

# HITSP Immunization Query and Response Component

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HITSP/C70



Healthcare Information Technology Standards Panel

*Submitted to:*

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*Submitted by:*

**Care Management and Health Records Domain Technical Committee**



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## 1.0 INTRODUCTION

### 1.1 OVERVIEW

The HITSP Immunization Query and Response Component is used for a message based exchange of immunization information. It specifies the use of HL7 Version 2.3.1 Query for Vaccination Record (VXQ), to send a query from the message sender (clinician system, schools, IIS) to the message receiver (immunization registry). It specifies how to handle no matches to a VXQ. It also specifies Response to Vaccination Query Returning Multiple PID Matches (VXX), the Query General Acknowledgement (QCK) and Vaccination Record Response (VXR) to send the result of the query from the message sender (immunization registry) to the message receiver (clinician system).

### 1.2 COPYRIGHT PERMISSIONS

#### COPYRIGHT NOTICE

© 2010 ANSI. This material may be copied without permission from ANSI only if and to the extent that the text is not altered in any fashion and ANSI's copyright is clearly noted.

Excerpts from the Centers for Disease Control and Prevention Implementation Guide for Immunizations Data Transactions using Version 2.3.1 of the Health Level Seven (HL7) Standard Protocol Version 2.2 are reproduced here with the assistance of the Centers for Disease Control and Prevention. This information is in the public domain and copies can be obtained at [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines).

### 1.3 REFERENCE DOCUMENTS

A list of key reference documents and background material is provided in the table below. HITSP-maintained reference documents can be retrieved from the [HITSP Web Site](http://hitsp.org).

**Table 1-1 Reference Documents**

Reference Document	Document Description
<a href="#">HITSP Acronyms List</a>	Lists and defines the acronyms used in this document
<a href="#">HITSP Glossary</a>	Provides definitions for relevant terms used by HITSP documents
<a href="#">TN900 - Security and Privacy</a>	TN900 is a reference document that provides the overall context for use of the HITSP Security and Privacy constructs
<a href="#">TN903 – Data Architecture</a>	TN903 is a reference document that provides the overall context for use of the HITSP Data Architecture constructs

### 1.4 CONFORMANCE

This section describes the conformance criteria, which are objective statements of requirements that can be used to determine if a specific behavior, function, interface, or code set has been implemented correctly.

#### 1.4.1 CONFORMANCE CRITERIA

In order to claim conformance to this construct specification, an implementation must satisfy all the requirements and mandatory statements listed in this specification, the associated HITSP Interoperability Specification or Capability, its associated construct specifications, as well as conformance criteria from the selected base and composite standards. A conformant system must also implement all of the required interfaces within the scope, subset or implementation option that is selected from the associated Interoperability Specification.



Claims of conformance may only be made for the overall HITSP Interoperability Specification or Capability with which this construct is associated.

#### 1.4.2 CONFORMANCE SCOPING, SUBSETTING AND OPTIONS

A HITSP Interoperability Specification or Capability must be implemented in its entirety for an implementation to claim conformance to the specification. HITSP may define the permissibility for interface scoping, subsetting or implementation options by which the specification may be implemented in a limited manner. Such scoping, subsetting and options may extend to associated constructs, such as this construct. This construct must implement all requirements within the selected scope, subset or options as defined in the associated Interoperability Specification or Capability to claim conformance.



## 2.0 COMPONENT DEFINITION

### 2.1 CONTEXT OVERVIEW

This Component specifies use of the Centers for Disease Control and Prevention (CDC) Implementation Guide for Immunizations Data Transactions using Version 2.3.1 of the Health Level Seven (HL7) Standard Protocol – Implementation Guide Version 2.2.

As stated in the CDC Implementation Guide for Immunizations Data Transactions:

*The text for the CDC Implementation Guide begins here:*

This Guide is intended for use by immunization registries that want to participate in a strictly-defined record exchange agreement that limits the amount of optionality normally expected when using the HL7 standard. The Guide describes the most frequently used segments in their entirety, while giving a minimum description of segments containing only a few useful fields for registries. The Guide fully describes the fields within the segments used frequently by immunization registries, while the others are omitted in this document. With this limited scope, this *Guide* can in no way serve as a substitute for a thorough study of the entire set of HL7 specifications for electronic data interchange in health care environments.

*The text for the CDC Implementation Guide ends here.*

The CDC Implementation Guide for Immunizations Data Transactions defines multiple transactions related to vaccination such as VXQ (Query for Vaccination Record), the VXR (Response to Vaccination Query Returning the Vaccination Record), the VXX (Response to Vaccination Query Returning Multiple PID Matches), the QCK (Query General Acknowledgement) and the VXU (Unsolicited Vaccination Record Update). This Component addresses the use of [VXQ/VXR/VXX/QCK](#)<sup>1</sup>.

