



Conformance Clarification for EHR Certification of Immunization Messaging  
VXU MESSAGES V04  
HL7 Version 2.5.1  
Release 6 – September 20th, 2013

Addendum to HL7 Version 2.5.1 Implementation Guide for Immunization  
Messaging (Release 1.4)

Centers for Disease Control and Prevention

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## **HL7 Version 2.5.1 Implementation Guide for Immunization Messaging (Release 1.4)—Addendum**

### **Conformance Clarification for Electronic Health Record (EHR) Certification of Immunization Messaging**

The Office of the National Coordinator for Health Information Technology's (ONC's) 2014 Edition EHR Certification Criterion "§170.314(f)(2)" specifies Standards and Implementation Specifications in "§170.205(e)(3) (HL7 2.5.1)" that designates HL7 2.5.1 Implementation Guide for Immunization Messaging, Release 1.4; and in "§170.207(e)(2)" that designates HL7 Standard Code Set CVX -- Vaccines Administered, updates through July 11, 2012.

This addendum consolidates the Implementation Guide information that clarifies the conformance requirements for EHR certification. This supplement does not specify additional requirements; it just clarifies existing ones. Conformance statements and conditional predicates that clarify message requirements for EHR certification are presented below. Value set requirements, general clarifications, and Immunization Implementation Guide errata are also provided in this addendum.

## 1.0 GENERAL CLARIFICATIONS

The scope of the conformance requirements will only address sender behavior. All actions on the part of the receiver, including acknowledgements, are not covered by the conformance requirements.

The conformance requirements do not specify transport in order to give state and local public health agencies the flexibility to specify their preferred means of transport.

CVX codes are used in several message components. They indicate the vaccine of interest for the component. In the case of RXA-5, they indicate the vaccine administered. This should be the most specific vaccine known. In the case of a historical record of an immunization, this may be the general vaccine type. For instance, it could be CVX code 45, Hep B, unspecified formulation. If the immunization was administered by the reporter, it should reflect the more specific vaccine actually administered. (e.g. CVX 43, Hep B, Adult). The other place CVX codes are used in observations (OBX). For instance, the observation about the vaccine type for Vaccine Information Statements (VIS) relies on the “unspecified formulation” CVX codes, since the statement applies to any of the specific vaccines. In the case where Hep B adult was administered, the RXA-5.1 would be populated with 43. OBX-5.1 for the document type observation would be populated with 45.

<http://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=vg>

Table 1-Clarifications

| Location | Field Name   | Existing   | Clarification   |
|----------|--------------|--|---|
| PID-22   | Ethnic Group | Definition: This field further defines the patient’s ancestry. Refer to User-defined Table 0189 - Ethnic Group. The second triplet of the CE data type for ethnic group (alternate identifier, alternate text, and name of alternate coding system) is reserved for governmentally assigned codes. | HL7 table 0189 displayed in the Implementation Guide refers to two values sets. The US ethnicity codes are actually from the CDCREC table. They should be identified as CDCREC. The HL7 2.4 codes are the actual values in HL70189 and should be labeled accordingly. In addition it is not clear which one is meant by “reserved for governmentally assigned codes” in the implementation guide. Therefore, either is acceptable. That is, the first triplet of PID.22 may contain a code from either value set given in table 0189 or CDCREC. In addition, the second triplet may also be valued with a code from either value set given in table 0189 or CDCREC. The order in which the codes appear is not significant. Examples for Hispanic or Latino include “H^Hispanic or Latino^HL70189”, “2135-2^Hispanic or Latino^CDCREC”, “H^Hispanic or Latino^HL70189^2135-2^Hispanic or Latino^CDCREC”, and so on. |



## 2.0 ERRATA

There are additional errata identified in Release 1.4 of the Immunization Messaging Implementation Guide. These will be brought to the attention of the public health IIS community as a next release of the Immunization Messaging Implementation Guide is produced. For EHR certification purposes, these errata are documented and corrected below.

Table 2-Errata

| Location               | Field Name           | Change  | Existing   | Corrected   |
|------------------------|----------------------|---|--|---|
| PID-1                  | Set ID               | <b>Note:</b> This Set ID numbers the repetitions of the segments. Only one patient per message is supported for meaningful use certification.<br>Literal value: "1" | Usage RE. Cardinality [0..1]   | Usage R. Cardinality [1..1]<br><br>PID-1 (Set ID) <b>SHALL</b> have the Literal Value of '1' when the message type is VXU |
| MSH-21                 | Message Profile ID   | This field will not be tested during certification.   | Usage RE   | Usage C(R/X)<br><b>Conditional Predicate:</b><br>If MSH-9.1 is populated with "QBP" or "RSP"                              |
| VXU<br>Orders<br>Group |                      | Usage specified.  | Usage is blank   | Usage shall be RE.  |
| RXA-6                  | Administered amount  |   | <b>NOTE:</b> If RXA-6 (administered amount) is not known or meaningful, use "999." | New conformance statement: <b>IZ-33:</b><br>If RXA-9.1 is not valued "00" then RXA.6 SHALL BE valued "999".               |
| ORC-12                 |                      | Clarification   |  | If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"                                       |
| RXA-15                 | Substance lot number | Clarification   | If the value in RXA-9.1 (Administration Notes) is valued "00"                      | If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"                                       |



