound –***

NCIR will not populate this field.

### ***MSH-17 Country Code (ID) 00017***

***Definition:*** This field is not used. NCIR does not populate this field.

***Inbound –***

This field is not used. NCIR will ignore value if sent.

---

***Outbound –***

NCIR will not populate this field.

***MSH-18 Character Set***

***Definition:*** This field is not used. NCIR does not populate this field.

***Inbound –***

This field is not used. NCIR will ignore value if sent.

***Outbound –***

NCIR will not populate this field.

***MSH-19 Principle Language of Message***

***Definition:*** This field is not used. NCIR does not populate this field.

***Inbound –***

This field is not used. NCIR will ignore value if sent.

***Outbound –***

NCIR will not populate this field.

***MSH-20 Alternate Character Set Handling Scheme***

***Definition:*** This field is not used. NCIR does not populate this field.

---

***Inbound –***

This field is not used. NCIR will ignore value if sent.

***Outbound –***

NCIR will not populate this field.

***MSH-21 Message Profile Identifier (EI) 01598***

***Definition:*** Message Profile Identifier. This field is required for the QBP (Query) Message and its three response Messages.

MSH|^~\&|NCIR|NCIR-SHORT-ORG||NCIR|2010082411452311111||QBP^Q11^QBP\_Q11|20131025114021RM00||2.5.1|||NE|AL||||  
**Z34^CDCPHINVS**

***Inbound –***The value accepted in this field is Z34^CDCPHINVS If the field is blank or it has a different value than the one accepted, the message will be rejected and an error sent: "MSH-21: Message Profile Identifier missing or invalid."

***Outbound –***

For RSP messages, the values sent in this field are:

Z32^CDCPHINVS (an exact match was found)

Z33^CDCPHINVS (no candidate was found)

Z31^CDCPHINVS (multiple candidate list).

If an error is returned (e.g. required field missing, search results exceed max limit), MSH-21 will not be populated.

## NK1—Next of Kin Segments (RSP Only)

The NK1 segment will be included in the RSP in the scenario where:

- Exactly one match is found
- Multiple candidates are found with the total less than the maximum allowed

### Definition:

The NK1 segment contains information about the patient's related parties. Any associated parties may be identified. Utilizing NK1-1-set ID, multiple NK1 segments can be sent to patient accounts.

**Table 5-9-Next of Kin Segment (NK1)**

| SEQ | LEN | Data Type | Cardinality | Value set     | ELEMENT NAME                               | CDC IG Usage | NCIR Usage | Constraint  |
|-----|-----|-----------|-------------|---------------|--|--------------|------------|---|
| 1   | 4   | SI        | [1..1]      |               | Set ID - NK1                               | R            | R          |   |
| 2   |     | XPN       | [1..*]      |               | Name                                       | R            | R          | The first instance is the legal name and is required. |
| 3   |     | CE        | [1..1]      | 0063          | Relationship                               | R            | R          |   |
| 4   |     | XAD       | [0..*]      | 0289          | Address                                    | RE           | RE         | The first instance shall be the primary address.      |
| 5   |     | XTN       | [0..*]      |               | Phone Number                               | RE           | RE         | The first instance shall be the primary phone number. |
| 6   |     | XTN       | [0..*]      |               | Business Phone Number                      | O            | X          |   |
| 7   |     | CE        | [0..1]      | 0131          | Contact Role                               | O            | X          |   |
| 8   | 8   | DT        | [0..1]      |               | Start Date                                 | O            | X          |   |
| 9   | 8   | DT        | [0..1]      |               | End Date                                   | O            | X          |   |
| 10  | 60  | ST        | [0..1]      |               | Next of Kin / Associated Parties Job Title | O            | X          |   |
| 11  |     | JCC       | [0..1]      | 0327/<br>0328 | Next of Kin / Associated                   | O            | X          |   |

| SEQ | LEN | Data Type | Cardinality | Value set | ELEMENT NAME                                     | CDC IG Usage | NCIR Usage | Constraint |
|-----|-----|-----------|-------------|-----------|--|--------------|------------|------------|
|     |     |           |             |           | Parties Job Code/Class                           |              |            |            |
| 12  |     | CX        | [0..1]      |           | Next of Kin / Associated Parties Employee Number | O            | X          |            |
| 13  |     | XON       | [0..1]      |           | Organization Name - NK1                          | O            | X          |            |
| 14  |     | CE        | [0..1]      | 0002      | Marital Status                                   | O            | X          |            |
| 15  | 1   | IS        | [0..1]      | 0001      | Administrative Sex                               | O            | X          |            |
| 16  |     | TS        | [0..1]      |           | Date/Time of Birth                               | O            | X          |            |
| 17  | 2   | IS        | [0..1]      | 0223      | Living Dependency                                | O            | X          |            |
| 18  | 2   | IS        | [0..1]      | 0009      | Ambulatory Status                                | O            | X          |            |
| 19  |     | CE        | [0..1]      | 0171      | Citizenship                                      | O            | X          |            |
| 20  |     | CE        | [0..1]      | ISO0639   | Primary Language                                 | O            | O          |            |
| 21  | 2   | IS        | [0..1]      | 0220      | Living Arrangement                               | O            | X          |            |
| 22  |     | CE        | [0..1]      | 0215      | Publicity Code                                   | O            | O          |            |
| 23  | 1   | ID        | [0..1]      | 0136      | Protection Indicator                             | O            | X          |            |
| 24  | 2   | IS        | [0..1]      | 0231      | Student Indicator                                | O            | X          |            |
| 25  |     | CE        | [0..1]      | 0006      | Religion   | O            | X          |            |
| 26  |     | XPN       | [0..1]      |           | Mother's Maiden Name                             | O            | X          |            |
| 27  |     | CE        | [0..1]      | 0212      | Nationality                                      | O            | X          |            |
| 28  |     | CE        | [0..1]      | 0189      | Ethnic Group                                     | O            | X          |            |
| 29  |     | CE        | [0..1]      | 0222      | Contact Reason                                   | O            | X          |            |

| SEQ | LEN | Data Type | Cardinality | Value set | ELEMENT NAME                               | CDC IG Usage | NCIR Usage | Constraint |
|-----|-----|-----------|-------------|-----------|--|--------------|------------|------------|
| 30  |     | XPN       | [0..1]      |           | Contact Person's Name                      | O            | X          |            |
| 31  |     | XTN       | [0..1]      |           | Contact Person's Telephone Number          | O            | X          |            |
| 32  |     | XAD       | [0..1]      |           | Contact Person's Address                   | O            | X          |            |
| 33  |     | CX        | [0..1]      |           | Next of Kin/Associated Party's Identifiers | O            | X          |            |
| 34  | 2   | IS        | [0..1]      | 0311      | Job Status                                 | O            | X          |            |
| 35  |     | CE        | [0..1]      | 0005      | Race                                       | O            | X          |            |
| 36  | 2   | IS        | [0..1]      | 0295      | Handicap                                   | O            | X          |            |
| 37  | 16  | ST        | [0..1]      |           | Contact Person Social Security Number      | O            | X          |            |
| 38  |     | ST        | [0..1]      |           | Next of Kin Birth Place                    | O            | X          |            |
| 39  | 2   | IS        | [0..1]      |           | VIP Indicator                              | O            | O          |            |

**Example:**

NK1 segment in RSP message:

```
NK1|1|LAST^FIRST^MIDDLE^^L^|MTH^MOTHER^HL70063^^|1234 W MAIN ST^ANYTOWN^NC^27850 ^^M^^^|^PRN^PH^
^919^5551234^^|ENGINE^English||02||||||||||||
```

---

## NK1 Field Definitions

### ***NK1-1 Set ID - NK1***

**Definition:** This is a required field. Sequential number format. Use "1" for the first NK1 within the message, "2" for the second, and so forth. Although this field is required by HL7, NCIR will ignore its value, and there is no requirement that the record for the same responsible person keep the same sequence number across multiple messages, in the case that information from the same record is transmitted more than once.

NK1|1|

#### ***Outbound –***

NCIR will send the sequential number of the NK1 segment. ("1" for the first NK1 segment,"2" for the second and so forth)

### ***NK1-2 Name***

**Definition:** Name of the responsible person who cares for the client.

NK1|1|Last Name^First Name^Middle Name^^^^L^|

#### ***Outbound –***

NCIR will send out the name of the responsible person.

### ***NK1-3 Relationship***

**Definition:** Relationship of the responsible person to the client. See data type CE and Table 0063 in the HL7 tables. Use the first three components of the CE data type, for example |MTH^Mother^HL70063|.

NK1|1|Last Name^First Name^Middle Name^^^^L^|MTH^MOTHER^HL70063^^^^|

#### ***Outbound –***

---

NCIR will send out the relationship of responsible person and refer to HL70063 for values sent.

#### ***NK1-4 Address***

**Definition:** Responsible person's mailing address.

NK1|1|LAST^FIRST^MIDDLE^^^L^|MTH^Mother^HL70063^^^|1234 W MAIN ST^^ANYTOWN^NC^27850^^M^^^|^

#### ***Outbound –***

NCIR will send out the responsible person's address, if there is one. NCIR sends out street address, other designation, city, state, zip, and address type of 'M' in NK1-4.

#### ***NK1-5 Phone Number***

**Definition:** Responsible person's phone number. If PRN is specified in component 2 (telecommunication use code (ID) from table 0201) NCIR will use the 6th 7th 8th and 9th components for specification of area code, phone number, extension and text, respectively.

NK1|1|LAST^FIRST^MIDDLE^^^L^|MTH^Mother^HL70063^^^|1234 W MAIN ST^^ANYTOWN^NC^27850^^M^^^|^PRN^PH^  
^^919^5551234^^|^

#### ***Outbound –***

When PRN is specified in component 2 (telecommunication use code (ID) from table 0201) NCIR will use the 6th 7th 8th and 9th components for specification of area code, phone number, extension and text, respectively (e.g.|^PRN^^^919^5551234^1234555^|^

#### ***NK1-20 Primary Language***

**Definition:** Indicates the responsible person's primary language.

NK1|1|LAST^FIRST^MIDDLE^^^L^|MTH^Mother^HL70063^^^|1234 W MAIN ST^^ANYTOWN^NC^27850^^M^^^|^PRN^PH^  
^^919^5551234^^||||||||||||ENG^English^HL70296||02|||||||||||||Y

#### ***Outbound –***

Send the responsible person's language that is set in UI.

---

**NK1-22 Publicity Code**

**Definition:** NK1-22 Controls whether recall/reminder notices are sent for the responsible person. NCIR will recognize "01" to indicate no recall/reminder notices or "02" recall/reminder notices are sent. If no value provided or invalid value, default to "02."

NK1|1|LAST^FIRST^MIDDLE^^^L^| MTH^Mother^HL70063^^|1234 W MAIN ST^^ANYTOWN^NC^27850^^M^^^|^PRN^PH^  
^919^5551234^^||||||||||||ENG^English||02|

**Outbound –**

NCIR will send value "01" or "02" to indicate whether reminder notices are sent for the RP. If client deceased, "01" is sent out to prevent notices for deceased client.

**NK1-39 VIP Indicator**

**Definition:** Indicates whether Responsible person is identified as a "Primary" Responsible person.

NK1|1|LAST^FIRST^MIDDLE^^^L^| MTH^Mother^HL70063^^|1234 W MAIN ST^^ANYTOWN^NC^27850^^M^^^|^PRN^PH^  
^919^5551234^^||||||||||||ENG^English||02|||||||||||||Y

**Outbound –**

NCIR will send the value "Y" to indicate a Primary Responsible Person, and "N", to indicate the Responsible person is not the primary.

---

## OBX—Observation Result Segment (RSP Only)

The observation result segment has many uses. It carries observations about the object of its parent segment. In the RSP it is associated with the RXA or immunization record. The basic format is a question (OBX-3) and an answer (OBX-5).

The examples listed below are categorized based on information OBX conveys in NCIR context

### *Funding Source:*

OBX|1|CE|30963-3^Vaccine purchased with^LN|1|VXC2^State Funds^CDCPHINVS|||||F|||20121219|

OBX|2|CE|30963-3^^LN^^|1|PVF^Private Funds^NIP008^^|||||F|||20130401|

[Use HL7 2.5 code for privately purchased as this is HL7 2.5 LIG]

### *Eligibility Code:*

OBX|3|CE|64994-7^vaccine fund pgm elig cat^LN|1|V02^Medicaid^HL70064|||||F|||20130401|||VXC41^per visit^CDCPHINVS

*Vaccine identification segment* followed by VIS date presented and published.

### Single-Antigen Vaccine

OBX|1|TS|38890-0^Component Vaccine Type^LN|1|107^DTaP^CVX|||||F

OBX|2|TS|29768-9^VIS Publication Date^LN|1|20080110|||||F|||20120223<CR>

OBX|3|TS|29769-7^VIS Presentation Date^LN|1|20091010|||||F|||20120223<CR>

### Combination Vaccine

*(Each component in a Combination Vaccine should be identified individually and followed by VIS date presented and published.)*

OBX|1|TS|38890-0^Component Vaccine Type^LN|1|107^DTaP^CVX|||||F

OBX|2|TS|29768-9^DATE VACCINE INFORMATION STATEMENT PUBLISHED^LN|1|20070517|||||F|||20091010|

OBX|3|TS|29769-7^DATE VACCINE INFORMATION STATEMENT PRESENTED^LN|1|20091010|||||F|||20091010|

OBX|4|TS|38890-0^Component Vaccine Type^LN N|2|17^Hib^CVX|||||F

OBX|5|TS|29768-9^DATE VACCINE INFORMATION STATEMENT PUBLISHED^LN|2|20140204|||||F|||20091010|

OBX|6|TS|29769-7^DATE VACCINE INFORMATION STATEMENT PRESENTED^LN|2|20091010|||||F|||20091010|

### *Contraindications, Immunity, special indication and reactions:*

OBX|1|CE|59784-9^Disease with presumed immunity^LN^^|1|371111005^Immunity: Measles^SCT^^|

OBX|1|CE|30945-0^Contraindication^LN|2|91930004^Allergy Egg^SCT^^|||||F|||20100101|

OBX|1|CE|31044-^Reaction^LN|3|39579001^Anaphylaxis^CDCPHINVS^^|||||F|||20100101|

OBX|1|CE|59785-6^Special^LN|4|VXC7^Rabies Exposure^CDCPHINVS^^|||||F|||20100101|

**Table 5-10 Observation Segment (OBX)**

| SEQ | LEN | Data Type           | Cardinality | Value Sets | ELEMENT NAME                             | CDC IG Usage | NCIR Usage | Comment  |
|-----|-----|---------------------|-------------|------------|--|--------------|------------|--|
| 1   | 4   | SI                  | [1..1]      |            | Set ID – OBX                             | R            | R          |  |
| 2   | 2   | ID                  | [1..1]      | 0125       | Value Type                               | R            | R          | CE, NM, DT, or TS  |
| 3   |     | CE                  | [1..1]      |            | Observation Identifier                   | R            | R          | This indicates what this observation refers to. It poses the question that is answered by OBX-5. |
| 4   | 20  | ST                  | [1..1]      |            | Observation Sub-ID                       | R            | R          |  |
| 5   |     | varies <sup>2</sup> | [1..1]      |            | Observation Value                        | R            | R          | This is the observation value and answers the question posed by OBX-3                            |
| 6   |     | CE                  | [0..1]      |            | Units                                    | CE           | X          | If the observation in OBX-5 requires an indication of the units, they are placed here.           |
| 7   | 60  | ST                  | [0..1]      |            | References Range                         | O            | X          |  |
| 8   | 5   | IS                  | [0..1]      | 0078       | Abnormal Flags                           | O            | X          |  |
| 9   | 5   | NM                  | [0..1]      |            | Probability                              | O            | X          |  |
| 10  | 2   | ID                  | [0..1]      | 0080       | Nature of Abnormal Test                  | O            | X          |  |
| 11  | 1   | ID                  | [1..1]      | 0085       | Observation Result Status                | R            | R          | Constrain to F   |
| 12  |     | TS                  | [0..1]      |            | Effective Date of Reference Range Values | O            | X          |  |
| 13  | 20  | ST                  | [0..1]      |            | User Defined Access Checks               | O            | X          |  |

<sup>2</sup> The length of the observation field is variable, depending upon value type. See *OBX-2 value type*.

|    |  |     |        |  |  |    |    |  |
|----|--|-----|--------|--|--|----|----|--|
| 14 |  | TS  | [1..1] |  | Date/Time of the Observation             | RE | RE |  |
| 15 |  | CE  | [0..1] |  | Producer's Reference                     | O  | X  |  |
| 16 |  | XCN | [0..1] |  | Responsible Observer                     | O  | X  |  |
| 17 |  | CE  | [0..1] |  | Observation Method                       | O  | RE | If OBX-3 is 64994-7 field must contain value VXC40 or VXC41. |
| 18 |  | EI  | [0..1] |  | Equipment Instance Identifier            | O  | X  |  |
| 19 |  | TS  | [0..1] |  | Date/Time of the Analysis                | O  | O  |  |
| 20 |  |     | [0..1] |  | Reserved for harmonization with V2.6     | O  | X  |  |
| 21 |  |     | [0..1] |  | Reserved for harmonization with V2.6     | O  | X  |  |
| 22 |  |     | [0..1] |  | Reserved for harmonization with V2.6     | O  | X  |  |
| 23 |  | XON | [0..1] |  | Performing Organization Name             | O  | X  |  |
| 24 |  | XAD | [0..1] |  | Performing Organization Address          | O  | X  |  |
| 25 |  | XCN | [0..1] |  | Performing Organization Medical Director | O  | X  |  |

---

## OBX Field Definitions

### ***OBX-1 Set ID - OBX***

**Definition:** This is a required field. Sequential numbers. Use “1” for the first OBX within the message, “2” for the second, and so forth.

OBX|1|

#### ***Outbound –***

NCIR will send the sequence number.

### ***OBX-2 Value Type***

**Definition:** This is a required field. This field contains the data type which defines the format of the observation value in OBX-5.

Example: OBX|1|**CE**|

#### ***Outbound –***

NCIR will send out values of CE for Coded Entry, TS for Timestamp, NM for Number, and DT for Date, depending on what is actually sent in OBX-5.

### ***OBX-3 Observation Identifier***

**Definition:** This indicates what this observation refers to. It poses the question that is answered by OBX-5.

OBX|1|**CE|30963-3^Vaccine purchased with^LN|**

#### ***Outbound –***

NCIR sends out a number of vaccination related information through OBX. Depending on information sent out, a value from table below will be sent out in OBX-3. NCIR sends out funding source (state supplied or privately purchased), eligibility code, VIS information presented and published for each administered dose. NCIR also sends out recommendations and series information depending on set up in the NCIR. Refer to table below for values sent in OBX-3 and corresponding OBX-5.

| OBX-3 value | Corresponding valid OBX-5 value  |
|-------------|--|
| 29769-7     | yyyymmdd0000^Date Vaccine Information Statement Presented^NIP003^^^  |
| 29768-9     | yyyymmdd0000^Date Vaccine Information Statement Published^NIP003^^^  |
| 30963-3     | PBF^Public Funds^NIP008^^^   |
|             | PVF^Private Funds^NIP008^^^  |
|             | PHC70^Private Funds^CDCPHINVS^^^   |
|             | VXC1^Federal Funds^CDCPHINVS^^^  |
|             | VXC2^State Funds^CDCPHINVS^^^  |
| 30979-9     | Vaccines due next: first triplet CVX code (required) and second triplet can record CPT code, vaccine group code, or trade name ID<br>e.g.  85^HepA^CVX^90730^HepA^C4 <br> 45^HepB^CVX^90731^HepB^C4  |
| 30980-7     | Date vaccine due: yyyymmdd   |
| 59777-3     | Latest date to give: yyyymmdd  |
| 30981-5     | Earliest date to give: yyyymmdd  |
| 30973-2     | Vaccine due next dose number in series (numerical value, e.g. 1, 2,3)  |
| 30982-3     | Reason applied by forecast logic to project this vaccine: ACIP schedule  |
| 38890-0     | Use CVX code for the component. Each vaccine group is associated with a group of OBX, using the OBX-4 observation sub-id.<br>OBX 1 CE 38890-0^Component Vaccine Type^LN 1 21^Varicella^CVX     F<CR><br>.....<br>OBX 4 CE 38890-0^Component Vaccine Type^LN 2 03^MMR^CVX     F<CR> |
| 30956-7     | Use CVX code for the vaccine<br>OBX 1 CE 30956-7^vaccine type^LN 1 03^MMR^CVX     F<CR><br>OBX 1 CE 30956-7^vaccine type^LN 1 45^Hep B, unspecified formulation^CVX     F<CR>  |
| 30973-2     | Dose Number in Series (numerical value, e.g. 1,2,3)  |

| OBX-3 value                             | Corresponding valid OBX-5 value                        |
|---|--|
|   | CH01^North Carolina Health Choice^HL70064              |
|   | IS00^Insured ^HL70064                                  |
|   | IS01^Underinsured (No FQHC RHC)^HL70064                |
|   | V02^Medicaid^HL70064                                   |
|   | V03^Not Insured^HL70064                                |
|   | V04^American Indian Alaskan Native^HL70064             |
|   | NC02^Title X Uninsured Unaccompanied Minor^HL70064 *   |
| 64994-7                                 |  |
| 59784-9 , 59785-6<br>, 30945-0, 31044-1 | For client comment specific OBX-5 values. See Appendix |

#### **OBX-4 Observation Sub-ID**

**Definition:** If the OBX is used for sending out Series Information and Recommendations (on the Outbound), the number in this field groups together related OBX segments. For example, a single recommendation for DTP/aP is sent in a grouped set of five OBX segments, all with the same sub-identifier in OBX-4. The sub-identifier increments sequentially.

#### **Outbound –**

OBX-4 is used to combine related OBX segments.

#### **OBX-5 Observation Value**

**Definition:** This is a required field and is used for reporting the value associated with OBX-3

#### **Outbound –**

The values sent out in OBX-5 corresponds to the question in OBX-3. The values are listed in the table included under OBX-3.

Examples:

*Vaccine Funding Information:*

---

OBX|1|CE|30963-3^Vaccine purchased with^LN|1|VXC2^State Funds^CDCPHINVS|

OBX|1|CE|30963-3^Vaccine purchased with^LN|1|PHC70^Private Funds^CDCPHINVS^^^|

*Eligibility code:*

OBX|2|64994-7^Vaccine fund pgm elig cat^LN|1|V02^Medicaid|||||F||||20130503||VXC41^per visit^CDCPHINVS|||||||

*Vaccine identification segment followed by VIS date presented and published.date*

Single-Antigen Vaccine

OBX|1|CE|38890-0^Component vaccine type^LN|1|03^MMR^CVX|||||F||||20120223<CR>

OBX|2|TS|29768-9^VIS Publication Date^LN|1|20080110|||||F||||20120223<CR>

OBX|3|TS|29769-7^VIS Presentation Date^LN|1|20091010|||||F||||20120223<CR>

Combination Vaccine

*(Each component in a Combination Vaccine should be identified individually and followed by VIS date presented and published.*

OBX|1|TS|38890-0^Component Vaccine Type^LN|1|107^DTaP^CVX|||||F

OBX|2|TS|29768-9^DATE VACCINE INFORMATION STATEMENT PUBLISHED^LN|1|20070517|||||F||||20091010|||||||

OBX|3|TS|29769-7^DATE VACCINE INFORMATION STATEMENT PRESENTED^LN|1|20091010|||||F||||20091010|||||||

OBX|4|TS|38890-0^Component Vaccine Type^LN N|2|17^Hib^CVX|||||F

OBX|5|TS|29768-9^DATE VACCINE INFORMATION STATEMENT PUBLISHED^LN|2|20140204|||||F||||20091010|||||||

OBX|6|TS|29769-7^DATE VACCINE INFORMATION STATEMENT PRESENTED^LN|2|20091010|||||F||||20091010|||||||

*Contraindications, Immunity, special indication and reactions:*

OBX|1|CE|59784-9^Disease with presumed immunity^LN^^^|1|371111005^Immunity: Measles^SCT^^^|

OBX|1|CE|30945-0^Contraindication^LN|2|91930004^Allergy Egg^SCT^^^|||||F||||20100101|

OBX|1|CE|31044-^Reaction^LN|3|39579001^Anaphylaxis^CDCPHINVS^^^|||||F||||20100101|

OBX|1|CE|59785-6^Special^LN|4|VXC7^Rabies Exposure^CDCPHINVS^^^|||||F||||20100101|

## **OBX-11 Observation Result Status**

**Definition:** This field contains the observation result status. This field is constrained to ' F'

OBX|1|CE|30963-3^Vaccine purchased with^LN|1|VXC2^State Funds^CDCPHINVS|||||F|

**Outbound –**

---

Records the observation result status.