#### 2.1.1 COMPONENT DEPENDENCIES

Table 2-1 Component Dependencies

Standard/HITSP Component	Depends On (Name of standard/HITSP Component that it depends on)	Dependency Type (Pre-condition, Post-condition, General)	Purpose (Reason for this dependency)
HITSP/C70-Immunization and Query Response	HITSP/C154-Data Dictionary	General	Identifies HITSP Data Elements that map to the HL7 Data Elements constrained by this Component
HITSP/C70-Immunization and Query Response	HITSP/C80 - Clinical Document and Message Terminology	General	Identifies vocabulary constrained by this Component to be applied within the exchange

### 2.2 RULES FOR IMPLEMENTING

C70-[MSG-1]

Implementations of this Component **SHALL** support the VXQ (Query for Vaccination Record), the VXR (Response to Vaccination Query Returning the Vaccination Record), the VXX (Response to Vaccination Query Returning Multiple PID Matches) and the QCK (Query General Acknowledgement) messages as specified by the Centers for Disease Control and Prevention Implementation Guide for Immunizations Data Transaction using Version 2.3.1 of the Health Level Seven (HL7) Standard Protocol. Implementation Guide Version 2.2, June 2006.

Additional HITSP constraints as defined in Tables 2-3 through 2-6.

<sup>1</sup> See [HITSP/C72](#) Immunization Message for implementation of VXU



## 2.2.1 DATA MAPPING

For all constraints applied to the data the reader must refer to the Centers for Disease Control and Prevention Implementation Guide for Immunizations Data Transaction using Version 2.3.1 of the Health Level Seven (HL7) Standard Protocol as well as the HITSP constraints defined in Table 2-2 through Table 2-5.

The format of Data Element entry in the table below is based upon the scheme of the Implementation Guide:

For example, PID 3.3.2.8 Sex indicates the following:

PID = Patient Identification Segment

3.3.2.8 = references the section of the Implementation Guide

Sex = the name of the data field

**Table 2-2 Data Mapping – Patient Identification Segment**

Constraint ID	CDC IG HL7 V2 Data Element	HITSP Data Element Identifier and Name	Optionality	Additional Specification
C70[DET1-1]	PID 3.3.2.6 - Mother's maiden name	1.12 - Mother's Maiden Name	R2	
C70[DET1-2]	PID 3.3.2.7 - Date of birth	1.07 - Person Date of Birth	R	
C70[DET1-3]	PID 3.3.2.8 - Sex	1.06 - Gender	R	C154-[DE-1.06-1] Gender <b>SHALL</b> be coded as specified in HITSP/C80 Section 2.2.1.2.1.2 V3 Administrative Gender
C70[DET1-4]	PID 3.3.2.10 - Race	1.10 - Race	R2	C154-[DE-1.10-1] Race <b>SHALL</b> be coded as specified in HITSP/C80 Section 2.2.1.2.7 Race
C70[DET1-5]	PID 3.3.2.22 - Ethnic group	1.11 - Ethnicity	R2	C154-[DE-1.11-1] Ethnicity <b>SHALL</b> be coded as specified in HITSP/C80 Section 2.2.1.2.2 Ethnicity
C70[DET1-6]	PID 3.3.2.24 - Multiple birth indicator	1.13 - Multiple birth indicator	R2	
C70[DET1-7]	PID 3.3.2.25 - Birth order	1.14 - Birth Order	C	C70-[DE-1.11-1] <b>SHALL</b> be present if PID 3.3.2.24 Multiple Birth Indicator is YES.
C70[DET1-8]	PID 3.3.2.23 - Birth place	1.16 - Birth Place	R2	C154-[DE-1.16-1] If born in the United States, the state part of an address <b>SHALL</b> be recorded using HITSP/C80 Section 2.2.1.1.1 State

Optionality = "R" for Required, "R2" for Required if Known or "O" for Optional, or "C" for Conditional

**Table 2-3 Data Mapping – Patient Visit Segment**

Constraint ID	CDC IG HL7 V2 Data Element	HITSP Data Element Identifier and Name	Optionality	Additional Specification
C70[DET2-1]	PV1 3.3.3.20 - Financial class	16.08 Immunization Services Funding Eligibility	R	C70-[DE-16.08-1] <b>SHALL</b> be coded as specified in HITSP/C80 Section 2.2.3.5.5 Immunization Services Funding Eligibility

Optionality = "R" for Required, "R2" for Required if Known or "O" for Optional, or "C" for Conditional