|                           |                            |                           |  |  |
|---------------------------|----------------------------|---------------------------|--|--|
| RXA-17                    | Manufacturer               | Clarification             | If the value in RXA-9.1 (Administration Notes) is valued "00"  | If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA"  |
| RXA-20                    | Refusal reason             | Correct text              | <b>IZ-32:</b> If the RXA-18 (Refusal Reason) is populated, this field SHALL be valued to "RE".   | <b>IZ-32:</b> If the RXA-18 (Refusal Reason) is populated, RXA-20 (Completion Status) SHALL be valued to "RE".   |
| RXA-20                    | Completion Status          | New conformance statement | If this RXA has a CVX of 998 (no vaccine administered) then this shall be populated with NA.   | <b>IZ-34:</b> If RXA-5.1 (vaccine administered) has a CVX of 998 (no vaccine administered) then RXA-20 shall be populated with "NA."   |
| CE.4-6                    | Data type                  | Change usage from RE to O | Usage is RE  | Change usage to O  |
| VIS Conformance Statement | OBX conformance statements | Clarification             | <b>IZ-23:</b> If RXA-9.1 (Administration Note.code) is "00" then the message SHALL include an OBX segment associated with the RXA with OBX-3.1 shall equal "64994-7". This OBX will indicate the Patient Eligibility Category for Vaccine Funding Program. | <b>IZ-23:</b> If RXA-20 is valued "CP" or "PA" and the first occurrence of RXA-9.1 (Administration Note.code) is "00" then the message SHALL include an OBX segment associated with the RXA with OBX-3.1 shall equal "64994-7". This OBX will indicate the Patient Eligibility Category for Vaccine Funding Program. |
| VIS Conformance Statement | OBX conformance statements | Clarification             | <b>IZ-24:</b> If RXA-9.1 is valued "00" and RXA-5.1 is valued with a CVX code from table PHVS_VISVaccines_IIS (See Appendix A) then there SHALL be:  | <b>IZ-24:</b> If RXA-20 is valued "CP" or "PA" and the first occurrence of RXA-9.1 is valued "00" and RXA-5.1 is valued with a CVX code from table   |

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  | <ul style="list-style-type: none"> <li>• an OBX segment with OBX-3.1 valued "64764-9" (bar coded) <b>and</b> one OBX with OBX-3.1 valued "29769-7" (presentation /delivery date) associated. Both OBX shall have the same value in OBX-4</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• an OBX segment with OBX-3.1 valued "30956-7" (vaccine type) and an OBX segment with OBX-3.1 valued "29768-9" (version date) and one OBX with OBX-3.1 valued "29769-7" (presentation /delivery date) associated. Both OBX shall have the same value in OBX-4</li> </ul> | <p>PHVS_VISVaccines_IIS (See Appendix A) then for each vaccine information statement that was shared there SHALL be:</p> <ul style="list-style-type: none"> <li>• one OBX segment with OBX-3.1 valued "69764-9" (bar coded) <b>and</b> one OBX with OBX-3.1 valued "29769-7" (presentation /delivery date) associated. Both OBX shall have the same value in OBX-4</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• one OBX segment with OBX-3.1 valued "30956-7" (vaccine type) and one OBX segment with OBX-3.1 valued "29768-9" (version date) and one OBX with OBX-3.1 valued "29769-7" (presentation /delivery date) associated. All three OBX shall have the same value in OBX-4</li> </ul> <p><b>Note that 30956-7 (vaccine type) is preferred over the alternative 38890-0 (Component Vaccine Type) even when the vaccine administered is a combination vaccine. For this reason, the test will compare to the 30956-7</b></p> |
|--|--|--|--|--|

|                         |                                  |  |  |   |
|-------------------------|----------------------------------|--|--|---|
|                         |                                  |  |  | value.  |
| IN1                     |                                  | Changed usage from O to R since the IN1 segment is required if the group is present (per the base standard). | Usage O  | Usage R   |
| PID-29                  | Death Date conditional predicate | Correction   | If PID-30 (patient death date) is valued "Y"                   | If PID-30 (patient death indicator) is valued "Y"   |
| Version ID Data type    | VID.2 and VID.3                  | Correct typo   | Data type is set to (CO/O)                                     | Data type is CE   |
| CE data type            | CE.4-CE.6                        | Change usage   | Usage is RE  | Change usage to O   |
| XTN data type           | XTN.4                            | Correct conditional predicate  | If the XTN-2 (telecommunication type code) is valued "NET"     | If the XTN-2 (telecommunication use code) is valued "NET"   |
| XTN data type           | XTN.6, XTN.7                     | Correct conditional predicate  | If the XTN-2 (telecommunication type code) is not valued "NET" | If the XTN-2 (telecommunication use code) is not valued "NET"   |
| HD data type use of OID | Data type specification note     | Clarification  | The use of OIDs in fields using this data type is encouraged.  | The use of OIDs in fields using this data type is encouraged. <b>Note that either Namespace ID or Universal ID is required.</b> |
| EI Data Type            |                                  | Correct typo   | If EI.1 (Namespace ID) is not valued                           | If EI.2 (Namespace ID) is not valued  |
| ORC-12                  | Change Usage to C(RE/O)          | Document Conditional Predicate   |  | If <b>RXA-20</b> is valued "CP" or "PA" and the first occurrence of RXA-9.1 is valued "00"                                      |
| OBX                     | Table page 112                   | Typo   | Value set is listed as cdcgi1vis                               | Correct to cdcgs1vis  |
| OBX-17                  | Change Usage to C(RE/O)          | Document Conditional Predicate   |  | If OBX-3.1 is "64994-7"   |

|       |             |                     |   |                              |
|-------|-------------|---------------------|---|------------------------------|
| RXA-9 | Admin Notes | Correct cardinality | Cardinality is [1..*], since is only required when RXA-20 is "CP" or "PA" changed to [0..*] | Change cardinality to [0..*] |
|-------|-------------|---------------------|---|------------------------------|

### 3.0 VALUE SET REQUIREMENT CLARIFICATION

For conformance testing, the message elements summarized in the table below SHALL be valued with elements from the specified value sets. Value sets described in the guide for elements not in the table below will not be considered for conformance testing, as their associated message elements will not be constrained. (These unconstrained value sets in the guide are still worth consulting; they should be considered suggested usage, reflective of best and widespread practices, and may possibly become requirements in the future.) Value sets shown below are defined by their name in CDC vocabulary server - Public Health Information Network Vocabulary Access and Distribution System (PHIN VADS), which may constrain the original Health Level Seven (HL7) tables and other code systems indicated. For EHR certification, PHIN VADS will be used as the source of truth to test content for these elements.

