

Community-wide Interoperable EHRs Immunization Reporting via EHRs Use Case

New York State Immunization Information System (NYSIIS)

Use Case Overview

Version 1.0

Prepared by
Prepared for
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Immunization Program
HEAL NY Phase 5 Health IT Grant Program
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1. Description of NYSIIS Use Case

Background

- In August 2006, NYS enacted legislation (PHL 2168) requiring any health care provider who administers immunizations to individuals under the age of 19 to report that shot within 14 days. The legislation allow for New York City to maintain its Citywide Immunization Registry (CIR). Providers in NYC are required to report to CIR and providers in the rest of the state report to the New York State Immunization Information System (NYSIIS). CIR and NYSIIS will exchange information between jurisdictions.
- In December of 2006, NYS contracted with EDS to develop and implement a web based immunization information system (IIS) to be operational by January 2008. This application will have two means for health care provider to be able to meet the legislative mandate to report. First, they can enter directly into the web application, or second, they may send an electronic extract from other systems they may use that can be imported by the new NYSIIS web application.

Goals:

- Year 1-2: Immunizations administered in NYS to individuals under 19 will be reported within 14 days of administration
- Year 3-5: Providers will be able to submit queries to NYSIIS to search for an individual's immunization history.
- Key principles that the project will abide by include:
 - Data exchange and queries will adhere to the file specifications provided by the state.

2. Scope of NYSIIS Use Cases

This use case will present the NYSIIS work flow, perspectives, pre and post conditions for reporting of an immunization event and submission of queries. The grant projects will iteratively refine this document and maintain it so that it can be translated into technical requirements.

This document will focus on a high-level use case for the project.

Included in this document are the New York City's Citywide Immunization Registry (CIR) file specifications for flat file and HL7 batch data exchange. At a minimum, providers exchanging with NYC can follow the flat file specification (UPIF guide). Applicants in NYC are required to follow the NYS HL7 batch file specifications.

3. Stakeholders for Use Case

- New York State Immunization Program
- Health care provider
- Patient

4. Pre-Conditions

- Health care provider has signed NYSIIS user agreement
- Health care provider is located in NYS and NYC and has administered an immunization to individuals under 19
- Provider's EHR will be able to record data elements required by PHL 2168 needed to report
- Message and queries sent from a provider's EHR to NYSIIS adheres to the approved NYSIIS data exchange file specifications

5. Obstacles to Implementation of Use Case

- None

6. Post-Conditions

- Auditable mechanism for validating timeliness and quality of data exchanged between provider's EHR and NYSIIS.
- Oversight mechanism for quality assurance, security and Service Level Agreements.

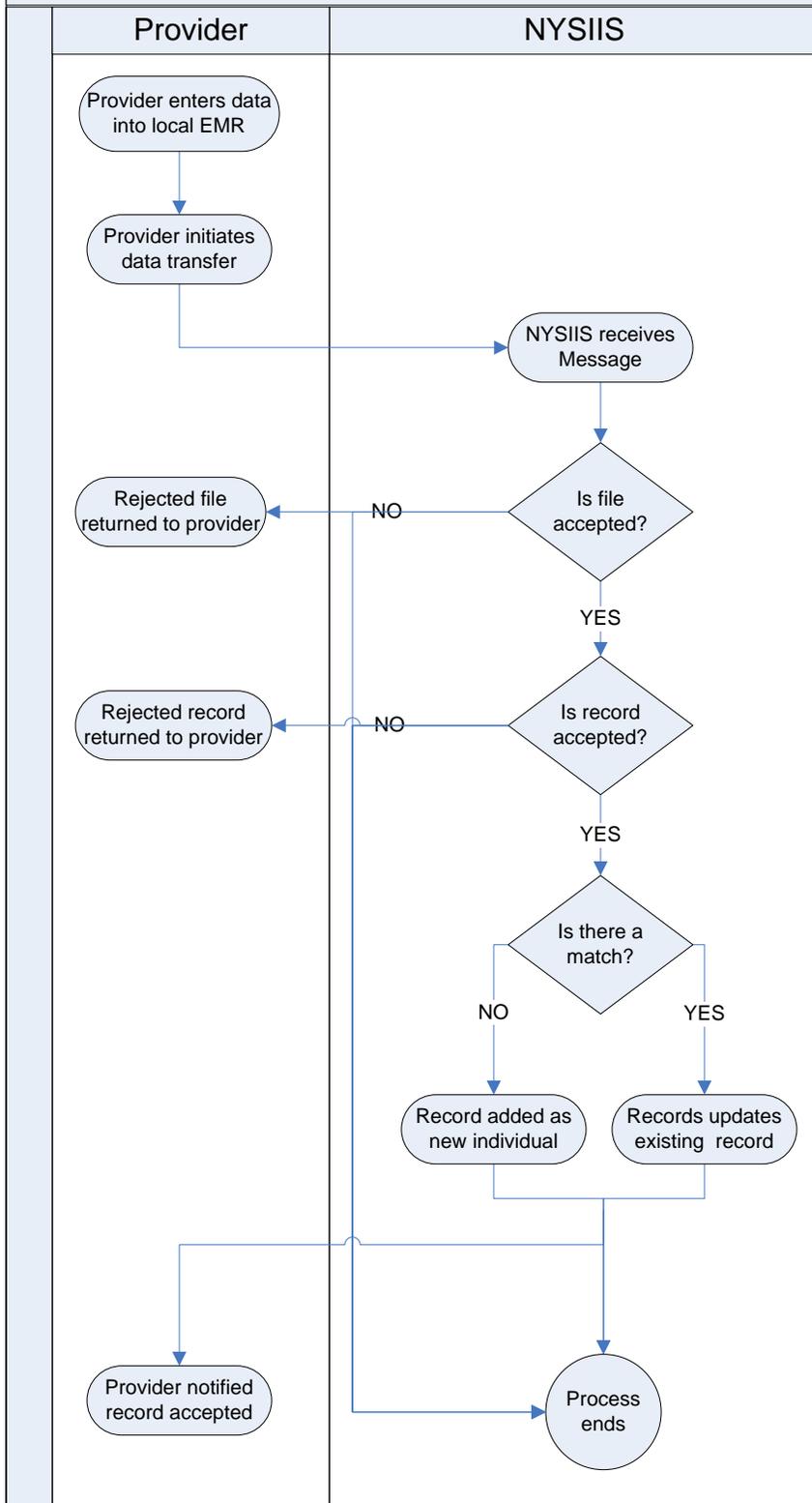
8. Details of Use Case 1: Reporting of Immunization Event Scenarios and Perspectives

Process 8.1:

Providers using the data exchange approach can report the immunization events for a single individual record.

- a. Health care provider enters information into the electronic health record (EHR) system currently being used by their practice.
- b. Health care provider initiates data transfer to NYSIIS. This transfer must be in compliance with the NYSIIS data exchange format and protocol.
- c. NYSIIS receives the files and verifies the format is appropriate.
 - i. If rejected, health care provider will be notified that files were rejected
 - ii. If accepted, system will continue processing
- d. NYSIIS then begins processing the file on an individual's immunization(s) submitted by health care provider. Three different outcomes can occur.
 - i. The record submitted to NYSIIS did not have enough information or had incorrect data and was rejected. Rejected messages do not get included into NYSIIS. NYSIIS will respond back to the health care provider that message was rejected. The health care provider should review the information and check its validity before submitting
 - ii. The record submitted to NYSIIS does not have a match and add as new person. NYSIIS will respond back to the health care provider that message was received.
 - iii. The record submitted to NYSIIS does have a match and information submitted by health care provider is used to update the matched record with new shot information or corrected information. NYSIIS will respond back to the health care provider that message was received again.

8.1 Health Care Provider Reports Individual Immunization Event

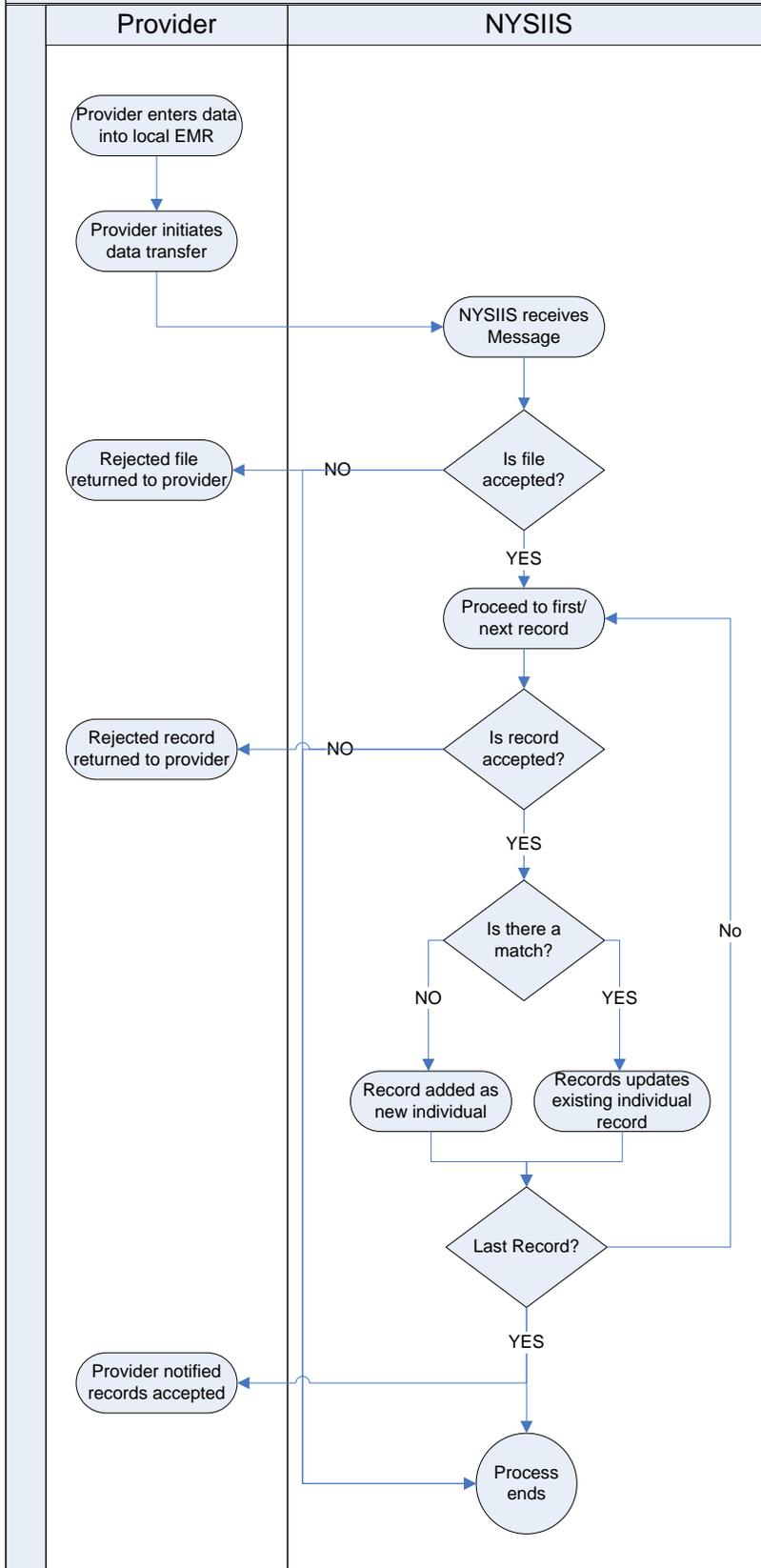


Process 8.2

Providers using the data exchange approach can report multiple individuals' immunization event(s) in a batch submission. The process differs from 8.1 in that each record will be assessed as if it is a new record or an update to an existing one.

- a. Health care provider enters information into the electronic health record (EHR) system currently being used by their practice.
- b. Health care provider initiates data transfer from EHR to NYSIIS. This transfer must be in compliance with the NYSIIS data exchange format and protocol.
- c. NYSIIS receives the files and verifies the format is appropriate.
 - i. If rejected, health care provider will be notified that files were rejected
 - ii. If accepted, system will continue processing
- d. NYSIIS then begins processing the file on immunizations on multiple individuals submitted by health care provider and begins processing. Each individual record will be assessed. Three different outcomes can occur.
 - i. Some of the individuals submitted to NYSIIS may not be a match and will be added as a new person. NYSIIS will respond back to the health care provider that a message was received.
 - ii. Some of the individuals submitted to NYSIIS may match an individual already in NYSIIS and information submitted by health care provider is used to update the matched record with new shot information or corrected information. NYSIIS will respond back to the health care provider that a message was received.
 - iii. Some of the records submitted to NYSIIS may not have enough information or incorrect data and were rejected. Rejected messages do not get included into NYSIIS. NYSIIS will respond back to the health care provider that records were rejected. The health care provider should review the information and check its validity before submitting again.

8.2 Provider Reports Multiple Immunization Event



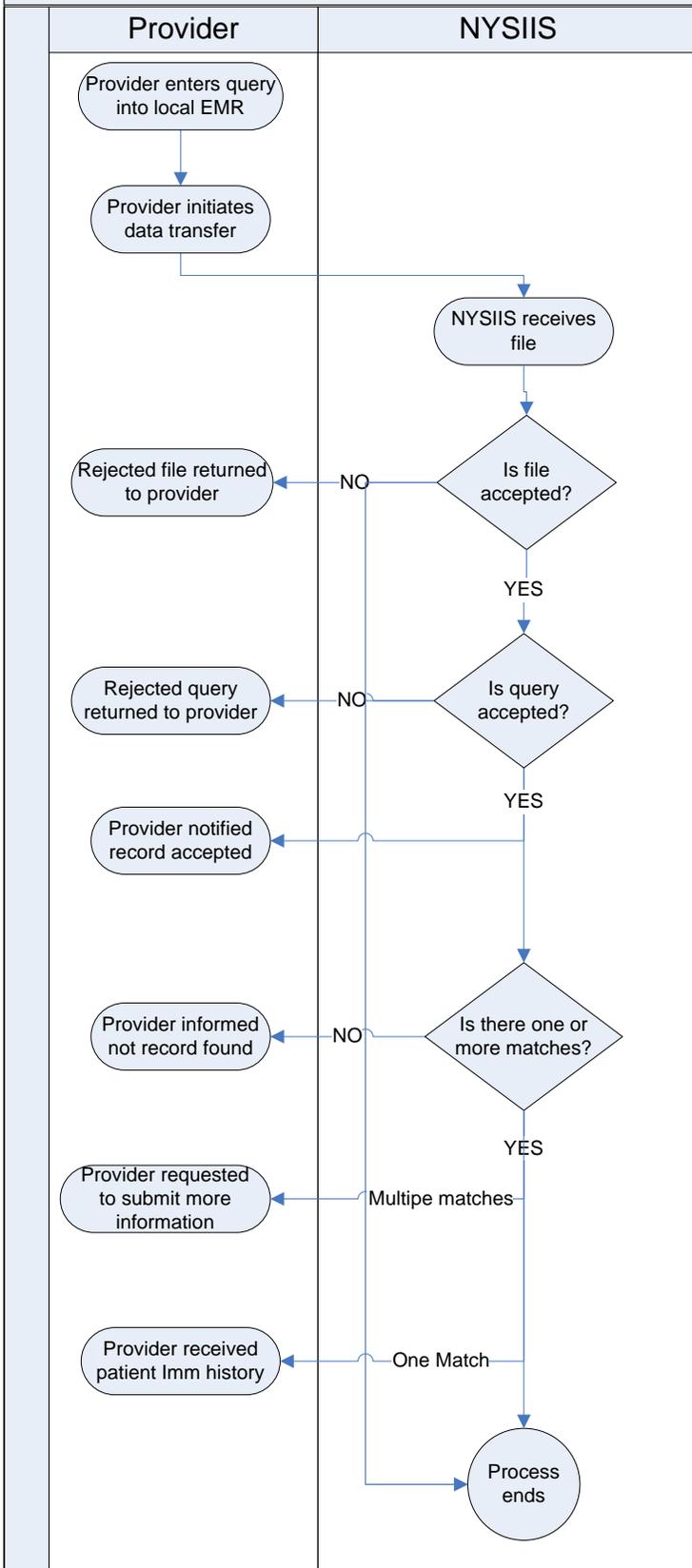
9. Details of Use Case 2: Searching for Individual's Immunization History Scenarios and Perspectives

Process 9.1:

Provider currently has a child under their care who they want to access the current immunization history from NYSIIS.