### ***OBX-14 Date/Time of the Observation***

**Definition:** Records the time of the observation. NCIR ignores any time component. (yyyymmdd)

1|CE|30963-3^Vaccine purchased with^LN|1|VXC2^State Funds^CDCPHINVS|||||F|||20121219|

#### ***Outbound –***

Records the time of the observation (yyyymmdd).

### ***OBX-17 Observation Method***

**Definition:** Records the method for capturing funding program eligibility. This field is constrained to VXC40 or VXC41.

OBX|2|CE|64994-7^vaccine fund pgm elig cat^LN|1|NC02^TITLE X^HL70064|||||F|||20130401|||VXC41^per visit^CDCPHINVS

#### ***Outbound –***

Records the method for capturing funding program eligibility.

### ***OBX-19 Date/Time of the Analysis***

**Definition:** This field is used for comment end date.

OBX|4|CE|59784-9^Disease with presumed immunity^LN^^|1|371111005^Immunity:  
Measles^SCT^^|||||F|||20121219|||||20201231|||||

#### ***Outbound –***

NCIR will populate this field with client comments end date if available.

## ORC—Order Request Segment (RSP Only)

The Common Order segment (ORC) is used to transmit fields that are common to all orders (all types of services that are requested). Each RXA must be associated with one ORC, based on HL7 2.5.1 standard.

Example 1: immunization from Inventory

```
ORC|RE|1|||||12345^Clinician Last^Clinician First^||||1234^Organization Site^|||||
```

Example 2: historical immunization:

```
ORC|RE||1|
```

Example 3: refusal/religious exemption:

```
ORC|RE||9999|
```

**Table 5-11-Common Order Segment (ORC)**

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME             | CDC IG Usage | NCIR Usage | Comment             |
|-----|-----|-----------|-------------|-----------|--------------------------|--------------|------------|---------------------|
| 1   | 2   | ID        | [1..1]      | 0119      | Order Control            | R            | R          | use RE              |
| 2   |     | EI        | [0..1]      |           | Placer Order Number      | RE           | X          | See Guidance below. |
| 3   |     | EI        | [1..1]      |           | Filler Order Number      | R            | R          | See Guidance below. |
| 4   |     | EI        | [0..1]      |           | Placer Group Number      | O            | X          |                     |
| 5   | 2   | ID        | [0..1]      | 0038      | Order Status             | O            | X          |                     |
| 6   | 1   | ID        | [0..1]      | 0121      | Response Flag            | O            | X          |                     |
| 7   |     | TQ        | [0..0]      |           | Quantity/Timing          | X            | X          |                     |
| 8   |     | EIP       | [0..1]      |           | Parent                   | O            | X          |                     |
| 9   |     | TS        | [0..1]      |           | Date/Time of Transaction | O            | X          |                     |

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                     | CDC IG Usage | NCIR Usage | Comment  |
|-----|-----|-----------|-------------|-----------|----------------------------------|--------------|------------|--|
| 10  |     | XCN       | [0..1]      |           | Entered By                       | RE           | RE         | This is the person that entered this immunization record into the system.  |
| 11  |     | XCN       | [0..1]      |           | Verified By                      | O            | X          |  |
| 12  |     | XCN       | [0..1]      |           | Ordering Provider                | RE           | RE         | This shall be the provider ordering the immunization. It is expected to be empty if the immunization record is transcribed from a historical record. |
| 13  |     | PL        | [0..1]      |           | Enterer's Location               | O            | X          |  |
| 14  |     | XTN       | [0..1]      |           | Call Back Phone Number           | O            | X          |  |
| 15  |     | TS        | [0..1]      |           | Order Effective Date/Time        | O            | X          |  |
| 16  |     | CE        | [0..1]      |           | Order Control Code Reason        | O            | X          |  |
| 17  |     | CE        | [0..1]      |           | Entering Organization            | O            | O          | This is the provider organization that entered this record/order.  |
| 18  |     | CE        | [0..1]      |           | Entering Device                  | O            | X          |  |
| 19  |     | XCN       | [0..1]      |           | Action By                        | O            | X          |  |
| 20  |     | CE        | [0..1]      | 0339      | Advanced Beneficiary Notice Code | O            | X          |  |
| 21  |     | XON       | [0..1]      |           | Ordering Facility Name           | O            | X          |  |
| 22  |     | XAD       | [0..1]      |           | Ordering Facility Address        | O            | X          |  |

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                                | CDC IG Usage | NCIR Usage | Comment |
|-----|-----|-----------|-------------|-----------|---|--------------|------------|---------|
| 23  |     | XTN       | [0..1]      |           | Ordering Facility Phone Number              | O            | X          |         |
| 24  |     | XAD       | [0..1]      |           | Ordering Provider Address                   | O            | X          |         |
| 25  |     | CWE       | [0..1]      |           | Order Status Modifier                       | O            | X          |         |
| 26  |     | CWE       | [0..1]      | 0552      | Advanced Beneficiary Notice Override Reason | O            | X          |         |
| 27  |     | TS        | [0..1]      |           | Filler's Expected Availability Date/Time    | O            | X          |         |
| 28  |     | CWE       | [0..1]      | 0177      | Confidentiality Code                        | O            | X          |         |
| 29  |     | CWE       | [0..1]      | 0482      | Order Type                                  | O            | X          |         |
| 30  |     | CNE       | [0..1]      | 0483      | Enterer Authorization Mode                  | O            | X          |         |

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                        | CDC IG Usage | NCIR Usage | Comment |
|-----|-----|-----------|-------------|-----------|-------------------------------------|--------------|------------|---------|
| 31  |     | CWE       | [0..1]      |           | Parent Universal Service Identifier | O            | X          |         |

## ORC Field Definitions

### *ORC-1 Order Control*

**Definition:** Determines the function of the order segment. The value for RSP is RE.

ORC|RE|

**Outbound –** If empty field or value other than RE, NCIR defaults to RE.

### *ORC-3 Filler Order Number*

**Definition:** NCIR will use this value to identify the order within provider organization sent orders.

ORC|RE||1|||||^|12345^Clinician Last^Clinician First^|||1234^Organization Site^^^|

**Outbound –**

NCIR will send Immunization ID in this field. For refusals or religious exemptions, NCIR will send out "9999"

ORC|RE||105193813|

### *ORC-10 Entered By*

**Definition:** (Entered By) - Optional field.



## PD1—Patient Demographic Segment (RSP Only)

The Patient Demographic Segment contains patient demographic information that may change from time to time. There are three primary uses for in Immunization Messages. These include indicating whether the person wants his/her data protected, whether the person wants to receive recall/reminder notices and the person's current status in the registry.

PD1||||||||||02|N||||A|20121218134335||||

**Table 5-12-Patient Demographic Segment (PD1)**

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                                | CDC IG Usage | NCIR Usage | Comment |
|-----|-----|-----------|-------------|-----------|---|--------------|------------|---------|
| 1   | 2   | IS        | [0..1]      | 0223      | Living Dependency                           | O            | X          |         |
| 2   | 2   | IS        | [0..1]      | 0220      | Living Arrangement                          | O            | X          |         |
| 3   | 250 | XON       | [0..1]      |           | Patient Primary Facility                    | O            | X          |         |
| 4   | 250 | XCN       | [0..1]      |           | Patient Primary Care Provider Name & ID No. | O            | X          |         |
| 5   | 2   | IS        | [0..1]      | 0231      | Student Indicator                           | O            | X          |         |
| 6   | 2   | IS        | [0..1]      | 0295      | Handicap                                    | O            | X          |         |
| 7   | 2   | IS        | [0..1]      | 0315      | Living Will Code                            | O            | X          |         |
| 8   | 2   | IS        | [0..1]      | 0316      | Organ Donor Code                            | O            | X          |         |
| 9   | 1   | ID        | [0..1]      | 0136      | Separate Bill                               | O            | X          |         |
| 10  | 250 | CX        | [0..1]      |           | Duplicate Patient                           | O            | X          |         |

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                                | CDC IG Usage | NCIR Usage | Comment  |
|-----|-----|-----------|-------------|-----------|---|--------------|------------|--|
| 11  | 250 | CE        | [0..1]      | 0215      | Publicity Code                              | RE           | RE         |  |
| 12  | 1   | ID        | [0..1]      | 0136      | Protection Indicator                        | RE           | RE         |  |
| 13  | 8   | DT        | [0..1]      |           | Protection Indicator Effective Date         | CE           | X          | If protection indicator is valued, then this field should be valued. |
| 14  | 250 | XON       | [0..1]      |           | Place of Worship                            | O            | X          |  |
| 15  | 250 | CE        | [0..1]      | 0435      | Advance Directive Code                      | O            | X          |  |
| 16  | 1   | IS        | [0..1]      | 0441      | Immunization Registry Status                | RE           | RE         |  |
| 17  | 8   | DT        | [0..1]      |           | Immunization Registry Status Effective Date | CE           | O          | If the registry status field is filled, then this should be valued.  |
| 18  | 8   | DT        | [0..1]      |           | Publicity Code Effective Date               | CE           | X          |  |
| 19  | 5   | IS        | [0..1]      | 0140      | Military Branch                             | O            | X          |  |
| 20  | 2   | IS        | [0..1]      | 0141      | Military Rank/Grade                         | O            | X          |  |
| 21  | 3   | IS        | [0..1]      | 0142      | Military Status                             | O            | X          |  |

## PD1 Field Definitions

### PD1-11 Publicity Code

**Definition:** NCIR does not allow choice at client level to decide receiving rem/recall. NCIR uses NK1 to send this information at responsible person level.

PD1|||||||02|

---

**Outbound** – NCIR will always send “02” unless client is deceased.

***PD1-12 Protection Indicator***

**Definition:** Controls visibility of records to other organizations. Indicates whether or not consent has been given (or assumed) for record sharing. In NCIR, it is not allowed to opt out. This field is always set to **N** - sharing IS allowed.

PD1|||||||||02|**N**|

**Outbound** –

Value: "N"

***PD1-16 Immunization Registry Status***

**Definition:** Identifies the status of the patient to the sending organization. See table 0441.

PD1|||||||||02|N|||**A**|

**Outbound** –

Values A, I, or P will be returned depending on whether the client is set active, Inactive or permanently deceased respectively in the NCIR for the organization.

***PD1-17 Immunization Registry Status Effective Date (DT) 01570***

**Definition:** Effective date for registry status reported in PD1-16. Format is YYYYMMDD.

PD1|||||||||02|N|||A|**20121218134335**|

**Outbound** –

NCIR will not send any value in this field.

## PID—Patient Identifier Segment (RSP Only)

The PID segment will be included in the RSP in the scenario where:

- Exactly one match is found
- Multiple candidates are found with the total less than the maximum allowed

### Definition:

The PID is used by all applications as the primary means of communicating patient identification information. This segment contains permanent patient identifying and demographic information that, for the most part, is not likely to change frequently.

### Example:

RSP: PID|1||1234567890^^^PI^|Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^|20110219|F||2106-3^White^HL7005|||||||2186-5^Not Hispanic or Latino^HL70189||N|1||||N|||||||

**Table 5-13-Patient Identifier Segment (PID)**

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                 | CDC IG Usage | NCIR Usage | Constraint   |
|-----|-----|-----------|-------------|-----------|------------------------------|--------------|------------|--|
| 1   | 4   | SI        | [0..1]      |           | Set ID - PID                 | RE           | RE         |  |
| 2   |     | CX        | [0..0]      |           | Patient ID                   | X            | X          |  |
| 3   |     | CX        | [1..*]      | 0203      | Patient Identifier List      | R            | RE         |  |
| 4   |     | CX        | [0..0]      |           | Alternate Patient ID - 00106 | X            | X          |  |
| 5   |     | XP        | [1..*]      |           | Patient Name                 | R            | R          | The first repetition shall contain the legal name. Multiple given names or initials are separated by spaces. |
| 6   |     | XP        | [0..1]      |           | Mother's Maiden Name         | RE           | RE         |  |
| 7   |     | TS        | [1..1]      |           | Date/Time of Birth           | R            | R          | Required, must have month, day and year.   |

|    |    |     |        |         |                                   |    |    |   |
|----|----|-----|--------|---------|-----------------------------------|----|----|---|
| 8  | 1  | IS  | [0..1] | 0001    | Administrative Sex                | RE | RE | M= male, F = female, U = not determined/unspecified/unknown.                                      |
| 9  |    | XPN | [0..0] |         | Patient Alias                     | X  | X  | This field should not be used. It was supported in earlier implementations.                       |
| 10 |    | CE  | [0..*] | 0005    | Race                              | RE | RE |   |
| 11 |    | XAD | [0..*] |         | Patient Address                   | RE | RE | The first repetition should be the primary address.   |
| 12 | 4  | IS  | [0..0] | 0289    | County Code                       | X  | X  | County belongs in address field.  |
| 13 |    | XTN | [0..*] |         | Phone Number - Home               | RE | RE | The first instance shall be the primary phone number.<br>Only one item is allowed per repetition. |
| 14 |    | XTN | [0..*] |         | Phone Number - Business           | O  | X  |   |
| 15 |    | CE  | [0..1] | ISO0639 | Primary Language                  | O  | RE | Use ISO 0639.   |
| 16 |    | CE  | [0..1] | 0002    | Marital Status                    | O  | X  |   |
| 17 |    | CE  | [0..1] | 0006    | Religion                          | O  | X  |   |
| 18 |    | CX  | [0..1] |         | Patient Account Number            | O  | X  |   |
| 19 | 16 | ST  | [0..0] |         | SSN Number - Patient              | X  | X  |   |
| 20 |    | DLN | [0..0] |         | Driver's License Number - Patient | X  | X  |   |
| 21 |    | CX  | [0..0] |         | Mother's Identifier               | X  | X  |   |
| 22 |    | CE  | [0..1] | 0189    | Ethnic Group                      | RE | RE | First triplet shall contain the Ethnic group.   |

|    |    |     |        |      |                             |    |         |   |
|----|----|-----|--------|------|-----------------------------|----|---------|---|
| 23 | 60 | ST  | [0..1] |      | Birth Place                 | O  | X       | Use may be specified locally.   |
| 24 | 1  | ID  | [0..1] | 0136 | Multiple Birth Indicator    | RE | RE      | The acceptable values are Y and N. If the status is undetermined, then field shall be empty.  |
| 25 | 2  | NM  | [0..1] |      | Birth Order                 | CE | C(RE/O) | If Multiple Birth Indicator is populated with Y, then this field should contain the number indicating the person's birth order, with 1 for the first child born and 2 for the second. |
| 26 |    | CE  | [0..1] | 0171 | Citizenship                 | O  | X       |   |
| 27 |    | CE  | [0..1] | 0172 | Veterans Military Status    | O  | X       |   |
| 28 |    | CE  | [0..1] | 0212 | Nationality                 | O  | X       |   |
| 29 |    | TS  | [0..1] |      | Patient Death Date and Time | RE | C(RE/X) |   |
| 30 | 1  | ID  | [0..1] | 0136 | Patient Death Indicator     | CE | RE      | If patient death date is populated, then this field should be populated.  |
| 31 | 1  | ID  | [0..1] | 0136 | Identity Unknown Indicator  | O  | X       |   |
| 32 | 20 | IS  | [0..1] | 0445 | Identity Reliability Code   | O  | X       |   |
| 33 |    | TS  | [0..1] |      | Last Update Date/Time       | O  | X       | May be locally specified.   |
| 34 |    | HD  | [0..1] |      | Last Update Facility        | O  | X       | Use is locally specified.   |
| 35 |    | CE  | [0..1] | 0446 | Species Code                | O  | X       |   |
| 36 |    | CE  | [0..1] | 0447 | Breed Code                  | O  | X       |   |
| 37 | 80 | ST  | [0..1] |      | Strain                      | O  | X       |   |
| 38 |    | CE  | [0..1] | 0429 | Production Class Code       | O  | X       |   |
| 39 |    | CWE | [0..1] | 0171 | Tribal Citizenship          | O  | X       |   |

---

## PID Field Definitions

### ***PID-1 Set ID - PID***

**Definition:** (optional) This field contains the number that identifies this transaction. For the first occurrence of the segment, the sequence number shall be one, for the second occurrence, the sequence number shall be two, etc.

PID|1||1234567890^^^PI^|Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^|20110219|F||2106-3^White^HL7005|||||||||2186-5^Not Hispanic or Latino^HL70189||N|1||||N|||||

#### ***Outbound –***

NCIR will populate with sequence number.

### ***PID-3 Patient Identifier List***

**Definition:** Sub-components 1 (ID) and 5 (identifier type code see Table 0203) are required in the PID-3 field if populated. This is a repeating field and can send NCIR client id, NCIR organization chart # and/or NCIR secondary chart #.

PID|1||12870388^^^^SR^~CHART123^^^^PI^~SECOND123^^^^PT^|

#### ***Outbound –***

When NCIR is sending to an outside system, NCIR will send the client's NCIR Client ID (SR) and Chart Number (PI) when it is available. Group Chart Number (PT) will be sent in addition to Chart Number and Client ID if available.

### ***PID-5 Patient Name***

**Definition:** Patient Name is recorded in PID-5 (Last name^First name^Middle name)

PID|1||1234567890^^^PI^|Last Name^First Name^Middle Name^^^^L^|

#### ***Outbound –***

NCIR will send the last name, first name, and if available, the middle name. Only the first three components are used by NCIR.

---

### ***PID-6 Mother's Maiden Name***

**Definition:** In this context, where the mother's name is used for client identification, NCIR uses only last name and first name.

PID|1||1234567890^^^PI^||Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^^^|

#### ***Outbound –***

NCIR sends out only the last name and first name of mother's maiden name.(e.g. |Last Name^First Name^^^|

### ***PID-7 Date/Time of Birth***

**Definition:** This is a required field. Give the year, month, and day of birth (YYYYMMDD). NCIR ignores any time component.

PID|1||1234567890^^^PI^||Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^|20110219|

#### ***Outbound –***

NCIR sends out the year, month, and day of birth (YYYYMMDD).

### ***PID-8 Administrative Sex***

**Definition:** Values are F (Female), M (Male), or U (Unknown).

PID|1||1234567890^^^PI^||Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^|20110219|F|

#### ***Outbound –***

Returns either F, M, or U

### ***PID-10 Race***

**Definition:** This field refers to the patient's race. Refer to User-defined Table 0005 - Race for suggested values.

PID|1||1234567890^^^PI^||Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^|20110219|F||2106-3^White^HL7005|

---

***Outbound –***

When sending data to provider, HL70005 table is used to plug in a race code value.

***PID-11 Patient Address***

***Definition:*** Address is returned in NK1 and not in PID-11. Local implementations have the flexibility to accept/send address here or in NK1. In NCIR, the address will be sent in the NK1.

***Outbound –***

NCIR will not populate this field.

***PID-13 Phone Number - Home***

***Definition:*** Phone number is returned in the NK1 segment and not in PID-13 in the NCIR.

***Outbound –***

NCIR will not populate this field.

***PID-15 Primary Language***

***Definition:*** Local implementations have the flexibility to send primary language here or in the NK1 segment. NCIR will use NK1 to specify primary language.

***Outbound –***

NCIR will not populate this field.

***PID-22 Ethnic Group***

***Definition:*** This field further defines the patient's ancestry. Refer to User-defined Table 0189 - Ethnic Group.

---

PID|1||1234567890^^^PI^||Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^|20110219|F||2106-3^White^HL7005|||||||||2186-5^Not Hispanic or Latino^HL70189|

**Outbound –**

Send out if a value is stored in the NCIR. Refer to HL70189 table for values. If blank in the NCIR, send out “Unknown.”

**PID-24 Multiple Birth Indicator**

**Definition:** Use Y to indicate that the client was born in a multiple birth and N to indicate client not born in a multiple birth.

- the patient was part of a multiple birth = Y
- the patient was a single birth = N
- multiple birth status is undetermined = Empty
- PID|1||1234567890^^^PI^||Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^|20110219|F||2106-3^White^HL7005|||||||||2186-5^Not Hispanic or Latino^HL70189||N|

**Outbound –**

NCIR will populate with Y or N if available.

**PID-25 Birth Order**

**Definition:** Relevant when client was born in a multiple birth. Use 1 for the first born, 2 for the second, etc.

**Outbound –**

PID|1||1234567890^^^PI^||Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^|20110219|F||2106-3^White^HL7005|||||||||2186-5^Not Hispanic or Latino^HL70189||N|2|

---

### ***PID-29 Patient Death Date and Time***

**Definition:** The date of death, if client is deceased. Give the year, month, and day (YYYYMMDD). NCIR ignores any time component.

**Outbound –**

NCIR will send if value stored.

### ***PID-30 Patient Death Indicator***

**Definition:** This field indicates whether the patient is deceased. Refer to HL7 Table 0136 - Yes/no Indicator for valid values.

- The patient is deceased = Y
- The patient is not deceased = N
- Status is undetermined = Empty

PID|1||1234567890^^^PI^||Last Name^First Name^Middle Name^^^L^|Last Name^First Name^Middle Name^^^|20110219|F||2106-3^White^HL7005|||||||||2186-5^Not Hispanic or Latino^HL70189||N|1||||20130909|Y|

**Outbound –**

NCIR will send Y if Patient Death Indicator is set to Y. If patient is not deceased, this field will be set to N.

---

## QAK – Query Acknowledgement Segment (RSP Only)

The QAK segment will be included in the RSP in the scenario where:

- No records are found
- Exactly one match is found
- Multiple candidates are found with the total exceeding the maximum allowed
- Multiple candidates are found with the total less than the maximum allowed

**Table 5-14-Query Acknowledgement Segment**

| SEQ | LEN | Data Type | CDC IG Cardinality | Value set | ELEMENT NAME          | CDC IG Usage | NCIR Usage | Comment |
|-----|-----|-----------|--------------------|-----------|-----------------------|--------------|------------|---------|
| 1   | 32  | ST        | [1..1]             |           | Query Tag             | R            | R          |         |
| 2   | 2   | ID        | [0..1]             | 0208      | Query Response Status | O            | RE         |         |
| 3   |     | CE        | [0..1]             | 0471      | Message Query Name    | O            | R          |         |
| 4   | 10  | NM        | [0..1]             |           | Hit Count             | O            | X          |         |
| 5   | 10  | NM        | [0..1]             |           | This payload          | O            | X          |         |
| 6   | 10  | NM        | [0..1]             |           | Hits remaining        | O            | X          |         |

### Example:

RSP: QAK|QUERY\_TAG|AA|Z34^Request Immunization History^HL70471|||

## QAK Field Definitions

### QAK-1 Query Tag

**Definition:** This field will return the value sent in QPD-2 (query tag) by the initiating system, and will be used to match response messages to the originating query. The responding system is required to echo it back as the first field in the query acknowledgement segment (QAK).

---

***Outbound –***

NCIR will send out the value submitted in QPD-2.