**Table 2-4 Data Mapping – Next of Kin Segment**

Constraint ID	CDC IG HL7 V2 Data Element	HITSP Data Element Identifier and Name	Optionality	Additional Specification
C70[DET3-1]	NK1 3.4.5.2 - Name	3.06 - Contact Name	R2	C70-[DE-3.06-1] <b>SHALL</b> contain the name of the mother. May also contain other names
C70[DET3-2]	NK1 3.4.5.3 - Relationship	3.03 - Contact Relationship	C	C154-[DE-3.03-1] The contact relationship <b>SHALL</b> have be coded as specified in HITSP/C80 section 2.2.1.2.4 Personal Relationships C70-[DE-3.03-2] <b>SHALL</b> be present if NK1.3.4.5.2 Name is used
C70[DET3-3]	NK1 3.4.5.20 - Primary language	2.01 – Language	O	C154-[DE-2.01-1] Language <b>SHALL</b> be coded as specified in HITSP/C80 Section 2.2.1.2.9 Language C154-[DE-2.01-2] Sign language <b>SHALL</b> be treated as a separate language

Optionality = “R” for Required, “R2” for Required if Known or “O” for Optional, or “C” for Conditional

**Table 2-5 Data Mapping – Pharmacy Treatment Administration Segment**

Constraint ID	CDC IG HL7 V2 Data Element	HITSP Data Element Identifier and Name	Optionality	Additional Specification
C70[DET4-1]	RXA 4.8.14.15 - Substance lot number	13.09 - Lot Number	R	
C70[DET4-2]	RXA 4.8.14.17 - Substance manufacturer	13.08 - Drug Manufacturer	R	C70-[DE-13.08-1] <b>SHALL</b> be coded as specified in HITSP/C80 Section 2.2.3.5.2 Vaccine Manufacturer
C70[DET4-3]	RXA 4.8.14.5 - Administered code	13.06 - Coded Product Name	R	C154-[DE-13.06-1] Immunizations <b>SHALL</b> be coded as specified in HITSP/C80 Section 2.2.3.5.1 Vaccines Administered.
C70[DET4-4]	RXA 4.8.14.9- Administration notes	13.11 Immunization Information Source	R2	C154-[DE-13.11-1] The Administration notes <b>SHALL</b> be coded using the HITSP/C80 Section 2.2.3.5.4 Immunization Information Source C70-[DE-13.11-1] Additional instances of the Administration notes with other information <b>MAY</b> exist.

Optionality = “R” for Required, “R2” for Required if Known or “O” for Optional, or “C” for Conditional

## 2.2.2 GUIDELINES AND EXAMPLES

Please refer to the selected CDC Implementation Guide for examples.

## 2.3 STANDARDS

### 2.3.1 REGULATORY GUIDANCE

**Table 2-6 Regulatory Guidance<sup>2</sup>**

Regulation	Description
Family Educational Rights and Privacy Act (FERPA) Department of Education Student Rule	FERPA is a Federal law that applies to educational agencies and institutions that receive funding under a program administered by the U. S. Department of Education. The statute is found at 20 U.S.C. § 1232g and the Department's regulations are found at 34 CFR Part 99

<sup>2</sup> Regulatory guidance exists at the State or local level and should be consulted as applicable.



Regulation	Description
Health Insurance Portability and Accountability Act (HIPAA) -- Administrative Simplification	A listing of national standards plus rules adopted by federal regulation for electronically communicating specified administrative and financial healthcare transactions, and protecting the security and privacy of healthcare information, as applied to the three types of defined covered entities: health plans, healthcare clearinghouses, and healthcare providers who conduct any of the specified healthcare transactions. For more information see the Code of Federal Regulations, Title 45, Parts 160, et. Seq

### 2.3.2 SELECTED STANDARDS

**Table 2-7 Selected Standards**

Standard	Description
Health Level Seven (HL7) Version 2.3.1	The HL7 Version 2.3.1 Messaging Standard is an application protocol for electronic data exchange in healthcare. It and prior versions have widespread use in the U.S. and internationally. Both message formats and value sets/code tables are contained in the standard. For more information visit <a href="http://www.hl7.org">www.hl7.org</a>
Centers for Disease Control and Prevention Implementation Guide for Immunizations Data Transaction using Version 2.3.1 of the Health Level Seven (HL7) Standard Protocol. Implementation Guide Version 2.2 June 2006	This Guide is intended for use by immunization registries that want to participate in a strictly-defined record exchange agreement that limits the amount of optionality normally expected when using the HL7 standard. The Guide describes the most frequently used segments in their entirety, while giving a minimum description of segments containing only a few useful fields for registries. The Guide fully describes the fields within the segments used frequently by immunization registries, while the others are omitted in this document. With this limited scope, this <i>Guide</i> can in no way serve as a substitute for a thorough study of the entire set of HL7 specifications for electronic data interchange in health care environments. For more information visit <a href="http://www.cdc.gov/vaccines/programs/iis/stds/downloads/hl7guide.pdf">www.cdc.gov/vaccines/programs/iis/stds/downloads/hl7guide.pdf</a>

### 2.3.3 INFORMATIVE REFERENCE STANDARDS

**Table 2-8 Informative Reference Standards**

Standard	Description
No applicable informative reference standards	



### 3.0 APPENDIX

No additional information at this time.