- a. Providers enter information required for submission of query.
- b. Provider submits query to NYSIIS. This transfer must be in compliance with the NYSIIS data exchange format and protocol.
- c. NYSIIS receives the files and verifies the format is appropriate.
 - i. If rejected, provider will be notified that files was rejected
 - ii. If accepted, system will continue processing
- d. NYSIIS receives the files and verifies the format is appropriate.
 - i. If rejected, provider will be notified that files was rejected
 - ii. If accepted, system will continue processing
- e. NYSIIS will process the query for individual immunization history. There are four possible outcomes
 - i. NYSIIS was able to find an exact match for the individual whose information was submitted.
 - ii. NYSIIS will respond by sending back to the provider with individual's immunization information
 - iii. NYSIIS was unable to find a match. NYSIIS will respond to the provider letting them know that no record was found.
 - iv. NYSIIS may find several possible matches. NYSIIS will respond that more than one record was found and additional information required for a unique match. The provider should send a new query with additional information to help find a unique match.
- f. NYSIIS may reject queries for insufficient information or errors in the data. NYSIIS will respond that the queries were rejected. The provider should review the information and check it's validity before submitting again.

9.1 Health Care Provider Query for Individual Immunization History



Appendix I
New York State Immunization Information System
Data Exchange

Revised 9/18/2007

Data Exchanges Through **NYSIIS**
Organization Extracts

Data Exchanges Through NYSIIS

The data exchange feature of NYSIIS gives you the capability to automatically exchange immunization batch files. Only NYSIIS users with roles of "Data Exchange," "HMO User," or "Administrator" will be able to perform data exchanges. HMO users will need to follow the steps in the "HMO Data Exchanges" section of this chapter.

Provider Organization Data Exchanges

Prior to performing a data exchange, your provider organization will need to contact the NYSIIS project manager and arrange for your organization to be set up to perform data exchanges. You will need to provide the following information regarding the exchange:

- File format: Indicate Health Level 7 (HL7), Flat File, or Custom Flat File.
- Direction of data: Indicate whether the data will be bidirectional, provider organization to NYSIIS, or NYSIIS to provider organization, Custom Flat File Format can only be provider organization to NYSIIS.
- Type of transmission: Indicate whether the exchange will be a test or an actual production transfer.
- Custom Flat File Information: Indicate the Custom Flat File Template Name, File Length, and the Starting position of the standard fields in your file for the Client, Immunization, and Comment File.

Define Custom Flat File Template Name:	
Client File Information	
File Length:	
Field Name(field length)	Starting Position
Record Identifier(24):	
Client Status(1):	
First Name(25):	
Middle Name(25):	
Last Name(35):	
Name Suffix(10):	
Birth Date(8) MMDDYYYY:	
Death Date(8) MMDDYYYY:	
Mothers First Name(25):	
Mothers Maiden Last Name(35):	
Sex (Gender)(1):	
Race(1):	
Ethnicity(2):	
Contact Allowed(2):	
Consent to Share(1):	
Chart Number(20):	
Field Name(field length)	Starting Position
Responsible Party First Name(25):	
Responsible Party Middle Name(25):	
Responsible Party Last Name(35):	
Responsible Party Relationship(2):	
Street Address(55):	
PO Box Route Line(55):	
Other Address Line(55):	
City(52):	
State(2):	
Zip(9):	

County(5):	
Phone(17):	
Sending Organization(5):	
Immunization File Information	
File Length:	
Field Name(field length)	Starting Position
Record Identifier(24):	
Vaccine Group*(16): either Vaccine group or CPT Code is required	
CPT Code*(5): either Vaccine group or CPT Code is required	
Trade Name(24):	
Vaccination Date(8)MMDDYYYY:	
Administration Route Code(2):	
Body Site Code(4):	
Reaction Code(8):	
Manufacturer Code(4):	
Immunization Information Source(2):	
Lot Number(30):	
Provider Name(50):	
Administered By Name(50):	
Site Name(30):	
Sending Organization(5):	
VFC Eligibility Status(4):	
Vaccine Purchased With(3):	
Comment File Information	
File Length:	
Field Name(field length)	
Record Identifier(24):	
Comment Code(2):	
Applies to Date(8)MMDDYYYY:	
Fields in blue are required fields.	

To perform a data exchange, follow these steps:

1. Click on Exchange Data under Data Exchange on the menu panel. Depending upon the type of file format and direction of data you will be using, one or more of the following fields will display:
 - Job Name: Fill in a name for the data exchange, if desired. If left blank, NYSIIS will use the current date for a job name.
 - Client File Name: This field is required if you have chosen "bidirectional" or "provider organization to NYSIIS" as a data direction, and your file format is Flat File, or your file format is a Custom Flat File. Press Browse; to select the appropriate Client File Name.
 - Immunization File Name: This field is required if you have chosen "bidirectional" or "provider organization to NYSIIS" as a data direction, and your file format is Flat File, or your file format is a Custom Flat File. Press Browse to select the appropriate Immunization File Name.
 - Comment File Name: This optional field will appear if you exchange data via Flat File format and have chosen "bidirectional" or "provider organization to NYSIIS" as a data direction, or if you exchange data via Custom Flat File format.
 - HL7 File Name: This field is required for users who are exchanging data using the HL7 file format. Press Browse to select the HL7 file you wish to upload.

2. Press the Upload or Request Download button on your screen, whichever is displayed.
3. The Exchange Data Result screen will display. This screen will list the files that were uploaded using "bidirectional" or "provider organization to NYSIIS" data directions and will confirm or provide the job name to the user.
4. Press Check Status.
5. The Exchange Data Status screen will display. This screen will contain the job name, user name, exchange data date, process start and end date , and status of the current job.
6. Press REFRESH periodically to check the status of the job.
7. When a job is completed, the job name will appear underlined and in blue. Under the status column, one of three messages may appear.
 - Complete: This message indicates the job has completed processing.
 - Error: This message indicates the job could not be processed because of formatting errors.
 - Exception: This message indicates that the job could not be processed because of an internal system error.
8. Click on the underlined job name.
9. If the job completed successfully, the Job Detail screen will display.

This screen contains three sections:

- Download Files for: <Job Name>: This section contains all output files available for you to download, including the Response Files and any "NYSIIS to provider organization" download files. Click on the blue, underlined download name to download the file.
- Download Log for: <Job Name>: This section contains information regarding activity of the download file(s), including file name, user name, and date and time of the download(s).
- Summary Information for: <Job Name>: This section contains all information pertinent to the exchanged data file received and processed.

10. If the job did not complete successfully, the Job Error screen will display. This screen will contain an explanation of why the exchange data could not be processed, contains the original uploaded file(s), and lists information regarding the activity of the downloaded file(s).

HMO Data Exchanges

Prior to performing an HMO data exchange, your HMO will need to contact the NYSIIS project manager and arrange for your organization to be set up to perform data exchanges. You will need to provide the following information regarding the exchange:

- *File format*: Indicate HL7 or Flat File.
- *Type of transmission*: Indicate whether the exchange will be a test or an actual production transfer.

To perform an HMO Data Exchange, follow these steps:

1. Click on Submit HMO Data or Submit HMO Query under the Data Exchange menu option. Depending

upon the selection made and the type of file format you are set up to use, one or more of the following fields will display:

- Job Name: Fill in a name for the data exchange, if desired. If left blank, NYSIIS will use the current date for a job name.
- Client File Name: This field is required if your file format is Flat File. Press Browse to select the appropriate Client File Name.
- Immunization File Name: This optional field will appear if you exchange data via Flat File format. Press Browse to select the appropriate Immunization File. The Immunization File must contain at least one immunization.
- Comment File Name: This optional field will appear if you exchange data via Flat File format.
- HL7 File Name: This field is required for users who are exchanging data using the HL7 file format. Press Browse to select the HL7 file you wish to upload.
- Query File Name: This field is required for users who are running an HMO query. Press Browse to select the appropriate query file. For the format of the HMO query, please see the HMO Query Specification.

2. Press Upload.
3. The Exchange Data Result screen will display. This screen will list the files that were uploaded and will confirm or provide the job name to the user.
4. Press the Check Status button.
5. The Exchange Data Status screen will display. This screen will contain the job name, user name, exchange data date, process start and end date, and status of the current job.
6. Press Refresh | periodically to check the status of the job.
7. When a job is completed, the job name will appear underlined and in blue. Under the status column, one of three messages may appear:
 - Complete: This message indicates the job has completed processing.
 - Error: This message indicates the job could not be processed because of formatting errors.
 - Exception: This message indicates that the job could not be processed because of an internal system error.
8. Click on the underlined job name.
9. If the job completed successfully, the Job Detail screen will display. For jobs created from the Submit HMO Data menu option, these sections will display:
 - Download Files for: <Job Name>: This section contains all output files available for you to download, including the Response Files and any "NYSIIS to provider organization" download files. Click on the blue, underlined download name to download the file.
 - Download Log for: <Job Name>: This section contains information regarding activity of the download file(s), including file name, user name, and date and time of the download(s).

- Summary Information for: <Job Name>: This section contains all information pertinent to the exchanged data file received and processed.

For jobs created using the Submit HMO Query menu option, the following sections will display

- Download Files for: <Job Name>: Contains the Demographic File, Immunization File, and Exception File, all available for download by clicking on the underlined file name.
 - Download Log for: <Job Name>: Contains information regarding activity of the download files.
10. If the job did not complete successfully, the Job Error screen will display. This screen contains an explanation of why the exchange data could not be processed contains the original uploaded file(s), and lists information regarding the activity of the downloaded file(s).

Organizational Extracts

The organizational extract feature allows data exchange users to generate a report showing clients selected by organization, county, vaccine group, client status, and date ranges.

To generate an organizational extract, follow these steps:

1. Click on Organizational Extract under Data Exchange on the menu panel.
2. Select Organization ID(s): *This section will only display for providers with child organizations entered in NYSIIS.*
 - All Clients for Parent and All Child Organizations: Click this option to request that NYSIIS return all clients in parent and child organizations.
 - All Clients for Parent Organization: Click this option to request that NYSIIS return clients associated only with the parent organization.
 - All Clients for These Child Organizations: Click this option to request that NYSIIS return all clients in selected child organizations. If you choose this option, select the desired child organization(s) by double clicking the organization name or by highlighting the name and pressing ADD.
3. Select County(s): Indicate whether you wish to return clients from all counties or only those clients with residence within the counties selected. If you choose to return only clients from selected counties, choose the desired counties by double clicking the organization name or by highlighting the name and pressing Add j.
4. Select the Vaccine Group(s): Indicate whether you wish to return all clients regardless of vaccine history, or return only those clients that have had an immunization from one of the selected vaccine groups. If you choose to return only clients with immunizations from selected vaccine groups, choose the desired vaccine group(s) by double clicking the group name or by highlighting the name and pressing ADD.
5. Select Date Criteria:

-
- No Date Criteria: Click this option to indicate that you want NYSIIS to return clients regardless of the date the client or immunizations were last updated.
 - Vaccine Administration Date Range: Click this option to indicate that you want NYSIIS to return only clients that have had an immunization within the date range entered. Once the option is selected, two text boxes with calendar controls will appear to the right of the line. Enter dates in the MMDDYYYY format in both the From and To text boxes.
 - Birth Date Range: Click this option to indicate that you want NYSIIS to return only clients with a date of birth within the date range entered. Once this option is selected, two text boxes with calendar controls will appear to the right of the line. Enter dates in the MMDDYYYY format in both the From and To text boxes.

Client Update Date Range: Click this option to indicate that you want NYSIIS to return only clients that have been updated within the date range entered. Once the option is selected, two text boxes with calendar controls will appear to the right of the line. Enter dates in MMDDYYYY format in both the From and To text boxes.

6. Select Client Status:

- All — Indicate that you want all active, inactive, and permanently inactive/deceased clients to be returned by clicking this option.
- Active — Indicate that you want NYSIIS to return only active clients by clicking this option.
- Inactive — Indicate that you want NYSIIS to return clients with an inactive association by clicking this option.
- Permanently Inactive/Deceased — Indicate that you want NYSIIS to return only clients with a permanently inactive/deceased association by clicking this option.

7. Select Extract Format:

- Job Name — Enter a name for the extract job, or leave this field blank and NYSIIS will assign an extract name using the current date.
- NYSIIS Flat File Format — Click on this option to select flat file format. NYSIIS defaults to this format if no other option is selected.
- HL7 2.3.1 Transaction Format — Click on this option to select this HL7 format.

8. Press Generate).

9. The Exchange Data Status screen will display. Press Refresh periodically to check status. When the organizational extract is complete, the job name will be underlined and in blue.

10. Click on the extract job name.

11. Click on the Client File, Immunization File, or Comment File link at the Job Detail screen.

12. Press Back on your browser to return to the Job Detail screen.

Appendix II

New York State Immunization Information System Flat File Specification Version 1.0

(Revised 9/18/2007)

Immunization data is passed to the central registry using three flat files containing client, immunization, and comment information (optional) respectively. The files will be linked via a 24-character Record Identifier supplied by the provider of the file. This identifier will uniquely identify each client and will appear in each immunization and comment (optional) record to link the immunization and comment (optional) to the client. Character fields need to be left justified and blank-filled, number fields right justified and blank-filled, and date fields in format MMDDYYYY with leading zeroes. If a site is unable to supply any information for a specified field, the entire field needs be filled with blanks.