***QAK-2 Query Response Status***

***Definition:*** This field allows the responding system to return a precise response status.

***Outbound –***

NCIR will send out values found in HL7 Table 0208 (OK, NF, AE, AR, and TM). NF indicates no candidate found matching the request. If search results exceed the system value or value in RCP-2, NCIR will send out TM. If AR (Application reject), AE(Application Error), or TM (Number of matches exceed system value) value is sent in this field, RSP will also return one ERR segment included

***QAK-3 Message Query Name***

***Definition:*** This field contains the name of the query. This shall mirror the QPD-1 (Message Query Name) found in the query message that is being responded to.

***Outbound –***

NCIR will send out the QPD-1 value from the incoming query.

## QPD – Query Parameter Definition

The QPD segment will be included in the RSP in the scenario where:

- No records are found
- Exactly one match is found
- Multiple candidates are found with the total exceeding the maximum allowed
- Multiple candidates are found with the total less than the maximum allowed

### Definition:

The QPD segment in the query response (RSP) echoes the Query Parameter Definition (QPD) segment sent in the requesting query.

**Table 5-15-Query Parameter Definition (QPD)**

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                              | CDC IG Usage | NCIR Usage | Comment  |
|-----|-----|-----------|-------------|-----------|---|--------------|------------|--|
| 1   |     | CE        | [1..1]      | 0471      | Message Query Name                        | R            | R          |  |
| 2   | 32  | ST        |             |           | Query Tag                                 | R            | R          | Generated by the initiating system.  |
| 3   |     | varies    |             |           | User Parameters: Patient Identifiers List | R            | RE         | The specification of this sequence is found in the profile specific to the use case. |
| 4   |     |           |             |           | User Parameters: Patient Name             |              | R          |  |
| 5   |     |           |             |           | User Parameters: Mother's Maiden Name     |              | RE         |  |
| 6   |     |           |             |           | User Parameters: Patient Date of Birth    |              | R          |  |
| 7   |     |           |             |           | User Parameters: Patient Sex              |              | RE         |  |

|    |  |  |  |  |   |  |    |  |
|----|--|--|--|--|---|--|----|--|
| 8  |  |  |  |  | User Parameters:<br>Patient Address                     |  | RE |  |
| 9  |  |  |  |  | User Parameters:<br>Patient Home<br>Phone Number        |  | X  |  |
| 10 |  |  |  |  | User Parameters:<br>Patient Multiple<br>Birth Indicator |  | RE |  |
| 11 |  |  |  |  | User Parameters:<br>Patient Birth Order                 |  | RE |  |
| 12 |  |  |  |  |   |  | X  |  |

**Example:**

QBP/RSP:

QPD|Z34^Request Immunization  
 History^HL70471|QUERY\_TAG|99999999^SR^~88888888^MPI^~77777777^MPT^|CLIENT^FIRST^MIDDLE^M^  
 ^|MAIDEN^MOTHERS^M^|20130315|F|1234 MICHIGAN AVE^RALEIGH^NC^27615^M^Y|1|

**QPD Field Definitions**

***QPD-1 Message Query Name***

**Definition:** This field contains the name of the query. These names are assigned by the function-specific chapters of this specification. It is one to one with the conformance statement for this query name, and it is in fact an identifier for that conformance statement.

QPD|Z34^Request Immunization History^HL70471|

***Inbound –***

Value required: Z34^Request Immunization History ^HL70471.

---

***Outbound –***

NCIR will echo the value sent in QPD-1 of the QBP transaction

***QPD-2 Query Tag***

***Definition:*** This field must be valued by the initiating system to identify the query, and may be used to match response messages to the originating query.

QPD|Z34^Request Immunization History^HL70471|**QUERY\_TAG**|

***Inbound –***

This value should be unique to each query message instance. This field will be echoed back as first field in QAK.

***Outbound –***

NCIR will echo the value sent in QPD-2 of the QBP transaction, For QBP in outbound (RSP), this field will echo what was received in QPD-2 of the QBP transaction.

***QPD-3 User Parameters: Patient Identifier List***

***Definition:*** This field contains the sending system Chart Number, Secondary Chart Number and/or NCIR client id.

QPD|Z34^Request Immunization History^HL70471|QUERY\_TAG|**99999999^SR^~88888888^PI^~77777777^PT^**|

***Inbound –***

NCIR will use the provided patient identifier list value to match a candidate record. NCIR organization chart # or NCIR secondary chart # may be provided in this field to identify a client. Use PI for providing NCIR organization chart #, PT for NCIR secondary chart # and/or SR to provide NCIR client id (if known), Refer to example above.

Note: The NCIR organization chart # and NCIR secondary chart # are stored for a client when a VXU transaction for the client is sent or when the user enters the client directly in the NCIR. If no match is found based on chart # or secondary chart #, other values (like Name, DOB) will be used to identify the client. The NCIR client id is unique identifier assigned by NCIR and may also be used if your system stores it after the first retrieval from the NCIR.

---

**Outbound –**

NCIR will echo the value sent in QPD-3 of the QBP transaction. This field will echo what was received in the QPD-3 of the QBP transaction.

**QPD-4 User Parameters: Patient Name**

**Definition:** This field contains the client name. See the XPN data type.

QPD|Z34^Request Immunization

History^HL70471|QUERY\_TAG|99999999^^^SR^~88888888^^^PI^~77777777^^^PT^|CLIENT^FIRST^MIDDLE^\*\*\*\*\*|

**Inbound –**

This is a required field. Last name and first name are required in the first two components. If the Name Type Code component is included, use L-Legal.

**Outbound –**

NCIR will echo the value sent in QPD-4 of the QBP transaction.

**QPD-5 User Parameters: Patient Mother's Maiden Name**

**Definition:** This field contains the mother's maiden name. See the XPN data type.

QPD|Z34^Request Immunization

History^HL70471|QUERY\_TAG|99999999^^^SR^~88888888^^^PI^~77777777^^^PT^|CLIENT^FIRST^MIDDLE^  
^^^|MAIDEN^MOTHERS^\*\*\*\*\*|

**Inbound –**

In this context, where the mother's name is used for client identification, NCIR uses only last name and first name.

It is recommended that mother's maiden name be populated for best results. If provided, the mother's maiden name along with name, DOB, patient identifier list and other fields are used to get search results.

**Outbound –**

NCIR will echo the value sent in QPD-5 of the QBP transaction (regardless of what is used by NCIR for search).

**QPD-6 User Parameters: Patient Date of Birth**

**Definition:** This field contains the client date of birth.

---

QPD|Z34^Request Immunization  
History^HL70471|QUERY\_TAG|99999999^^^SR^~88888888^^^PI^~77777777^^^PT^|CLIENT^FIRST^MIDDLE^  
^^^|MAIDEN^MOTHERS^^^|20130315|F|

***Inbound –***

This is a required field. Give the year, month, and day of birth (YYYYMMDD).

***Outbound –***

NCIR will echo the value sent in QDP-6 of the QBP transaction.

***QPD-7 User Parameters: Patient Sex***

***Definition:*** This field contains the client gender. See Table 0001. Use values F, M, or U.

QPD|Z34^Request Immunization  
History^HL70471|QUERY\_TAG|99999999^^^SR^~88888888^^^PI^~77777777^^^PT^|CLIENT^FIRST^MIDDLE^  
^^^|MAIDEN^MOTHERS^^^|20130315|F|

***Inbound –***

Provide the gender of the client.

***Outbound –***

NCIR will echo the value sent in QDP-7 of the QBP transaction.

***QPD-8 User Parameters: Patient Address***

***Definition:*** This field contains the client address. See XAD data type

QPD|Z34^Request Immunization  
History^HL70471|QUERY\_TAG|99999999^^^SR^~88888888^^^PI^~77777777^^^PT^|CLIENT^FIRST^MIDDLE^  
^^^|MAIDEN^MOTHERS^^^|20130315|F|1234 MICHIGAN AVE^^RALEIGH^NC^27615^^M^^NC091^^|Y|1|

***Inbound –***

Provide the client address to assist in identifying candidate clients. Providing address helps with search and is recommended.

***Outbound –***

NCIR will echo the value sent in QDP-8 of the QPD transaction.

---

**QPD-10 User Parameters: Patient Multiple Birth Indicator**

**Definition:** This field indicates Multiple Birth.

QPD|Z34^Request Immunization

History^HL70471|QUERY\_TAG|99999999^SR^~88888888^PI^~77777777^PT^|CLIENT^FIRST^MIDDLE^  
^^^|MAIDEN^MOTHERS^^^|20130315|F|1234 MICHIGAN AVE^^RALEIGH^NC^27615^^M^^NC091^^|Y|1|

**Inbound –**

Use Y to indicate that the client was born in a multiple birth, or N, if client was not born in a multiple birth.

**Outbound –**

NCIR will echo the value sent in QDP-10 of the QBP transaction.

**QPD-11 User Parameters: Patient Birth Order**

**Definition:** This field indicates Birth Order when client was born in a multiple birth.

QPD|Z34^Request Immunization

History^HL70471|QUERY\_TAG|99999999^SR^~88888888^PI^~77777777^PT^|CLIENT^FIRST^MIDDLE^  
^^^|MAIDEN^MOTHERS^^^|20130315|F|1234 MICHIGAN AVE^^RALEIGH^NC^27615^^M^^NC091^^|Y|1|

**Inbound –**

Use 1 for the first born, 2 for the second, etc.

**Outbound –**

NCIR will echo the value sent in QDP-11 of the QBP transaction.

## RCP – Response Control Parameter Segment (QBP Only)

**Definition:** The RCP segment is used to restrict the amount of data that should be returned in response to query. It lists the segments to be returned.

*Table 5-16-Response Control Parameter*

| SEQ | LEN | Data Type | CDC IG Cardinality | NCIR Cardinality | Value set | ELEMENT NAME                | CDC IG Usage | NCIR Usage | Comments  |
|-----|-----|-----------|--------------------|------------------|-----------|-----------------------------|--------------|------------|---|
| 1   | 1   | ID        | [0..1]             | [0..1]           | 0091      | Query Priority              | RE           | R          | Constrain to empty or I. Immediate priority is expected.  |
| 2   |     | CQ        | [0..1]             | [0..1]           | 0126      | Quantity Limited Request    | RE           | RE         | This field may contain a maximum number of records that may be returned. The first component contains the count and the second contains RD for records. |
| 3   |     | CE        | [0..1]             | [0..1]           | 0394      | Response Modality           | O            | O          |   |
| 4   |     | TS        | [0..1]             | [0..1]           |           | Execution and Delivery Time | O            | X          |   |
| 5   | 1   | ID        | [0..1]             | [0..1]           | 0395      | Modify Indicator            | O            | X          |   |
| 6   |     | SRT       | [0..1]             | [0..1]           |           | Sort-by Field               | O            | X          |   |
| 7   |     | ID        | [0..*]             | [0..*]           |           | Segment group inclusion     | O            | X          |   |

### Example:

QBP: RCP||20^RD|R|||

## RCP Field Definitions

### *RCP-1 Query Priority*

**Definition:** This field contains the time frame that the response is expected.

RCP||20^RD|R|||

---

***Inbound –***

NCIR constrains this field value to 'I', for immediate. Error message sent if field is missing or invalid (value other than I): "RCP-1: Query Priority is missing or invalid. Defaulting to I."

***RCP-2 Quantity Limited Request (CQ) 00031***

***Definition:*** The maximum number of patients that may be returned.

RCP||20^RD&records&HL70126|

***Inbound –***

NCIR expects the quantity and units to be present. If RCP-2.1 has a value less or equal to 20, NCIR may send candidates up to this number. If RCP-2.1 has a value greater than 20, then NCIR system may return a maximum of 20 candidates. Error message sent if RCP-2.2 field is invalid: RCP-2.2: Required field missing or invalid value. Defaulted to RD. RCP-2.2 is data type CE. Valid Identifier and Coding System values in RCP-2.2-1 and RCP-2.2-3 sub-components are RD and HL70126, respectively. RCP-2.2-2 description is not validated. RCP-2.2 subcomponents are separated by the ampersand: &.

***RCP-3 Response Modality (CE) 01440***

***Definition:*** This field specifies the timing and grouping of the response message(s). Refer to HL7 Table 0394 – Response modality

RCP||20^RD&records&HL70126|R^Real Time^HL70394|||

***Inbound –***

NCIR constrains RCP-3.1 value to 'R'. RCP-3.3 value must equal 'HL70394', if provided. Error message sent if RCP-3.1 or RCP-3.3 values are invalid: "RCP-3: Response Modality missing or invalid. Defaulting to R."

---

## RXA-- Pharmacy/Treatment Administration Segment (RSP Only)

The RXA segment will be included in the RSP in the scenario where:

- Exactly one match is found

### Definition:

The RXA segment carries pharmacy administration data. It is a child of an ORC segment, which is a repeating segment in the VXU message. Because ORC segments are allowed to repeat, an unlimited numbers of vaccinations may be included in a message. Each RXA must be preceded by an ORC.<sup>3</sup>

### Examples:

RXA can carry administered dose (inventory dose), historical dose or parent refusal and religious exemptions.

#### Inventory dose:

```
RXA|0|1|20110410|20110410|10^Polio injectable^CVX^90713^Polio injectable^C4|0.5|ML||00^^^|12345^Clinician Last^Clinician  
First^|^SITE-12345|||testlot1|20151226|PMC||CP|A||||
```

```
RXA|0|1|20160512|20160512|48^Hib-PRP-T^CVX^49281-0545-05^^NDC|0.5|ML||00^^^|12345^Clinician Last^Clinician First^|^SITE-  
12345|||testlot1|20151226|MSD||CP|A||||
```

#### Historical dose:

```
RXA|0|1|20110607|20110607|20^DTaP^CVX^Certiva^^VTN|999|||01^Historical^^^^^^|CP|A|
```

#### Parent Refusal and Religious exemptions:

```
RXA|0|1|20120828|20120828|03^MMR^CVX^^|999|||00^parent refusal^NIP002||RE|A|
```

```
RXA|0|1|20120828|20120828|03^MMR^CVX^^|999|||01^Religious Exemption^NIP002||RE|A|
```

---

<sup>3</sup> The HL7 Version 2.5.1 document clearly indicates that any RXA must be associated with an ORC. In the case of immunization, each immunization will have its own ORC.

**Table 5-17 Pharmacy/Treatment Administration (RXA)**

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                      | CDC IG Usage | NCIR Usage | Comment   |
|-----|-----|-----------|-------------|-----------|-----------------------------------|--------------|------------|---|
| 1   | 4   | NM        | [1..1]      |           | Give Sub-ID Counter               | R            | R          | Constrain to 0 (zero)   |
| 2   | 4   | NM        | [1..1]      |           | Administration Sub-ID Counter     | R            | R          | Constrain to 1  |
| 3   |     | TS        | [1..1]      |           | Date/Time Start of Administration | R            | R          |   |
| 4   |     | TS        | [0..1]      |           | Date/Time End of Administration   | RE           | RE         | If populated, this should be the same as Start time (RXA-3)   |
| 5   |     | CE        | [1..1]      | 0292      | Administered Code                 | R            | R          | CVX code is strongly preferred.   |
| 6   | 20  | NM        | [1..1]      |           | Administered Amount               | R            | R          | If administered amount is not recorded, use 999.  |
| 7   |     | CE        | [0..1]      |           | Administered Units                | CE           | C(R/O)     | If previous field is populated by any value except 999, it is required.   |
| 8   |     | CE        | [0..1]      |           | Administered Dosage Form          | O            | X          |   |
| 9   |     | CE        | [0..*]      | NIP 0001  | Administration Notes              | RE           | C(R/O)     | The primary use of this field is to convey if this immunization record is based on a historical record or was given by the provider recording the immunization. All systems should be able to support this use. Other uses of this field are permitted, but need to be specified locally. |
| 10  |     | XCN       | [0..1]      |           | Administering Provider            | RE           | RE         | This is the person who gave the administration or the vaccinator. It is not the ordering clinician.   |
| 11  |     | LA2       | [0..1]      |           | Administered-at Location          | RE           | RE         | The Facility value will be sent in the first subcomponent of component 4.   |
| 12  | 20  | ST        | [0..1]      |           | Administered Per (Time Unit)      | O            | X          |   |

|    |    |     |        |        |   |    |         |  |
|----|----|-----|--------|--------|---|----|---------|--|
| 13 | 20 | NM  | [0..1] |        | Administered Strength                   | O  | X       |  |
| 14 |    | CE  | [0..1] |        | Administered Strength Units             | O  | X       |  |
| 15 | 20 | ST  | [0..*] |        | Substance Lot Number                    | RE | C(R/O)  |  |
| 16 |    | TS  | [0..1] |        | Substance Expiration Date               | CE | C(RE/O) | If the lot number is populated, this field should be valued.   |
| 17 |    | CE  | [0..*] | 0227   | Substance Manufacturer Name             | RE | C(R/O)  |  |
| 18 |    | CE  | [0..*] | NIP002 | Substance/Treatment Refusal Reason      | C  | C(R/X)  | If the Completion status is RE, then this shall be populated   |
| 19 |    | CE  | [0..1] |        | Indication                              | O  | X       |  |
| 20 | 2  | ID  | [0..1] | 0322   | Completion Status                       | RE | RE      | If this field is not populated, it is assumed to be CP or complete. If the Refusal reason is populated, this field shall be set to RE. |
| 21 | 2  | ID  | [0..1] | 0323   | Action Code - RXA                       | RE | RE      |  |
| 22 |    | TS  | [0..1] |        | System Entry Date/Time                  | O  | X       |  |
| 23 | 5  | NM  | [0..1] |        | Administered Drug Strength Volume       | O  | X       |  |
| 24 |    | CWE | [0..1] |        | Administered Drug Strength Volume Units | O  | X       |  |
| 25 |    | CWE | [0..1] |        | Administered Barcode Identifier         | O  | X       |  |
| 26 | 1  | ID  | [0..1] | 0480   | Pharmacy Order Type                     | O  | X       |  |

---

## **RXA Field Definitions**

### ***RXA-1 Give Sub-ID Counter***

**Definition:** This field is constrained to 0 (zero).

RXA|0

**Outbound –**

Sends out "0".

### ***RXA-2 Administration Sub-ID Counter***

**Definition:** This field is used to track multiple RXA under an ORC. Since each ORC has only one RXA in immunization messages, this value is constrained to 1.

RXA|0|1|

**Outbound –**

Sends out "1".

### ***RXA-3 Date/Time Start of Administration***

**Definition:** This is a required field indicating the date the vaccine was given or refused.

RXA|0|1|20121219|

**Outbound –**

Vaccination/refusal date. If a historical dose with estimated dose date, populate RXA-20 with DE to indicate estimated date in RXA-3

---

### ***RXA-4 Date/Time End of Administration***

**Definition:** This field indicates the End administration date. In the context of immunization, this field is equivalent to the Start date/time, and if populated, should equal the value in RXA-3.

RXA|0|1|20121219|20121219|

#### ***Outbound –***

NCIR will send the same value as in RXA-3. If the RXA segment indicates a comment with an end date, that end date will be sent in RXA-4.

### ***RXA-5 Administered Code***

**Definition:** This field identifies the vaccine administered/offered.

#### ***Outbound –***

For administered dose (state or privately purchased), the field will contain CVX code in first triplet and C4 (CPT) code or Package NDC in second triplet. The second triplet option is established as part of Data Exchange setup.

RXA|0|1|20110410|20110410|10^Polio injectable^CVX^90713^Polio injectable^C4|0.5|ML||00^  
RXA|0|1|20160512|20160512|48^Hib-PRP-T^CVX^49281-0545-05^NDC|0.5|ML||00^

For historical/non-deducting doses, this field will send out CVX code in the first triplet. The second triplet will send out C4 or Vaccine Group code.

RXA|0|1|20100312|20100312|120^Dtap-Hib-IPV^CVX^90698^Dtap-Hib-IPV^C4|999|||01^  
RXA|0|1|20090414|20090414|107^DTaP, unspecified formulation^CVX^DTP/aP^DTP/aP^VGC|0.5|ML||00^

If CVX is unknown for historical doses, the first triplet can be blank

For refusal and religious exemptions, the field indicates the code of vaccine or vaccine group: Refer to appendix for vaccine group codes.

RXA|0|1|20120828|^MMR^VGC|999|||||||00^PARENTAL REFUSAL^NIP002^|RE|||||  
RXA|0|1|20120828|^MMR^VGC|999|||||||01^RELIGIOUS EXEMPTION^NIP002^|RE|||||

---

RXA|0|999|20110425|20110425|03^MMR^CVX^^|999|||||||00^PARENTAL REFUSAL^NIP002|RE|A|  
RXA|0|999|20110425|20110425|28^DT^CVX^^|999|||||||01^RELIGIOUS EXEMPTION^NIP002|RE|A|

### ***RXA-6 Administered Amount***

**Definition:** This field identifies the amount of vaccine administered.

#### ***Outbound –***

For historical doses, parent refusals, and religious exemptions, NCIR will send out a value of "999"

For inventory and non-deducting doses, NCIR will send out existing dose amount in the NCIR.

### ***RXA-7 Administered units***

**Definition:** This field identifies the type of units administered. Required field if RXA-6 is populated with a value other than 999.

#### ***Outbound –***

For historical doses, NCIR will leave this field blank. For inventory dose, this field will be ml or caps, Non-deducting will behave as inventory doses and send what exists in UI.

Example: Historical dose:

RXA|0|1|20121219|20121219|03^MMR^CVX^90707^MMR^C4|999||

Example: Inventory dose:

RXA|0|1|20121219|20121219|03^MMR^CVX^90707^MMR^C4|0.5|ML|

### ***RXA-9 Administration Notes***

**Definition:** This field indicates whether the information being submitted in the RXA is an owned inventory dose, or if the information is historical.

Examples:

RXA|0|1|20110410|20110410|10^Polio injectable^CVX^90713^Polio injectable^C4|0.5|ML||00^^^|0.5|ML||00^|

RXA|0|1|20160512|20160512|48^Hib-PRP-T^CVX^^|999|||01^|

---

**Outbound –**

NCIR return “00” for inventory and non-deducting dose and “01” for historical dose.

***RXA-10 Administering Provider***

**Definition:** This field identifies the name of the administering clinician (VEI).

|^Clinician Last^Clinician First^Clinician Middle^|

**Outbound –**

If historical dose, NCIR will not populate. For non-deducting or inventory dose, NCIR will send the Administered By value if available.

(e.g. Id^Last Name^First Name)

***RXA-11 Administered-at Location***

**Definition:** This field identifies the facility where the vaccine was administered.

Example 1 – Inventory: |^^SITE-99999^^^^^^^^^^|

Example 2 – Historical: |^^PROVIDING ORGANIZATION^^^^^^^^^^|

**Outbound –**

NCIR will send out the provider site name and site id where the dose was administered. This value is populated in the first subcomponent of component 4 (Facility) of RXA-11. The provider site name is followed by a hyphen, “-“and the Site Id for Inventory doses. For historical doses, the Provider name text will be sent, or this field may be left empty if value not available.

***RXA-15 Substance Lot Number***

**Definition:** This field identifies the manufacturer’s lot number for the vaccine. NCIR does not support repetition of this field.

---

RXA|0|1|20121219|20121219|03^MMR^CVX^MMR II^Measles, mumps, and rubella live^VTN|0.5|ML||00^New Immunization^|12345^Clinician Last^Clinician First^Clinician Middle^~~~~~OE|^|^|^SITE-1234||||testlot1|

**Outbound –**

For historical doses/refusals, this field is left blank and lot number is populated for administered vaccine.

***RXA-16 Substance Expiration Date***

**Definition:** This field identifies the date the lot expires in the YYYYMMDD format.

e.g. |testlot1|20151226|

**Outbound –**

NCIR will send out the lot expiration date for administered dose. For historical doses/refusals, this field will be left blank.