The National Institute for Standards and Technology (NIST) will depend on the CDC/PHIN VADS to ensure that the values are correct and current. PHIN VADS can be accessed at <http://phinvads.cdc.gov>. The NIST validation tool imports the value sets from CDC/PHIN VADS.

All the value sets associated with Immunization IG can also be downloaded using the following link:

[http://phinvads.cdc.gov/vads/ViewView.action?name=Immunization Messaging - HL7 Version 2.5.1](http://phinvads.cdc.gov/vads/ViewView.action?name=Immunization+Messaging+-+HL7+Version+2.5.1)

The following table provides the mapping between the value set information present in immunization implementation guide and the VADS value set. More detailed version of this mapping table and all the value set concepts can be downloaded from PHIN VADS home page (<http://phinvads.cdc.gov>) under hot topics “**Immunization HL7 2.5.1**”.

CDC vocabulary / PHIN VADS team can be contacted for support at [PHINVS@CDC.GOV](mailto:PHINVS@CDC.GOV).

Table 3-Value Sets

| Value set information from HL7 Implementation Guide |                                |  | Vocabulary Source                            | Value set information from CDC Vocabulary Server (PHIN VADS) |  |   |
|---|--------------------------------|--|--|--|--|---|
| Data Element Name from HL7 IG                       | HL7 Segment - Field (location) | Value Set information from IG  | Code System identifier (HL7 table 0396 Code) | PHIN VADS Value Set Name                                     | PHIN VADS Hyperlinks & Value Set OID     | Comments - Implementation notes   |
| Sex   | PID-8, NK1-15                  | User-defined Table 0001 - Sex, Value set OID : 2.16.840.1.1138 83.1.11.1 | HITSP-CS-1                                   | PHVS_Administrative Gender_HL7_V3                            | <a href="#">2-16-840-1-113883-1-11-1</a> | V3 sex tables are being used in the guide. Next version of IG would remove the reference to HL7 2.x Table 001.<br><br>PHVS_Administrative Gender_HL7_V3 specifies the value set for SEX as "M, F, and |

|                     |   |   |         |                                |   |   |
|---------------------|---|---|---------|--------------------------------|---|---|
|                     |   |   |         |                                |   | UN". Per the HL7 2.5.1 Implementation Guide for Immunization Messaging, Release 1.4 named in the ONC Final Rule, the HL70001 Administrative Sex table is to be used, and the relevant options in this table are "M, F, and U". The NIST Immunization Messaging Validation Tool will only accept "M, F, or U" when validating against HL70001. |
| Event type          | MSH-9, second component                                   | HL7-defined Table 0003 - Event type                                       | HL70003 | PHVS_EventType_IIS             | <a href="#">2.16.840.1.114222.4.11.3362</a> |   |
| Patient class       | PV1-2   | User-defined Table 0004 - Patient class                                   | HL70004 | PHVS_PatientClass_IIS          | <a href="#">2.16.840.1.114222.4.11.3363</a> |   |
| Race                | PID-10, NK1-35  | User-defined Table 0005 – Race, Value set OID: 2.16.840.1.114222.4.11.836 | CDCREC  | PHVS_RaceCategory_CDC          | <a href="#">2.16.840.1.114222.4.11.836</a>  | Value Set OID in IG points to Race Category value set based upon CDC Race & Ethnicity. Next version of IG would remove reference to HL7 Table 0005 (Race)   |
| Acknowledgment code | MSA-1   | HL7-defined Table 0008 - Acknowledgment code                              | HL70008 | PHVS_AcknowledgmentCode_HL7_2x | <a href="#">2.16.840.1.114222.4.11.958</a>  |   |
| Physician ID        | Use in all XCN data types; including PV1-7,8,9,17, RXA-10 | User-defined Table 0010 - Physician ID                                    |         | NPI                            |   | Each registry should establish a system of coding its reporting physicians. The National Provider Identifier (NPI) adopted for the HIPAA legislation may be used for this purpose.  |
| Check digit scheme  | Use in all CX data types; including PID-2,3,4,18,21       | HL7-defined Table 0061 - Check digit scheme                               | HL70061 | PHVS_CheckDigitScheme_HL7_2x   | <a href="#">2.16.840.1.114222.4.11.3339</a> |   |