Below are the fields to include in each of the files. Files need to be generated using the ASCII character set. Records will be fixed length and need to be terminated with a carriage return/line feed. Files may be transferred to NYSIIS either by using the online data exchange module in NYSIIS or by extracting to CD-ROM and mailed to NYS DOH Immunization Program at TBD .

When submitting data, please submit as much as possible of the listed elements below for completeness. At a minimum all fields that are in **BOLD** lettering are required by New York State Legislation and need to be submitted to NYSIIS, however if your system is not capable of exporting some of the required fields by New York State Legislation it is expected that any of the required information that can not be submitted by data exchange will be subsequently added through the user interface to complete the record.

7. Client Data

7.1 Column	Data type	Required	Default	Notes
Record Identifier	Char(24)	Y		Supplied by sender, used to link a Client to Immunization records.
Patient Status	Char(1)		A	Use the NYSIIS code set for Client Status .
First Name	Char(25)	Y		If client does not have a first name,"NO FIRST NAME" must be entered in this field.
Middle Name	Char(25)			
Last Name	Char(35)	Y		
Name Suffix	Char(10)			JR, III, etc.
Birth Date	Date(8)	Y		MMDDYYYY
Death Date	Date(8)			MMDDYYYY
Mothers First Name	Char(25)			
Mothers Maiden Last Name	Char(35)			
Sex (Gender)	Char(1)			Use the NYSIIS code set for Sex (Gender).
Race	Char(1)			Use the NYSIIS code set for Race .
Ethnicity	Char(2)			Use the NYSIIS code set for Ethnicity .

7.1 Column	Data type	Required	Default	Notes
Filler	Char(9)			This field should be filled in with blanks. It was used for the Social Security Number field and is not used at all in the NYSIIS system.
Contact Allowed	Char(2)		02	Controls whether notices are sent. Use the NYSIIS code set for Contact . If <null> default to 02.
Consent to Share	Char(1)		<null>	Indicates whether the patient has given written consent to share data with the registry. For patients Over 19, use Y, N or <null>. For patients over 19, these rules apply: Records with 'N' are rejected. Records with null are only accepted if they match with an existing Yes record. Patients Under 19 are mandated in, so the system accepts all data, regardless of the value of this indicator.
Patient ID	Char(20)			Identifier within the sending organization's system
Responsible Party First Name	Char(25)			
Responsible Party Middle Name	Char(25)			
Responsible Party Last Name	Char(35)			
Responsible Party Relationship	Char(2)			Use the NYSIIS code set for Relationship .
Street Address	Char(55)			
PO Box Route Line	Char(55)			
Other Address Line	Char(55)			
City	Char(52)			
State	Char(2)			
Zip	Char(9)			If +4 zip is used, the first 5 characters and second 4 characters are concatenated into a single value, without separators.
County	Char(5)			Use the NYSIIS code set for County .
Phone	Char(17)			Format as digits only starting with the area code, ex. 6081234567.
Sending Organization	Char(5)			This is ID of the provider organization that owns this client and corresponding immunization records. Contact the NYSIIS Help Desk for the appropriate organization ID. * This field is optional if an organization is sending all of its own records. This field is required if an organization other than the organization that owns the record(s) is transmitting this file.

8. Immunization Data

8.1 Column	Data type	Required	Default	Notes
Record Identifier	Char(24)	Y		Supplied by sender, used to link Immunizations to a Clients record.

Vaccine Group	Char(16)	*		Use the NYSIIS code set for Vaccine Codes.
CPT Code	Char(5)	*		*Either Vaccine Group or CPT Code is required.
Trade Name	Char(24)			Use the NYSIIS code set for Vaccine Codes .
Vaccination Date	Date(8)	Y		MMDDYYYY
Administration Route Code	Char(2)			Use the NYSIIS code set for Administration Route .
Body Site Code	Char(4)			Use the NYSIIS code set for Body Site .
Reaction Code	Char(8)			Use the NYSIIS code set for Reaction .
Manufacturer Code	Char(4)			Use the NYSIIS code set for Manufacturers.
Immunization Information Source	Char(2)		01	Indicates whether this immunization was administered by your organization or the immunization information is historical from client record. Use the NYSIIS code set for Immunization Information Source .
Lot Number	Char(30)			Converted records will be stored in NYSIIS as historical records, so the Lot Number will not correspond to inventory tracked in NYSIIS, but Lot Number can still be stored as historical information.
Provider Name	Char(50)			The historical provider name.
Administered By Name	Char(50)			The name of the person who administered the vaccination.
Site Name	Char(30)			The name of the clinic site where the vaccination occurred.
Sending Organization	Char(5)			This is ID of the provider organization that owns this client and corresponding immunization records. Contact the NYSIIS Help Desk for the appropriate organization ID. * This field is optional if an organization is sending all of its own records. This field is required if an organization other than the organization that owns the record(s) is transmitting this file.
VFC Eligibility Status	Char(4)			Populate with appropriate HL7 table 0064 values – Valid Values V00 (VFC Eligibility not determined/unknown), V01 (Not VFC eligible), V02 (VFC Eligible - Medicaid/Medicare Managed Care), V03 (VFC Eligible – Uninsured), V04 (VFC Eligible – American Indian /Alaskan Native), V05 (VFC Eligible – Underinsured), and CH00 (S-Chip Coverage Not VFC eligible).
Vaccine Purchased With	Char(3)			Populate with appropriate value from HL7 table NIP008 – Valid values PVF (private fund) or PBF (public funds)

9. Comment Code (Optional File – Not Required)

9.1 Column	Data type	Required	Default	Notes
Record Identifier	Char(24)	Y		Supplied by sender, used to link Comments to a Clients record. This field is required if a comment code is being sent.
Comment Code	Char(2)	Y		Use the NYSIIS code set for Comments.
Applies to Date	Date(8)			The date to which the comment applies. MMDDYYYY

Notes on Refusals:

Refusals are sent in the optional Comment file. Please bear the following in mind when sending in refusals or receiving output flat files from NYSIIS.

- a) The NYSIIS system will write out multiple refusals for the same vaccine on different dates for those clients who have them.
- b) The NYSIIS system will accept incoming refusals of the same vaccine on different dates and file them both. However, if they both have the same applies-to date, then only one will be stored.
- c) The sending organization in the client file will become the refusal owner. In general, only the organization who owns the refusal is permitted to edit it. However, in the case of parent and child organizations, the parent may edit the child's refusals and vice versa.

10. Examples

11.

12. Records need to be **blank** filled. In the following example, blanks are represented with the '*' character for illustrative purposes.

12.1.1.1.1.1

12.1.1.1.1.2 Client Record

```
12345*****AMELANA*****RAE*****MAERZ*****08141985*****MARY*****
*****CARPENTER*****FWNH*****02Y*****33DAVID*****RAPHAEL*****MAERZ*****
*****33125*WEST*STREET*****
*****DANE*****NY5352912341843*****6085556543*****
```

Immunization Record

```
12345*****DTAP*****TETRAMUNE*****10091985*****00*****
*****
*****
```

Comment Code Record

```
12345*****3110091985
```

Table Item	Code	Description
Administration Route	ID	Intradermal
	IM	Intramuscular
	IN	Intranasal
	IV	Intravenous
	PO	Oral
	SC	Subcutaneous
	TD	Transdermal
	MP	Multiple Puncture (Small Pox)
Body Site	LA	Left Arm
	LG	Left Gluteous Medius
	LT	Left Thigh
	LD	Left Deltoid
	LVL	Left Vastus Lateralis
	LLFA	Left Lower Forearm
	RA	Right Arm
	RG	Right Gluteous Medius
	RT	Right Thigh
	RD	Right Deltoid
	RVL	Right Vastus Lateralis
	RLFA	Right Lower Forearm
	Client Status	A
M		Moved or Gone Elsewhere
N		Inactive
P		Permanently Inactive – Deceased Clients
Comments	03	Allergy to baker's yeast (anaphylactic)
	04	Allergy to egg ingestion (anaphylactic)
	05	Allergy to gelatin (anaphylactic)
	06	Allergy to neomycin (anaphylactic) MMR & IPV
	07	Allergy to Streptomycin (anaphylactic)
	08	Allergy to Thimerosal (anaphylactic)
	10	Anaphylactic(life-threatening) reaction of previous doses of nonspecific vaccine group.
	22	Chronic illness

Table Item	Code	Description
	21	Current acute illness, moderate to severe
	14	Current diarrhea, moderate to severe
	16	Current fever with moderate-to-severe illness
	18	Guillain-Barre Syndrome (GBS) within 6 weeks after DTP/DTaP
	26	Hepatitis B ANTIBODY to surface antigen, positive(immune)
	26	Hepatitis B titer – immune
	29	History of Pertussis
	31	History of Rubella
	33A	History of Varicella/chicken pox
	23	Immune globulin(IG) administration, recent or simultaneous
	24	Immunity: Diphtheria
	25	Immunity: Haemophilus Infuluenzae type B
	HEPA_I	Immunity: Hepatitis A
	26	Immunity: Hepatitis B
	27	Immunity: Measles
	28	Immunity: Mumps
	29	Immunity: Pertussis
	30	Immunity: Poliovirus
	31	Immunity: Rubella
	32	Immunity: Tetanus
	33	Immunity: Varicella (chicken pox)
	34	Immunodeficiency (family history)OPV & VZV
	35	Immunodeficiency (household contact) OPV
	36	Immunodeficiency (in recipient) OPV & MMR & VZV
	27	Measles titer – immune
	28	Mumps titer – immune
	37	Neurologic disorders, underlying (seizure disorder)
	38	Otitis media (ear infection) moderate to severe
	P1	Refusal of DT
	P2	Refusal of DtaP
	P3	Refusal of HepB
	P4	Refusal of Hib
	P5	Parental refusal of MMR
	P6	Refusal of Pneumococcal
	P7	Refusal of Polio

Table Item	Code	Description
	P8	Refusal of TD
	P9	Refusal of Varicella
	P10	Refusal of Smallpox
	PB	Refusal of HepA
	PC	Refusal of Influenza
	PG	Refusal of Pertussis
	39	Pregnancy (in recipient)
	31	Rubella titer – immune
	40	Thrombocytopenia
	41	Thrombocytopenia purpura (history)
	33	Varicella titer – immune
Contact	01	No contact allowed – Notices are not to be sent.
	02	Contact Allowed – Notices will be sent.
County	NY001	Albany
	NY003	Allegany
	NY005	Bronx
	NY007	Broome
	NY009	Cattaraugus
	NY011	Cayuga
	NY013	Chautauqua
	NY015	Chemung
	NY017	Chenango
	NY019	Clinton
	NY021	Columbia
	NY023	Cortland
	NY025	Delaware
	NY027	Dutchess
	NY029	Erie
	NY031	Essex
	NY033	Franklin
	NY035	Fulton
	NY037	Genesee
	NY039	Greene
	NY041	Hamilton
	NY043	Herkimer
	NY045	Jefferson
	NY047	Kings
	NY049	Lewis
	NY051	Livingston
	NY053	Madison
	NY055	Monroe
	NY057	Montgomery
	NY059	Nassau
	NY061	New York
	NY063	Niagara

Table Item	Code	Description
	NY065	Oneida
	NY067	Onondaga
	NY069	Ontario
	NY071	Orange
	NY073	Orleans
	NY075	Oswego
	NY077	Otsego
	NY079	Putnam
	NY081	Queens
	NY083	Rensselaer
	NY085	Richmond
	NY087	Rockland
	County	NY091
NY093		Schenectady
NY095		Schoharie
NY097		Schuyler
NY099		Seneca
NY089		St. Lawrence
NY101		Steuben
NY103		Suffolk
NY105		Sullivan
NY107		Tioga
NY109		Tompkins
NY111		Ulster
NY113		Warren
NY115		Washington
NY117		Wayne
NY119	Westchester	
NY121	Wyoming	
NY123	Yates	
Ethnicity	NH	Non-Hispanic
	H	Hispanic
Immunization Information Source	00	Administered Vaccine by providing organization
	01	Historical recorded from client record
Manufacturers	AB	Abbott Laboratories (<i>Ross Products Division</i>)
	AD	Adams Laboratories
	ALP	Alpha Therapeutic Corporation
	AR	Armour (Inactive use ZLB)
	AVB	Aventis Behring L.L.C. (<i>Centeon and Armour Pharmaceutica, Inactive use ZLB</i>)
	AVI	Aviron
	BA	Baxter Healthcare Corporation (Inactive use BAH)
	BAH	Baxter Healthcare Corporation (<i>Hyland, Immuno Intl. AG, and N. Amer. Vac</i>)
	BAY	Bayer (Including Miles And Cutter)

Table Item	Code	Description
	BP	Berna Products (Inactive use BPC)
	BPC	Berna (<i>Including Swiss Serum And Vib</i>)
	CEN	Centeon (Inactive use AVB)
	CHI	Chiron Corporation
	CMP	Celltech Medeva Pharmaceuticals (Inactive use NOV)
	CNJ	Cangene Corporation
	CON	Connaught (Inactive use PMC)
	DVC	DynPort Vaccine Company, LLC
	EVN	Evans Medical Limited (Inactive use NOV)
	GEO	GeoVax Labs, Inc
	GRE	Greer Laboratories Inc.
	IAG	Immuno International Ag (Inactive use BAH)
	IM	Merieux (Inactive use PMC)
	IUS	Immuno-U.S., Inc.
	JPN	Osaka University (Biken)
	KGC	Korea Green Cross Corporation
	LED	Lederle (Inactive use WAL)
	MA	Massachusetts Public Health Biologic Lab (Inactive use MBL)
	MBL	Massachusetts Biologics Laboratories
	MED	Medimmune, Inc.
	MIL	Miles (Inactive use BAY)
	MIP	Bioport Corporation (formerly Michigan Biologic Prod Inst.)
	MSD	Merck & Co., Inc.
	NAB	NABI (formerly North American Biologicals)
	NAV	North American Vaccine, Inc. (Inactive use BAH)
	NOV	Novartis Pharmaceutical Corp. (<i>Ciba-Geigy and Sandoz</i>)
	NVX	Novavax, Inc
	NYB	New York Blood Center
	OTC	Organon Teknika Corporation
	ORT	Ortho-Clinical Diagnostics (formerly Ortho Diagnostic Systems, Inc.)
	PMC	Aventis Pasteur (<i>Connaught and Pasteur Merieux</i>)
	PD	Parkedale Pharmaceuticals (formerly Parke-Davis)
	PRX	Praxis Biologics (Inactive use WAL)
	PWJ	Powerject Pharmaceuticals (<i>Celltech Medeva and Evans Medical</i>)
	SCL	Sclavo, Inc.