***RXA-17 Substance Manufacturer Name***

**Definition:** This field identifies the vaccine manufacturer for an inventory dose. Refer to HL7 Table 0227. NCIR does not support repetition of this field.

e.g. |testlot1|20151226|MSD^Merck^MVX|

**Outbound –**

For historical doses/refusals, this field is left blank. For administered dose, vaccine manufacturer code is returned.

***RXA-18 Substance/Treatment Refusal Reason***

**Definition:** When applicable, this field displays the reason the patient refused the vaccine. See table NIP002. Any entry in this field indicates that the patient did not take the substance. The vaccine that was offered is recorded in RXA-5

**Outbound –**



## RXR-- Pharmacy/Treatment Route Segment (RSP Only)

The RXR segment will be included in the RSP in the scenario where:

- Exactly one match is found

### Definition:

The Pharmacy/Treatment Route segment contains the alternative combination of route, site, administration device, and administration method that are prescribed as they apply to a particular order.

**Table 5-18 Pharmacy/Treatment Route (RXR)**

| SEQ | LEN | Data Type | Cardinality | Value Set | ELEMENT NAME                 | CDC IG Usage | NCIR Usage | Comment |
|-----|-----|-----------|-------------|-----------|------------------------------|--------------|------------|---------|
| 1   | 4   | CE        | [1..1]      | HL7 0162  | Route                        | R            | R          |         |
| 2   | 4   | CWE       | [0..1]      | HL7 0163  | Administration Site          | RE           | RE         |         |
| 3   |     | CE        | [1..1]      |           | Administration Device        | O            | X          |         |
| 4   |     | CWE       | [0..1]      |           | Administration Method        | O            | X          |         |
| 5   |     | CE        | [1..1]      | 0292      | Routing Instructions         | O            | X          |         |
| 6   | 20  | CWE       | [1..1]      | 0495      | Administration Site Modifier | O            | X          |         |

### Example:

RSP: RXR|IM^HL70162^^|RA^HL70163^^|

---

## RXR Field Definitions

### ***RXR-1 Route***

**Definition:** This field is the route of administration. Refer to User-Defined Table 0162

|SC^Subcutaneous^HL70162|

#### ***Outbound –***

For non-deducting/inventory doses values: See Table 0162.

### ***RXR-2 Administration Site***

**Definition:** This field contains the site of the administration route. Refer to HL7 Table 0163.

LD^Left Deltoid^HL70163^^

#### ***Outbound –***

For non-deducting/inventory doses values: See Table 0163

## 6. Messages for Transmitting Immunization Information

Note: This chapter specifies NCIR message specifications and points out differences from CDC IG. Remember that it is acceptable to further constrain the CDC IG, but not acceptable to loosen the CDC IG.

The CDC IG contains no local business rules. Local business rules can be vitally important to a successful interface between an external system and your specific IIS.

This chapter describes each of the messages built from the segments described in Chapter 5, Segments and Message Details. The Segments are built using the Data Types specified in Chapter 4. Readers are referred to these chapters for specifics on these components.

**Table 6-1-Supported Messages**

| Message | Purpose   | Related Messages | Associated Profiles   | NCIR Supported  |
|---------|---|------------------|---|---|
| QBP     | Request Immunization History and Request Person Id                              | RSP              | Z34^CDCPHINVS   | Yes   |
| RSP     | Respond to Request for Immunization Record and Respond to Request for Person Id | QBP              | Z31^CDCPHINVS<br>Z32^CDCPHINVS<br>Z33^CDCPHINVS<br>^CDCPHINVS (Error) | Yes   |
| ACK     | Send Message Acknowledgement  | VXU, ADT, QBP    |   | Yes, for messages that cannot be deciphered, ACK is sent out. |

## Request Immunization History--QBP

Systems may send a query for NCIR records using a QBP. This query request may identify no records, a single record or multiple records as a match to the information submitted in the query. See Appendix B for example messages that illustrate the processing of this message. The following table lists the segments that are part of a QBP.

**Table 6-2 QBP– Query By Parameter/Segment Pattern Response**

| Segment | CDC IG Cardinality | NCIR Cardinality | CDC IG Usage | NCIR Usage | Comment  |
|---------|--------------------|------------------|--------------|------------|--|
| FHS     | [0,1]              | [0..1]           | O            | O          |  |
| BHS     | [0,1]              | [0..1]           | O            | O          |  |
| MSH     | [1..1]             | [1..1]           | R            | R          | The MSH must include an identifier which indicates the Query Profile used.                           |
| QPD     | [1..1]             | [1..1]           | R            | R          |  |
| RCP     | [1..1]             | [1..1]           | R            | R          | The Query Profile will list the segments that are expected to be returned in response to this query. |
| BTS     | [0,1]              | [0..1]           | O            | C          | Include BTS if BHS is sent   |
| FTS     | [0,1]              | [0..1]           | O            | C          | Include FTS if FHS is sent   |

## Respond to Request for Information--RSP

The RSP returns a response to the sending system and response depends on the results of the query. Three options exists which are no client found, multiple client found and one client matched. The format for each is listed below. This may indicate errors in processing.

- I. Response format (RSP) when no client matched the input query in QBP:  
Z33: A query identifying no match returns an RSP with no Segment Pattern section.

**Table 6-3-Segment Pattern Response (RSP): Z33 No match found or reject due to error in QBP**

| Segment | CDC IG Cardinality | NCIR Cardinality | CDC IG Usage | NCIR Usage | Comment   |
|---------|--------------------|------------------|--------------|------------|---|
| FHS     | [0,1]              | [0..1]           | O            | O          | FHS segment always returned.  |
| BHS     | [0,1]              | [0..1]           | O            | O          | BHS segment always returned.  |
| MSH     | [1..1]             | [1..1]           | R            | R          | The MSH will indicate which query is being responded to and what Query Profile it was based on. |
| MSA     | [1..1]             | [1..1]           | R            | R          |   |
| [ ERR ] | [0..1]             | [0..1]           | O            | O          | If errors exist, then this segment is populated.  |
| QAK     | [1..1]             | [1..1]           | R            | R          |   |
| QPD     | [1..1]             | [1..1]           | R            | R          | This segment echoes the Query Parameter Definition Segment sent in the requesting query.        |
| BTS     | [0,1]              | [0..1]           | O            | C          | BTS segment always returned.  |
| FTS     | [0,1]              | [0..1]           | O            | C          | FTS segment always returned.  |

- II. Response (RSP) format when more than one client matches the input query submitted in QBP:  
 Z31: A query identifying a list of candidates returns the client and responsible person demographic information in the Segment Pattern section to allow systems to identify the desired client and resubmit the query with more detailed client information.

**Table 6-4-Segment Pattern Response (RSP): Z31 Candidate List**

| Segment | CDC IG Cardinality | NCIR Cardinality | CDC IG Usage | NCIR Usage | Comment |
|---------|--------------------|------------------|--------------|------------|---------|
|---------|--------------------|------------------|--------------|------------|---------|

|                                       |        |        |    |    |  |
|---------------------------------------|--------|--------|----|----|--|
| FHS                                   | [0,1]  | [0..1] | O  | O  | FHS segment always returned.   |
| BHS                                   | [0,1]  | [0..1] | O  | O  | BHS segment always returned.   |
| MSH                                   | [1..1] | [1..1] | R  | R  |  |
| MSA                                   | [1..1] | [1..1] | R  | R  |  |
| [ ERR ]                               | [0..1] | [0..1] | O  | C  | If errors exist, then this segment is populated.   |
| QAK                                   | [1..1] | [1..1] | R  | R  | Query acknowledgement  |
| QPD                                   | [1..1] | [1..1] | R  | R  | This segment echoes the Query Parameter Definition Segment sent in the requesting query. |
| <b>Begin Patient Identifier Group</b> | [1..*] | [1..*] | R  | R  | Each message can have one or more patient identifier groups                              |
| PID                                   | [1..1] | [1..1] | R  | R  | Each patient identifier group requires one PID   |
| PD1                                   | [0..1] | [0..1] | R  | RE | Each patient identifier group may have 0 or 1 PD1  |
| NK1                                   | [0..*] | [0..4] | RE | RE | Each patient identifier group may have 0 to 4 responsible persons                        |
| <b>End Patient Identifier Group</b>   |        |        |    |    |  |
| BTS                                   | [0,1]  | [0..1] | O  | C  | BTS segment always returned.   |
| FTS                                   | [0,1]  | [0..1] | O  | C  | FTS segment always returned.   |

- III. Response (RSP) format when exactly one client matches the query submitted by QBP:  
 Z32: A query identifying one match returns the client and responsible person demographic information, and the client immunization history. Series and Immunization recommendations may also be sent depending on the provider preferences.

**Table 6-5-Segment Pattern Response (RSP): Z32 Single Match**

| Segment                               | CDC IG Cardinality | NCIR Cardinality | CDC IG Usage | NCIR Usage | Comment   |
|---------------------------------------|--------------------|------------------|--------------|------------|---|
| FHS                                   | [0,1]              | [0..1]           | O            | O          | FHS segment always returned.  |
| BHS                                   | [0,1]              | [0..1]           | O            | O          | BHS segment always returned.  |
| MSH                                   | [1..1]             | [1..1]           | R            | R          | The MSH will indicate which query is being responded to and what Query Profile it was based on. |
| MSA                                   | [1..1]             | [1..1]           | R            | R          |   |
| [ ERR ]                               | [0..1]             | [0..1]           | O            | C          | If errors exist, then this segment is populated.  |
| QAK                                   | [1..1]             | [1..1]           | R            | R          |   |
| QPD                                   | [1..1]             | [1..1]           | R            | R          | This segment echoes the Query Parameter Definition Segment sent in the requesting query.        |
| Begin Response Control Parameter      |                    |                  |              |            |   |
| <b>Begin Patient Identifier Group</b> | [1..1]             | [1..1]           |              |            | Exactly one patient identifier group will be sent   |
| PID                                   | [1..1]             | [1..1]           | R            | R          |   |

|  |        |        |    |    |  |
|--|--------|--------|----|----|--|
| PD1  | [0..1] | [0..1] | RE | RE |  |
| NK1  | [0..*] | [0..4] | RE | RE |  |
| <b>End Patient Identifier Group</b>        |        |        |    |    |  |
| PV1  | [0..1] | [0..1] | O  | RE | PV1 is no longer used to send eligibility code information. Eligibility code is sent in OBX. |
| <b>Begin Order Group</b>                   | [0..*] | [0..*] |    |    | Each RSP can have zero or more orders  |
| ORC  | [1..1] | [1..1] | R  | R  | Required if client has immunization records (RXA). There is one ORC for each RXA             |
| <b>Begin Pharmacy Administration Group</b> | [1..1] | [1..1] | R  | R  | Required if order group exists   |
| RXA  | [1..1] | [1..1] | R  | R  |  |
| RXR  | [0..1] | [0..1] | RE | RE |  |
| OBX  | [0..*] | [0..*] | RE | RE |  |
| <b>End Pharmacy Administration Group</b>   |        |        |    |    |  |
| <b>End Order Group</b>                     |        |        |    |    |  |
| End Response Control Parameter             |        |        |    |    |  |
| BTS  | [0,1]  | [0..1] | O  | C  | BTS segment always returned.   |

|     |       |        |   |   |                              |
|-----|-------|--------|---|---|------------------------------|
| FTS | [0,1] | [0..1] | O | C | FTS segment always returned. |
|-----|-------|--------|---|---|------------------------------|

IV: RSP format when an error is returned that prevented a query match submitted by QBP:  
No client or responsible person demographic information, nor the client immunization history is returned.

**Table 6-6-Segment Pattern Response (RSP): ^CDCPHINVS**

| Segment | CDC IG Cardinality | NCIR Cardinality | CDC IG Usage | NCIR Usage | Comment   |
|---------|--------------------|------------------|--------------|------------|---|
| FHS     | [0,1]              | [0..1]           | O            | O          | FHS segment always returned.  |
| BHS     | [0,1]              | [0..1]           | O            | O          | BHS segment always returned.  |
| MSH     | [1..1]             | [1..1]           | R            | R          | The MSH will indicate which query is being responded to and what Query Profile it was based on. |
| MSA     | [1..1]             | [1..1]           | R            | R          |   |
| [ ERR ] | [0..1]             | [0..1]           | O            | C          | If errors exist, then this segment is populated.  |
| QAK     | [1..1]             | [1..1]           | R            | R          |   |
| QPD     | [1..1]             | [1..1]           | R            | R          | This segment echoes the Query Parameter Definition Segment sent in the requesting query.        |
| BTS     | [0,1]              | [0..1]           | O            | C          | BTS segment always returned.  |
| FTS     | [0,1]              | [0..1]           | O            | C          | FTS segment always returned.  |

## Appendix A: Code Tables

### HL7 Values

| Appendix Type | Table | Name                | Value         | Description                                 |
|---------------|-------|---------------------|---------------|---|
| HL7           | 0001  | Sex                 |               |   |
|               | 0001  |                     | F             | Female                                      |
|               | 0001  |                     | M             | Male  |
|               | 0001  |                     | U             | Unknown                                     |
| HL7           | 0003  | Event Type          |               |   |
|               | 0003  |                     | A31           | ADT/ACK - Update patient information        |
|               | 0003  |                     | V04           | VXU - Unsolicited vaccination record update |
| User          | 0005  | Race                |               |   |
|               | 0005  |                     | 1002-5        | American Indian or Alaska Native            |
|               | 0005  |                     | 2028-9        | Asian                                       |
|               |       |                     | 2076-8        | Native Hawaiian or Other Pacific Islander   |
|               | 0005  |                     | 2054-5        | Black or African-American                   |
|               | 0005  |                     | 2106-3        | Caucasian                                   |
|               | 0005  |                     | 2131-1        | Other                                       |
|               | 0005  |                     | <empty field> | Unknown                                     |
| HL7           | 0008  | Acknowledgment Code |               |   |
|               | 0008  |                     | AA            | Application Accept                          |
|               | 0008  |                     | AE            | Application Error                           |
|               | 0008  |                     | AR            | Application Reject                          |
| User          | 0063  | Relationship        |               |   |
|               | 0063  |                     | BRO           | Brother                                     |
|               | 0063  |                     | CHD           | Child                                       |
|               | 0063  |                     | DOM           | Life Partner                                |
|               | 0063  |                     | EMC           | Emergency Contact                           |
|               | 0063  |                     | EXF           | Extended Family                             |
|               | 0063  |                     | FCH           | Foster Child                                |
|               | 0063  |                     | FTH           | Father                                      |
|               | 0063  |                     | GRD           | Guardian                                    |
|               | 0063  |                     | GRP           | Grandparent                                 |
|               | 0063  |                     | MTH           | Mother                                      |
|               | 0063  |                     | OAD           | Other Adult                                 |
|               | 0063  |                     | OTH           | Other                                       |
|               | 0063  |                     | PAR           | Parent                                      |
|               | 0063  |                     | SCH           | Stepchild                                   |
|               | 0063  |                     | SEL           | Self  |
|               | 0063  |                     | SIB           | Sibling                                     |
|               | 0063  |                     | SIS           | Sister                                      |
|               | 0063  |                     | SPO           | Spouse                                      |
|               | 0063  |                     | UNK           | Unknown                                     |
| HL7           | 0064  | Eligibility Code    | CH01          | North Carolina Health Choice                |
|               | 0064  |                     | IS00          | Insured                                     |
|               | 0064  |                     | IS01          | Underinsured (No FQHC/RHC)                  |
|               | 0064  |                     | V02           | Medicaid                                    |

| Appendix Type | Table | Name   | Value | Description                           |
|---------------|-------|--|-------|---------------------------------------|
|               | 0064  |  | V03   | Not Insured                           |
|               | 0064  |  | V04   | American Indian/Alaskan Native        |
|               | 0064  |  | NC02  | Title X Uninsured Unaccompanied Minor |
| HL7           | 0076  | Message Type                                 |       |                                       |
|               | 0076  |  | ACK   | General acknowledgment message        |
|               | 0076  |  | ADT   | ADT message                           |
|               | 0076  |  | QBP   | Query by Parameter                    |
|               | 0076  |  | RSP   | Response to Query by parameter        |
|               | 0076  |  | VXU   | Unsolicited vaccination record update |
| HL7           | 0085  | Observation result status codes              |       |                                       |
|               | 0085  |  | F     | Final                                 |
| HL7           | 0103  | Processing ID                                |       |                                       |
|               | 0103  |  | P     | Production                            |
| HL7           | 0104  | Version ID                                   |       |                                       |
|               | 0104  |  | 2.5.1 | Release 2.5.1 April 2007              |
| HL7           | 0119  | Order Control                                |       |                                       |
|               |       |  | RE    | Observations to follow                |
| HL7           | 0125  | Value Type                                   |       |                                       |
|               | 0125  |  | CE    | Coded Entry                           |
|               | 0125  |  | NM    | Number                                |
|               | 0125  |  | DT    | Date                                  |
|               | 0125  |  | TS    | Time Stamp                            |
| HL7           | 0136  | Yes/No Indicator                             |       |                                       |
|               | 0136  |  | Y     | Yes                                   |
|               | 0136  |  | N     | No                                    |
| HL7           | 0155  | Accept/Application Acknowledgment Conditions |       |                                       |
|               | 0155  |  | AL    | Always                                |
|               | 0155  |  | NE    | Never                                 |
|               | 0155  |  | ER    | Error/reject conditions only          |
|               | 0155  |  | SU    | Successful completion only            |
| HL7           | 0162  | Route of Administration                      |       |                                       |
|               | 0162  |  | ID    | Intradermal                           |
|               | 0162  |  | IM    | Intramuscular                         |
|               | 0162  |  | NS    | Nasal                                 |
|               | 0162  |  | IV    | Intravenous                           |
|               | 0162  |  | OTH   | Other                                 |
|               | 0162  |  | PO    | Oral                                  |
|               | 0162  |  | SC    | Subcutaneous                          |
|               | 0162  |  | TD    | Transdermal                           |
| HL7           | 0163  | Administrative Site                          |       |                                       |
|               | 0163  |  | LT    | Left Thigh                            |
|               | 0163  |  | LA    | Left Arm                              |
|               | 0163  |  | LD    | Left Deltoid                          |
|               | 0163  |  | LG    | Left Gluteous Medius                  |
|               | 0163  |  | LVL   | Left Vastus Lateralis                 |
|               | 0163  |  | LLFA  | Left Lower Forearm                    |

| Appendix Type | Table | Name                                   | Value         | Description   |
|---------------|-------|--|---------------|---|
|               | 0163  |  | RA            | Right Arm   |
|               | 0163  |  | RT            | Right Thigh   |
|               | 0163  |  | RVL           | Right Vastus Lateralis  |
|               | 0163  |  | RG            | Right Gluteous Medius   |
|               | 0163  |  | RD            | Right Deltoid   |
|               | 0163  |  | RLFA          | Right Lower Forearm   |
|               | 0163  |  | BN            | Bilateral Nares   |
|               | 0163  |  | LN            | Left Nares  |
|               | 0163  |  | RN            | Right Naris   |
| User          | 0189  | Ethnic Group                           |               |   |
|               | 0189  |  | 2135-2        | Hispanic  |
|               | 0189  |  | 2186-5        | Not Hispanic or Latino  |
|               | 0189  |  | <empty field> | Unknown   |
| HL7           | 0190  | Address Type                           |               |   |
|               | 0190  |  | M             | Mailing   |
| HL7           | 0200  | Name type                              |               |   |
|               | 0200  |  | L             | Legal name  |
| HL7           | 0201  | Telecommunication use code             |               |   |
|               | 0201  |  | PRN           | Primary residence number  |
| HL7           | 0203  | Identifier Type                        |               |   |
|               | 0203  |  | PI            | Patient internal identifier   |
|               | 0203  |  | SR            | State registry ID   |
|               | 0203  |  | PT            | Group Chart Number  |
| User          | 0215  | Publicity Code                         |               |   |
|               | 0215  |  | 01            | No reminder/recall  |
|               | 0215  |  | 02            | Yes reminder/recall – any method  |
| HL7           | 0227  | Manufacturers of vaccines (code = MVX) |               |   |
|               | 0227  |  | AB            | Abbott Laboratories   |
|               | 0227  |  | AD            | Adams Laboratories  |
|               | 0227  |  | ALP           | Alpha Therapeutic Corporation   |
|               | 0227  |  | AP            | Aventis Pastuer ( <b>Inactive</b> now mapped to PMC and values are sent out as PMC)       |
|               | 0227  |  | AR            | Armour ( <b>Inactive</b> – now mapped to CEN and values are sent out as CEN)              |
|               | 0227  |  | AVB           | Aventis Behring LLC ( <b>Inactive</b> – now mapped to CSL and values are sent out as CSL) |
|               | 0227  |  | AVI           | Aviron  |
|               | 0227  |  | BA            | Baxter ( <b>Inactive</b> – now mapped to BAH and values are sent out as BAH)              |
|               | 0227  |  | BAH           | Baxter Healthcare Corporation   |
|               | 0227  |  | BAY           | Bayer   |
|               | 0227  |  | BP            | Berna ( <b>Inactive</b> – now mapped to BPC and values are sent out as BPC)               |
|               | 0227  |  | BPC           | Berna Products Corporation  |
|               | 0227  |  | CEN           | Centeon L.L.C. ( <b>Inactive</b> – now mapped to AVB and values are sent out as AVB)      |
|               | 0227  |  | CHI           | Chiron Corporation ( <b>Inactive</b> – now mapped to NOV and values are sent out as NOV)  |

| Appendix Type | Table | Name | Value | Description   |
|---------------|-------|------|-------|---|
|               | 0227  |      | CNJ   | Cangene Corporation   |
|               | 0227  |      | CON   | Connaught ( <b>Inactive</b> – now mapped to PMC and values are sent out as PMC)                           |
|               | 0227  |      | CSL   | CSL Biotherapies  |
|               | 0227  |      | DVC   | DynPort Vaccine Company, LLC  |
|               | 0227  |      | EVN   | Evans ( <b>Inactive</b> – now mapped to WJ and values are sent out as PWJ)                                |
|               | 0227  |      | GEO   | GeoVax Labs, Inc  |
|               | 0227  |      | GRE   | Greer Laboratories  |
|               | 0227  |      | IAG   | Immuno International AG ( <b>Inactive</b> – now mapped to BAH and values are sent out as BAH)             |
|               | 0227  |      | IDB   | ID Biomedical   |
|               | 0227  |      | IM    | Merieux ( <b>Inactive</b> – now mapped to PMC and values are sent out as PMC)                             |
|               | 0227  |      | INT   | Intercell Biomedical  |
|               | 0227  |      | IUS   | Immuno-US   |
|               | 0227  |      | JPN   | The Research foundation for Microbial Diseases of Osaka U.  |
|               | 0227  |      | KGC   | Korea Green Cross   |
|               | 0227  |      | LED   | Lederle ( <b>Inactive</b> – now mapped to WAL and values are sent out as WAL)                             |
|               | 0227  |      | MA    | Massachusetts Public Health ( <b>Inactive</b> – now mapped to MBL and values are sent out as MBL)         |
|               | 0227  |      | MBL   | Massachusetts Biologic Laboratories   |
|               | 0227  |      | MED   | MedImmune, Inc.   |
|               | 0227  |      | MIL   | Miles ( <b>Inactive</b> – now mapped to BAY and values are sent out as BAY)                               |
|               | 0227  |      | MIP   | BioPort Corporation   |
|               | 0227  |      | MSD   | Merck & Co., Inc.   |
|               | 0227  |      | NAB   | North American Biologicals, Inc.  |
|               | 0227  |      | NAV   | North American Vaccine ( <b>Inactive</b> – now mapped to BAH and values are sent out as BAH)              |
|               | 0227  |      | NVX   | Novavax, Inc  |
|               | 0227  |      | NYB   | New York Blood Center   |
|               | 0227  |      | NOV   | Novartis Pharmaceutical Corporation   |
|               | 0227  |      | OTC   | Organon Teknika   |
|               | 0227  |      | ORT   | Ortho-Clinical Diagnostics  |
|               | 0227  |      | PAX   | PaxVax  |
|               | 0227  |      | PD    | Parkedale Pharmaceuticals (formerly Parke Davis)  |
|               | 0227  |      | PFR   | Pfizer, Inc.  |
|               | 0227  |      | PMC   | Sanofi Pasteur (formerly Aventis Pasteur, Pasteur Merieux Connaught)                                      |
|               | 0227  |      | PRX   | Praxis Biologics ( <b>Inactive</b> – now mapped to WAL and values are sent out as WAL)                    |
|               | 0227  |      | PSC   | Protein Sciences Corporation  |
|               | 0227  |      | PWJ   | Powderject Pharmaceutical ( <b>Inactive</b> – now mapped to NOV and values are sent out as NOV)           |
|               | 0227  |      | SA    | United States Army Medical Research ( <b>Inactive</b> – now mapped to USA and values are sent out as USA) |
|               | 0227  |      | SCL   | Biocene Sclavo  |
|               | 0227  |      | SKB   | Glaxo SmithKline  |
|               | 0227  |      | SI    | Swiss Serum and Vaccine Inst. ( <b>Inactive</b> – now mapped to BPC and values are sent out as BPC)       |
|               | 0227  |      | SOL   | Solvay Pharmaceuticals  |