|   |                                  |  |         |  |  |   |
|---|----------------------------------|--|---------|--|--|---|
| Relationship  | NK1-3,<br>IN1-17                 | User-defined<br>Table 0063 –<br>Relationship   | HL70063 | PHVS_Rel<br>ationship_I<br>S                 | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.3365</a> | HL7 table 0063 has<br>been constrained for<br>Immunization.   |
| Financial<br>class                                      | OBX-5                            | User-defined<br>Table 0064 -<br>Financial class  | HL70064 | PHVS_Fina<br>ncialClass_<br>IIS              | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.3366</a> | HL7 table 0064 has<br>been constrained for<br>Immunization.   |
| Message<br>type   | MSH-9,<br>first<br>componen<br>t | HL7-defined<br>Table 0076 -<br>Message type  | HL70076 | PHVS_Mes<br>sageType_I<br>IS                 | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.3364</a> |   |
| Abnormal<br>flags                                       | OBX-8                            | HL7-defined<br>Table 0078 -<br>Abnormal flags  | N/A     | PHVS_Abn<br>ormalFlag_<br>HL7_2x             | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.800</a>  | Use in OBX-8.<br>Fields using this code<br>set are expected to be<br>empty. We have not<br>included in VADS<br>Immunization view yet<br>as this is expected to<br>be empty. |
| Observation<br>result status<br>codes<br>interpretation | OBX-11                           | HL7-defined<br>Table 0085 -<br>Observation<br>result status<br>codes<br>interpretation | HL70085 | PHVS_Obs<br>ervationRe<br>sultStatus_I<br>IS | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.6062</a> |   |
| Query<br>priority                                       |                                  | HL7-defined<br>Table 0091 -<br>Query priority  | HL70091 | PHVS_Que<br>ryPriority_I<br>S                | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.3382</a> |   |
| Delayed<br>acknowledg<br>ment type                      | MSA-5                            | HL7-defined<br>Table 0102 -<br>Delayed<br>acknowledgmen<br>t type                      | N/A     |  |  | Fields using this code<br>set are expected to be<br>empty. So, we have<br>not included in PHIN<br>VADS.   |
| Processing<br>ID  | MSH-11                           | HL7-defined<br>Table 0103 -<br>Processing ID   | HL70103 | PHVS_Pro<br>cessingID_<br>HL7_2x             | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.1028</a> |   |
| Version ID  | MSH-12                           | HL7-defined<br>Table 0104 -<br>Version ID  | HL70104 | PHVS_Ver<br>sionID_IIS                       | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.3367</a> |   |
| Source of<br>comment                                    | NTE-2                            | HL7-defined<br>Table 0105 -<br>Source of<br>comment                                    | N/A     |  |  | Fields using this code<br>set are expected to be<br>empty.  |
| Order<br>Control<br>Codes                               | ORC-1                            | HL7-defined<br>Table 0119 –<br>Order Control<br>Codes                                  | HL70119 | PHVS_Ord<br>erControlC<br>ode_IIS            | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.3368</a> |   |
| Quantity<br>limited<br>request                          | RCP-2                            | HL7-defined<br>Table 0126 -<br>Quantity limited<br>request                             | HL70126 | PHVS_Qua<br>ntityLimited<br>Request_I<br>S   | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.3383</a> |   |
| Yes/No<br>indicator                                     | PID-<br>24,30;<br>PD1-12         | HL7-defined<br>Table 0136 -<br>Yes/No<br>indicator                                     | HL70136 | PHVS_Yes<br>No_HL7_2x                        | <a href="#">2.16.840.1</a><br><a href="#">.114222.4</a><br><a href="#">11.819</a>  |   |

|  |   |   |         |  |   |  |
|--|---|---|---------|--|---|--|
| Accept/Application acknowledgment conditions | MSH-15 and 16   | HL7-defined Table 0155 - Accept/Application acknowledgment conditions | HL70155 | PHVS_AcceptApplicationAcknowledgmentConditions_HL7 | <a href="#">2.16.840.1.114222.4.11.3344</a> |  |
| Route of administration                      | RXR-1   | HL7-defined Table 0162 - Route of administration                      | NCIT    | PHVS_RouteOfAdministration_IIS                     | <a href="#">2.16.840.1.114222.4.11.3369</a> | Uses HITSP recommended FDA route of administration based upon NCI thesaurus codes. Next version of IG would remove reference to HL7 table 0162.  |
| Administrative site                          | RXR-2   | HL7-defined Table 0163 - Administrative site                          | HL70163 | PHVS_AdministrativeSite_IIS                        | <a href="#">2.16.840.1.114222.4.11.3370</a> |  |
| Ethnic Group                                 | PID-22, NK1-28  | User-defined Table 0189 - Ethnic Group                                | CDCREC  | PHVS_EthnicityGroup_CDC_Unk                        | <a href="#">2.16.840.1.114222.4.11.3015</a> | Ethnicity Group value set is based upon CDC Race & Ethnicity. Next version of IG would remove reference to HL7 Table 0189. This does have HL7 Null flavor concept which has a different code system OID. |
| Address type                                 | use in all XAD data types; including PID-11                         | HL7-defined Table 0190 - Address type                                 | HL70190 | PHVS_AddressType_HL7_2x                            | <a href="#">2.16.840.1.114222.4.11.801</a>  | Recording of Birth State uses the BDL, birth delivery location code  |
| Name type                                    | Use in all XCN, XPN data types; including PID-5, 6, 9               | HL7-defined Table 0200 - Name type                                    | HL70200 | PHVS_NameType_IIS                                  | <a href="#">2.16.840.1.114222.4.11.3371</a> |  |
| Telecommunication use code                   | Use in all XTN data types including PID-13,14                       | HL7-defined Table 0201 - Telecommunication use code                   | HL70201 | PHVS_TelecommunicationUseCode_HL7_2x               | <a href="#">2.16.840.1.114222.4.11.818</a>  |  |
| Telecommunication equipment type             | Use in all XTN data types; including PID-13,14                      | HL7-defined Table 0202 - Telecommunication equipment type             | HL70202 | PHVS_TelecommunicationEquipmentType_HL7_2x         | <a href="#">2.16.840.1.114222.4.11.817</a>  |  |
| Identifier type                              | Use in all CX, XCN type codes; including PID-2,3,4,18,21 and RXA-10 | User-defined Table 0203 - Identifier type                             | HL70203 | PHVS_IdentifierType_IIS                            | <a href="#">2.16.840.1.114222.4.11.3372</a> |  |