Table Item	Code	Description
	SI	Swiss Serum and Vaccine Inst. (Inactive use BPC)
	SKB	GlaxoSmithKline (<i>SmithKline Beecham and Glaxo Wellcome</i>)
	SOL	Solvay Pharmaceuticals
	TAL	Talecris Biotherapeutics (includes Bayer Biologicals)
	USA	Us Army Med Research
	VXG	VaxGen
	WA	Wyeth-Ayerst (Inactive use WAL)
	WAL	Wyeth-Ayerst (<i>Lederle and Praxis</i>)
	ZLB	ZLB Behring (includes Aventis Behring and Armour Pharmaceutical Company)
	OTH	Other manufacturer
	UNK	Unknown
Race	I	American Indian or Alaska Native
	A	Asian or Pacific Islander
	B	Black or African-American
	W	White
	O	Other
Race	U	Unknown
Relationship	18	Self
	61	Aunt
	62	Brother
	33	Father
	87	Foster Father
	88	Foster Mother
	97	Grandfather
	98	Grandmother
	26	Guardian
	32	Mother
	B7	Sister
	64	Spouse
	48	Stepfather
	49	Stepmother
	D3	Uncle

Table Item	Code	Description
Reaction Codes	10	Anaphylactic reaction
	CRYING	Persistent crying lasting >= 3 hours within 48 hours of immunization
	ERVISIT	Emergency room/doctor visit required
	FEVER105	Temperature >= 105 (40.5 C) within 48 hours of immunization
	HYPOTON	Hypotonic-hyporesponsive collapse within 48 hours of immunization
	PERTCONT	Pertussis allergic reaction
	SEIZURE	Seizure occurring within 3 days
	TETCONT	Tetanus allergic reaction
Sex (Gender)	F	Female
	M	Male
	U	Unknown
Vaccine Purchased With	PVF	Private Funds
	PBF	Public Funds
VFC Eligibility Status	V00	VFC Eligibility not determined/unknown
	V01	Not VFC Eligible
	V02	VFC Eligible – Medicaid/Medicare Managed Care
	V03	VFC Eligible – Uninsured
	V04	VFC Eligible – American Indian /Alaskan Native
	V05	VFC Eligible – Underinsured
	CH00	S-Chip Coverage Not VFC eligible.

VACCINE CODES

CPT	CVX	Group	Vaccine	12.1.2 Trade Name	Description	MFG
90476	54	Adeno	Adeno T4	Adeno T4	Adenovirus type 4, live oral	WAL
90477	55		Adeno T7	Adeno T7	Adenovirus type 7, live oral	WAL
	82		Adeno, NOS		Recorded as CVX 54	
90581	24	Anthrax	Anthrax	Anthrax	Anthrax	MIP
90585	19	BCG	BCG-TB	BCG-TB	Bacillus Calmette-Guerin TB	OTC
90586			BCG-BC	BCG-BC	Bacillus Calmette-Guerin bladder cancer	OTC
90728			BCG, NOS		BCG, NOS	
90725	26	Cholera	Cholera-Injectable	Cholera-I	Cholera injectable	CHI
90592			Cholera-Oral	Cholera-O	Cholera Oral	CHI
90719		Diphtheria	Diphtheria	Diphtheria	Diphtheria	PD
90700	20	DTP/aP	DTaP	Acel-Imune	Diphtheria, tetanus, acellular pertussis	WAL
				Certiva		BAH
				Infanrix		SKB
				Tripedia		PMC
90701	01		DTP	DTP	Diphtheria, tetanus, whole cell pertussis	PMC
90702	28		DT	DT	Diphtheria tetanus pediatric	PMC
90720	22		DTP-Hib	Tetramune	DTP – Hib combination	WAL
90721	50		DTaP-Hib	TriHIBit	DtaP-Hib combination	PMC
90723	110		DTAP-HepB-Polio	Pediarix	DTAP-HepB-Polio combination	SKB
90698	120		DtaP-Hib-IPV	Pentacel	DtaP-Hib-IPV combination	PMC
	106		DTAP, 5 pertussis antigens	DAPTACEL	Diphtheria, tetanus, acellular pertussis, 5 antigens	PMC
	107		DTaP, NOS		Recorded as CVX 20	
	102		DTP-HIB-Hep B		DTP-HIB Hep B vaccine	
90655	15	Influenza	Influenza, Perservative-Free	Fluvirin, Preservative-Free	Influenza preservative free	CHI
				Fluzone, Preservative-Free		PMC
90656				Fluvirin, Preservative-Free		CHI
				Fluzone, Preservative-Free		PMC
90657			Influenza	Flu-Immune	Influenza split virus	WAL
				Flu-Shield		WAL
				Fluzone		PMC
				Fluvirin		CHI
				Fluogen		PD
				Fluarix		SKB
90658				Flu-Immune		WAL
				Flu-Shield		WAL
				Fluzone		PMC
				Fluvirin		CHI
	Fluogen	PD				
	Fluarix	SKB				
90659	16		Influenza, Whole virus		Influenza whole virus	
90660	111		Flu-nasal	Flu-Mist	Influenza live, for intranasal use	WAL
90724	88		Influenza, NOS	Flu-Deleted	Influenza, NOS	
			Flu-Unspecified			
90632	52	HepA	HepA adult	Havrix adult	Hepatitis A adult	SKB
				VAQTA adult		MSD

CPT	CVX	Group	Vaccine	12.1.2 Trade Name	Description	MFG
0633	83		HepA ped-2 dose	Havrix ped/adol 2 dose	Hepatitis A pediatric/adolescent 2 dose	SKB
				VAQTA ped-2		MSD
90634	84		HepA ped-3 dose	Havrix ped/adol 3 dose	Hepatitis A pediatric/adolescent 3 dose	SKB
						MSD
90636	104		HepA-HepB Adult	Twinrix	Hepatitis A & Hepatitis B adult	SKB
90730	85		Hep A, NOS		Hep A, NOS	
	31		Hep A-peds, NOS		Recorded as CVX 85	
90636	104	HepB	HepA-HepB Adult	Twinrix	Hepatitis A & Hepatitis B adult	SKB
90723	110		DTAP-HepB-Polio	Pediarix	DTAP-HepB-Polio combination	SKB
90731	45		Hep B, NOS		Hep B, NOS	
90740	44		Hep B-dialysis 3 dose		Hepatitis B Dialysis 3 dose	
90743	43		HepB adult	Recombivax-Adult	Hepatitis B adult dose 1ml	MSD
				Engerix-B-Adult		SKB
90744	08		HepB pediatric	Recombivax-Peds	Hepatitis B pediatric/adolescent .5ml	MSD
				Engerix-B-Peds		SKB
90745	42		Hep B, adolescent/high risk infant		Hep B, adolescent/high risk infant	
90746	43		HepB adult	Recombivax-Adult	Hepatitis B adult dose 1ml	MSD
				Engerix-B-Adult		SKB
90747	44		HepB-dialysis 4 dose	Recombivax-dialysis	Hepatitis B Dialysis 4 dose	MSD
				Engerix-B dialysis		SKB
90748	51		HepB-Hib	Comvax	HepB-Hib Combination	MSD
			HepB-Unspecified			
90645	47	Hib	Hib-HbOC	HibTITER	Hemophilus influenza b HbOC 4 dose	WAL
90646	46		Hib-PRP-D	ProHIBit	Hemophilus influenza b PRP-D booster	PMC
90647	49		Hib-OMP	PedvaxHIB	Hemophilus influenza b OMP 3 dose	MSD
90648	48		Hib-PRP-T	OmniHib	Hemophilus influenza b PRP-T 4 dose	PMC
				ActHib		
90720	22		DTP-Hib	Tetramune	DTP – Hib combination	WAL
90721	50		DtaP-Hib	TriHIBit	DtaP-Hib combination	PMC
90737	17				Hib,NOS	
90748	51		HepB-Hib	Comvax	HepB-Hib combination	MSD
90698	120		DtaP-Hib-IPV	Pentacel	DtaP-Hib-IPV combination	PMC
		Hib-Unspecified				
	118	HPV	HPV, bivalent	Cervaix	Human Papilloma Virus	SKB
90649	62		HPV, Quadrivalent	Gardasil	Human Papilloma Virus	MSD
90281	86	Ig	Ig	Ig	Ig human	
90283	87		IgIV	IgIV	Ig IV human	
				Flebogamma		
90287	27		Botulinum-antitoxin	Botulinum-antitoxin	Botulinum antitoxin equine	
90288			Botulism	BabyBIG	Botulism Immune Globulin	
				Botulism		
				BIG		
90291	29		CMV-IgIV	CMV-IgIV	Cytomegalovirus Ig IV human	
90399			Ig	Ig	Unlisted immune globulin	
90296	12		Diphtheria-antitoxin	Diphtheria-antitoxin	Diphtheria antitoxin, equine	
90371	30		HBIG	HBIG	Hepatitis B Ig human	
90375	34		RIg	Rig	Rabies Ig human	
90376	34		RIg-HT	RIg-HT	Rabies Ig heat treated human	

CPT	CVX	Group	Vaccine	12.1.2 Trade Name	Description	MFG
90378	93		RSV-IgIM	RSV-IgIM	Respiratory syncytial virus Ig	
90379	71		RSV-IgIV	RSV-IgIV	Respiratory syncytial virus Ig IV	
90384			Rho(D)Full	Rho(D)Full	Rho(D)Ig Rhlg human full-dose	
90385			Rho(D)Mini	Rho(D)Mini	Rho(D)Ig Rhlg human mini-dose	
90386			Rho(D)IV	Rho(D)IV	Rho(D)Ig Rhlg human IV	
90389	13		TiG	BayTet	Tetanus Ig human	
				TiG		
90393	79		Vaccinia immune globulin	Vaccinia-Ig	Vaccinialg human	
90396	36		VZIg	VZIg	Varicella-zoster Ig human	
	117		VZIG (IND)	VariZIG		CNJ
		Varicella IG				
90665	66	Lyme	Lyme	LYMERix	Lyme disease	SKB
90735	39	Encephalitis	Japanese encephalitis	JE-Vax	Japanese encephalitis	JPN
90705	05	Measles	Measles	Measles	Measles live 1964-1974 (Eli Lilly)	MSD
				Attenuvax	Measles live	MSD
90708	04	Measles-Rubella	Measles-Rubella (MERU)	M-R-VAX	Measles and rubella live	MSD
						MSD
90704	07	Mumps	Mumps	Mumps	Mumps 1950-1978	MSD
				Mumpsvax	Mumps live	MSD
90709		Rubella-Mumps, NOS				
	38	Rubella-Mumps	Rubella-Mumps	Biavax II	Rubella and mumps live	MSD
				Mumps-Rubella (MURU)		
90707	03	MMR	MMR	MMR II	Measles, mumps and rubella live	MSD
90710	94			MMRV	MMRV	Measles, mumps, rubella, varicella live
90733	32	Meningo	Meningococcal	MENOMUNE	Meningococcal polysaccharide	PMC
90734	114		Meningococcal polysaccharide conjugate	Menactra	Meningococcal [Groups A, C, Y and W-135] Polysaccharide Diphtheria Toxoid Conjugate Vaccine	PMC
	108		Meningococcal, NOS			Meningococcal, NOS
90715	115	Pertussis	Tdap > 7 Years	Adacel	Tdap > 7 years	PMC
				Boostrix		
90712	02	Polio	Polio oral	ORIMUNE	Poliovirus OPV live oral	WAL
90713	10		Polio injectable	IPOL	Poliovirus inactivated IPV	PMC
90723	110		DTAP-HepB-Polio	Pediarix	DTAP-HepB-Polio combination	SKB
90698	120		DtaP-Hib-IPV	Pentacel	DtaP-Hib-IPV combination	PMC
	89		Polio-Unspecified			Polio, NOS
90727	23	Plague	Plague	Plague	Plague	GRE
90732	33	Pneumo-Poly	Pneumococcal 23	PNU-IMUNE23	Pneumococcal polysaccharide 23 valent	WAL
				Pneumovax23		
90669	100	Pneumococcal	Pneumo-conjugate	Prevnar	Pneumococcal conjugate polyvalent	WAL
	109		Pneumococcal-Unspecified			
90675	18	Rabies	Rabies-intramuscular	RabAvert	Rabies intramuscular	CHI
				Imovax Rabies I.M.		
90676	40	Rabies-intradermal	Imovax Rabies I.D.	Rabies intradermal		PMC
90726	90	Rabies-NOS			Rabies not otherwise specified	
90680	74	Rotavirus	Rotavirus, Tet	RotaShield	Rotavirus tetravalent live oral (removed on 10/16/1999)	WAL
90680	116		Rotavirus, Pent	RotaTeq	Rotavirus pentavalent (after 02/02/2006)	MSD
	119		Rotavirus, monovalent	Rotarix		SKB

CPT	CVX	Group	Vaccine	12.1.2 Trade Name	Description	MFG
	122		Rotavirus		(between 10/16/1999 and 02/01/2006)	
90706	06	Rubella	Rubella	Rubella	Rubella live	MSD
				Meruvax II		MSD
90708	04		Measles-Rubella	Measles-Rubella (MERU)	Measles and rubella live	MSD
				M-R-VAX		MSD
90709			Rubella-Mumps NOS		Rubella-Mumps, NOS	
	38	Rubella-Mumps	Mumps-Rubella (MURU)	Rubella and mumps live	MSD	
			Biavax II		MSD	
	75	Smallpox	Smallpox	Dryvax	Vaccinia(Smallpox) dry	WAL
	105		Vaccinia (Smallpox), diluted	Vaccinia (smallpox), diluted	Vaccinia (smallpox), diluted	
90718	09	Td	Td	Td	Tetanus and diphtheria adult	PMC
	09			DECAVAC (prior to 7/1/2005)		PMC
90714	113		Td preservative free	DECAVAC	Td preservative free – CPT code is effective 7/1/2005	PMC
90715	115		TdaP > 7 Years	Adacel	TdaP > 7 years	PMC
		Boostrix		SKB		
90703	35	Tetanus	Tetanus	TT	Tetanus	PMC
	112		Tetanus Toxoid, NOS		Recorded as CVX 35	
90690	25	Typhoid	Typhoid-oral	Vivotif Berna/Ty21a	Typhoid oral	
90691	101		Typhoid-ViCPs	Typhim Vi	Typoid VI capsular polysaccharide	PMC
90692	41		Typhoid-H-P	Typhoid	Typhoid heat and phenol inactivated	
90693	53		Typhoid-AKD	Typhoid-AKD	Typhoid acetone-killed, dried (military)	
90714	91		Typhoid-NOS		Typhoid not otherwise specified (after 7/1/2005, no CPT code is associated with this vaccine group)	
90710	94	Varicella	MMRV	MMRV		MSD
90716	21		Varicella	Varivax	Varicella live	MSD
90717	37	Yellow Fever	Yellow Fever	YF-VAX	Yellow Fever live	PMC
90736	121	Zoster	Zoster (shingles), live	Zostavax	Zoster (shingles), live	MSD

Appendix III

New York State Immunization Information System *HL7 2.4 Batch & Real-time Transfer Specification*

GTS Version 1.0

Last Updated: September 18, 2007

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New York State Immunization Information System

HL7 2.4 Batch & Real-time Transfer Specification

13.