| Appendix Type | Table | Name                         | Value          | Description  |
|---------------|-------|------------------------------|----------------|--|
|               | 0227  |                              | TAL            | Talecris Biotherapeutics (includes Bayer Biologicals)                              |
|               | 0227  |                              | USA            | United States Army Medical Research  |
|               | 0227  |                              | WA             | Wyeth-Ayerst ( <b>Inactive</b> – now mapped to WAL and values are sent out as WAL) |
|               | 0227  |                              | WAL            | Wyeth-Ayerst   |
|               | 0227  |                              | VXG            | VaxGen   |
|               | 0227  |                              | ZLB            | ZLB Behring (includes Aventis Behring and Armour Pharmaceutical Company)           |
|               | 0227  |                              | OTH            | Other  |
|               | 0227  |                              | UNK            | Unknown manufacturer   |
| User          | 0289  | County (North Carolina only) |                |  |
|               | 0289  |                              | NC001 or 37001 | Alamance   |
|               | 0289  |                              | NC003 or 37003 | Alexander  |
|               | 0289  |                              | NC005 or 37005 | Alleghany  |
|               | 0289  |                              | NC007 or 37007 | Anson  |
|               | 0289  |                              | NC009 or 37009 | Ashe   |
|               | 0289  |                              | NC011 or 37011 | Avery  |
|               | 0289  |                              | NC013 or 37013 | Beaufort   |
|               | 0289  |                              | NC015 or 37015 | Bertie   |
|               | 0289  |                              | NC017 or 37017 | Bladen   |
|               | 0289  |                              | NC019 or 37019 | Brunswick  |
|               | 0289  |                              | NC021 or 37021 | Buncombe   |
|               | 0289  |                              | NC023 or 37023 | Burke  |
|               | 0289  |                              | NC025 or 37025 | Cabarrus   |
|               | 0289  |                              | NC027 or 37027 | Caldwell   |
|               | 0289  |                              | NC029 or 37029 | Camden   |
|               | 0289  |                              | NC031 or 37031 | Carteret   |
|               | 0289  |                              | NC033 or 37033 | Caswell  |
|               | 0289  |                              | NC035 or 37035 | Catawba  |
|               | 0289  |                              | NC037 or 37037 | Chatham  |
|               | 0289  |                              | NC039 or 37039 | Cherokee   |
|               | 0289  |                              | NC041 or 37041 | Chowan   |
|               | 0289  |                              | NC043 or 37043 | Clay   |
|               | 0289  |                              | NC045 or 37045 | Cleveland  |
|               | 0289  |                              | NC047 or 37047 | Columbus   |
|               | 0289  |                              | NC049 or 37049 | Craven   |
|               | 0289  |                              | NC051 or 37051 | Cumberland   |
|               | 0289  |                              | NC053 or 37053 | Currituck  |
|               | 0289  |                              | NC055 or 37055 | Dare   |
|               | 0289  |                              | NC057 or 37057 | Davidson   |
|               | 0289  |                              | NC059 or 37059 | Davie  |
|               | 0289  |                              | NC061 or 37061 | Duplin   |
|               | 0289  |                              | NC063 or 37063 | Durham   |
|               | 0289  |                              | NC065 or 37065 | Edgecombe  |
|               | 0289  |                              | NC067 or 37067 | Forsyth  |
|               | 0289  |                              | NC069 or 37069 | Franklin   |
|               | 0289  |                              | NC071 or 37071 | Gaston   |
|               | 0289  |                              | NC073 or 37073 | Gates  |

| Appendix Type | Table | Name | Value          | Description |
|---------------|-------|------|----------------|-------------|
|               | 0289  |      | NC075 or 37075 | Graham      |
|               | 0289  |      | NC077 or 37077 | Granville   |
|               | 0289  |      | NC079 or 37079 | Greene      |
|               | 0289  |      | NC081 or 37081 | Guilford    |
|               | 0289  |      | NC083 or 37083 | Halifax     |
|               | 0289  |      | NC085 or 37085 | Harnett     |
|               | 0289  |      | NC087 or 37087 | Haywood     |
|               | 0289  |      | NC089 or 37089 | Henderson   |
|               | 0289  |      | NC091 or 37091 | Hertford    |
|               | 0289  |      | NC093 or 37093 | Hoke        |
|               | 0289  |      | NC095 or 37095 | Hyde        |
|               | 0289  |      | NC097 or 37097 | Iredell     |
|               | 0289  |      | NC099 or 37099 | Jackson     |
|               | 0289  |      | NC101 or 37101 | Johnston    |
|               | 0289  |      | NC103 or 37103 | Jones       |
|               | 0289  |      | NC105 or 37105 | Lee         |
|               | 0289  |      | NC107 or 37107 | Lenoir      |
|               | 0289  |      | NC109 or 37109 | Lincoln     |
|               | 0289  |      | NC111 or 37111 | McDowell    |
|               | 0289  |      | NC113 or 37113 | Macon       |
|               | 0289  |      | NC115 or 37115 | Madison     |
|               | 0289  |      | NC117 or 37117 | Martin      |
|               | 0289  |      | NC119 or 37119 | Mecklenburg |
|               | 0289  |      | NC121 or 37121 | Mitchell    |
|               | 0289  |      | NC123 or 37123 | Montgomery  |
|               | 0289  |      | NC125 or 37125 | Moore       |
|               | 0289  |      | NC127 or 37127 | Nash        |
|               | 0289  |      | NC129 or 37129 | New Hanover |
|               | 0289  |      | NC131 or 37131 | Northampton |
|               | 0289  |      | NC133 or 37133 | Onslow      |
|               | 0289  |      | NC135 or 37135 | Orange      |
|               | 0289  |      | NC137 or 37137 | Pamlico     |
|               | 0289  |      | NC139 or 37139 | Pasquotank  |
|               | 0289  |      | NC141 or 37141 | Pender      |
|               | 0289  |      | NC143 or 37143 | Perquimans  |
|               | 0289  |      | NC145 or 37145 | Person      |
|               | 0289  |      | NC147 or 37147 | Pitt        |
|               | 0289  |      | NC149 or 37149 | Polk        |
|               | 0289  |      | NC151 or 37151 | Randolph    |
|               | 0289  |      | NC153 or 37153 | Richmond    |
|               | 0289  |      | NC155 or 37155 | Robeson     |
|               | 0289  |      | NC157 or 37157 | Rockingham  |
|               | 0289  |      | NC159 or 37159 | Rowan       |
|               | 0289  |      | NC161 or 37161 | Rutherford  |
|               | 0289  |      | NC163 or 37163 | Sampson     |
|               | 0289  |      | NC165 or 37165 | Scotland    |
|               | 0289  |      | NC167 or 37167 | Stanly      |

| Appendix Type | Table | Name                                 | Value          | Description                    |
|---------------|-------|--------------------------------------|----------------|--------------------------------|
|               | 0289  |                                      | NC169 or 37169 | Stokes                         |
|               | 0289  |                                      | NC171 or 37171 | Surry                          |
|               | 0289  |                                      | NC173 or 37173 | Swain                          |
|               | 0289  |                                      | NC175 or 37175 | Transylvania                   |
|               | 0289  |                                      | NC177 or 37177 | Tyrrell                        |
|               | 0289  |                                      | NC179 or 37179 | Union                          |
|               | 0289  |                                      | NC181 or 37181 | Vance                          |
|               | 0289  |                                      | NC183 or 37183 | Wake                           |
|               | 0289  |                                      | NC185 or 37185 | Warren                         |
|               | 0289  |                                      | NC187 or 37187 | Washington                     |
|               | 0289  |                                      | NC189 or 37189 | Watauga                        |
|               | 0289  |                                      | NC191 or 37191 | Wayne                          |
|               | 0289  |                                      | NC193 or 37193 | Wilkes                         |
|               | 0289  |                                      | NC195 or 37195 | Wilson                         |
|               | 0289  |                                      | NC197 or 37197 | Yadkin                         |
|               | 0289  |                                      | NC199 or 37199 | Yancey                         |
|               | 0289  |                                      | ZZ998 or 37998 | Unknown                        |
|               | 0289  |                                      | ZZ999 or 37999 | Out of State                   |
| HL7           | 0292  | Vaccines Administered<br>(CVX Codes) |                |                                |
|               | 0292  |                                      | 54             | Adeno T4                       |
|               | 0292  |                                      | 55             | Adeno T7                       |
|               | 0292  |                                      | 82             | Adeno, unspecified formulation |
|               | 0292  |                                      | 24             | Anthrax                        |
|               | 0292  |                                      | 19             | BCG                            |
|               | 0292  |                                      | 26             | Cholera                        |
|               | 0292  |                                      | 28             | DT-Peds                        |
|               | 0292  |                                      | 20             | DTaP                           |
|               | 0292  |                                      | 106            | DTaP, 5 pertussis antigen      |
|               | 0292  |                                      | 110            | DTaP-HepB-Polio                |
|               | 0292  |                                      | 50             | DTaP-Hib                       |
|               | 0292  |                                      | 120            | DTap-Hib-IPV                   |
|               | 0292  |                                      | 130            | DTap-IPV                       |
|               | 0292  |                                      | 107            | DTaP, unspecified formulation  |
|               | 0292  |                                      | 01             | DTP                            |
|               | 0292  |                                      | 22             | DTP-Hib                        |
|               | 0292  |                                      | 111            | FLU-Nasal                      |
|               | 0292  |                                      | 16             | FLU whole cell                 |
|               | 0292  |                                      | 85             | Hep A, unspecified formulation |
|               | 0292  |                                      | 45             | Hep B, unspecified formulation |
|               | 0292  |                                      | 52             | HepA-Adult                     |
|               | 0292  |                                      | 104            | HepA-HepB Adult                |
|               | 0292  |                                      | 83             | HepA-Ped 2 dose                |
|               | 0292  |                                      | 84             | HepA-Peds                      |
|               | 0292  |                                      | 43             | HepB-Adult                     |
|               | 0292  |                                      | 44             | HepB-Dialysis                  |
|               | 0292  |                                      | 08             | HepB-Peds                      |

| Appendix Type | Table | Name | Value | Description                              |
|---------------|-------|------|-------|--|
|               | 0292  |      | 51    | HepB-Hib                                 |
|               | 0292  |      | 17    | Hib, unspecified formulation             |
|               | 0292  |      | 47    | Hib-HbOC                                 |
|               | 0292  |      | 148   | Hib-MenCY-TT                             |
|               | 0292  |      | 49    | Hib-OMP                                  |
|               | 0292  |      | 46    | Hib-PRP-D                                |
|               | 0292  |      | 48    | Hib-PRP-T                                |
|               | 0292  |      | 165   | HPV9                                     |
|               | 0292  |      | 118   | HPV, Bivalent                            |
|               | 0292  |      | 62    | HPV, quadrivalent                        |
|               | 0292  |      | 137   | HPV, unspecified formulation             |
|               | 0292  |      | 151   | Influenza nasal, unspecified formulation |
|               | 0292  |      | 135   | Influenza, High-Dose Seasonal            |
|               | 0292  |      | 166   | Influenza, intradermal, IIV4, pres-free  |
|               | 0292  |      | 155   | Influenza, recombinant, seasonal, IM, pf |
|               | 0292  |      | 158   | Influenza, seasonal, IIV4 IM             |
|               | 0292  |      | 161   | Influenza, seasonal, IIV4, IM, pf, peds  |
|               | 0292  |      | 150   | Influenza, seasonal, IIV4, IM, pres-free |
|               | 0292  |      | 141   | Influenza, seasonal, injectable          |
|               | 0292  |      | 144   | Influenza, seasonal, intradermal, p-free |
|               | 0292  |      | 149   | Influenza, seasonal, LAIV4, IN           |
|               | 0292  |      | 153   | Influenza, seasonal, MDCK, IM, pres-free |
|               | 0292  |      | 140   | Influenza, seasonal, preservative free   |
|               | 0292  |      | 88    | Influenza, unspecified formulation       |
|               | 0292  |      | 134   | Japanese Encephalitis IM                 |
|               | 0292  |      | 39    | Japanese Encephalitis SC                 |
|               | 0292  |      | 129   | Japanese Encephalitis, unspecified       |
|               | 0292  |      | 66    | Lyme                                     |
|               | 0292  |      | 147   | MCV4, unspecified formulation            |
|               | 0292  |      | 05    | Measles                                  |
|               | 0292  |      | 04    | Measles-Rubella                          |
|               | 0292  |      | 162   | Meningococcal B, recombinant             |
|               | 0292  |      | 163   | Meningococcal B, OMV                     |
|               | 0292  |      | 164   | Meningococcal B, unspecified formulation |
|               | 0292  |      | 103   | Meningococcal C conjugate                |
|               | 0292  |      | 136   | Meningococcal conjugate MCV4O            |
|               | 0292  |      | 114   | Meningococcal conjugate MCV4P            |
|               | 0292  |      | 32    | Meningococcal Polysaccharide MPSV4       |
|               | 0292  |      | 167   | Meningococcal, unknown serogroup         |
|               | 0292  |      | 108   | Meningococcal, unspecified formulation   |
|               | 0292  |      | 03    | MMR                                      |
|               | 0292  |      | 94    | MMRV                                     |
|               | 0292  |      | 07    | Mumps                                    |
|               | 0292  |      | 127   | Novel Influenza-H1N1-09                  |
|               | 0292  |      | 128   | Novel Influenza-H1N1-09 all formulations |
|               | 0292  |      | 125   | Novel Influenza-H1N1-09, nasal           |
|               | 0292  |      | 126   | Novel Influenza-H1N1-09, preseve-free    |

| Appendix Type | Table | Name              | Value | Description                             |
|---------------|-------|-------------------|-------|---|
|               | 0292  |                   | 11    | Pertussis                               |
|               | 0292  |                   | 23    | Plague                                  |
|               | 0292  |                   | 133   | Pneumococcal Conjugate 13               |
|               | 0292  |                   | 100   | Pneumococcal Conjugate 7                |
|               | 0292  |                   | 33    | Pneumococcal Polysaccharide 23          |
|               | 0292  |                   | 109   | Pneumococcal, unspecified formulation   |
|               | 0292  |                   | 89    | Polio, unspecified formulation          |
|               | 0292  |                   | 10    | Polio-Inject                            |
|               | 0292  |                   | 02    | Polio-Oral                              |
|               | 0292  |                   | 90    | Rabies, unspecified formulation         |
|               | 0292  |                   | 40    | Rabies-ID                               |
|               | 0292  |                   | 18    | Rabies-IM                               |
|               | 0292  |                   | 116   | Rotavirus pentavalent                   |
|               | 0292  |                   | 119   | Rotavirus, monovalent                   |
|               | 0292  |                   | 74    | Rotavirus, tetravalent                  |
|               | 0292  |                   | 122   | Rotavirus, unspecified formulation      |
|               | 0292  |                   | 06    | Rubella                                 |
|               | 0292  |                   | 38    | Rubella-Mumps                           |
|               | 0292  |                   | 75    | Smallpox                                |
|               | 0292  |                   | 138   | Td (adult)                              |
|               | 0292  |                   | 09    | TD (adult), adsorbed                    |
|               | 0292  |                   | 139   | Td (adult), unspecified formulation     |
|               | 0292  |                   | 113   | Td adult preservative free              |
|               | 0292  |                   | 115   | Tdap                                    |
|               | 0292  |                   | 35    | Tetanus                                 |
|               | 0292  |                   | 112   | Tetanus toxoid, unspecified formulation |
|               | 0292  |                   | 91    | Typhoid, unspecified formulation        |
|               | 0292  |                   | 53    | Typhoid-AKD                             |
|               | 0292  |                   | 41    | Typhoid-HP                              |
|               | 0292  |                   | 25    | Typhoid-Oral                            |
|               | 0292  |                   | 101   | Typhoid-ViCPs                           |
|               | 0292  |                   | 105   | Vaccinia (smallpox), diluted            |
|               | 0292  |                   | 21    | Varicella                               |
|               | 0292  |                   | 37    | Yellow fever                            |
|               | 0292  |                   | 121   | Zoster vaccine, live                    |
| HL7           | 0296  | Primary Language  |       |   |
|               | 0296  |                   | ENG   | English                                 |
|               | 0296  |                   | HMN   | Hmong                                   |
|               | 0296  |                   | SOM   | Somali                                  |
|               | 0296  |                   | SPA   | Spanish                                 |
| HL7           | 0322  | Completion Status |       |   |
|               | 0322  |                   | CP    | Complete                                |
|               | 0322  |                   | RE    | Refused                                 |
|               | 0322  |                   | NA    | Not Administered                        |
|               | 0322  |                   | PA    | Partially Administered                  |
|               | 0322  |                   | DE    | Date Estimated                          |
| HL7           | 0323  | Action Code       |       |   |

| Appendix Type | Table | Name                         | Value  | Description  |
|---------------|-------|------------------------------|--------|--|
|               | 0323  |                              | A      | Add  |
|               | 0323  |                              | D      | Delete   |
| HL7           | 0357  | Message error status codes   |        |  |
|               | 0357  |                              | 100    | Segment sequence error   |
|               | 0357  |                              | 101    | Required field missing   |
|               | 0357  |                              | 102    | Data type error  |
|               | 0357  |                              | 103    | Table value not found  |
|               | 0357  |                              | 200    | Unsupported message type   |
|               | 0357  |                              | 201    | Unsupported event code   |
|               | 0357  |                              | 202    | Unsupported processing ID  |
|               | 0357  |                              | 203    | Unsupported version ID   |
|               | 0357  |                              | 204    | Unknown key identifier   |
|               | 0357  |                              | 205    | Duplicate key identifier   |
|               | 0357  |                              | 206    | Application record locked  |
|               | 0357  |                              | 207    | Application internal error   |
| HL7           | 0363  | Assigning Authority          |        |  |
|               | 0363  |                              | NCA    | North Carolina Authority   |
| HL7           | 0441  | Immunization Registry Status |        |  |
|               | 0441  |                              | A      | Active   |
|               | 0441  |                              | I      | Inactive   |
|               | 0441  |                              | P      | Permanently Inactive-Deceased  |
| HL7           | 0516  | Error Severity               |        |  |
|               | 0516  |                              | W      | Warning  |
|               | 0516  |                              | I      | Information  |
|               | 0516  |                              | E      | Error  |
|               | 0533  |                              | 207.4  | Record pended. The client matched has existing immunizations given earlier than incoming birth date.                           |
|               | 0533  |                              | 207.5  | OBX-5 The VIS publication date was not found for this vaccine or vaccine group. No data saved.                                 |
|               | 0533  |                              | 207.6  | ERROR: Delete refusal transactions are not permitted for this organization.  |
|               | 0533  |                              | 207.7  | Record rejected. Comment must be deleted by owning provider organization.  |
|               | 0533  |                              | 207.8  | Record rejected. No matching comment was found to delete.  |
|               | 0533  |                              | 207.9  | The incoming delete immunization does not match an existing immunization in NCIR. This delete was not processed.               |
|               | 0533  |                              | 207.10 | The sending provider organization does not own the existing matched inventory immunization. This delete was not processed.     |
|               | 0533  |                              | 207.11 | RXA-6 DEDUCT ERROR. Dose size greater the 2 times the vaccine lot dose quantity. Immunization processed as Owned Non-deducting |
|               | 0533  |                              | 207.12 | The incoming client matches an existing candidate. Existing candidate client id is <client-id>.                                |

| Appendix Type | Table | Name | Value  | Description  |
|---------------|-------|------|--------|--|
|               | 0533  |      | 207.13 | The incoming client matches more than one existing candidate. Existing candidate client ids include <client-ids>.    |
|               | 0533  |      | 207.14 | NK1-20: Primary language of responsible person <last name> defaulted to English.                                     |
|               | 0533  |      | 207.15 | INFORMATIONAL Message. Incoming Immunization Likely a match to existing Immunization                                 |
|               | 0533  |      | 207.16 | Inventory immunization is a duplicate of another incoming inventory immunization.                                    |
|               | 0533  |      | 207.17 | PV1:20 Provide eligibility code in OBX   |
|               | 0533  |      | 207.18 | Information error - Invalid street address <Street Address>. No Address values stored.                               |
|               | 0533  |      | 207.20 | NK1-4 Informational error - Invalid city <City>. No value stored.  |
|               | 0533  |      | 207.21 | NK1-4 Informational error - Invalid state code <State>. No value stored.   |
|               | 0533  |      | 207.22 | PID-3 Record Rejected - Invalid first name <First Name>.   |
|               | 0533  |      | 207.23 | PID-3 Record Rejected - Invalid Last Name <Last Name>.   |
|               | 0533  |      | 207.24 | PID-3 Informational error - Invalid middle name <Middle Name>). No value stored.                                     |
|               | 0533  |      | 207.26 | Informational error - Invalid responsible party first name <First Name>. No value stored.                            |
|               | 0533  |      | 207.27 | Informational error - Invalid responsible party middle name <Middle Name>. No value stored.                          |
|               | 0533  |      | 207.28 | Informational error - Invalid responsible party last name <Last Name>. No value stored.                              |
|               | 0533  |      | 207.29 | PID-6 Informational error - Invalid mother's first name <First Name> . No value stored.                              |
|               | 0533  |      | 207.30 | PID-6 Informational error - Invalid mother's maiden name <Last Name>. No value stored.                               |
|               | 0533  |      | 207.35 | Message rejected. Client first name must be greater than one character in length.                                    |
|               | 0533  |      | 207.36 | Message rejected. Client last name must be greater than one character in length.                                     |
|               | 0533  |      | 207.37 | Informational error - Invalid administered by last name <Last Name>. No value stored.                                |
|               | 0533  |      | 207.38 | PID-5 Message rejected. <Last Name> is not a valid last name.  |
|               | 0533  |      | 207.39 | PID-5 Message rejected. <First Name> is not a valid first name.  |
|               | 0533  |      | 207.40 | DEDUCT ERROR. Lot has insufficient inventory for inventory deduction. Immunization processed as Owned Non-deducting. |
|               | 0533  |      | 207.41 | RXA-16 DEDUCT WARNING. Vaccine Lot Expiration Date does not match  |
|               | 0533  |      | 207.42 | DEDUCT WARNING. Immunization Date is after Lot Expiration.   |
|               | 0533  |      | 207.43 | DEDUCT WARNING: Reactivating the inactive vaccine lot. Immunization processed as Owned Non deducting.                |
|               | 0533  |      | 207.44 | Record rejected. This comment matches another comment in incoming file.  |
|               | 0533  |      | 207.45 | Record rejected. This reaction matches another reaction for same immunization in incoming file.                      |
|               | 0533  |      | 207.46 | INFORMATIONAL Message. Incoming Immunization saved but might be a duplicate  |
|               | 0533  |      | 207.47 | Rejected Inventory. Incoming is a duplicate of an existing immunization.   |