|                                 |                                  |  |         |   |   |   |
|---------------------------------|----------------------------------|--|---------|---|---|---|
| Organization al name type       | Use in all XON data types        | User-defined Table 0204 - Organizational name type             | HL70204 | PHVS_OrganizationalNameType_IIS         | <a href="#">2.16.840.1.114222.4.11.3373</a> |   |
| Processing mode                 | MSH-11                           | HL7-defined Table 0207 - Processing mode                       | N/A     | PHVS_ProcessingMode_HL7_2x              | <a href="#">2.16.840.1.114222.4.11.1029</a> | Fields using this code set are expected to be empty. Not included in Immunization VADS view as this is supported to be empty. |
| Query response status           | QAK-2                            | User-defined Table 0208 - Query response status                | HL70208 | PHVS_QueryResponseStatus_IIS            | <a href="#">2.16.840.1.114222.4.11.3374</a> |   |
| Alternate character sets        | MSH-18                           | HL7-defined Table 0211 - Alternate character sets              | N/A     | PHVS_AlternateCharacterSet_HL7_2x       | <a href="#">2.16.840.1.114222.4.11.3347</a> | Fields using this code set are expected to be empty.  |
| Publicity code                  | PD1-11                           | User-defined Table 0215 - Publicity code                       | HL70215 | PHVS_PublicityCode_IIS                  | <a href="#">2.16.840.1.114222.4.11.3384</a> |   |
| Living arrangement              |                                  | User-defined Table 0220 - Living arrangement                   | N/A     |   |   | Fields using this code set are expected to be empty.  |
| Manufacturers of vaccines       | RXA-17                           | HL7-defined Table 0227 - Manufacturers of vaccines             | MVX     | PHVS_ManufacturersOfVaccinesMVX_CDC_NIP | <a href="#">2.16.840.1.114222.4.11.826</a>  |   |
| Census tract                    | Use in all XAD; including PID-11 | User-defined Table 0288 - Census tract                         | N/A     |   |   | Fields using this code set are expected to be empty.  |
| County/parish                   | Use in all XAD; including PID-11 | User-defined Table 0289 - County/parish, FIPS 6-4 county codes | FIPS6_4 | PHVS_County_FIPS_6-4                    | <a href="#">2.16.840.1.114222.4.11.829</a>  | PHIN VADS link is included for FIPS 6-4 in IG   |
| Codes for Vaccines administered | RXA-5                            | HL7-defined Table 0292 - Codes for Vaccines administered       | CVX     | PHVS_VaccinesAdministeredCVX_CDC_NIP    | <a href="#">2.16.840.1.114222.4.11.934</a>  |   |
| Language                        |                                  | User-defined Table 0296 - Language                             | ISO6392 | PHVS_Language_ISO_639-2_Alpha3          | <a href="#">2.16.840.1.114222.4.11.831</a>  |   |
| CN ID source                    | Use in all XCN data types        | User-defined Table 0297 - CN ID source                         | N/A     |   |   | Use in all XCN data types. [locally-defined]  |
| Namespace ID                    | Use in all EI, HD data types     | User-defined Table 0300 - Namespace ID                         | N/A     |   |   | Use in all EI, HD data types [locally-defined]  |

|   |  |  |         |   |   |  |
|---|--|--|---------|---|---|--|
| Universal ID type                       | Use in all HD data types   | HL7-defined Table 0301 - Universal ID type                       | HL70301 | PHVS_UniversalIDType_IIS                        | <a href="#">2.16.840.1.114222.4.11.6063</a> |  |
| Completion status                       | RXA-20   | HL7-defined Table 0322 - Completion status                       | HL70322 | PHVS_CompletionStatusForValidValues_HL7_2x      | <a href="#">2.16.840.1.114222.4.11.821</a>  |  |
| Action code                             | RXA-21   | HL7-defined Table 0323 - Action code                             | HL70323 | PHVS_ActionCode_IIS                             | <a href="#">2.16.840.1.114222.4.11.3375</a> |  |
| Message structure                       | MSH-9, third component   | HL7-defined Table 0354 - Message structure                       | HL70354 | PHVS_MessageStructure_IIS                       | <a href="#">2.16.840.1.114222.4.11.3376</a> |  |
| Alternate character set handling scheme | MSH-20   | HL7-defined Table 0356 - Alternate character set handling scheme | N/A     | PHVS_AlternateCharacterSetHandlingScheme_HL7_2x | <a href="#">2.16.840.1.114222.4.11.3350</a> | Fields using this code set are expected to be empty.   |
| Message error status codes              | ERR-3  | HL7-defined Table 0357 - Message error status codes              | HL70357 | PHVS_MessageErrorConditionCodes_HL7_2x          | <a href="#">2.16.840.1.114222.4.11.974</a>  |  |
| Degree                                  | use in all XPN data types, including PID-5, 6, 9                       | User-defined Table 0360 - Degree                                 | HL70360 | PHVS_DegreeLicenseCertificate_HL7_2x            | <a href="#">2.16.840.1.114222.4.11.808</a>  |  |
| Application                             |  | User-defined Table 0361 - Application                            | N/A     |   |   | No suggested values defined.   |
| Facility                                |  | User-defined Table 0362 - Facility                               | N/A     |   |   | No suggested values defined.   |
| Assigning Authority                     |  | User-defined Table 0363 - Assigning Authority                    | N/A     |   |   | Look at the IG for the starting set. We may include this in VADS later, if needed as this is user defined. |
| Coding system                           | Use in CE data types to denote the coding system used for coded values | User-defined Table 0396 - Coding system                          | HL70396 | PHVS_CodingSystem_HL7_2x_Table0396              | <a href="#">2.16.840.1.114222.4.11.3338</a> |  |
| Immunization registry status            | PD1-16   | User-defined Table 0441 - Immunization registry status           | HL70441 | PH_ImmunizationRegistryStatus_IIS               | <a href="#">2.16.840.1.114222.4.11.3378</a> |  |