14. Introduction

The New York State Immunization Information System (NYSIIS) has made available an interactive user interface on the World Wide Web for authorized users to enter, query, and update patient immunization records. The Web interface makes NYSIIS information and functions available on desktops around the state. However, some immunization providers already store and process similar data in their own information systems and may wish to keep using those systems while also participating in the statewide central repository. Others may have different billing needs and may decide they don't want to enter data into two disparate systems. NYSIIS has been designed to accept HL7 Version 2.4 for batch loads to submit patient and immunization information to NYSIIS. NYSIIS also allows providers to submit patient and immunization information through a real-time system using HL7 2.4 formatted VXQ^V01 Message (Query for Vaccination Record) and a VXU^V04 Message (Unsolicited Vaccination Update) and receive from NYSIIS the resulting HL7 2.4 Response Message in real time. Specifications for HL7 2.4 Real-time start on page 25.

15. The Health Level Seven (HL7) Standard

The ANSI HL7 standard is widely used for data exchange in the health care industry, see references below for additional information. The full standard is quite lengthy, covering a variety of situations in patient care and health care finance and no single application is likely to use all of its content. The CDC has worked with HL7 developers to create a set of messages that permit exchange of immunization data, see references below for additional information. This document covers the subset of HL7 that will be used for patient and immunization records exchanged between NYSIIS and outside systems.

- The basic unit transmitted in an HL7 implementation is the **message**.
- Messages are made up of several **segments**, each of which is one line of text, beginning with a three-letter code identifying the segment type.
- Segments are in turn made up of several **fields** separated by a delimiter character, “|”.

```
MSH|^~&|VALLEY CLINIC^^^||NYSIIS^^^|19991005032342||VXU^V04|682299|P^|2.4^^|||ER
PID|||79928^^^PI|A5SMIT0071^^^|SMITH^MARY^T^^^|JOHNSON^^^^^^|19951212|F|||
RXA|0|999|19970903|19970903|^90701^DTP^CPT|0.5
```

The details of how HL7 messages are put together, for NYSIIS purposes, will be explained later in this document. The example above shows the essentials of what a message looks like. In this example, a message is being sent on behalf of Valley Clinic to NYSIIS. The message consists of three segments. NOTE: Valley Clinic may or may not be the actual transmitter of the message. The transmitter of the message will be identified by NYSIIS from log-in information and not from an HL7 message.

- The Message Header segment (**MSH**) identifies the owner (**VALLEY CLINIC**) of the information being sent and the receiver (**NYSIIS**). It also identifies the message as being of type **VXU**. The VXU is an Unsolicited Vaccination Record Update, which is one of the message types defined by HL7.
- The Patient Identification segment (**PID**) gives the patient's name (**MARY T SMITH**), birth date (**19951212**, in YYYYMMDD format), and other identifying fields.
- The Pharmacy Administration segment (**RXA**) tells that a DTP vaccine, with CPT code 90701, was administered on September 3, 1997 (formatted as 19970903). Many fields are optional and this example may have more information included in it. Some segments can be repeated within a single message. In this example, the message could have included a second RXA segment to record another immunization given.

HL7 does not specify how messages are transmitted. It is flexible enough to be used for both real-time interaction and large batches. The standard defines file header and file trailer segments that are used when a number of messages are gathered into a batch for transmission as a file. NYSIIS will use batch files of messages to communicate with outside systems.

16. Scope of This Document

The General Transfer Specification (GTS) documented here supports automated exchange of data between the NYSIIS repository and outside systems. This allows both the patient and immunization records to be available in both systems, so as to avoid the need to enter data twice. The remainder of this document specifies how HL7 file messages are constructed for the purposes of NYSIIS. This document does not cover the step by step methods that are used to transmit files between NYSIIS central repository and any outside systems such as PHINMS messaging for Real-time or batch transactions. It covers only a small subset of the very extensive HL7 standard. Files of messages constructed from the guidelines in this document will fall within the HL7 standard, but there is a wide variety of other possible HL7 messages that are outside the scope of this document.

17. References

- See Version 2.1 (September 2002) of the Health Level 7 standard for a full description of all messages, segments, and fields. Information regarding HL7 is at www.hl7.org.
 - The National Immunization Program within the Center for Disease Control (<http://www.cdc.gov/vaccines/programs/iis/stds/downloads/hl7guide.doc>) has published an Implementation Guide for Immunization Data with the purpose of keeping the use of HL7 for immunization data as uniform as possible.
-

18. HL7 Message Types Used in NYSIIS Batch Transmissions

NYSIIS uses three message types for batch transmissions: ADT, VXU and ACK. The ADT is used for sending patient demographic information updates without any immunizations. (NYC will not accept ADT's. Updates to demographic information should be in a VXU). The VXU is used for sending new and/or updated patient demographic information and immunizations. The ACK is used to acknowledge to the sender that a message has been received. Table 1 below shows the segments that are used to construct each message type. Each segment is one line of text ending with the carriage return character. The carriage return is needed so that the HL7 messages are readable and printable. The messages may appear somewhat cryptic due to the scarcity of white space. (The standard has provisions for inclusion of binary data, but NYSIIS will not use these features.) Square brackets [] enclose optional segments and curly braces { } enclose segments that can be repeated; thus, an ADT message type could be composed of just MSH and PID segments. Also, any number of NK1 segments could be included in the message. The full HL7 standard allows additional segments within these message types, but they are unused by NYSIIS. In order to remain compliant with HL7, their use will not result in an error, but the recipient can ignore the content of the message. The segments that are documented here are sufficient to support the principal NYSIIS functions of storing data about patients and immunizations.

Table 1

18.1 ADT

Update Patient Information

MSH		Message Header
PID	Patient Identification	
[[NK1]]		Next of Kin / Associated Parties
[{*OBX}]	Observation/Result	

18.2 VXU

Unsolicited Vaccination Record Update

MSH	Message Header	
PID	Patient Identification	
[PD1]	Patient Additional Demographic	
[[NK1]]	Next of Kin / Associated Parties	
[PV1]	Patient Visit	
{RXA}		Pharmacy / Treatment Administration
[RXR]	Pharmacy / Treatment Route (Only one RXR per RXA segment)	

[[OBX]] Observation/Result*

18.3 ACK

General Acknowledgment

MSH

Message Header

MSA Message Acknowledgment
[ERR] Error

*The only OBX segment that is valid within an ADT message is one that specifies a CONTRAINDICATION in the OBX-03 Value Type field. (i.e., 30945-0^Contraindication^LN)

RECOMMENDATIONS:

NYSIIS will NOT accept an ADT message (unsolicited demographic update) for a new patient. ADT message is only used to update existing patient demographic information to patients existing in NYSIIS. Therefore, it is best to include the demographic information in a VXU message whenever possible, as this message type accommodates BOTH immunization information and demographic update information. If submitting a new patient it must follow the VXU message format for the new patient within the file.

When a VXU^V04 (Unsolicited Vaccination Record Update) message type is sent with no RXA segment, a check is done to verify if the patient exists in NYSIIS or not. If the patient already exists in NYSIIS, then the demographic update will occur (*if all other update business rules apply). If the patient is new to NYSIIS, then the patient will be rejected per current business rules.

19. Message Segments: Field Specifications and Usage

19.1 HL7 Segment Structure

Each segment consists of several fields that are separated by “|”, which is the field separator character. The tables below define how each segment is structured and contain the following columns:

- | | |
|-----------------|--|
| 1. SEQ | The ordinal position of the field in the segment. Since NYSIIS does not use all possible fields in the HL7 standard, these are not always consecutive. |
| 2. LEN | Maximum length of the field |
| 3. DT | HL7 data type of the field. See below for definition of HL7 data types. |
| 4. R/M | R means required by HL7, and M means mandated by NYS legislation. Blank indicates an optional field. |
| 5. RP/# | Y means the field may be repeated any number of times, an integer gives the maximum number of repetitions, and a blank means no repetition is permitted. |
| 6. TBL# | Number of the table giving valid values for the field. |
| 7. ELEMENT NAME | HL7 name for the field. |

- **HL7 data types.** Each field has an HL7 data type. Appendix A of this document lists and defines the HL7 data types needed for NYSIIS. The elemental data types Numeric (NM) and String (ST) consist of one value, while some data types, such as Extended Person Name (XPN) are composites.
- **Delimiter characters.** Field values of composite data types consist of several components separated by the **component separator**, “^”. When components are further divided into sub-components, these are separated by the **sub-component separator**, “&”. Some fields are defined to permit repetition separated by the **repetition character**, “~”. When these special characters need to be included within text data, their special interpretations are prevented by preceding them with the **escape character**, “\”.

```
MSH|^~\&| .....
XXX|field1|component1^component2^subcomponent3.1&subcomponent3.2^component4| .....
YYY|repetition1~repetition2| .....
ZZZ|data includes escaped \|\~ special characters| .....
```

In the example above, the Message Header segment uses the field separator, "|", immediately after the "MSH" code that identifies the segment. This establishes what character serves as the field separator throughout the message. The next field, the four characters "^~\&", establishes, in order, the component separator character, the repetition character, the escape character, and the sub-component separator character that will apply throughout the message. The hypothetical "XXX" segment includes field1 with no internal structure, but the next field has several components separated by "^", and the third of these is made up of two sub-components separated by "&". The hypothetical "YYY" segment's first field permits repetition, in this example the two values "repetition1" and "repetition2". The hypothetical "ZZZ" segment's field has a text value that includes the characters "|~", and these are escaped to prevent their normal structural interpretation.

In NYSIIS, sub-components, repetition and text values requiring the escape character will be rare. Components within fields are common, since names and addresses are represented this way. HL7 permits the use of other delimiters besides the recommended ones and the delimiters used in each message are given in the Message Header segment. NYSIIS will always use the recommended delimiters when sending files and requires their use for files received.

19.2 Rules for Sending Systems

The following rules are used by sending systems to construct HL7 messages.

- Encode each segment in the order specified in the message format.
- Begin the segment with the 3-letter segment ID (for example RXA).
- Precede each field with the data field separator ("|").
- Use HL7 recommended encoding characters ("^~\&").
- Encode the data fields in the order given in the table defining segment structure.
- Encode the data field according to its HL7 data type format.
- Do not include any characters for fields not present in the segment. Since later fields in the segment are encoded by ordinal position, fields that are not present do not reduce the number of field separators in the segment. For example, when the second and third fields are not present, the field separators maintain the ordinal position of the fourth field: |field1|||field4
- Data fields that are present but explicitly null are represented by empty double quotes "".
- Trailing separators may optionally be omitted. For example, |field1|field2|||| is equivalent to |field1|field2, when field3 and subsequent fields are not present.
- End each segment with the segment terminator (always the carriage return character, ASCII hex 0D).

The following rules are used by receiving systems to process HL7 messages.

- Treat data segments that are expected but not present as if all data fields in the segment were not present.
- Require use of HL7 recommended Field Separator |, and Encoding characters ^~\& for encoding messages.
- Ignore any data segment that is included but not expected, rather than treating it as an error. The HL7 message types used by NYSIIS may include many segments besides the ones in this document, and NYSIIS ignores them. NYSIIS will not send messages with segments not documented in this specification, but reserves the right to specify more segments at a later date. The rule to ignore unexpected segments facilitates this kind of change.
- Ignore data fields found but not expected within a segment.

The message segments below are needed to construct message types that are used by NYSIIS. Each segment is given a brief description excerpted from the HL7 standard. The tables define what fields make up each segment. Since NYSIIS does not use all the fields that HL7 defines, there are sometimes gaps in the ordinal sequence of fields. Following HL7 rules, the gaps do not diminish the number of field separators within the segment. For example, if the second and third fields in a segment are not present, their field separators remain in order to indicate that the next field present is the fourth: field1|||field4 .

19.2.1 ERR

The ERR segment is used to add error comments to acknowledgment messages.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	80	CM	R	Y		Error Code and Location

Field Notes:

ERR-1 A composite field with four components.

<segment ID (ST)>^<sequence (NM)>^<field position (NM)>^<field component ordinal number (NM)>

The first component identifies the segment ID containing the error. The second component identifies the input file line number of the segment containing the error. The third component identifies by ordinal number the field containing the error. The fourth component identifies, by ordinal number, the field component containing the error (0 is used if not applicable) The remaining five components of the CE data type are not valued and their '^' separators are not generated. Note that error text is transmitted in field MSA-3. For example, if the NK1 segment is missing a mandatory field:

ERR|NK1^10^2^1

This error message identifies the NK1 segment occurring on line 10 of the input file whose mandatory second field (Name) is missing the mandatory 1st component (Family Name).

19.2.2 MSA

The MSA segment contains information sent while acknowledging another message.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	2	ID	R		0008	Acknowledgment Code
2	20	ST	R			Message Control ID
3	80	ST				Text Message

Field Notes:

- MSA-1 Acknowledgement code giving receiver's response to a message. AA (Application Accept) means the message was processed normally. AE (Application Error) means an error prevented normal processing. An error message will be put in MSA-3, and for ACK messages the optional ERR segment will be included.
- MSA-2 The message control ID from MSH-10 in the message being acknowledged. This allows the sending system to associate this response with the message being responded to.
- MSA-3 Text of error message, used when MSA-1 does not have the normal value of AA.

19.2.3 MSH

The MSH segment defines the intent, source, destination and some specifics of the syntax of a message.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	1	ST	R			Field Separator
2	4	ST	R			Encoding Characters
3	180	HD				Sending Application
4	180	HD				Sending Facility
5	180	HD				Receiving Application
6	180	HD				Receiving Facility
7	26	TS				Date/Time Of Message
9	7	CM	R			Message Type
10	20	ST	R			Message Control ID
11	3	PT	R		0103	Processing ID
12	60	VID	R		0104	Version ID
15	2	ID			0155	Accept Acknowledgment Type

Field Notes:

- MSH-1 Determines the field separator in effect for the rest of this message. NYSIIS requires the HL7 recommended field separator of "|".
- MSH-2 Determines the component separator, repetition separator, escape character, and sub-component separator in effect for the rest of this message. NYSIIS requires the HL7 recommended values of ^~\&.
- MSH-3 Name of the sending application. When sending, NYSIIS will use "NYSIIS" followed by the current version number of the registry. This field is an optional convenience. See MSH-4 and MSH-6 for the fields principally used to identify sender and receiver of the message.
- MSH-4 Identifies for whom the message is being sent (the owner of the message information). When sending, NYSIIS will use "NYSIIS". When the message is being sent to NYSIIS and the Provider Organization owning the information is different than the organization transmitting the message, use either the NYSIIS Provider ID of the Provider Organization that owns the information preceded by a component separator (e.g., ^36^) or the short Provider

Organization name (e.g., NYSIIS^^.) Contact the NYSIIS Help Desk for the appropriate organization ID. If the owner of the information and the transmitter of the information are the same Provider Organization, this field can be left blank.