| Appendix Type | Table | Name | Value  | Description  |
|---------------|-------|------|--------|--|
|               | 0533  |      | 207.48 | Inventory Warning. Incoming is possibly a duplicate of an existing immunization.   |
|               | 0533  |      | 207.49 | Record rejected. This immunization matches another immunization in incoming file. The incoming immunization that this system retained may be identified by the following characteristics -> <Vaccination Date> + <CPT Code> + <TradeName>. |
|               | 0533  |      | 207.50 | The incoming delete immunization does not match an existing immunization. This delete was not processed.   |
|               | 0533  |      | 207.53 | No Vaccine Lot Found with Search Args: Site Id: <Site Id> + TradeName: <TradeName> + LotNum: <Lot Number> +  |
|               | 0533  |      | 207.54 | No Vaccine Lot Found with Search Args: Site Id: <Site Id> + TradeName: <TradeName> + LotNum: <Lot Number> + Fund Code: <Fund Code>. Setting to Owned Non Deducting   |
|               | 0533  |      | 207.55 | ERROR: Maximum number of Web Service delete refusal transactions has been exceeded.  |
|               | 0533  |      | 207.56 | ERROR: Maximum number of delete refusal transactions has been exceeded in this file.   |
|               | 0533  |      | 207.57 | ERROR: Maximum number of Web Service delete immunization transactions has been exceeded.   |
|               | 0533  |      | 207.58 | ERROR: Maximum number of delete immunization transactions has been exceeded in this file.  |
|               | 0533  |      | 207.59 | Only up to 4 responsible persons accepted.   |
|               | 0533  |      | 207.60 | DEDUCT INFO: Multiple matching vaccine lots found, using the oldest. Vaccine Lot id:<Vaccine Lot ID>   |
|               | 0533  |      | 207.63 | DEDUCT ERROR. Not valid Multiplier for Vaccine Lot. Immunization processed as Owned Non-deducting.   |
|               | 0533  |      | 207.65 | INFORMATIONAL ERROR: Immunization is being combined with another incoming inventory immunization.  |
|               | 0533  |      | 207.66 | INFORMATIONAL ERROR: Immunization is being combined with another incoming immunization.  |
|               | 0533  |      | 207.67 | MSH-4 Record rejected. The provider organization that initiated this data exchange is not identified as a parent or vendor of the organization that it labeled as the "SENDING PROVIDER ORGANIZATION" for this record.                     |
|               | 0533  |      | 207.68 | Informational error - Trade Name <Trade Name> not produced by manufacturer <Manufacturer>. Defaulting to unknown manufacturer.   |
|               | 0533  |      | 207.70 | TradeNameId Not found for <Manufacturer ID> + <Vaccine ID> +<CVX Code> + <CPT Code>.   |
|               | 0533  |      | 207.72 | OBX-05:Eligibility code NC02 is only valid if the owning organization is Title X Eligible. Eligibility ignored.  |
|               | 0533  |      | 207.73 | OBX-05: Financial Class: A state supplied dose was provided when a private dose should have been provided.   |
|               | 0533  |      | 207.76 | ERROR: Delete immunization transactions are not permitted for this organization.   |
|               | 0533  |      | 207.77 | PID-13: Please provide patient phone number in NK1 segment.  |
|               | 0533  |      | 207.79 | Eligibility required. Immunization processed as owned non-deduct.  |
|               | 0533  |      | 207.80 | Cannot Deduct quantity 0. Incomplete Vaccine and/or Trade Name set up. Contact DX Helpdesk to correct set up.  |
|               | 0533  |      | 207.82 | Record rejected. Both owning provider organization id and initiating provider organization id are 0.   |

| Appendix Type | Table     | Name   | Value        | Description   |
|---------------|-----------|--|--------------|---|
|               | 0533      |  | 207.87       | Informational error - Invalid Suffix <Name Suffix>. No value Stored.  |
|               | 0533      |  | 207.88       | The incoming client information has been saved <client id> for review by a State BA, who will decide the appropriate existing client to match to. |
|               | 0533      |  | 207.89       | The incoming client information has NOT been saved because of the \"Record Rejected\" error(s).   |
|               | 0533      |  | 207.92       | PID-11: Invalid Address Type: <Address Type>. Defaulting to M.  |
|               | 0533      |  | 207.93       | Number of candidates exceeds the limit submitted in RCP-2 or system limit of 20.  |
|               | 0533      |  | 207.96       | NK1-Responsible person required in the NCIR. No NK1 segment provided.   |
|               | 0533      |  | 207.97       | Contact address and/or phone number required. Please send address and/or phone number.  |
| NIP           | NIP001    | Immunization information source                                    |              |   |
|               | NIP001    |  | 00           | New immunization record   |
|               | NIP001    |  | 01           | Historical information – source unspecified   |
| NIP           | NIP002    | Substance Refusal Reason   |              |   |
|               | NIP002    |  | 00           | Parental Refusal  |
|               | NIP002    |  | 01           | Religious Exemption   |
| NIP           | NIP003    | Observation identifiers  |              | Use in OBX-3)   |
|               | NIP003    |  | 29768-9      | Date Vaccine Information Statement Published  |
|               | NIP003    |  | 29769-7      | Date Vaccine Information Statement Presented  |
|               | NIP003    |  | 64994-7      | Vaccine funding program (Eligibility code) See table 0064.  |
|               | NIP003    |  | 30956-7      | Vaccine Type (Vaccine group or family) CVX codes values from table HL70292.   |
|               | NIP003    |  | 38890-0      | Component Vaccine Type CVX codes values from table HL70292.   |
|               | NIP003    |  | 30963-3      | Funds vaccine purchased with See Immunization Funding Source values below.  |
|               | NIP003    |  | 30945-0      | Vaccination contraindication/precaution See Contraindications, Precautions below.   |
|               | NIP003    |  | 31044-1      | Reaction See Reaction Codes below.  |
|               | NIP003    |  | 59784-9      | Disease with presumed immunity See Evidence of Immunity below.  |
|               | NIP003    |  | 59785-6      | Indications to immunize See Vaccination Special Indications below   |
| NIP           | NIP003    | Immunization Funding Source (OBX-3 LOINC code: <b>30963-3</b> )    |              |   |
|               | CDCPHINVS |  | PHC70        | Private funds   |
|               | CDCPHINVS |  | VXC1 or VXC2 | State-supplied funds  |
| NIP           | NIP004    | Contraindications, Precautions (OBX-3 LOINC code: <b>30945-0</b> ) |              |   |
|               | L         |  | 01           | Recipient condition – unspecified   |
|               | L         |  | 02           | Household condition – unspecified   |

| Appendix Type | Table     | Name | Value     | Description  |
|---------------|-----------|------|-----------|--|
|               | L         |      | 11        | Collapse or shock like state within 48 hours of previous dose of DTP/DTaP                            |
|               | L         |      | 12        | Convulsions (sits, seizures) within 3 days of previous dose of DTP/DTaP                              |
|               | L         |      | 13        | Persistent, inconsolable crying lasting 3 hours within 48 hours of previous dose of DTP/DTaP         |
|               | L         |      | 14        | Current diarrhea, moderate to severe   |
|               | L         |      | 17        | Fever $\geq 40.5^{\circ}$ C ( $105^{\circ}$ F) within 48 hours of previous dose of DTP/DTaP          |
|               | L         |      | 18        | Guillain-Barré Syndrome (GBS) within 6 weeks after DTP/DTaP  |
|               | L         |      | 23        | Recent or simultaneous administration of an antibody-containing blood product (immune globulin)      |
|               | L         |      | 38        | Otitis media (ear infection) moderate to severe (with or without fever)                              |
|               | L         |      | 42        | Household contact of infant < 6 months   |
|               | L         |      | 43        | High risk condition of influenza   |
|               | L         |      | R1        | Clinician has decided to repeat the DTaP series  |
|               | L         |      | R2        | Clinician has decided to repeat the Hep B series   |
|               | L         |      | R3        | Clinician has decided to repeat the HIB series   |
|               | L         |      | R4        | Clinician has decided to repeat the Polio series   |
|               | L         |      | R5        | Clinician has decided to repeat the MMR series   |
|               | L         |      | R6        | Clinician has decided to repeat the Pneumococcal series  |
|               | L         |      | R7        | Clinician has decided to repeat the Varicella series   |
|               | L         |      | R8        | Clinician has decided to repeat the Meningo series   |
|               | L         |      | R9        | Clinician has decided to repeat the Rotavirus series   |
|               | L         |      | R10       | Clinician has decided to repeat the HPV series   |
|               | L         |      | R11       | Clinician has decided to repeat the HepA series  |
|               | L         |      | R12       | Clinician has decided to repeat the Zoster series  |
|               | L         |      | R13       | Clinician has decided to repeat the Influenza series   |
|               | SCT       |      | 91930004  | Allergy to egg ingestion (anaphylactic)  |
|               | SCT       |      | 294847001 | Allergy to gelatin (anaphylactic)  |
|               | SCT       |      | 294468006 | Allergy to neomycin (anaphylactic)   |
|               | SCT       |      | 294466005 | Allergy to streptomycin (anaphylactic)   |
|               | SCT       |      | 27624003  | Chronic illness  |
|               | SCT       |      | 77386006  | Pregnancy (in recipient) – refer to CDC guidelines for vaccinating pregnant women                    |
|               | SCT       |      | 302215000 | Thrombocytopenia   |
|               | SCT       |      | 161461006 | Thrombocytopenia purpura (history)   |
|               | CDCPHINVS |      | VXC18     | Allergy to baker's yeast (anaphylactic)  |
|               | CDCPHINVS |      | VXC19     | Allergy to Thimerosal - refer to package insert (anaphylactic)                                       |
|               | CDCPHINVS |      | VXC20     | Allergy to previous dose of this vaccine or to any of its unlisted vaccine components (anaphylactic) |
|               | CDCPHINVS |      | VXC22     | Encephalopathy within 7 days of previous dose of DTP or DTAP   |
|               | CDCPHINVS |      | VXC23     | Current fever with moderate-to-severe illness  |
|               | CDCPHINVS |      | VXC24     | Current acute illness, moderate to severe (with or without fever)                                    |
|               | CDCPHINVS |      | VXC26     | Unstable neurologic disorder, until neurological status clarified and stabilized                     |

| Appendix Type | Table     | Name   | Value             | Description   |
|---------------|-----------|--|-------------------|---|
|               | CDCPHINVS |  | VXC27             | Immunodeficiency due to any cause   |
|               |           | (OBX-3 LOINC code:<br><b>59784-9</b> )                   |                   |   |
|               | L         |  | 33                | Immunity: Varicella – Evidence prior to 7/1/2015, Laboratory-tested or history of varicella disease (Chicken pox) |
|               | L         |  | 44                | Immunity: Varicella – Laboratory-tested Confirmation  |
|               | SCT       |  | 371111005         | Immunity: Measles protective antibody titer serologically proven  |
|               | SCT       |  | 371112003         | Immunity: Mumps   |
|               | SCT       |  | 278968001         | Immunity: Rubella   |
|               | SCT       |  | 371113008         | Immunity: Varicella - Serology-tested Confirmed Protective Antibody   |
|               | SCT       |  | 38907003          | Immunity: Varicella – Provider Verified History   |
|               | CDCPHINVS | (OBX-3 LOINC code:<br><b>59785-6</b> )                   | VXC7              | Client has been exposed to rabies   |
| NCIR          | NCIR001   | Reaction Codes<br>(OBX-3 LOINC code:<br><b>31044-1</b> ) |                   |   |
|               | NCIR001   |  | 81308009          | Encephalopathy within 7 days  |
|               | NCIR001   |  | VXC13             | Guillain-Barre syndrome (GBS) within 6 weeks  |
|               | NCIR001   |  | VXC9              | Persistent inconsolable crying lasting 3 hours or more within 48 hours  |
|               | NCIR001   |  | VXC10             | Collapse or shock-like state within 48 hours of dose  |
|               | NCIR001   |  | VXC11             | Convulsions (fits, seizures) within 72 hours of dose  |
|               | NCIR001   |  | VXC12             | Fever of >40.5C (105F) within 48 hours  |
|               | NCIR001   |  | 39579001          | Allergic reaction to this vaccine or to any of its unlisted vaccine components (anaphylactic)                     |
| NCIR          | VTN       | Vaccine Trade Name<br>(VTN)                              | ACEL-IMUNE        | Acel-Imune  |
|               | VTN       |  | ACTHIB            | ActHib  |
|               | VTN       |  | ADACEL            | ADACEL  |
|               | VTN       |  | ADENO T4          | ADENO T4  |
|               | VTN       |  | ADENO T7          | ADENO T7  |
|               | VTN       |  | AFLURIA PRES-FREE | AFLURIA PRES-FREE   |
|               | VTN       |  | AFLURIA           | AFLURIA   |
|               | VTN       |  | AGRIFLU PRES-FREE | AGRIFLU PRES-FREE   |
|               | VTN       |  | ANTHRAX           | ANTHRAX   |
|               | VTN       |  | ATTENUVAX         | ATTENUVAX   |
|               | VTN       |  | BCG-CANCER        | BCG-CANCER  |
|               | VTN       |  | BCG-TB            | BCG-TB  |
|               | VTN       |  | BERNA/TY21A       | BERNA/TY21A   |
|               | VTN       |  | BEXSERO           | BEXSERO   |
|               | VTN       |  | BIAVAX II         | BIAVAX II   |
|               | VTN       |  | BOOSTRIX          | BOOSTRIX  |

| Appendix Type | Table | Name | Value                        | Description                              |
|---------------|-------|------|------------------------------|--|
|               | VTN   |      | CERTIVA                      | CERTIVA                                  |
|               | VTN   |      | CERVARIX                     | CERVARIX                                 |
|               | VTN   |      | CHOLERA-I                    | CHOLERA-I                                |
|               | VTN   |      | CHOLERA-O                    | CHOLERA-O                                |
|               | VTN   |      | COMVAX                       | COMVAX                                   |
|               | VTN   |      | DAPTACEL                     | DAPTACEL                                 |
|               | VTN   |      | DECAVAC                      | DECAVAC                                  |
|               | VTN   |      | DIPHThERIA                   | DIPHThERIA                               |
|               | VTN   |      | DRYVAX                       | DRYVAX                                   |
|               | VTN   |      | DT                           | DT                                       |
|               | VTN   |      | DTP                          | DTP                                      |
|               | VTN   |      | ENGERIX-B ADULT              | ENGERIX-B ADULT                          |
|               | VTN   |      | ENGERIX-B<br>DIALYSIS        | ENGERIX-B DIALYSIS                       |
|               | VTN   |      | ENGERIX-B PEDS               | ENGERIX-B PEDS                           |
|               | VTN   |      | FLU NASAL,<br>UNSPECIFIED    | Influenza nasal, unspecified formulation |
|               | VTN   |      | FLUARIX IIV4 PRES-<br>FREE   | FLUARIX IIV4 PRES-FREE                   |
|               | VTN   |      | FLUARIX PRES-<br>FREE        | FLUARIX PRES-FREE                        |
|               | VTN   |      | FLUBLOK RIV3<br>PRES-FREE    | FLUBLOK RIV3 PRES-FREE                   |
|               | VTN   |      | FLUCELVAX IIV3<br>PRES-FREE  | FLUCELVAX IIV3 PRES-FREE                 |
|               | VTN   |      | FLULAVAL                     | FLULAVAL                                 |
|               | VTN   |      | FLULAVAL IIV4                | FLULAVAL IIV4                            |
|               | VTN   |      | FLULAVAL IIV4<br>PRES-FREE   | FLULAVAL IIV4 PRES-FREE                  |
|               | VTN   |      | FLUMIST LAIV4                | FLUMIST LAIV4                            |
|               | VTN   |      | FLUMIST                      | FLUMIST                                  |
|               | VTN   |      | FLUVIRIN PRES-<br>FREE       | FLUVIRIN PRES-FREE                       |
|               | VTN   |      | FLUVIRIN                     | FLUVIRIN                                 |
|               | VTN   |      | FLUZONE HIGH-<br>DOSE        | FLUZONE HIGH-DOSE                        |
|               | VTN   |      | FLUZONE IIV4                 | FLUZONE IIV4                             |
|               | VTN   |      | FLUZONE IIV4 P-<br>FREE, PED | FLUZONE IIV4 P-FREE, PED                 |
|               | VTN   |      | FLUZONE IIV4<br>PRES-FREE    | FLUZONE IIV4 PRES-FREE                   |
|               | VTN   |      | FLUZONE ID IIV4<br>PF        | Fluzone Intradermal IIV4 Pres-Free       |
|               | VTN   |      | FLUZONE<br>INTRADERMAL PF    | Fluzone Intradermal Pres-Free            |
|               | VTN   |      | FLUZONE PRES-<br>FREE        | FLUZONE PRES-FREE                        |
|               | VTN   |      | FLUZONE                      | FLUZONE                                  |

| Appendix Type | Table | Name | Value                      | Description                   |
|---------------|-------|------|----------------------------|-------------------------------|
|               | VTN   |      | GARDASIL                   | GARDASIL                      |
|               | VTN   |      | GARDASIL 9                 | GARDASIL 9                    |
|               | VTN   |      | H1N1 CSL P-FREE<br>.25     | H1N1 CSL P-FREE .25           |
|               | VTN   |      | H1N1 CSL P-FREE<br>.5      | H1N1 CSL P-FREE .5            |
|               | VTN   |      | H1N1 CSL                   | H1N1 CSL                      |
|               | VTN   |      | H1N1 IDB                   | H1N1 IDB                      |
|               | VTN   |      | H1N1 MEDIMMUNE,<br>NASAL   | H1N1 MEDIMMUNE, NASAL         |
|               | VTN   |      | H1N1 NOVARTIS P-<br>FREE   | H1N1 NOVARTIS P-FREE          |
|               | VTN   |      | H1N1 NOVARTIS              | H1N1 NOVARTIS                 |
|               | VTN   |      | H1N1 SANOFI P-<br>FREE .25 | H1N1 SANOFI P-FREE .25        |
|               | VTN   |      | H1N1 SANOFI P-<br>FREE .5  | H1N1 SANOFI P-FREE .5         |
|               | VTN   |      | H1N1 SANOFI                | H1N1 SANOFI                   |
|               | VTN   |      | HAVRIX-ADULT               | HAVRIX-ADULT                  |
|               | VTN   |      | HAVRIX-PEDS 2<br>DOSE      | HAVRIX-PEDS 2 DOSE            |
|               | VTN   |      | HAVRIX-PEDS 3<br>DOSE      | HAVRIX-PEDS 3 DOSE            |
|               | VTN   |      | HIBERIX                    | HIBERIX                       |
|               | VTN   |      | HIB-TITER                  | HIB-TITER                     |
|               | VTN   |      | IMOVAX RABIES ID           | IMOVAX RABIES ID              |
|               | VTN   |      | IMOVAX RABIES IM           | IMOVAX RABIES IM              |
|               | VTN   |      | INFANRIX                   | INFANRIX                      |
|               | VTN   |      | IPOL                       | IPOL                          |
|               | VTN   |      | IXIARO                     | IXIARO                        |
|               | VTN   |      | JE-VAX                     | JE-VAX                        |
|               | VTN   |      | KINRIX                     | KINRIX                        |
|               | VTN   |      | LYMERIX                    | LYMERIX                       |
|               | VTN   |      | MCV4,<br>UNSPECIFIED       | MCV4, unspecified formulation |
|               | VTN   |      | MEASLES                    | MEASLES                       |
|               | VTN   |      | MEASLES-RUBELLA<br>(MERU)  | MEASLES-RUBELLA (MERU)        |
|               | VTN   |      | MENACTRA                   | MENACTRA                      |
|               | VTN   |      | MENHIBRIX                  | MENHIBRIX                     |
|               | VTN   |      | MENOMUNE                   | MENOMUNE                      |
|               | VTN   |      | MENVEO                     | MENVEO                        |
|               | VTN   |      | MERUVAX II                 | MERUVAX II                    |
|               | VTN   |      | MMR II                     | MMR II                        |
|               | VTN   |      | M-R-VAX                    | M-R-VAX                       |
|               | VTN   |      | MUMPS                      | MUMPS                         |
|               | VTN   |      | MUMPS-RUBELLA<br>(MURU)    | MUMPS-RUBELLA (MURU)          |

| Appendix Type | Table      | Name | Value               | Description         |
|---------------|------------|------|---------------------|---------------------|
|               | VTN        |      | MUMPSVAX            | MUMPSVAX            |
|               | VTN        |      | OMNIHIB             | OMNIHIB             |
|               | VTN        |      | ORIMUNE             | ORIMUNE             |
|               | VTN        |      | PEDIARIX            | PEDIARIX            |
|               | VTN        |      | PEDVAXHIB           | PEDVAXHIB           |
|               | VTN        |      | PENTACEL            | PENTACEL            |
|               | VTN        |      | PLAGUE              | PLAGUE              |
|               | VTN        |      | PNEUMOVAX 23        | PNEUMOVAX 23        |
|               | VTN        |      | PNU-IMUNE 23        | PNU-IMUNE 23        |
|               | VTN        |      | PREVNAR 13          | PREVNAR 13          |
|               | VTN        |      | PREVNAR 7           | PREVNAR 7           |
|               | VTN        |      | PROHIBIT            | PROHIBIT            |
|               | VTN        |      | PROQUAD             | PROQUAD             |
|               | VTN        |      | QUADRACEL           | QUADRACEL           |
|               | VTN        |      | RABAVERT            | RABAVERT            |
|               | VTN        |      | RECOMBIVAX-PEDS     | RECOMBIVAX-PEDS     |
|               | VTN        |      | RECOMBIVAX-ADULT    | RECOMBIVAX-ADULT    |
|               | VTN        |      | RECOMBIVAX-DIALYSIS | RECOMBIVAX-DIALYSIS |
|               | VTN        |      | ROTARIX             | ROTARIX             |
|               | VTN        |      | ROTASHIELD          | ROTASHIELD          |
|               | VTN        |      | ROTATEQ             | ROTATEQ             |
|               | VTN        |      | RUBELLA             | RUBELLA             |
|               | VTN        |      | TD                  | TD                  |
|               | VTN        |      | TD-MASSBIOLAB       | TD-MASSBIOLAB       |
|               | VTN        |      | TD-PRES-FREE        | TD-PRES-FREE        |
|               | VTN        |      | TENIVAC             | TENIVAC             |
|               | VTN        |      | TETRAMUNE           | TETRAMUNE           |
|               | VTN        |      | TRIHIBIT            | TRIHIBIT            |
|               | VTN        |      | TRIPEDIA            | TRIPEDIA            |
|               | VTN        |      | TRUMENBA            | TRUMENBA            |
|               | VTN        |      | TT                  | TT                  |
|               | VTN        |      | TWINRIX             | TWINRIX             |
|               | VTN        |      | TYPHIM VI           | TYPHIM VI           |
|               | VTN        |      | TYPHOID             | TYPHOID             |
|               | VTN        |      | TYPHOID-AKD         | TYPHOID-AKD         |
|               | VTN        |      | VACCINIA, DILUTED   | VACCINIA, DILUTED   |
|               | VTN        |      | VAQTA-ADULT         | VAQTA-ADULT         |
|               | VTN        |      | VAQTA-PEDS 2 DOSE   | VAQTA-PEDS 2 DOSE   |
|               | VTN        |      | VAQTA-PEDS 3 DOSE   | VAQTA-PEDS 3 DOSE   |
|               | VTN        |      | VARIVAX             | VARIVAX             |
|               | <b>VTN</b> |      | <b>VIVOTIF</b>      | <b>VIVOTIF</b>      |
|               | VTN        |      | YF-VAX              | YF-VAX              |
|               | VTN        |      | ZOSTAVAX            | ZOSTAVAX            |