|                                 |        |  |                |  |   |  |
|---------------------------------|--------|--|----------------|--|---|--|
| Query Name                      |        | User-defined Table 0471 – Query Name                 | HL70471        | PHVS_QueryName_IIS                       | <a href="#">2.16.840.1.114222.4.11.3379</a>     |  |
| Error Severity                  | ERR-4  | HL7 Table 0516 - Error Severity (use in ERR-4)       | HL70516        | PHVS_ErrorSeverity_HL7_2x                | <a href="#">2.16.840.1.114222.4.11.993</a>      |  |
| Application Error Code          |        | User-defined Table 0533 – Application Error Code     | N/A            | Locally Defined Codes                    |   | There are no suggested values for this code. Local implementations need to create a table of local application error codes.      |
| Immunization information source | RXA-9  | CDC-defined NIP001 - Immunization information source | NIP001         | PHVS_ImmunizationInformationSource_HITSP | <a href="#">2.16.840.1.113883.3.88.12.80.39</a> |  |
| Substance refusal reason        | RXA-18 | CDC-defined NIP002 - Substance refusal reason        | NIP002         | PHVS_SubstanceRefusalReason_IIS          | <a href="#">2.16.840.1.114222.4.11.3380</a>     |  |
| Observation identifiers         | OBX-3  | CDC-defined NIP003 - Observation identifiers         | LN             | PHVS_ObservationIdentifier_IIS           | <a href="#">2.16.840.1.114222.4.11.3381</a>     | Look at the IG for mapping between Observation Identifier (OBX-3) and its associated observation values (OBX-5) for CE data type |
| Immunization Funding Source     | OBX- 5 | Immunization Funding Source                          | CDCPHINVS      | PHVS_ImmunizationFundingSource_IIS       | <a href="#">2.16.840.1.114222.4.11.3287</a>     | Few null flavor concepts are included in this value set.   |
| Vaccination Contraindications   | OBX- 5 | Value Set Name – Vaccination Contraindications       | SCT, CDCPHINVS | PHVS_VaccinationContraindication_IIS     | <a href="#">2.16.840.1.114222.4.11.3288</a>     | Value set contains both SNOMED and CDCPHINVS coding system concepts  |
| Vaccination Reaction            | OBX- 5 | Vaccination Reaction - IIS                           | SCT, CDCPHINVS | PHVS_VaccinationReaction_IIS             | <a href="#">2.16.840.1.114222.4.11.3289</a>     | Value set contains both SNOMED and CDCPHINVS coding system concepts  |
| Vaccination Special Indications | OBX- 5 | Vaccination Special Indications - IIS                | CDCPHINVS      | PHVS_VaccinationSpecialIndication_IIS    | <a href="#">2.16.840.1.114222.4.11.3290</a>     |  |

|  |         |  |           |   |   |  |
|--|---------|--|-----------|---|---|--|
| Immunization Profile Identifiers       | MSH-21  | Immunization Profile Identifiers - IIS       | CDCPHINVS | PHVS_ImmunizationProfileIdentifier_IIS  | <a href="#">2.16.840.1.114222.4.11.3291</a> |  |
| Immunization Schedule Identifiers      | OBX-5   | Immunization Schedule Identifiers - IIS      | CDCPHINVS | PHVS_ImmunizationScheduleIdentifier_IIS | <a href="#">2.16.840.1.114222.4.11.3292</a> |  |
| Evidence of Immunity                   | OBX- 5  | Evidence of Immunity - IIS                   | SCT       | PHVS_EvidenceOfImmunity_IIS             | <a href="#">2.16.840.1.114222.4.11.3293</a> |  |
| VIS Bar Codes                          | OBX-5   | PHVS_VISBarcodes_IIS                         | cdcgs1vis | PHVS_VISBarcodes_IIS                    | <a href="#">2.16.840.1.114222.4.11.6041</a> | Bar Codes content may not be populated in the message as implementers may not have implemented this new feature. |
| Funding Eligibility Observation Method | OBX- 17 | Funding Eligibility Observation Method (IIS) | CDCPHINVS | PHVS_FundingEligibilityObsMethod_IIS    | <a href="#">2.16.840.1.114222.4.11.6039</a> |  |
| VIS Vaccines                           | OBX-5   | VIS Vaccines (IIS)                           | CVX       | PHVS_VISVaccines_IIS                    | <a href="#">2.16.840.1.114222.4.11.6040</a> |  |

## 4.0 APPENDIX A: CONFORMANCE STATEMENTS

For convenience the following table summarizes conformance statements for specific electronic immunization message elements.

Table 4-Data Type Conformance Statements

| Data Type | Location | Conformance Statement   |
|-----------|----------|---|
| CQ        | CQ-1     | IZ-1: CQ-1 (Quantity) SHALL be a positive integer.                                    |
| CQ        | CQ-2     | IZ-2: CQ-2 (Units) SHALL be the literal value "RD".                                   |
| EI        | EI-3     | IZ-3: If populated, EI-3 (Universal ID) shall be valued with an ISO-compliant OID.    |
| EI        | EI-4     | IZ-4: If populated, EI-4 ( Universal ID Type) shall contain the value "ISO"           |
| HD        | HD-2     | IZ-5: If populated, HD-2 (Universal ID) SHALL be valued an ISO-compliant OID          |
| HD        | HD-3     | IZ-6: If populated, HD-3 (Universal ID Type) SHALL be valued the literal value: "ISO" |
| VID       | VID-1    | IZ-7: VID-1 (Version ID) SHALL be valued with the literal value "2.5.1".              |

Table 5-Field Level Conformance Statements

| Location | Field Name               | Conformance Statement   |
|----------|--------------------------|---|
| BHS      | Batch Field Separator    | IZ-8: BHS-1 (Batch Field Separator) field SHALL be " "  |
| BHS      | Batch Encoding Character | IZ-9: BHS-2 (Batch Encoding Character) field SHALL be "^~\ "  |
| FHS      | File Field Separator     | IZ-10: FHS-1 (Field Field Separator) field SHALL be " "   |
| FHS      | File Encoding Character  | IZ-11: FHS-2 (Field Encoding Character) field SHALL be "^~\ "   |
| MSH-1    | Field Separator          | IZ-12: MSH-1 (Field Separator). SHALL have the Literal Value of ' '   |
| MSH-2    | Encoding Characters      | IZ-13: MSH-2 (Encoding Characters) SHALL have the Literal Value of "^~\&"   |
| MSH-7    | Date/Time of Message     | IZ-14: MSH-7 (Date/Time of Message) SHALL be expressed with a minimum precision of the nearest minute, and be represented in the following format: 'YYYYMMDDHHMM[SS[.S[S[S[S]]]]] [+/-ZZZZ]'. |
| MSH-9    | Message Type             | IZ-17: MSH-9 (Message Type) SHALL be constrained to be the value "VXU^V04^VXU_V04"  |