- MSH-6 Identifies the message receiver. When sending, NYSIIS will use the short Provider Organization name assigned when the provider first registers with the NYSIIS database and NYSIIS-Web interface.
- MSH-7 Date and time the message was created. NYSIIS ignores any time component. See the TS data type.
- MSH-9 This is a required field. Two components of this field give the HL7 message type (see Table 0076) and the HL7 triggering event (see Table 0003). Within HL7, the triggering event is considered to be the real-world circumstance causing the message to be sent. For NYSIIS purposes, this field should have the value ADT^A31 for a message conveying patient information or the value VXU^V04 for a message conveying patient and immunization information. In acknowledgement messages the value ACK is sufficient and the second component may be omitted.
- MSH-10 This is a required field. Message rejection will result if nothing is received in this 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 ACK message sent in response.
- MSH-11 The processing ID to be used by NYSIIS is **P** for production processing. If this field is null, an informational message is generated indicating that NYSIIS is defaulting to **P**.
- MSH-12 This is a required field. For the parser, the version number that is read in the first MSH segment, of the file, will be the version assumed for the whole file. For example, use a value of “2.3.1” to indicate HL7 Version 2.3.1 or “2.4” to indicate HL7 Version 2.4. If there is no version number found in the first MSH segment, a hard error will occur and the file will not be processed.
 **For NYSIIS to PO providers, the Exchange Data screen will need to be set to the version number that the organization has selected, in which to receive their data files. Setting the version number “tells” the writer which HL7 version format to use when generating the file in (the default will be the most recent version).
- MSH-15 This field controls whether an acknowledgement is generated for the message sent. NYSIIS suggests a value of ER to ask that acknowledgements be sent only for messages that cannot be processed normally. If the field is empty, NYSIIS will assume the value of ER.

19.2.4

19.2.5 PID

The PID segment 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.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
3	20	CX	R	Y	0203	Patient ID (Internal ID)
5	48	XPN	R	Y		Patient Name
6	48	XPN	M	Y		Mother's Maiden Name
7	26	TS	M			Date/Time of Birth
8	1	IS	M		0001	Sex
10	80	CE		Y	0005	Race
11	106	XAD		Y		Patient Address
13	40	XTN				Phone number – home
22	80	CE		Y	0189	Ethnic Group
24	1	ID			0136	Multiple Birth Indicator
25	2	NM				Birth Order
29	26	TS				Patient Death Date and Time

Field Notes:

- PID-3 Sub-components 1 (ID) and 5 (identifier type code) are required in the PID-3 field. When a Provider Organization is sending to NYSIIS, use the sending system's Patient ID or other identifier if available. When NYSIIS is sending to an outside system it will use the patient's NYSIIS ID and Patient ID when it is available.
- PID-5 See the XPN data type. Last name and first name are required in the first two components. If the Name Type Code component is included, use L-Legal **NOTE: If patient does not have a first name, NO FIRST NAME must be entered.** NYSIIS does not support repetition of this field.
- PID-6 See the XPN data type. In this context, where the mother's name is used for patient identification, NYSIIS uses only last name and first name. A mother's legal name might also appear in the context of an NK1 segment. NYSIIS does not support repetition of this field.
- PID-7 Give the year, month, and day of birth (YYYYMMDD). NYSIIS ignores any time component.
- PID-8 See Table 0001. Use F, M, or U.
- PID-10 See Table 0005. NYSIIS stores and writes “Unknown” values as null. NYSIIS does not support repetition of this

field.

PID-11 See the XAD data type. NYSIIS does not support repetition of this field.

PID-13 See the XTN data type. Version 2.4 includes the support of the N, X, B and C sequences. NYSIIS does not support repetition of this field. If PRN is specified in component 2 (telecommunication use code (ID) from table 0201) NYSIIS will use the 6th 7th 8th and 9th components for specification of area code, phone number, extension and text, respectively. Otherwise, NYSIIS will assume that the phone number is specified in the first component in the [NNN] [(999)]999-9999[X99999][B99999][C any text] format

PID-22 See Table 0189. NYSIIS stores and writes “Unknown” values as null. NYSIIS supports repetition of this field.

PID-24 Use Y to indicate that the client was born in a multiple birth.

PID-25 Relevant when patient was born in a multiple birth. Use 1 for the first born, 2 for the second, etc. This field is useful in matching patient data to existing records.

PID-29 The date of death, if patient is deceased. Give the year, month, and day (YYYYMMDD). NYSIIS ignores any time component. If a death date is sent, then the Patient Registry Status in PD1-14 must indicate a value of “P” for permanently inactive/deceased.

PD1

The PD1 carries patient additional demographic information that is likely to change.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
11	80	CE			0215	Publicity Code
12	1	ID			0136	Protection Indicator
13	8	DT				Protection Indicator effective date
16	1	IS			0441	Immunization registry status
17	8	DT				Immunization registry status effective date

Field Notes:

PD1-11 Controls whether recall/reminder notices are sent. NYSIIS will recognize “01” to indicate no recall/reminder notices or “02” recall/reminder notices any method.

PD1-12 Controls whether a patient (19 years or older) has given consent to have data created or modified in the registry. For patients Under 19 years of age, any value in this field is ignored because legislation automatically mandates their data for inclusion in the registry. For patients 19 years and older, N - the incoming record is rejected because it means that the patient is legally of age and does not consent to share. Null - the incoming record is accepted if it matches one existing consented record already in the registry, otherwise it is rejected. Yes - the incoming record is accepted and either updates an existing record or creates a new consented record.

PD1-13 Effective date for protection indicator reported in PD1-12. Format is YYYYMMDD.

PD1-16 Identifies the registry status of the patient. See table NIP006. If a code of P is specified the PID-29 segment must be filled in with Patient Death Date or record will be rejected.

PD1-17 Effective date for registry status reported in PD1-16. Format is YYYYMMDD.

PD1-18 Effective date for publicity code reported in PD1-11. Format is YYYYMMDD.

19.2.6 NK1

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

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	4	SI	R			Set ID - NK1
2	48	XPN		Y		Name
3	60	CE			0063	Relationship
4	106	XAD		Y		Address
5	40	XTN		Y		Phone Number

Field Notes:

- NK1-1 Sequential numbers. Use “1” for the first NK1 within the message, “2” for the second, and so forth. Although this field is required by HL7, NYSIIS 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.
- NK1-2 Name of the responsible person who cares for the client. See the XPN data type. NYSIIS does not support repetition of this field.
- NK1-3 Relationship of the responsible person to the patient. 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].
- NK1-4 Responsible person’s mailing address. See the XAD data type. NYSIIS does not support repetition of this field. If responsible person is Mother the Address that is used in this field will become the patients address.
- NK1-5 Responsible person’s phone number. NYSIIS does not support repetition of this field. If PRN is specified in component 2 (telecommunication use code (ID) from table 0201) NYSIIS will use the 6th 7th 8th and 9th components for specification of area code, phone number, extension and text, respectively. Otherwise, NYSIIS will assume that the phone number is specified in the first component in the [NNN] [(999)]999-9999[X99999][B99999][C any text] format.

19.2.7 PV1

The PV1 segment is used to send visit-specific information.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
2	1	IS	R		0004	Patient Class
20	50	FC	M	Y	0064	Financial Class

Field Notes:

- PV1-2 See table 0004. NYSIIS will store and write a value of “R” (recurring patient) for this field.
- PV1-20 See table 0064. NYSIIS defines this field as a required field. If an invalid financial class or date format is received, an INFORMATIONAL error message is generated. The entire message is NOT rejected, as this is an optional HL7 segment. The format of this field is Financial Class code as described in table 0064 ^ then the date in YYYYMMDD format.

19.2.8 RXA

The RXA carries pharmacy administration data. It is a repeating segment and can record unlimited numbers of vaccinations.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	4	NM	R			Give Sub-ID Counter
2	4	NM	R			Administration Sub-ID Counter
3	26	TS	R			Date/Time Start of Administration
4	26	TS	R			Date/Time End of Administration
5	100	CE	R			Administered Code
6	20	NM	R			Administered Amount
9	200	CE		Y	NIP001	Administration Notes
10	200	XCN		Y		Administering Provider
11	200	CM				Administered-at location
15	20	ST	M	Y		Substance Lot Number
17	60	CE	M	Y	0227	Substance Manufacturer Name
18	200	CE		Y	NIP002	Substance Refusal Reason

Field Notes:

RXA-1 Required by HL7. Use “0” for NYSIIS.

RXA-2 Required by HL7. For Provider-NYSIIS loads, Data Exchange expects incoming values of 999 for this field. Other numeric values are ignored.

NYSIIS Data Exchange sends out series information in this field, provided the system is configured to do so. For example, if a dose evaluates to (3 of 4) in the Wizard, then the system sends the number 3 in RXA-2. If the dose violates a specific Wizard rule, then the system sends 777 in RXA-2. In all other cases, the number 999 is sent in RXA-2. For combination vaccines, 999 is always sent in RXA-2, and the series count for each component antigen in the combination vaccine is sent in grouped OBX segments, which follow the RXA segment. Please see the field notes on OBX-3, OBX-4 and OBX-5.

The ability to send series information in RXA-2 only applies to HL7 Version 2.4. It applies to Batch HL7 NYSIIS-Provider, Batch HL7 Bi-directional, Real-time HL7, and Organizational Extract. Some configuration is needed to send series information in RXA-2. On the Manage Data Exchange Screen, the **Send HL7 Series/Recommend** option displays, and the user must select either “Series Only” or “Both” from the pick list. (This option is hidden if Flat File or HL7 Provider-NYSIIS is chosen.)

The Send Series/Recommend option also displays on the Organization Extract Screen when the user chooses the HL7 2.4 Transaction Format.

If the user configures the system so that it will **not** send series information, then the system always sends 999 RXA-2.

In the following example, the dose of Encephalitis is the 3rd dose in the series.

RXA|0|3|20010207|20010207|39^Japanese encephalitis^CVX^90735^Japanese encephalitis^CPT|1.0|||01^^^~3285191^NYSIIS immunization id^IMM_ID^^|

RXA-3 Date the vaccine was given. NYSIIS ignores any time component.

RXA-4 Required by HL7. Ignored by NYSIIS, which will use the value in RXA-3.

RXA-5 This field identifies the vaccine administered. NYSIIS accepts the CVX code, CPT code, Vaccine Trade Name, or Vaccine Group Code for the vaccine administered. If using the CVX code, give the CVX code in the first component and “CVX” in the third component. If using the CPT code, the vaccine group code or vaccine trade name, use components four through six. For example, give the CPT code in the fourth component and “CPT” in the sixth component, [^^90700^DtaP^CPT]. If using vaccine group code, use “WVGC” as the name of the coding system. If using vaccine trade name, use “WVTN” as the name of the coding system. See the CE data type and HL7 - Table 0292 (CVX Codes), NYSIIS – Table WCPT (CPT Codes), NYSIIS – Table WVGC (Vaccine Group Codes), and NYSIIS – Table WVTN (Vaccine Trade Names).

RXA-6 Dose Magnitude is the number of age appropriate doses administered. For example, a dose magnitude of 2 of a pediatric formulation would be adequate for an adult. NYSIIS and HL7 require this field to contain a value. However, a value of 1.0 will be stored in its place.

RXA-9 NYSIIS will recognize 00 to indicate Administered Vaccine or 01 to indicate Historical Record. . When sending, NYSIIS will include the corresponding immunization id in the second repeating segment.

|01^^^^~999999^NYSIIS immunization id^IMM_ID^^|

- RXA-10 Identifies the name of the person physically administering the vaccine (the vaccinator). NYSIIS will use components 2 – 7 to record the name and does not support repetition of this field.
- RXA-11 NYSIIS will use this field to identify the facility where the vaccine was administered. Place the facility name in component 4.
- RXA-15 Manufacturer’s lot number for the vaccine. NYSIIS does not support repetition of this field.
- RXA-17 Vaccine manufacturer from Table 0227, for example |AB^Abbott^ MVX^^|. The HL7 2.4 specification recommends use of the external code set MVX. “When using this code system to identify vaccines, the coding system component of the CE field should be valued as “MVX” not as “HL70227.” NYSIIS does not support repetition of this field.
- RXA-18 When applicable, this field records 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 should be recorded in RXA-5, with the number 0 recorded for the dose number in RXA-2. Do not record contraindications, immunities or reactions in this field. NYSIIS does not support repetition of this field.

Notes on Refusals:

- a) NYSIIS only stores the fact that a refusal of a vaccine occurred, not a specific type of refusal, so all outgoing refusals will be designated as “PARENTAL DECISION.” Please see the example below.
- b) NYSIIS will not write out refusals which do not have an applies-to date. It will write out multiple refusals for the same vaccine on different dates for those patients who have them.
- c) The NYSIIS system will accept incoming refusals of the same vaccine on different dates and file them both. However, if they both have the same applies-to date, then only one will be stored.
- d) The sending organization will become the refusal owner. In general, only the organization who owns the refusal is permitted to edit it. However, in the case of parent and child organizations, the parent may edit the child’s refusals and vice versa.

Here is a sample RXA segment for an MMR refusal given on the date 01/01/2007:
RXA|0|0|20070101|20070101|^^^MMR^MMR^WVGC|1.0|||00^PARENTAL
REFUSAL^NIP002^^^

RXA-20 For Batch HL7 WIR-PO, Batch HL7 Bi-directional, Real-time HL7, and Organizational Extract, this field records the value PA for doses which are partially administered. A partially administered dose refers to the scenario where the patient jumps and the needle breaks, resulting in an unknown quantity of vaccine entering the patient’s system.

19.2.9 RXR

The Pharmacy/Treatment Route Segment contains the alternative combination of route and site.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	60	CE	R		0162	Route
2	60	CE			0163	Site

Field Notes:

- RXR-1 This is the route of administration from table 0162.
- RXR-2 This is the site of the route of administration from table 0163.

19.2.10 OBX

The Observation/Result Segment is used to transmit an observation.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	4	SI				Set ID-OBX
2	3	ID				Value type
3	80	CE	R			Observation Identifier
4	20	ST				Observation sub-ID
5	65536	-	M	Y		Observation Value
11	1	ID	R		0085	Observation Result Status
14	26	TS				Date/Time of the observation

Field Notes:

OBX-1 Sequential numbers. Use “1” for the first OBX within the message, “2” for the second, and so forth.