| Appendix Type | Table | Name                              | Value | Description   |
|---------------|-------|-----------------------------------|-------|---|
| NCIR          | CPT   | Vaccines Administered (CPT Codes) |       |   |
|               | CPT   |                                   | 90476 | Adeno T4  |
|               | CPT   |                                   | 90477 | Adeno T7  |
|               | CPT   |                                   | 90581 | Anthrax   |
|               | CPT   |                                   | 90586 | BCG-BC  |
|               | CPT   |                                   | 90585 | BCG-TB  |
|               | CPT   |                                   | 90725 | Cholera-Inject  |
|               | CPT   |                                   | 90592 | Cholera-Oral  |
|               | CPT   |                                   | 90719 | Diphtheria  |
|               | CPT   |                                   | 90702 | DT-Peds   |
|               | CPT   |                                   | 90700 | DTaP  |
|               | CPT   |                                   | 90723 | DTaP/Polio/Hep B  |
|               | CPT   |                                   | 90721 | DTaP-Hib  |
|               | CPT   |                                   | 90698 | Dtap-Hib-IPV  |
|               | CPT   |                                   | 90696 | DTaP-IPV  |
|               | CPT   |                                   | 90701 | DTP   |
|               | CPT   |                                   | 90720 | DTP-Hib   |
|               | CPT   |                                   | 90659 | FLU whole cell  |
|               | CPT   |                                   | 90660 | FLU-Nasal   |
|               | CPT   |                                   | 90632 | HepA Adult  |
|               | CPT   |                                   | 90633 | HepA Ped-2 dose   |
|               | CPT   |                                   | 90634 | HepA Ped-3 dose   |
|               | CPT   |                                   | 90636 | HepA-HepB Adult   |
|               | CPT   |                                   | 90743 | HepB adolescent – 2 dose                                  |
|               | CPT   |                                   | 90746 | HepB-Adult  |
|               | CPT   |                                   | 90740 | HepB-Dialysis 3 dose                                      |
|               | CPT   |                                   | 90747 | HepB-Dialysis 4 dose                                      |
|               | CPT   |                                   | 90748 | HepB-Hib  |
|               | CPT   |                                   | 90744 | HepB-Peds   |
|               | CPT   |                                   | 90645 | Hib-HbOC  |
|               | CPT   |                                   | 90644 | Hib-MenCY-TT  |
|               | CPT   |                                   | 90647 | Hib-OMP   |
|               | CPT   |                                   | 90646 | Hib-PRP-D   |
|               | CPT   |                                   | 90648 | Hib-PRP-T   |
|               | CPT   |                                   | 90651 | HPV9  |
|               | CPT   |                                   | 90650 | HPV, bivalent   |
|               | CPT   |                                   | 90649 | HPV, quadrivalent   |
|               | CPT   |                                   | 90630 | Influenza, intradermal, IIV4, pres-free                   |
|               | CPT   |                                   | 90687 | Influenza, seasonal, IIV4, IM (Age >= 6 M < 3Y)           |
|               | CPT   |                                   | 90688 | Influenza, seasonal, IIV4, IM (Age = 3 Y & up)            |
|               | CPT   |                                   | 90685 | Influenza, seasonal, IIV4, IM, pf, peds (Age >= 6 M < 3Y) |
|               | CPT   |                                   | 90686 | Influenza, seasonal, IIV4, IM, pres-free (Age = 3 Y & up) |
|               | CPT   |                                   | 90672 | Influenza, seasonal, LAIV4, IN                            |
|               | CPT   |                                   | 90661 | Influenza, seasonal, MDCK, IM, pres-free                  |
|               | CPT   |                                   | 90673 | Influenza, recombinant, seasonal, IM, pf                  |
|               | CPT   |                                   | 90655 | Influenza, seasonal, preservative free (Age >= 6 M < 3Y)  |
|               | CPT   |                                   | 90656 | Influenza, seasonal, preservative free (Age = 3 Y & up)   |

| Appendix Type | Table | Name | Value | Description   |
|---------------|-------|------|-------|---|
|               | CPT   |      | 90657 | Influenza, seasonal, injectable (Age >= 6 M < 3Y)                           |
|               | CPT   |      | 90658 | Influenza, seasonal, injectable (Age = 3 Y & up)                            |
|               | CPT   |      | 90654 | Influenza, seasonal, intradermal, p-free                                    |
|               | CPT   |      | 90662 | Influenza, High-Dose Seasonal   |
|               | CPT   |      | 90735 | Japanese Encephalitis SC  |
|               | CPT   |      | 90738 | Japanese Encephalitis IM  |
|               | CPT   |      | 90665 | Lyme  |
|               | CPT   |      | 90705 | Measles   |
|               | CPT   |      | 90708 | Measles-Rubella   |
|               | CPT   |      | 90621 | Meningococcal B, recombinant  |
|               | CPT   |      | 90620 | Meningococcal B, OMV  |
|               | CPT   |      | 90734 | Meningococcal conjugate MCV4  |
|               | CPT   |      | 90733 | Meningococcal polysaccharide MPSV4  |
|               | CPT   |      | 90707 | MMR   |
|               | CPT   |      | 90710 | MMRV  |
|               | CPT   |      | 90704 | Mumps   |
|               | CPT   |      | 90663 | Novel Influenza-H1N1-09 all formulations                                    |
|               | CPT   |      | 90727 | Plague  |
|               | CPT   |      | 90669 | Pneumococcal Conjugate 7  |
|               | CPT   |      | 90670 | Pneumococcal Conjugate 13   |
|               | CPT   |      | 90732 | Pneumococcal Polysaccharide 23  |
|               | CPT   |      | 90713 | Polio IPV   |
|               | CPT   |      | 90712 | Polio oral  |
|               | CPT   |      | 90676 | Rabies-ID   |
|               | CPT   |      | 90675 | Rabies-IM   |
|               | CPT   |      | 90726 | Rabies, NOS   |
|               | CPT   |      | 90680 | Rotavirus, tetravalent (if date administered prior to 02/03/2006)           |
|               | CPT   |      | 90680 | Rotavirus, pentavalent (if date administered on or after 02/03/2006)        |
|               | CPT   |      | 90706 | Rubella   |
|               | CPT   |      | 90709 | Rubella-Mumps   |
|               | CPT   |      | 90718 | Td  |
|               | CPT   |      | 90714 | Td – adult preservative free (if date administered on or after 07/01/2005)  |
|               | CPT   |      | 90715 | Tdap  |
|               | CPT   |      | 90703 | Tetanus   |
|               | CPT   |      | 90714 | Typhoid, unspecified formulation (if date administered prior to 07/01/2005) |
|               | CPT   |      | 90693 | Typhoid-AKD   |
|               | CPT   |      | 90692 | Typhoid-HP  |
|               | CPT   |      | 90690 | Typhoid-Oral  |
|               | CPT   |      | 90691 | Typhoid-ViCps   |
|               | CPT   |      | 90716 | Varicella   |
|               | CPT   |      | 90717 | Yellow Fever  |
|               | CPT   |      | 90736 | Zoster vaccine, live  |
|               | CPT   |      | 90728 | Deleted BCG code  |
|               | CPT   |      | 90730 | Deleted HepA code   |
|               | CPT   |      | 90745 | Deleted HepB  |

| Appendix Type | Table | Name                                    | Value         | Description            |
|---------------|-------|---|---------------|------------------------|
|               | CPT   |   | 90731         | Deleted HepB code      |
|               | CPT   |   | 90737         | Deleted Hib code       |
|               | CPT   |   | 90724         | Deleted Influenza code |
|               | CPT   |   | 90726         | Deleted Rabies         |
| NCIR          | NDC   | Vaccines Administered<br>(Package NDC ) |               |                        |
|               | NDC   |   | 49281-0545-05 | ActHib                 |
|               | NDC   |   | 49281-0400-05 | Adacel                 |
|               | NDC   |   | 49281-0400-10 | Adacel                 |
|               | NDC   |   | 49281-0400-15 | Adacel                 |
|               | NDC   |   | 33332-0011-01 | AFLURIA Pres-Free      |
|               | NDC   |   | 33332-0012-01 | AFLURIA Pres-Free      |
|               | NDC   |   | 33332-0013-01 | AFLURIA Pres-Free      |
|               | NDC   |   | 33332-0014-01 | AFLURIA Pres-Free      |
|               | NDC   |   | 33332-0015-01 | AFLURIA Pres-Free      |
|               | NDC   |   | 33332-0111-10 | AFLURIA                |
|               | NDC   |   | 33332-0113-10 | AFLURIA                |
|               | NDC   |   | 33332-0114-10 | AFLURIA                |
|               | NDC   |   | 33332-0115-10 | AFLURIA                |
|               | NDC   |   | 46028-0110-01 | Agriflu Pres-Free      |
|               | NDC   |   | 46028-0114-01 | Bexsero                |
|               | NDC   |   | 46028-0114-02 | Bexsero                |
|               | NDC   |   | 58160-0842-11 | Boostrix               |
|               | NDC   |   | 58160-0842-34 | Boostrix               |
|               | NDC   |   | 58160-0842-52 | Boostrix               |
|               | NDC   |   | 58160-0830-34 | Cervarix               |
|               | NDC   |   | 58160-0830-46 | Cervarix               |
|               | NDC   |   | 58160-0830-52 | Cervarix               |
|               | NDC   |   | 00006-4898-00 | Comvax                 |
|               | NDC   |   | 49281-0286-01 | DAPTACEL               |
|               | NDC   |   | 49281-0286-05 | DAPTACEL               |
|               | NDC   |   | 49281-0286-10 | DAPTACEL               |
|               | NDC   |   | 49281-0291-10 | DECAVAC                |
|               | NDC   |   | 49281-0291-83 | DECAVAC                |
|               | NDC   |   | 49281-0225-10 | DT                     |
|               | NDC   |   | 58160-0821-11 | Engerix-B Adult        |
|               | NDC   |   | 58160-0821-34 | Engerix-B Adult        |
|               | NDC   |   | 58160-0821-52 | Engerix-B Adult        |
|               | NDC   |   | 58160-0820-11 | Engerix-B Peds         |
|               | NDC   |   | 58160-0820-52 | Engerix-B Peds         |
|               | NDC   |   | 58160-0901-52 | Fluarix IIV4 Pres-Free |
|               | NDC   |   | 58160-0903-52 | Fluarix IIV4 Pres-Free |
|               | NDC   |   | 58160-0878-52 | Fluarix Pres-Free      |
|               | NDC   |   | 58160-0879-52 | Fluarix Pres-Free      |
|               | NDC   |   | 58160-0880-52 | Fluarix Pres-Free      |
|               | NDC   |   | 58160-0881-52 | Fluarix Pres-Free      |
|               | NDC   |   | 42874-0012-10 | Flublok RIV3 Pres-Free |
|               | NDC   |   | 42874-0013-10 | Flublok RIV3 Pres-Free |

| Appendix Type | Table | Name | Value         | Description              |
|---------------|-------|------|---------------|--------------------------|
|               | NDC   |      | 42874-0014-10 | Flublok RIV3 Pres-Free   |
|               | NDC   |      | 42874-0015-10 | Flublok RIV3 Pres-Free   |
|               | NDC   |      | 62577-0613-01 | Flucelvax IIV3 Pres-Free |
|               | NDC   |      | 62577-0614-01 | Flucelvax IIV3 Pres-Free |
|               | NDC   |      | 63851-0612-01 | Flucelvax IIV3 Pres-Free |
|               | NDC   |      | 19515-0890-07 | FluLaval                 |
|               | NDC   |      | 19515-0892-52 | FluLaval                 |
|               | NDC   |      | 19515-0893-07 | FluLaval                 |
|               | NDC   |      | 19515-0691-11 | FluLaval IIV4            |
|               | NDC   |      | 19515-0898-11 | FluLaval IIV4            |
|               | NDC   |      | 19515-0894-52 | FluLaval IIV4 Pres-Free  |
|               | NDC   |      | 19515-0901-52 | FluLaval IIV4 Pres-Free  |
|               | NDC   |      | 19515-0891-11 | FluLaval IIV4            |
|               | NDC   |      | 66019-0300-10 | FluMist LAIV4            |
|               | NDC   |      | 66019-0301-10 | FluMist LAIV4            |
|               | NDC   |      | 66019-0302-10 | FluMist LAIV4            |
|               | NDC   |      | 66019-0109-10 | FluMist                  |
|               | NDC   |      | 66019-0110-10 | FluMist                  |
|               | NDC   |      | 66521-0112-10 | Fluvirin                 |
|               | NDC   |      | 66521-0113-10 | Fluvirin                 |
|               | NDC   |      | 66521-0114-10 | Fluvirin                 |
|               | NDC   |      | 66521-0115-10 | Fluvirin                 |
|               | NDC   |      | 66521-0116-10 | Fluvirin                 |
|               | NDC   |      | 66521-0117-10 | Fluvirin                 |
|               | NDC   |      | 66521-0118-10 | Fluvirin                 |
|               | NDC   |      | 66521-0112-02 | Fluvirin Pres-Free       |
|               | NDC   |      | 66521-0113-02 | Fluvirin Pres-Free       |
|               | NDC   |      | 66521-0114-02 | Fluvirin Pres-Free       |
|               | NDC   |      | 66521-0115-02 | Fluvirin Pres-Free       |
|               | NDC   |      | 66521-0116-02 | Fluvirin Pres-Free       |
|               | NDC   |      | 66521-0117-02 | Fluvirin Pres-Free       |
|               | NDC   |      | 66521-0118-02 | Fluvirin Pres-Free       |
|               | NDC   |      | 49281-0388-15 | Fluzone                  |
|               | NDC   |      | 49281-0390-15 | Fluzone                  |
|               | NDC   |      | 49281-0392-15 | Fluzone                  |
|               | NDC   |      | 49281-0394-15 | Fluzone                  |
|               | NDC   |      | 49281-0396-15 | Fluzone                  |
|               | NDC   |      | 49281-0385-65 | Fluzone High-Dose        |
|               | NDC   |      | 49281-0395-65 | Fluzone High-Dose        |
|               | NDC   |      | 49281-0397-65 | Fluzone High-Dose        |
|               | NDC   |      | 49281-0621-15 | Fluzone IIV4             |
|               | NDC   |      | 49281-0623-15 | Fluzone IIV4             |
|               | NDC   |      | 49281-0514-25 | Fluzone IIV4 P-Free, Ped |
|               | NDC   |      | 49281-0515-25 | Fluzone IIV4 P-Free, Ped |
|               | NDC   |      | 49281-0414-10 | Fluzone IIV4 Pres-Free   |
|               | NDC   |      | 49281-0414-50 | Fluzone IIV4 Pres-Free   |
|               | NDC   |      | 49281-0415-10 | Fluzone IIV4 Pres-Free   |

| Appendix Type | Table | Name | Value         | Description                        |
|---------------|-------|------|---------------|------------------------------------|
|               | NDC   |      | 49281-0415-50 | Fluzone IIV4 Pres-Free             |
|               | NDC   |      | 49281-0708-40 | Fluzone Intradermal IIV4 Pres-Free |
|               | NDC   |      | 49281-0703-55 | Fluzone Intradermal Pres-Free      |
|               | NDC   |      | 49281-0707-55 | Fluzone Intradermal Pres-Free      |
|               | NDC   |      | 49281-0011-10 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0011-50 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0012-10 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0012-50 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0013-10 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0013-50 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0014-50 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0111-25 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0112-25 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0113-25 | Fluzone Pres-Free                  |
|               | NDC   |      | 00006-4119-02 | Gardasil 9                         |
|               | NDC   |      | 00006-4119-03 | Gardasil 9                         |
|               | NDC   |      | 00006-4121-02 | Gardasil 9                         |
|               | NDC   |      | 00006-4045-00 | Gardasil                           |
|               | NDC   |      | 00006-4045-41 | Gardasil                           |
|               | NDC   |      | 00006-4109-02 | Gardasil                           |
|               | NDC   |      | 00006-4109-09 | Gardasil                           |
|               | NDC   |      | 55045-3841-01 | Havrix-Adult                       |
|               | NDC   |      | 58160-0826-11 | Havrix-Adult                       |
|               | NDC   |      | 58160-0826-34 | Havrix-Adult                       |
|               | NDC   |      | 58160-0826-52 | Havrix-Adult                       |
|               | NDC   |      | 58160-0825-11 | Havrix-Peds 2 Dose                 |
|               | NDC   |      | 58160-0825-52 | Havrix-Peds 2 Dose                 |
|               | NDC   |      | 58160-0806-05 | Hiberix                            |
|               | NDC   |      | 58160-0810-11 | Infanrix                           |
|               | NDC   |      | 58160-0810-52 | Infanrix                           |
|               | NDC   |      | 49281-0860-10 | IPOLE                              |
|               | NDC   |      | 42515-0001-01 | Ixiaro                             |
|               | NDC   |      | 58160-0812-11 | KINRIX                             |
|               | NDC   |      | 58160-0812-52 | KINRIX                             |
|               | NDC   |      | 49281-0589-05 | Menactra                           |
|               | NDC   |      | 58160-0801-11 | MENHIBRIX                          |
|               | NDC   |      | 58160-0809-05 | MENHIBRIX                          |
|               | NDC   |      | 46028-0208-01 | Menveo                             |
|               | NDC   |      | 00006-4681-00 | MMR II                             |
|               | NDC   |      | 58160-0811-52 | Pediarix                           |
|               | NDC   |      | 00006-4897-00 | PedvaxHIB                          |
|               | NDC   |      | 49281-0510-05 | Pentacel                           |
|               | NDC   |      | 00006-4739-00 | Pneumovax 23                       |
|               | NDC   |      | 00006-4837-03 | Pneumovax 23                       |
|               | NDC   |      | 00006-4943-00 | Pneumovax 23                       |
|               | NDC   |      | 00005-1971-02 | Prevnar 13                         |
|               | NDC   |      | 00005-1971-04 | Prevnar 13                         |

| Appendix Type | Table | Name                                 | Value         | Description       |
|---------------|-------|--------------------------------------|---------------|-------------------|
|               |       |                                      | 00005-1971-05 | Prevnar 13        |
|               |       |                                      | 00005-1970-50 | Prevnar 7         |
|               |       |                                      | 00006-4171-00 | ProQuad           |
|               |       |                                      | 00006-4999-00 | ProQuad           |
|               |       |                                      | 49281-0562-10 | QUADRACEL         |
|               |       |                                      | 00006-4094-02 | Recombivax-Adult  |
|               |       |                                      | 00006-4094-09 | Recombivax-Adult  |
|               |       |                                      | 00006-4992-00 | Recombivax-Adult  |
|               |       |                                      | 00006-4995-00 | Recombivax-Adult  |
|               |       |                                      | 00006-4995-41 | Recombivax-Adult  |
|               |       |                                      | 00006-4093-02 | Recombivax-Peds   |
|               |       |                                      | 00006-4093-09 | Recombivax-Peds   |
|               |       |                                      | 00006-4981-00 | Recombivax-Peds   |
|               |       |                                      | 58160-0854-52 | Rotarix           |
|               |       |                                      | 00006-4047-20 | ROTATEQ           |
|               |       |                                      | 00006-4047-41 | ROTATEQ           |
|               |       |                                      | 14362-0111-03 | Td                |
|               |       |                                      | 17478-0131-01 | Td-MassBioLab     |
|               |       |                                      | 49281-0215-10 | TENIVAC           |
|               |       |                                      | 49281-0215-15 | TENIVAC           |
|               |       |                                      | 49281-0298-10 | Tripedia          |
|               |       |                                      | 00005-0100-05 | Trumenba          |
|               |       |                                      | 00005-0100-10 | Trumenba          |
|               |       |                                      | 58160-0815-11 | Twinrix           |
|               |       |                                      | 58160-0815-34 | Twinrix           |
|               |       |                                      | 58160-0815-48 | Twinrix           |
|               |       |                                      | 58160-0815-52 | Twinrix           |
|               |       |                                      | 49281-0790-20 | Typhim Vi         |
|               |       |                                      | 49281-0790-51 | Typhim Vi         |
|               |       |                                      | 00006-4096-02 | VAQTA-Adult       |
|               |       |                                      | 00006-4096-09 | VAQTA-Adult       |
|               |       |                                      | 00006-4841-00 | VAQTA-Adult       |
|               |       |                                      | 00006-4841-41 | VAQTA-Adult       |
|               |       |                                      | 00006-4095-02 | VAQTA-Peds 2 Dose |
|               |       |                                      | 00006-4095-09 | VAQTA-Peds 2 Dose |
|               |       |                                      | 00006-4831-41 | VAQTA-Peds 2 Dose |
|               |       |                                      | 00006-4826-00 | Varivax           |
|               |       |                                      | 00006-4827-00 | Varivax           |
|               |       |                                      | 49281-0915-01 | YF-VAX            |
|               |       |                                      | 49281-0915-05 | YF-VAX            |
|               |       |                                      | 00006-4963-00 | Zostavax          |
|               |       |                                      | 00006-4963-41 | Zostavax          |
| NCIR          | NDC   | Vaccines Administered<br>(Unit NDC ) |               |                   |
|               |       |                                      | 49281-0547-58 | ActHib            |
|               |       |                                      | 49281-0400-58 | Adacel            |
|               |       |                                      | 49281-0400-88 | Adacel            |
|               |       |                                      | 33332-0013-02 | AFLURIA Pres-Free |

| Appendix Type | Table | Name | Value         | Description              |
|---------------|-------|------|---------------|--------------------------|
|               | NDC   |      | 33332-0014-02 | AFLURIA Pres-Free        |
|               | NDC   |      | 33332-0015-02 | AFLURIA Pres-Free        |
|               | NDC   |      | 33332-0113-11 | AFLURIA                  |
|               | NDC   |      | 33332-0114-11 | AFLURIA                  |
|               | NDC   |      | 46028-0114-11 | Bexsero                  |
|               | NDC   |      | 58160-0842-05 | Boostrix                 |
|               | NDC   |      | 58160-0842-43 | Boostrix                 |
|               | NDC   |      | 58160-0842-01 | Boostrix                 |
|               | NDC   |      | 58160-0830-05 | Cervarix                 |
|               | NDC   |      | 58160-0830-43 | Cervarix                 |
|               | NDC   |      | 00006-4898-01 | Comvax                   |
|               | NDC   |      | 49281-0286-58 | DAPTACEL                 |
|               | NDC   |      | 49281-0225-58 | DT                       |
|               | NDC   |      | 58160-0821-05 | Engerix-B Adult          |
|               | NDC   |      | 58160-0821-43 | Engerix-B Adult          |
|               | NDC   |      | 58160-0821-01 | Engerix-B Adult          |
|               | NDC   |      | 58160-0820-43 | Engerix-B Peds           |
|               | NDC   |      | 58160-0820-01 | Engerix-B Peds           |
|               | NDC   |      | 58160-0903-41 | Fluarix IIV4 Pres-Free   |
|               | NDC   |      | 58160-0901-41 | Fluarix IIV4 Pres-Free   |
|               | NDC   |      | 58160-0879-41 | Fluarix Pres-Free        |
|               | NDC   |      | 58160-0880-41 | Fluarix Pres-Free        |
|               | NDC   |      | 58160-0881-41 | Fluarix Pres-Free        |
|               | NDC   |      | 42874-0015-01 | Flublok RIV3 Pres-Free   |
|               | NDC   |      | 42874-0014-01 | Flublok RIV3 Pres-Free   |
|               | NDC   |      | 42874-0013-01 | Flublok RIV3 Pres-Free   |
|               | NDC   |      | 42874-0012-01 | Flublok RIV3 Pres-Free   |
|               | NDC   |      | 63851-0612-11 | Flucelvax IIV3 Pres-Free |
|               | NDC   |      | 62577-0614-11 | Flucelvax IIV3 Pres-Free |
|               | NDC   |      | 62577-0613-11 | Flucelvax IIV3 Pres-Free |
|               | NDC   |      | 19515-0890-02 | FluLaval                 |
|               | NDC   |      | 19515-0893-02 | FluLaval                 |
|               | NDC   |      | 19515-0891-01 | FluLaval IIV4            |
|               | NDC   |      | 19515-0898-01 | FluLaval IIV4            |
|               | NDC   |      | 19515-0901-41 | FluLaval IIV4 Pres-Free  |
|               | NDC   |      | 19515-0894-41 | FluLaval IIV4 Pres-Free  |
|               | NDC   |      | 66019-0300-01 | FluMist LAIV4            |
|               | NDC   |      | 66019-0301-01 | FluMist LAIV4            |
|               | NDC   |      | 66019-0110-01 | FluMist                  |
|               | NDC   |      | 66019-0109-01 | FluMist                  |
|               | NDC   |      | 66521-0116-11 | Fluvirin                 |
|               | NDC   |      | 66521-0117-11 | Fluvirin                 |
|               | NDC   |      | 66521-0117-12 | Fluvirin Pres-Free       |
|               | NDC   |      | 66521-0116-12 | Fluvirin Pres-Free       |
|               | NDC   |      | 49281-0396-78 | Fluzone                  |
|               | NDC   |      | 49281-0394-78 | Fluzone                  |
|               | NDC   |      | 49281-0392-78 | Fluzone                  |