| Location | Field Name                      | Conformance Statement  |
|----------|---------------------------------|--|
| MSH-12   | Version ID                      | <b>IZ-15:</b> MSH-12 (Version ID) <b>SHALL</b> have the Literal Value of '2.5.1'.  |
| MSH-16   | Application Acknowledgment Type | <b>IZ-16:</b> The value of MSH-16 SHALL be one of the following: AL-always, NE-never, ER-Error/reject only, SI-successful completion only.   |
| OBX-1    | Set ID                          | <b>IZ-20:</b> The Value of OBX-1 (Set ID-OBX) SHALL be valued sequentially starting with the value "1" within a given segment group.   |
| OBX-2    | Value Type                      | <b>IZ-21:</b> The value of OBX-2 (Value Type) SHALL be one of the following:<br>CE, NM, ST, DT, ID or TS   |
| OBX-5    |                                 | <b>IZ-35:</b> If OBX-3.1 is "64994-7" and OBX-2 is "CE" then the value set for OBX-5 shall be HL70064.   |
| OBX-5    |                                 | <b>IZ-36:</b> If OBX-3.1 is "69764-9" and OBX-2 is "CE" then the value set for OBX-5 shall be cdcgi1vis.   |
| OBX-5    |                                 | <b>IZ-37:</b> If OBX-3.1 is "30956-7" and OBX-2 is "CE" then the value set for OBX-5 shall be CVX.   |
| OBX-11   | Observation Result Status       | <b>IZ-22:</b> The value of OBX-11 (Observation Result Status) SHALL be "F"   |
| ORC-1    | Order Control                   | <b>IZ-25:</b> ORC.1 (Order Control) SHALL contain the value "RE "  |
| PID-7    | Birth Date                      | <b>IZ-26:</b> PID-7 (birth date) SHALL be accurate at least to the day. (YYYYMMDD)   |
| RXA-1    | Give Sub-id Counter             | <b>IZ-28:</b> RXA-1 ( Give Sub-id counter) SHALL be valued "0" Note that "0" is zero.  |
| RXA-2    | Admin Sub-id                    | <b>IZ-29:</b> RXA-2 (admin Sub-id) SHALL be valued "1 "  |
| RXA-4    | Date/time of administration End | <b>IZ-30:</b> If RXA-4 (Date time of admin end) is populated, then it SHALL be the same as Start time (RXA-3)  |
| RXA-6    | Administered Amount             | <b>IZ-33:</b> If RXA-9.1 is not valued "00" then RXA.6 SHALL BE valued "999".  |
| RXA-9.1  | Administration Notes            | <b>IZ-31:</b> If RXA-20 is valued "CP" or "PA" then RXA-9.1 (admin notes) SHALL be valued one of the codes listed in NIP001 in the first occurrence of this field.<br><br>Support for repetition of this field is optional. See "Known Issues" in the test tool documentation section for further clarification. |

| Location | Field Name        | Conformance Statement  |
|----------|-------------------|--|
|          |                   | Note that NIST certification will only test for the presence of the first occurrence of RXA-9. Additional occurrences will be ignored. |
| RXA-20   | Completion Status | <b>IZ-32:</b> If the RXA-18 (Refusal Reason) is populated, RXA-20 (completion Status) SHALL be valued to "RE".                         |
| RXA-20   | Completion Status | <b>IZ-34:</b> If RXA-5.1 (vaccine administered) has a CVX of 998 (no vaccine administered) then RXA-20 shall be populated with "NA"    |

#### 4.1.1.1 Application Conformance Statement:

There are a number of core data elements that are important to support a complete immunization history and the functional requirements of an Immunization Information System (IIS). Some of these utilize the OBX to carry their data. The following table lists the data elements and the usage responsibilities.

**Table 4-Application Conformance Statements**

| Core Data Element  | Description   | Observation Identifier (OBX-3) | Observation Value Set (OBX-5) | Conformance Statements   |
|--|---|--------------------------------|-------------------------------|--|
| Patient Eligibility Category for Vaccine Funding Program | This value represents the funding program that should pay for a given immunization. It is determined based on characteristics of the patient/client and the type of vaccine administered. | 64994-7                        | HL70064                       | <b>IZ-23:</b> If RXA-20 is valued "CP" or "PA" and the first occurrence of RXA-9.1 (Administration Note.code) is "00" then the message SHALL include an OBX segment associated with the RXA with OBX-3.1 shall equal "64994-7". This OBX will indicate the Patient Eligibility Category for Vaccine Funding Program. |
| Vaccine Information Statement (VIS) document type        | This value represents the vaccine type that the statement provides information about.   | 69764-9                        | cdcgi1vis                     | See VIS related Conformance Statements below   |
| Vaccine Information Statement (VIS) version date         | This value represents the date the presented VIS was published  | 29768-9                        |                               | See VIS related Conformance Statements below   |
| VIS vaccine type   | This value represents the vaccine type that the statement provides information about  | 30956-7                        | CVX                           |  |
| Vaccine Information Statement (VIS) delivery date        | This value represents the date the document was presented to the patient/responsible person.  | 29769-7                        |                               | See VIS related Conformance Statements below   |

NOTE: There are three things that need to be recorded for documenting VIS:

1. Date VIS was shared with patient or parent
2. Vaccine that the VIS refers to
3. Edition Date of VIS

**VIS Conformance Statements:**

| Location | Conformance Statement  |
|----------|--|
| RXA/OBX  | <p><b>IZ-24:</b> If RXA-20 is valued "PA" or "CP" and the first occurrence of RXA-9.1 is valued "00" and RXA-5.1 is valued with a CVX code from table PHVS_VISVaccines_IIS (See Appendix A) then for each vaccine information statement that was shared there SHALL be:</p> <ul style="list-style-type: none"> <li>• one OBX segment with OBX-3.1 valued "69764-9" (bar coded) <b>and</b> one OBX with OBX-3.1 valued "29769-7" (presentation /delivery date) associated. Both OBX shall have the same value in OBX-4</li> </ul> <p style="text-align: center;"><b>OR</b></p> <ul style="list-style-type: none"> <li>• one OBX segment with OBX-3.1 valued "30956-7" (vaccine type) and one OBX segment with OBX-3.1 valued "29768-9" (version date) and one OBX with OBX-3.1 valued "29769-7" (presentation /delivery date) associated. All three OBX shall have the same value in OBX-4</li> </ul> |



## 5.0 APPENDIX B: CONDITION PREDICATES

For convenience this section clarifies and formalizes the format in which condition predicates are specified. For data type condition predicates, the name of the data type is appended with the sequence number. The first entry in the table below can be interpreted as follows: If the first component of PID.10 (i.e., PID.10.1—in this context we refer to the element as CE.1 since the data type for PID.10 is CE-coded element) is valued, then PID.10.3 is required to be supported (i.e., the effective usage is RE). Note that only conditional predicates that will be tested in Meaningful Use Certification are included below.

**Table 7-Data Type Conditional Predicates**

| Data Type | Component | Usage   | Condition Predicate  |
|-----------|-----------|---------|--|
| CWE       | CWE.3     | C(R/X)  | If CWE.1(Identifier) is valued                             |
| CWE       | CWE.5     |         | If CWE.4 (Alternate Identifier) is valued                  |
| CWE       | CWE.6     |         | If CWE.4 (Alternate Identifier) is valued                  |
| EI        | EI.2      | C(R/O)  | If EI.3 (Universal Id) is not valued                       |
| EI        | EI.3      | C(R/O)  | If EI.1 (Namespace ID) is not valued                       |
| EI        | EI.4      | C(R/X)  | If EI.3 (Universal Id) is valued                           |
| ERL       | ERL.4     | C(R/X)  | If ERL.3 (Field Position) is valued                        |
| HD        | HD.1      | C(R/O)  | If the HD.2 (Universal ID) is not valued                   |
| HD        | HD.2      | C(R/O)  | If the HD.1 (Namespace ID) is not valued                   |
| HD        | HD.3      | C(R/X)  | If the HD.2 (Universal ID) is valued                       |
| XCN       | XCN.1     | C(R/RE) | If XCN.2.1 (Surname) and XCN.3 (Given Name) are not valued |

| Data Type | Component | Usage   | Condition Predicate  |
|-----------|-----------|---------|--|
| XCN       | XCN.9     | C(R/X)  | If the XCN-1 (id number) is valued                             |
| XON       | XON.6     | C(R/O)  | If XON.10 is valued  |
| XON       | XON.7     | C(R/X)  | If XON.10 is valued  |
| XON       | XON.10    | C(R/RE) | If XON.1 is not valued   |
| XTN       | XTN.4     | C(R/X)  | If the XTN-2 (telecommunication type code) is valued "NET"     |
| XTN       | XTN.6     | C(RE/X) | If the XTN-2 (telecommunication type code) is valued not "NET" |
| XTN       | XTN.7     | C(R/X)  | If the XTN-2 (telecommunication type code) is valued not "NET" |

**Table 5-Field-level Conditional Predicates**

| Location | Field Name         | Sender Usage | Derived Condition Predicate   |
|----------|--------------------|--------------|---|
| OBX-6    | Units              | C(R/RE)      | If OBX-2(Value Type) is valued "NM" or "SN"<br><br>Note: If there is not a unit of measure available while the Condition Predicated is true, then the value "NA" SHALL be used in CWE.1 and "HL70353" in CWE.3. |
| OBX-17   | Observation Method | C(R/O)       | If OBX-3.1 is "64994-7"   |

| Location | Field Name                                  | Sender Usage | Derived Condition Predicate   |
|----------|---|--------------|---|
| ORC-12   | Ordering Provider                           | C(RE/O)      | If RXA-20 is valued "CP" or "PA" and the first instance of RXA-9.1 is valued "00"   |
| PD1-13   | Protection Indicator Effective Date         | C(RE/X)      | If PD1-12 (Protection Indicator) is valued  |
| PD1.17   | Immunization Registry Status Effective Date | C(RE/X)      | If the PD1-16 (Registry Status) field is valued.                                    |
| PD1.18   | Publicity Code Effective Date               | C(RE/X)      | If the PD1-11 (Publicity Code) field is valued.                                     |
| PID.25   | Birth Order                                 | C(RE/O)      | If PID-24 (Multiple Birth Indicator) is valued "Y "                                 |
| PID.29   | Patient Death Date and Time                 | C(RE/X)      | If PID-30 (patient death date) is valued "Y"  |
| RXA-7    | Administered Units                          | C(R/O)       | If Administered Amount is not valued "999"  |
| RXA.9    | Administration Notes                        | C(R/O)       | If RXA-20 is valued "CP" or "PA"  |
| RXA-15   | Substance Lot Number                        | C(R/O)       | If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA" |
| RXA-16   | Substance Expiration Date                   | C(RE/O)      | If the RXA-15 (lot number) is valued  |
| RXA-17   | Substance Manufacturer Name                 | C(R/O)       | If the first occurrence of RXA-9.1 is valued "00" and RXA-20 is valued "CP" or "PA" |
| RXA-18   | Substance/Treatment Refusal Reason          | C(R/X)       | If the RXA-20 (Completion Status) is valued "RE "                                   |