OBX-2 This field contains the data type which defines the format of the observation value in OBX-5. For incoming Provider-NYSIIS data, Data Exchange accepts CE for Coded Entry. However, for NYSIIS-Provider, the system will send out values of CE, TS, NM for Coded Entry, Timestamp, and Number respectively, depending on what is actually sent in OBX-5.

OBX-3 When indicating a **Vaccination Contraindication/Precaution**, use 30945-0 in this field and enter a Contraindication, Precaution, or Immunity code (NIP004) in OBX-5.

Example: OBX|1|CE|30945-0^Contraindication^LN||21^acute illness^NIP^^^|F|

When indicating a **Reaction to Immunization**, use 31044-1 in this field and enter a Reaction code (WIR001) in OBX-5.

Example: OBX|1|CE|31044-1^Reaction^LN||HYPOTON^hypotonic^NYSIIS^^^|F|

When indicating a **Vaccination Adverse Event Outcome**, use 30948-4 in this field and enter an Event Consequence code (NIP005) in OBX-5.

Example: OBX|1|CE|30948-4^Adverse Outcome^LN||E^er room^NIP^^^|F|

For Batch HL7 NYSIIS-Provider, Batch HL7 Bi-directional, Real-time HL7, and Organizational Extract, the system uses this field to send the LOINC Codes for **Series information** for combination vaccines. For each component of a combination vaccine, the system sends out a grouped set of two OBX segments. The first segment identifies the component antigen, and the second segment identifies the Series count. OBX-3 is used to identify whether the component antigen or the valid series count is noted in OBX-5 respectively.

Here are the LOINC Codes that the system sends in OBX-3 for Series information for combination vaccines.

LOINC Code	Description
38890-0	Component Vaccine Type. This term is used to distinguish separate vaccine components of a multiple antigen vaccine. Included in LOINC 1/2005.
38890-0&30973-2	Dose Number in Series

In the following example, the LOINC Codes are highlighted in OBX-3. These two OBX segments together express that a dose of combination vaccine counts for the 1st dose of DTaP in the DTaP series.

OBX|1|CE|38890-0^COMPONENT VACCINE TYPE^LN|1|20^DTaP^CVX^90700^DTaP^CPT|||||F|
OBX|2|NM|38890-0&30973-2^Dose number in series^LN|1|1|||||F|

Please see the end of the OBX field notes for a complete example of how NYSIIS sends Series information for combination vaccines.

For Batch HL7 NYSIIS-Provider, Batch HL7 Bi-directional, Real-time HL7, and Organizational Extract, the system uses this field to send the LOINC Codes for **Recommendations**. For each recommendation, the system sends a grouped set of five OBX segments. Here are the LOINC Codes that the system sends out in OBX-3 for Recommendations. The LOINC itself is sent in OBX-3 in order to identify what the value in OBX-5 represents.

LOINC Code	Description
30979-9	Vaccines Due Next
30979-9&30980-7	Date Vaccine Due
30979-9&30973-2	Vaccine due next dose number
30979-9&30981-5	Earliest date to give
30979-9&30982-3	Reason applied by forecast logic to project this vaccine

In the following example, the LOINC Codes are highlighted in OBX-3 for a single recommendation of HepB.

```

OBX|11|CE|30979-9^Vaccines Due Next^LN^^|3|45^HepB^CVX^90731^HepB^CPT|||||F|
OBX|12|TS|30979-9&30980-7^Date Vaccine Due^LN^^|3|20050103|||||F|
OBX|13|NM|30979-9&30973-2^Vaccine due next dose number^LN^^|3|1|||||F|
OBX|14|TS|30979-9&30981-5^Earliest date to give^LN^^|3|20050103|||||F|
OBX|15|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^|3|^ACIP schedule|||||F|

```

Please see the end of the OBX field notes for a complete example of how NYSIIS sends Recommendations.

OBX-4 For sending out Series Information and Recommendations, 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.

For example, NYSIIS sends out five grouped OBX segments for each recommendation. The following is a single MMR recommendation, all sharing the same Observation sub-ID of 4 in OBX-4.

```

OBX|16|CE|30979-9^Vaccines Due Next^LN^^|4|03^MMR^CVX^90707^MMR^CPT|||||F|
OBX|17|TS|30979-9&30980-7^Date Vaccine Due^LN^^|4|20050407|||||F|
OBX|18|NM|30979-9&30973-2^Vaccine due next dose number^LN^^|4|2|||||F|
OBX|19|TS|30979-9&30981-5^Earliest date to give^LN^^|4|20021105|||||F|
OBX|20|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^^|4|^ACIP schedule|||||F|

```

OBX-5 Text reporting Contraindication, Precaution, or Immunity (NIP004), Reaction (NYS001), or Event Consequence (NIP005). NYSIIS has imposed a CE data type upon this field. The first component of which is required. (e.g., |PERTCONT^Pertussis contra^NYSIIS^^^|)

For Batch HL7 NYSIIS-Provider, Batch HL7 Bi-directional, Real-time HL7, and Organizational Extract, this field holds the value observed for series information and recommendations. The value corresponds to the LOINC in OBX-3. For example, for recommendations, the fourth OBX segment is for the Earliest date. OBX-3 contains the code 30979-9&30981-5 and OBX-5 contains the actual earliest date as follows:

```

OBX|4|TS|30979-9&30981-5^Earliest date to give^LN^^|1|20010519|||||F|

```

Please see the end of the OBX field notes for complete examples of how NYSIIS sends Series for combination vaccines and Recommendations.

OBX-11 Required for HL7. Use “F” for NYSIIS.

OBX-14 Records the time of the observation. NYSIIS ignores any time component.

NOTE 1: The only valid OBX Observation Identifier (OBX-03) for an **ADT^A31** message type is Contraindication/Precaution (30945-0).

NOTE 2: All OBX messages with an observation identifier of Vaccination Contraindication/Precaution will be returned in an outgoing file in a separate ADT message for the patient.

NOTE 3: Complete Example of NYSIIS's use of OBX to send Series Information for Combination Vaccines

A single dose of combination vaccine may have a different series dose count for each component. For Batch HL7 NYSIIS-Provider, Batch HL7 Bi-directional, Real-time HL7, and Organizational Extract, the system sends a grouped set of two OBX segments for each component in a combination vaccine. For example, a single dose of Dtap-Hib is sent as below. The first and second OBX segments express the dose count of 1 for DTaP. The third and fourth OBX segments express the dose count of 3 for Hib.

```
RXA|0|999|19810807|19810807|50^DtaP-Hib^CVX^90721^DtaP-Hib^CPT|1.0|||01^~~~~~32851914^NYSIIS
immunization id^IMM_ID^~|||||
OBX|1|CE|38890-0^COMPONENT VACCINE TYPE^LN|1|20^DTaP^CVX^90700^DTaP^CPT|||||F|
OBX|2|NM|38890-0&30973-2^Dose number in series^LN|1|1|||||F|
OBX|3|CE|38890-0^COMPONENT VACCINE TYPE^LN|2|17^Hib^CVX^90737^Hib^CPT|||||F|
OBX|4|NM|38890-0&30973-2^Dose number in series^LN|2|3|||||F|
```

NOTE 4: Complete Example of NYSIIS's use of OBX to send Recommendation Information

20.

For Batch HL7 NYSIIS-Provider, Batch HL7 Bi-directional, Real-time HL7, and Organizational Extract, a single recommendation is sent in a grouped set of five OBX-segments, which follow a place-holder RXA segment that does not represent any actual immunization administered to the patient. The five OBX segments in order express the Vaccine of the recommendation, the recommended date, the dose of the next vaccine due, the earliest date to give, and the reason for the recommendation, which is always the ACIP schedule.

```
RXA|0|0|20010407|20010407|998^No Vaccine Administered^CVX|999|0
OBX|1|CE|30979-9^Vaccines Due Next^LN^|1|20^DTP/aP^CVX^90700^DTP/aP^CPT|||||F|
OBX|2|TS|30979-9&30980-7^Date Vaccine Due^LN^|1|20010607|||||F|
OBX|3|NM|30979-9&30973-2^Vaccine due next dose number^LN^|1|1|||||F|
OBX|4|TS|30979-9&30981-5^Earliest date to give^LN^|1|20010519|||||F|
OBX|5|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^|1|^ACIP
schedule|||||F|
OBX|6|CE|30979-9^Vaccines Due Next^LN^|2|85^HepA^CVX^90730^HepA^CPT|||||F|
OBX|7|TS|30979-9&30980-7^Date Vaccine Due^LN^|2|20030407|||||F|
OBX|8|NM|30979-9&30973-2^Vaccine due next dose number^LN^|2|1|||||F|
OBX|9|TS|30979-9&30981-5^Earliest date to give^LN^|2|20020407|||||F|
OBX|10|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^|2|^ACIP
schedule|||||F|
OBX|11|CE|30979-9^Vaccines Due Next^LN^|3|45^HepB^CVX^90731^HepB^CPT|||||F|
OBX|12|TS|30979-9&30980-7^Date Vaccine Due^LN^|3|20010407|||||F|
OBX|13|NM|30979-9&30973-2^Vaccine due next dose number^LN^|3|1|||||F|
OBX|14|TS|30979-9&30981-5^Earliest date to give^LN^|3|20010407|||||F|
OBX|15|CE|30979-9&30982-3^Reason applied by forecast logic to project this vaccine^LN^|3|^ACIP
schedule|||||F|
```

The ability to send Recommendations in these grouped OBX segments only applies to HL7 Version 2.4. It applies to Batch HL7 NYSIIS-Provider, Batch HL7 Bi-directional, Real-time HL7, and Organizational Extract. Some configuration is needed to send Recommendations in this way. On the Manage Data Exchange Screen, the **Send HL7 Series/Recommend** option displays, and the user must select either "Recommendations Only" or "Both" from the pick list. (This option is hidden if Flat File or HL7 Provider-NYSIIS is chosen.)

The Send Series/Recommend option also displays on the Organization Extract Screen when the user chooses the HL7 2.4 Transaction Format.

If the user configures the system so that it will **not** send recommendations, then the system will omit sending the grouped set of five OBX segments entirely.

21. Batch Files of HL7 Messages

The definitions above tell how to create messages containing patient and immunization data. Each message can logically stand on its own and HL7 is compatible with various methods of online and batch transmission. NYSIIS uses batch files to transmit many messages together. HL7 provides special header and footer segments to structure batch files. These segments are not part of any message, but serve to bracket the messages defined above. The structure of a batch file is as follows.

```

FHS                (file header segment)
{
  BHS              (batch header segment)
  { [MSH          (zero or more HL7 messages)
    ....
    ....
    ....
  ] }
  BTS              (batch trailer segment)
}
FTS                (file trailer segment)

```

21.1 FHS

File Header Segment

The FHS segment is used to head a file (group of batches).

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	1	ST	R			File Field Separator
2	4	ST	R			File Encoding Characters
3	15	ST				File Sending Application
4	20	ST	M			File Sending Facility
6	20	ST	M			File Receiving Facility
7	26	TS	M			File Creation Date/Time
9	20	ST	M			File Name/ID
10	80	ST				File Header Comment
11	20	ST	M			File Control ID
12	20	ST				Reference File Control ID

Field Notes:

FHS-1 Same definition as the corresponding field in the MSH segment.

FHS-2 Same definition as the corresponding field in the MSH segment.

FHS-3 Same definition as the corresponding field in the MSH segment.

FHS-4 Same definition as the corresponding field in the MSH segment.

FHS-6 Same definition as the corresponding field in the MSH segment.

FHS-7 Same definition as the corresponding field in the MSH segment.

FHS-9 Name of the file as transmitted from the initiating system.

FHS-10 Free text, which may be included for convenience, but has no effect on processing.

FHS-11 This field is used to identify a particular file uniquely among all files sent from the sending facility identified in FHS-4.

FHS-12 Contains the value of FHS-11-file control ID when this file was originally transmitted. Not present if this file is being transmitted for the first time.

21.2 FTS

File Trailer Segment

The FTS segment defines the end of a file.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	10	NM	M			File Batch Count
2	80	ST				File Trailer Comment

Field Notes:

FTS-1 The number of batches contained in this file. NYSIIS normally sends one batch per file and discourages sending multiple batches per file.

FTS-2 Free text, which may be included for convenience, but has no effect on processing.

21.2.1.1

21.3 BHS

Batch Header Segment

The BHS segment defines the start of a batch.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	1	ST	R			Batch Field Separator
2	4	ST	R			Batch Encoding Characters
3	15	ST				Batch Sending Application
4	20	ST	M			Batch Sending Facility
6	20	ST	M			Batch Receiving Facility
7	26	TS	M			Batch Creation Date/Time
10	80	ST				Batch Comment
11	20	ST	M			Batch Control ID
12	20	ST				Reference Batch Control ID

Field Notes:

BHS-1 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. NYSIIS requires | (ASCII 124).

BHS-2 This field contains the four characters in the following order: the component separator, repetition separator, escape characters and sub-component separator. NYSIIS requires ^~\&, (ASCII 94, 126, 92 and 38 respectively).

BHS-3 Same definition as the corresponding field in the MSH segment.

BHS-4 Same definition as the corresponding field in the MSH segment.

BHS-6 Same definition as the corresponding field in the MSH segment.

BHS-7 Same definition as the corresponding field in the MSH segment.

BHS-10 Free text, which may be included for convenience, but has no effect on processing.

BHS-11 This field is used to uniquely identify a particular batch. It can be echoed back in *BHS-12-reference batch control ID* if an answering batch is needed. For NYSIIS purposes, the answering batch will contain ACK messages.

BHS-12 This field contains the value of *BHS-11-batch control ID* when this batch was originally transmitted. Not present if this batch is being sent for the first time. See definition for *BHS-11-batch control ID*.

21.3.1

21.4 BTS

Batch Trailer Segment

The BTS segment defines the end of a batch.

SEQ	LEN	DT	R/M	RP/#	TBL#	ELEMENT NAME
1	10	ST	M			Batch Message Count
2	80	ST				Batch Comment

Field Notes:

BTS-1 This field contains the count of the individual messages contained within the batch.

BTS-2 Free text, which can be included for convenience, has no effect on processing.