| Appendix Type | Table | Name | Value         | Description                        |
|---------------|-------|------|---------------|------------------------------------|
|               | NDC   |      | 49281-0395-88 | Fluzone High-Dose                  |
|               | NDC   |      | 49281-0397-88 | Fluzone High-Dose                  |
|               | NDC   |      | 49281-0621-78 | Fluzone IIV4                       |
|               | NDC   |      | 49281-0514-00 | Fluzone IIV4 P-Free, Ped           |
|               | NDC   |      | 49281-0414-88 | Fluzone IIV4 Pres-Free             |
|               | NDC   |      | 49281-0414-58 | Fluzone IIV4 Pres-Free             |
|               | NDC   |      | 49281-0708-48 | Fluzone Intradermal IIV4 Pres-Free |
|               | NDC   |      | 49281-0707-48 | Fluzone Intradermal Pres-Free      |
|               | NDC   |      | 49281-0113-00 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0013-88 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0013-58 | Fluzone Pres-Free                  |
|               | NDC   |      | 49281-0014-88 | Fluzone Pres-Free                  |
|               | NDC   |      | 00006-4121-01 | Gardasil 9                         |
|               | NDC   |      | 00006-4119-01 | Gardasil 9                         |
|               | NDC   |      | 00006-4109-01 | Gardasil                           |
|               | NDC   |      | 00006-4045-01 | Gardasil                           |
|               | NDC   |      | 58160-0826-05 | Havrix-Adult                       |
|               | NDC   |      | 55045-3841-01 | Havrix-Adult                       |
|               | NDC   |      | 58160-0826-43 | Havrix-Adult                       |
|               | NDC   |      | 58160-0826-01 | Havrix-Adult                       |
|               | NDC   |      | 58160-0825-43 | Havrix-Peds 2 Dose                 |
|               | NDC   |      | 58160-0825-01 | Havrix-Peds 2 Dose                 |
|               | NDC   |      | 58160-0806-01 | Hiberix                            |
|               | NDC   |      | 58160-0810-43 | Infanrix                           |
|               | NDC   |      | 58160-0810-01 | Infanrix                           |
|               | NDC   |      | 49281-0860-88 | I POL                              |
|               | NDC   |      | 42515-0001-00 | Ixiaro                             |
|               | NDC   |      | 58160-0812-43 | KINRIX                             |
|               | NDC   |      | 58160-0812-01 | KINRIX                             |
|               | NDC   |      | 49281-0589-58 | Menactra                           |
|               | NDC   |      | 58160-0809-01 | MENHIBRIX                          |
|               | NDC   |      | 46028-0218-11 | Menveo                             |
|               | NDC   |      | 46028-0219-11 | Menveo                             |
|               | NDC   |      | 00006-4681-01 | MMR II                             |
|               | NDC   |      | 58160-0811-43 | Pediarix                           |
|               | NDC   |      | 00006-4897-01 | PedvaxHIB                          |
|               | NDC   |      | 49281-0545-15 | Pentacel                           |
|               | NDC   |      | 49281-0560-05 | Pentacel                           |
|               | NDC   |      | 00006-4739-01 | Pneumovax 23                       |
|               | NDC   |      | 00006-4737-01 | Pneumovax 23                       |
|               | NDC   |      | 00006-4743-01 | Pneumovax 23                       |
|               | NDC   |      | 00005-1971-01 | Prevnar 13                         |
|               | NDC   |      | 00005-1970-49 | Prevnar 7                          |
|               | NDC   |      | 00006-4999-01 | ProQuad                            |
|               | NDC   |      | 00006-4171-01 | ProQuad                            |
|               | NDC   |      | 49281-0562-58 | QUADRACEL                          |
|               | NDC   |      | 00006-4992-01 | Recombivax-Adult                   |

| Appendix Type | Table | Name | Value         | Description       |
|---------------|-------|------|---------------|-------------------|
|               | NDC   |      | 00006-4995-01 | Recombivax-Adult  |
|               | NDC   |      | 00006-4094-01 | Recombivax-Adult  |
|               | NDC   |      | 00006-4093-01 | Recombivax-Peds   |
|               | NDC   |      | 00006-4981-01 | Recombivax-Peds   |
|               | NDC   |      | 58160-0851-01 | Rotarix           |
|               | NDC   |      | 00006-4047-41 | ROTATEQ           |
|               | NDC   |      | 00006-4047-20 | ROTATEQ           |
|               | NDC   |      | 17478-0131-00 | Td-MassBioLab     |
|               | NDC   |      | 49281-0215-88 | TENIVAC           |
|               | NDC   |      | 49281-0215-58 | TENIVAC           |
|               | NDC   |      | 49281-0298-10 | Tripedia          |
|               | NDC   |      | 00005-0100-01 | Trumenba          |
|               | NDC   |      | 58160-0815-05 | Twinrix           |
|               | NDC   |      | 58160-0815-43 | Twinrix           |
|               | NDC   |      | 58160-0815-01 | Twinrix           |
|               | NDC   |      | 49281-0790-38 | Typhim Vi         |
|               | NDC   |      | 49281-0790-88 | Typhim Vi         |
|               | NDC   |      | 00006-4841-01 | VAQTA-Adult       |
|               | NDC   |      | 00006-4096-01 | VAQTA-Adult       |
|               | NDC   |      | 00006-4095-01 | VAQTA-Peds 2 Dose |
|               | NDC   |      | 00006-4831-01 | VAQTA-Peds 2 Dose |
|               | NDC   |      | 00006-4826-01 | Varivax           |
|               | NDC   |      | 00006-4827-01 | Varivax           |
|               | NDC   |      | 49281-0915-58 | YF-VAX            |
|               | NDC   |      | 49281-0915-68 | YF-VAX            |
|               | NDC   |      | 00006-4963-01 | Zostavax          |

---

## Appendix B: Guidance on Usage and Example Messages

### *Example QBP - Basic immunization history request:*

Storyboard:

Sending Organization "NCIR-SHORT-ORG" is requesting the immunization History for one of their patients. The immunization request is for Lisa Patricia Patient who meets the following patient criteria:

- Date of Birth: 01/29/2008
- State Registry ID = Test20130206-2
- Responsible Person = Helen Tester
- Address = 627 Packers Ave, Liberty NC 28000

The request is to return up to 20 patients that meet the criteria listed above and that all information is to be sent in Real Time.

Note that we will indicate the end of each segment with a <CR>. Segments may wrap around in this document. We will insert a blank line between each segment for increased readability.

```
MSH|^~\&|Sending_Application|NCIR-SHORT-  
ORG|NCIR|NCIR|20100824||QBP^Q11^QBP_Q11|HL7251_QUERY_01|P^|2.5.1^|||NE|AL||||Z34^CDCPHINVS<  
CR>
```

```
QPD|Z34^Request Immunization History^HL70471|HL7251_QUERY_01|^SR^~TEST20130206-  
2^MPI^|PATIENT^LISA^PATRICIA^L^|TESTER^HELEN^|20080129|F|627 PACKERS  
AVE^LIBERTY^NC^28000^|N|||<CR>
```

```
RCP||20|R|||<CR>
```

### *Example RSP - Basic Z31, Z33 and Z32 response:*

The following RSP message is returned for a Z33 no match response:

```
FHS|^~\&| NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130308143807.257-0500||||<CR>
```

```
BHS|^~\&| NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130308143807.257-0500||||<CR>
```

MSH|^~\&| NCIR8.9.0|NCIR^^|NCIR-SHORT-ORG|20130308150002.365-0500||RSP^K11^RSP\_K11|20130308150002RM00|P^|2.5.1^^|NE|||||Z33^CDCPHINVS<CR>

MSA|AE|HL7251\_QUERY\_01<CR>

QAK|HL7251\_QUERY\_01|NF|Z34^Request Immunization History^HL70471|||<CR>

QPD|Z34^Request Immunization History^HL70471|HL7251\_QUERY\_01|^^^SR^~PATIENT ID^^^PI^|PATIENT^LISA^PATRICIA^^^L^|TESTER^HELEN^^^|20080129|F|627 PACKERS AVE^LIBERTY^NC^28000||||<CR>

BTS|1||<CR>

FTS|1||<CR>

*The following RSP message is returned for a Z31 candidate list response:*

FHS|^~\&| NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130308143807.257-0500||||<CR>

BHS|^~\&| NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130308143807.257-0500||||<CR>

MSH|^~\&| NCIR8.9.0|NCIR^^|NCIR-SHORT-ORG|20130308144910.932-0500||RSP^K11^RSP\_K11|20130308144910RM00|P^|2.5.1^^|NE|||||Z31^CDCPHINVS<CR>

MSA|AE|HL7251\_QUERY\_01<CR>

QAK|HL7251\_QUERY\_01|AE|Z34^Request Immunization History^HL70471|||<CR>

QPD|Z34^Request Immunization History^HL70471|HL7251\_QUERY\_01|^^^SR^~PATIENT ID^^^PI^|PATIENT^LISA^PATRICIA^^^L^|TESTER^HELEN^^^|20080129|F|627 PACKERS AVE^LIBERTY^NC^28000||||<CR>

PID|1||1111111111^^^SR^~^^^PI^~^^^PT^|PATIENT^LISA^PATRICIA^^^|TESTER^HELEN^^^|20080129|F||2131-1^HL70005^^|2186-5^HL70189^^|N|0||||N||||||<CR>

PD1|||||||||N|||A||||<CR>

NK1|1|TESTER^HELEN^^^|MTH^MOTHER^HL70063^^^|627 PACKERS AVE^LIBERTY^NC^28385^M^^^|PRN^^^919^5551234^^|ENGLISH^ISO6392^^|02|||||||||Y<CR>

PID|1||2222222222^SR^~^P|^~^PT^||PATIENT^LISA^PATRICIA^L^|TESTER^HELEN^|20080129|F||2131-1^HL70005^|2186-5^HL70189^|N|0||N|||<CR>

PD1||N||A|||<CR>

PID|1||3333333333^SR^~^P|^~^PT^||PATIENT^LISA^PATRICIA^L^|TESTER^HELEN^|20080129|F||2131-1^HL70005^|2186-5^HL70189^|N|0||N|||<CR>

NK1|1|PATIENT^LISA^PATRICIA^|SEL^SELF^HL70063^|627 PACKERS AVE^LIBERTY^NC^28000^|ENGLISH^ISO6392^|02||N<CR>

NK1|1|TESTER^HELEN^|MTH^MOTHER^HL70063^|627 PACKERS AVE^LIBERTY^NC^28385^|PRN^919^5551234^|ENGLISH^ISO6392^|02||Y<CR>

BTS|1||<CR>

FTS|1||<CR>

*The following RSP message is returned for a Z34 single match response:*

FHS|^~\&| NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130308143807.257-0500|||<CR>

BHS|^~\&| NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130308143807.257-0500|||<CR>

MSH|^~\&| NCIR8.9.0|NCIR^||NCIR-SHORT-ORG|20130308143807.258-0500||RSP^K11^RSP\_K11|20130308143807RM00|P^|2.5.1^||NE|||Z32^CDCPHINVS<CR>

MSA|AE|HL7251\_QUERY\_01<CR>

ERR||PID^1^3^1^0|101^Required field missing^HL70357^|W|||QPD-3: PATIENT IDENTIFIER LIST REQUIRED|||<CR>

QAK|HL7251\_QUERY\_01|AE|Z34^Request Immunization History^HL70471|||<CR>

QPD|Z34^Request Immunization History^HL70471|HL7251\_QUERY\_01|^SR^~^P|^PATIENT^LISA^PATRICIA^L^|TESTER^HELEN^L^|20080129|F|627 PACKERS AVE^LIBERTY^NC^28000|||<CR>

PID|1||123456789^^^SR^~CLIENT IDENTIFIER^^^PI^~SECONDARY CLIENT IDENTIFIER^^^PT^||PATIENT^LISA^PATRICIA^^^L^|TESTER^HELEN^^^|20080129|F||2131-1^HL70005^^^|||||||||2186-5^HL70189^^^|N|0||||N|||||||<CR>

PD1|||||||||N||||A||||<CR>

NK1|1|TESTER^HELEN^^^|MTH^MOTHER^HL70063^^^|627 PACKERS AVE^LIBERTY^NC^28385^M^^^|PRN^^^919^5551234^M|||||||||ENGLISH^ISO6392^^^|02|||||||||||||Y<CR>

PV1||R||||||||||||||||||||||||||||||||||<CR>

ORC|RE||105193541|||||||99999^TEST^CLINICIAN||||||||||||||<CR>

RXA|0|1|20100726|20100726|83^HepA ped-2 dose^CVX^90633^HepA ped-2 dose^C4|0.5|ML||00^^^|76704^Smith^Games|^TAWNA'S TEST ORG-21959^^^|AHABB123AA|20200101|SKB^GlaxSmithKline (SmithKline Beecham and Glaxo Wellcome)^MVX^^^|CP|||||

RXR|IM^INTRAMUSCULAR^HL70162^^^|LT^LEFT THIGH^HL70163^^^|

OBX|1|CE|30963-3^VACCINE PURCHASED WITH^LN|1|VXC1^Public Funds^CDCPHINVS^^^|F||20140922|||||||

OBX|2|CE|38890-0^COMPONENT VACCINE TYPE^LN|2|85^Hep A, unspecified formulation^CVX||||F||20140922|||||||

OBX|3|TS|29768-9^DATE VACCINE INFORMATION STATEMENT PUBLISHED^LN|2|20111025||||F||20140922|||||||

OBX|4|TS|29769-7^DATE VACCINE INFORMATION STATEMENT PRESENTED^LN|2|20100726||||F||20140922|||||||ORC|RE||9999|||||||<CR>

OBX|1|CE|30963-3^VACCINE PURCHASED WITH^LN|1|VXC1^Public Funds^CDCPHINVS^^^|F||20140918|||||||

OBX|2|CE|38890-0^COMPONENT VACCINE TYPE^LN|2|107^DTaP, unspecified formulation^CVX||||F||20140918|||||||

OBX|3|TS|29768-9^DATE VACCINE INFORMATION STATEMENT PUBLISHED^LN|2|20070517||||F||20140918|||||||

OBX|4|TS|29769-7^DATE VACCINE INFORMATION STATEMENT PRESENTED^LN|2|20110108||||F||20140918|||||||

OBX|5|CE|38890-0^COMPONENT VACCINE TYPE^LN|3|17^Hib, unspecified formulation^CVX||||F||20140918|||||||

OBX|6|TS|29768-9^DATE VACCINE INFORMATION STATEMENT PUBLISHED^LN|3|20140204||||F||20140918|||||||

OBX|7|TS|29769-7^DATE VACCINE INFORMATION STATEMENT PRESENTED^LN|3|20110108||||F||20140918|||||||

---

OBX|8|CE|64994-7^Vaccine fund pgm elig cat^LN|4|V02^Medicaid^HL70064|||||F|||20110108||VXC41^per  
visit^CDCPHINVS|||||

BTS|1||<CR>

FTS|1||<CR>

*Example Response – Invalid required value and Fatal Error:*

*The following RSP message is returned for a QBP request sent with an invalid required value:*

FHS|^~\&|NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130322185040.373-0400||||<CR>

BHS|^~\&|NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130322185040.373-0400||||<CR>

MSH|^~\&|NCIR8.9.0|NCIR||NCIR-SHORT-ORG|20130322185040.373-  
0400||RSP^K11^RSP\_K11|20130322185040RM00|P^|2.5.1^||NE|||||^CDCPHINVS<CR>

MSA|AR|QUERY\_TAG<CR>

ERR||QPD^1^6^0^0|102^Data type error^HL70357^^^|E||||QPD-6: Invalid DOB.||||| <CR>

QAK|QUERY\_TAG|AE|Z34^Request Immunization History^HL70471|||<CR>

QPD|Z34^Request Immunization  
History^HL70471|QUERY\_TAG|^^^SR^~^^^PI^|PATIENT^LISA^PATRICIA^^^L^|TESTER^HELEN^^^M^|  
abcdefgh|F|627 PACKERS AVE^LIBERTY^NC^28000||||<CR>

BTS|1||<CR>

FTS|1||<CR>

*The following ACK message is returned for a QBP request sent resulting in a Fatal Error:*

FHS|^~\&|NCIR8.9.0|NCIR||NCIR-SHORT-ORG|||||<CR>

BHS|^~\&|NCIR8.9.0|NCIR||NCIR-SHORT-ORG|||||<CR>

MSH|^~\&|NCIR8.9.0|NCIR||NCIR-SHORT-  
ORG|20130322||ACK^V04^ACK|2013032218585600|P^|2.5.1^||NE|<CR>

---

MSA|AR|QUERY\_TAG1|||<CR>

ERR||MSH^1^2^1^^|102^Data type error^HL70357^^^|E|||MSH-2: Encoding Characters missing or invalid.|||<CR>

BTS|1||<CR>

FTS|1||<CR>

## VERSION HISTORY

| Version # | Implemented By      | Revision Date | Reason  |
|-----------|---------------------|---------------|---|
| 1.0       | Dave Rider          | 02/05/2013    | Initial creation document based on peer feedback by HPES and NCIR community.  |
| 8.9.0     | Maia Ouderkirk      | 08/26/2013    | Release 8.9.0: Added new Flu VTN, CPT, CVX  |
| 8.9.1     | Tawna Chase         | 10/25/2013    | Draft of 8.9.1 version  |
|           | Sriram Venkataraman | 10/30/2013    | Review of entire document and a number of updates and clarification.  |
|           | Tawna Chase         | 10/31/2013    | Review state response   |
|           | Tawna Chase         | 11/6/2013     | Final 8.9.1 Version   |
| 8.9.2     | Tawna Chase         | 01/16/2014    | Added sequence number to all PID-1 fields, updated error messages for RCP segment, added note about QBP transaction, added BN Bilateral Nares, LNLeft Naris, and RNNaris to HL70163 table   |
| 8.9.2     | Sriram Venkataraman | 1/31/2014     | Reviewed and updated different fields.  |
| 9.1.0     | Maia Ouderkirk      | 03/07/2014    | Table 0292 values updated<br>CPT values updated   |
|           | Maia Ouderkirk      | 03/20/2014    | Added table 0201 – Telecommunication use code<br>Added CDCPHINVS values – Immunization funding source   |
|           | Maia Ouderkirk      | 06/04/2014    | Incorporated changes corresponding to VXU   |
| 9.1.1     | Maia Ouderkirk      | 08/26/2014    | Updated Table 0289 values to include FIPS County codes  |
|           | Sriram Venkataraman | 09/02/2014    | Client comment and error processing related feedback.   |
|           | Tawna Chase         | 09/18/2014    | Update based on comments.   |
| 9.2.1     | Maia Ouderkirk      | 10/14/2014    | Added Table 0292 CVX value 161 – Vaccine: Influenza, seasonal, IIV4, IM, pf, peds<br>Updated CPT 90685 description: Influenza, seasonal, IIV4, IM, pf, peds<br>Added VTN: Fluzone IIV4, FluLaval IIV4 Pres-Free, Fluzone IIV4 P-Free, Ped   |
| 9.2.2     | Tawna Chase         | 10/23/2013    | Remove suppressed messages<br>Added OBX-17 value “VXC40”<br>Added new error messages.   |
| 9.3.0     | Tawna Chase         | 12/15/2014    | 9.2.2 was not released since it was decided to release along with 9.3.0.<br>Included applicable county or residence changes   |
| 9.3.1     | Tawna Chase         | 01/09/2015    | Assed local contra code 18. Created version   |
|           | Lacey Dean          | 02/06/2015    | Added Table 0292 CVX value 162 – Vaccine: Meningococcal B, recombinant; 164- Vaccine: Meningococcal B, unspecified formulation; 165 – Vaccine: HPV9<br>Added CPT 90621 description: Meningococcal B, recombinant; CPT 90651: Human Papillomavirus 9-valent Vaccine<br>Added VTN: Gardasil 9, Trumenba<br>Added VGC: MeningB |
| 9.4.0     | Maia Ouderkirk      | 03/27/2015    | Updated MSH-4 descriptions<br>Updated OBX-4 descriptions<br>Removed Email Address from examples<br>Removed VGC values from the Appendix   |

|       |                           |            |  |
|-------|---------------------------|------------|--|
|       |                           |            | Added Appendix A HL7 table 0363  |
|       | Maia Ouderkirk            | 04/06/2015 | Added Table 0292 CVX value 163 – Vaccine: Meningococcal B, OMV<br>Added CPT 90620 description: Meningococcal B, OMV<br>Added VTN: BEXSERO  |
|       | Sriram Venkataraman       | 04/14/2015 | Review of CDC feedback changes and updated PID-12 to remove table and few minor changes.   |
|       | Maia Ouderkirk            | 06/18/2015 | Added VTN: QUADRACEL<br>Added Immunity values: 38907003 (SCT), 33 (L), 44 (L)<br>Updated RCP-2 & RCP-3 processing  |
| 9.5.0 | Maia Ouderkirk            | 08/27/2015 | Added Table 0292 CVX value 166 – Vaccine: Influenza, Intradermal, IIV4, pres-free<br>Added CPT 90630 description: Influenza, Intradermal, IIV4, pres-free<br>Added VTN: Fluzone Intradermal IIV4 Pres-Free   |
| 9.6.0 | Lacey Dean/Maia Ouderkirk | 05/12/2016 | Added NIP004 Refusal, Exemptions, Repeat Series values: ME10 - State approved medical exemption for Pneumococcal conjugate vaccine group ME11 – State approved medical exemption for Meningococcal conjugate vaccine group<br>Added Package NDC list of NCIR values to Appendix A<br>Added Unit NDC list of NCIR values to Appendix A<br>Updated RXA-5 specifications to add NDC |
| 9.6.2 | Maia Ouderkirk            | 08/02/2016 | Added Table 0292 CVX value 167 – Vaccine: Meningococcal, unknown serogroups<br>Added VTN: Vivotif<br>Added Table 0227 Manufacturer: PaxVax   |