## 4.0 DOCUMENT UPDATES

The following sections provide the details of updates made to this document.

### 4.1 DECEMBER 10, 2008

The changes in this construct address the following comments received during the Public Comment and Inspection Testing period (September 29 – October 24, 2008).

- 5120, 5539, 5540, 5541, 5542, 5543, 5544, 5545, 5546, 5577, 5578, 5579, 5580, 5597, and 5598

#### 4.1.1 GLOBAL

The following changes were applied through-out the document for consistency with the HITSP suite of Interoperability Specifications

- Construct was changed from a Transaction Package to a Component
- Option number 2 – the use of HITSP/TP21 Query for Existing Data to support query and retrieval of immunization data from another clinical system was removed

#### 4.1.2 SECTION 2.1 CONTEXT OVERVIEW

With the change to a Component this section was rewritten and discussions of interfaces, pre-conditions, process triggers, and post-conditions were removed.

#### 4.1.3 SECTION 2.2.1 DATA MAPPING

- Minor editorial changes were made to correct typos and clarify constraints
- Tables 2-3 through 2-6: Limit/Range of values column was updated with the appropriate references from HITSP/C80 Clinical Document and Message Terminology

#### 4.1.4 SECTION 2.3 STANDARDS

The following regulatory guidance standards were added:

- Family Educational Rights and Privacy Act (FERPA) Family Educational Rights
- HIPAA
- State and local regulatory guidance

The following Selected Standards were removed:

- Health Level Seven (HL7) Version 3.0 Continuity of Care Document (CCD)
- Integrating the Healthcare Enterprise (IHE) Patient Care Coordination (PCC) Revision 4.0, 2008 – 2009, Cross-Enterprise Sharing of Medical Summaries (XDS-MS) Integration Profile

The following Informative Standards were removed:

- Health Level Seven Clinical Document Architecture (CDA) Release 2

Minor editorial changes were made to this construct.

### 4.2 DECEMBER 18, 2008

Upon approval by the HITSP Panel on December 18, 2008, this document is now Released for Implementation.



### 4.3 JUNE 30, 2009

Revised the document based on TN903 HITSP Data Architecture:

#### 4.3.1 SECTION 2.2.1 DATA MAPPING

- Updated Sex data element to reference C80 vocabulary for V3 Administrative Gender

Minor editorial changes were made to this construct. Removed boilerplate text for simplification. The term “actor” was replaced with “interface”.

### 4.4 JULY 8, 2009

Upon approval by the HITSP Panel on July 8, 2009, this document is now Released for Implementation.

### 4.5 SEPTEMBER 30, 2009

This document has been modified to reflect HITSP/TN903 Data Architecture approach.

The following changes have been made:

Section 1.3 A list of key reference documents and background material is provided in the table below. HITSP-maintained reference documents can be retrieved from the HITSP Web Site.

- Table 1-1 Addition of HITSP/TN903 as a reference
- Section 2.1 update of Component Constraints and Dependencies
- Section 2.2 Formatted Message requirements to use numbered Message Constraints
- Section 2.2.1 Formatting of Message Data Mapping requirements Table 2-2 through Table 2-5 to use numbered Message Constraints
- Section 3.0 Addition of HITSP Constraints in this document as a reference

The following new Data Elements were identified and placed in the new Data Dictionary HITSP/C154:

- 1.12 Mother's Maiden Name
- 1.13 Multiple Birth Indicator
- 1.14 Birth Order
- 16.08 Immunization Services Funding Eligibility
- 13.11 Immunization Information Source

The following constraints were updated to match the Data Dictionary HITSP/C154 (based upon ARRA July 2009 work to harmonize data element constraints across selected Standards):

- 2.01 Language constraint C154-[DE-2.01-2] Sign language

### 4.6 JANUARY 18, 2010

Changes based upon Public Comments:

- 7839, 7862, 7838

The full text of the comments along with the Technical Committee's disposition can be reviewed on the [HITSP Public Web Site](#).

The text related to Constraint ID C70-[MSG-2], does not need an Identifier, so the C70-[MSG-2] was deleted but the text did not change.

Update Section 2.2 Table 2-2 through Table 2-5 with Constraint ID Column.



Deleted Appendix Section 3.1 HITSP Constraints in this Document as it is duplicate information already defined.

#### **4.7 JANUARY 25, 2010**

Upon approval by the HITSP Panel on January 25, 2010, this document is now Released for Implementation.