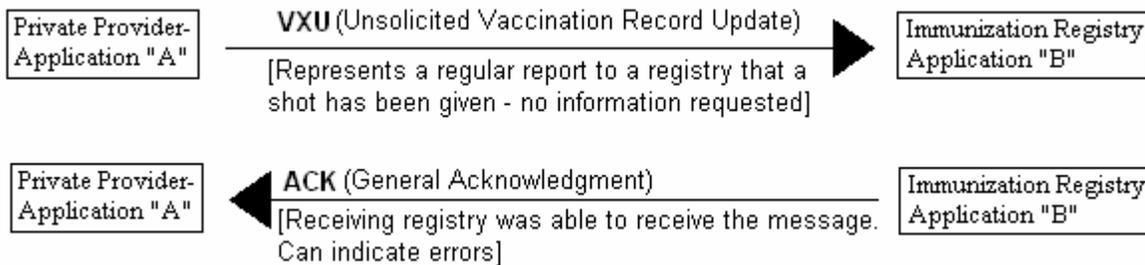
File Interchange between NYSIIS and Outside Systems using the Batch user interface

The central repository of NYSIIS contains records of patients from around the state. Patient and immunization records flow both ways between NYSIIS and outside systems. Data, for a particular client, is transmitted by NYSIIS to an outside system (Provider Organization) only if the patient is identified as having an Active relationship with that Organization AND the relationship was created by transmitting the patient's record to NYSIIS or by creating the relationship via the NYSIIS-Web interface. So, an exchange of information about a given patient is always initiated by the outside system. There are three options for exchanging data with NYSIIS:

- (1) The Provider Organization can send data to NYSIIS and request that no data is returned from NYSIIS, which is a Provider Organization to NYSIIS data transfer.
- (2) The Provider Organization can request data from NYSIIS while not providing data to NYSIIS, which is a NYSIIS to Provider Organization data transfer.
- (3) The Provider Organization can send data to NYSIIS and NYSIIS will return any updated information regarding any patients that have an Active relationship with that Provider Organization, which is a Bi-directional data transfer.

HL7 messages are always part of a two-way exchange between an initiating system and a responder. Sometimes the initial message implies specific data to be sent in a response. Other times, as is the case with NYSIIS patient and immunization data, the principal response of the responder is to process the message and post whatever it contains to its own database. For these cases, the responder provides the ACK message type in an HL7 format, which contains no new application data, but allows the receiver to inform the initiator that the message has been received and processed successfully. If an error prevents successful processing, optional parts of the ACK message will allow this to be communicated as well.

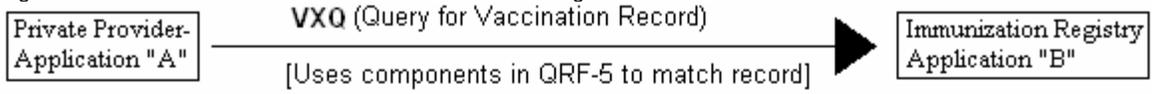
For exchanges between NYSIIS and outside systems, which is a Provider Organization to NYSIIS data transfer, it is the responsibility of the outside system to initiate the transfer of the first file, containing ADT(only for updating demographic information) and/or VXU messages with patient and immunization data for adding or updating patient and immunization data. After processing those messages, NYSIIS responds with a response file of ACK messages.



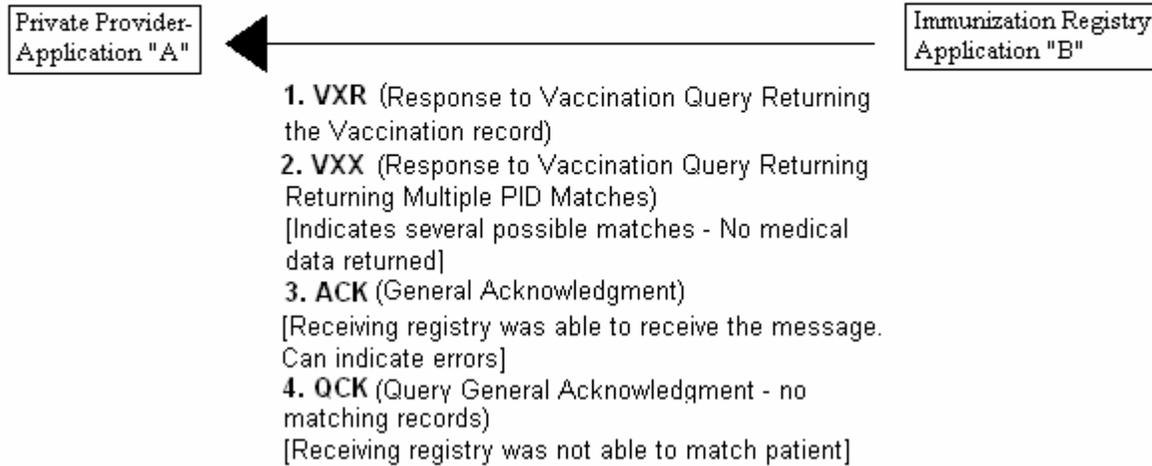
	Provider Organization	NYSIIS	
		Outgoing	Receiving
1.	Creates a file of patient and immunization records that have changed since they were last transmitted to NYSIIS.		
2.	Transmits the file to NYSIIS through the user interface.		
3.			Processes the file received, creates a file of ACK messages.
4.		Posts the ACK file for the initiator to pick up via the web-interface of the original file submitted.	
5.	Processes the ACK file to confirm success of the file transmission.		

For exchanges between NYSIIS and outside systems, which is a Bi-directional data transfer, it is the responsibility of the outside system to

initiate the transfer of the first file, containing ADT(only for updating demographic information) and/or VXU messages with patient and immunization date for adding or updating patient and immunization data. After processing those messages, NYSIIS responds with a response file of ACK messages. At the same time or soon after, NYSIIS also creates another file of ADT and VXU messages, containing the full patient record(if the patient was new), to send to the Provider Organization that initiated the first transfer. It is the responsibility of the Provider Organization as receiver to transmit back a file of ACK messages.



Possible responses:



Provider Organization		NYSIIS	
		Outgoing	Receiving
1.	Creates a file of patient and immunization records that have changed since they were last transmitted to NYSIIS.		
2.	Transmits the file to NYSIIS through the user interface.		
3.			Processes the file received, creates a file of ACK messages.
4.			Creates a file of any active patient and immunization records that have changed since they were last transmitted to this Provider Organization.
5.		Posts the ACK file for the initiator to pick up via the web-interface of the original file submitted.	
6.		Posts the file of patient and immunization records that have changed since they were last transmitted to this Provider Organization to pick up via the web-interface.	
7.	Processes the ACK file to confirm success of the file transmission.		

8.	Processes the file of patient and immunization records that have changed since they were last transmitted to this Provider Organization.		
----	--	--	--

The 15th field, in the MSH message header segment, allows the initiator to ask that the message be acknowledged only in the case of an error and NYSIIS supports this in order to minimize the number of ACK messages transmitted. In this case, the ACK file contains only error messages (an optional form of the ACK message type). The original messages, with no answering error messages, are implicitly acknowledged as successfully processed. If all messages in a batch are successful, the answering ACK file will only contain file batch headers and footers, with no actual ACK messages. For Step 2, in the above table, it is permissible for a Provider Organization to send a file containing only file batch headers and footers as a way of triggering the file that NYSIIS creates in Step 6. It is also possible that the file, NYSIIS creates in Step 6, will contain only file batch headers and footers if there are no records to send.

Examples

To illustrate how a NYSIIS HL7 file is put together we will document how the fictional organization, Valley Clinic, formats patient and immunization records to be transmitted to NYSIIS. The following table displays the information to be transmitted and it is organized into HL7 segments and fields. For example, PID-3 refers to the third field in the Patient Identification segment.

Information to transmit	Data value to be entered	HL7 Format
• Patient #1		PID segment
• Chart Number (ID on Valley Clinic's system)	45LR999	PID-3
• Name	GEORGE M MILLER JR	PID-5
• Mother's maiden name	MARTHA OLSON	PID-6
• Birth date	February 27, 1995	PID-7
• Sex	M	PID-8
• Address	123 MAIN ST ALBANY, NY 53000, 1843	PID-11
• Birth Place	WI025, WI	PID-23
• Multiple Birth Indicator	Y (patient was born as part of a multiple birth)	PID-24
• Birth Order	2 (second birth of a multiple birth)	PID-25
• Publicity Code	02	PD1-11
• Protection Indicator	Y (patient records are visible by other provider organizations)	PD1-12
• Patient Registry Status	A (client is active in the registry)	PD1-14
• Responsible Person (parent or other person who cares for patient)		NK1 segment
• Name	MARTHA MILLER	NK1-2
• Relationship to patient	MTH	NK1-3
• Address	123 MAIN ST ALBANY, NY 53000, 1843	NK1-4
• Phone	608 123 4567	NK1-5
• Responsible Person		NK1 segment
• Name	GEORGE MILLER	NK1-2
• Relationship to patient	FTH	NK1-3
• Patient #2		PID segment
• Chart Number	23LK729	PID-3
• Name	MARIA CALIFANO	PID-5
• Mother's maiden name	ANGELICA DISTEFANO	PID-6
• Birth date	April 13, 1998	PID-7
• Sex	F	PID-8
• Patient Class	R	PV1-2
• Financial Class	V04	PV1-20
• Immunization		RXA segment
• Date administered	July 23, 1999	RXA-3
• Vaccine	DtaP	RXA-5

Information to transmit	Data value to be entered	HL7 Format
• CPT Code	90700	RXA-5
• Dose size	0.5	RXA-6
• Administering Provider Organization	Valley Clinic	RXA-10
• Immunization		RXA segment
• Date administered	July 23,1999	RXA-3
• Vaccine	MMR	RXA-5
• CPT Code	90707	RXA-5
• Dose size	0.5	RXA-6
• Administering Provider Organization	Valley Clinic	RXA-10
• Patient #3		PID segment
• Chart Number	92HG9257	PID-3
• Name	JOSEPH FISHER	PID-5
• Mother's maiden name	MARY LASOWSKI	PID-6
• Birth date	May 28, 1998	PID-7
• Sex	M	PID-8
• Immunization		RXA segment
• Patient Class	R	PV1-2
• Financial Class	V04	PV1-20
• Date administered	July 29, 1999	RXA-3
• Vaccine	MMR	RXA-5
• CPT Code	90707	RXA-5
• Dose	0.5	RXA-6
• Administering Provider Organization	Valley Clinic	RXA-10
• Lot number	AD19487	RXA-15
• Lot expiration date	December 12, 1999	RXA-16
• Lot manufacturer	FLYBYNIGHT LABORATORIES (this manufacturer is not found in the valid list in HL7 Table 0227, and the invalid value will cause NYSIIS to reject the message with an error message)	RXA-17

In an HL7 message, each segment is a single text line, ending with the carriage return character. In the examples, long lines are broken artificially for display purposes and the carriage return character is denoted by <CR>.

```
FHS|^~\&|VALSYS|VALCLIN||NYSIIS|19990802091523||filename1.hl7|WEEKLY HL7
  UPLOAD|00009972<CR>
BHS|^~\&|VALSYS|VALCLIN||NYSIIS|19990802091523|||00010223<CR>
MSH|^~\&|VALSYS|VALCLIN||NYSIIS|19990802091524||ADT^A31|00000123|P|2.4||AL<CR>
PID|||45LR999^^^^PI||MILLER^GEORGE^M^JR|OLSON^MARTHA|19950227|M|||123 MAIN
  ST^^ALBANY^NY^53000^US^^^FULTON|||000111222|||US^WI^1843|Y|2<CR>
PD1|||02^REMINDER/RECALL - ANY MENTOD^HL70215|Y|A<CR>
NK1|1|MILLER^MARTHA|MTH^Mother^HL70063|123 MAIN ST^^ALBANY^NY^53000^US^^^1843
  |(608)123-4567<CR>
NK1|2|MILLER^GEORGE|FTH^Father^HL70063<CR>
MSH|^~\&|VALSYS|VALCLIN||NYSIIS|19990802091524||VXU^04|00000124|P|2.4||ER<CR>
PID|||66782^^^^SR^~23LK729^^^^PI|CALIFANO^MARIA|DISTEFANO^ANGELICA|19980413|F<CR>
PV1|R|||V04^19990723|<CR>
RXA|0|999|19990723|19990723|^^^90700^DTaP^CPT|0.5|||VALCLIN<CR>
RXA|0|999|19990723|19990723|^^^90707^MMR^CPT|0.5|||VALCLIN<CR>
MSH|^~\&|VALSYS|VALCLIN||NYSIIS|19990802091526||VXU^04|00000125|P|2.4||ER<CR>
PID|||927389^^^^SR^~92HG9257^^^^PI|FISHER^JOSEPH|LASOWSKI^MARY|19980528|M<CR>
PV1|R|||V04^19990729|<CR>
RXA|0|999|19990729|19990729|^^^90707^MMR^CPT|0.5|||VALCLIN|||AD19487|
```

```
19991212|ZZ^FLYBYNIGHT LABORATORIES^HL70227|||A<CR>
BTS|3<CR>
FTS|1<CR>
```

Note: When a patient is being introduced to NYSIIS, the VXU message must precede the ADT message, since NYSIIS must have at least one immunization for a patient before being added to the database. Sending ADT and VXU messages for the same patient is redundant, since the VXU message is capable of reporting all information that is also found in the ADT. In the example above, Valley Clinic sends a file of three HL7 messages to NYSIIS. Batch header/footer segments bracket the messages. The first message type is an ADT, which is used to send patient demographic data without including immunization information. This message type MUST follow a VXU message for the patient if the patient is new to the NYSIIS system.

Patient George M Miller Jr. is identified by Valley Clinic's Patient ID, 45LR999, in his PID segment. The message could have included George's NYSIIS ID number in field PID-3, but does not have to, if it is not recorded in Valley Clinic's system. George's mother's maiden name, birth date, sex, and address also serve to identify him. Some other optional fields are not present, including some fields from the full HL7 standard not defined in this document because they are not used by NYSIIS. Fields not present do not diminish the number of "|" delimiters, so later fields can be identified by ordinal position in the segment. Two NK1 segments give some information for George's mother and father, just the minimum required for his father, with address and telephone fields for his mother.

The next two PID segments in the second and third messages give a NYSIIS patient ID in field PID-3. This must have been transmitted earlier from NYSIIS to Valley Clinic's system. In this case it is legitimate to omit more of the optional PID fields, since NYSIIS must have at least the minimum required information for these patients even to create a record. However, if there is a possibility that Valley Clinic has new or changed information to send to NYSIIS, these fields should be present, and it does no harm to repeat fields even if they have been transmitted previously.

```
FHS|^~\&|NYSIIS|NYSIIS||VALCLIN|19990803200106||filename2.hl7||000023479|00009972<CR>
BHS|^~\&|NYSIIS|NYSIIS||VALCLIN|19990803200116|||00004321|00010223<CR>
MSH|^~\&|NYSIIS|NYSIIS||VALCLIN|19990803200117||ACK|00000456|P|2.4<CR>
MSA|AA|00000123<CR>
MSH|^~\&|NYSIIS|NYSIIS||VALCLIN|19990803200119||ACK|00000458|P|2.4<CR>
MSA|AE|00000125|INVALID MANUFACTURER CODE<CR>
ERR|RXA^152^17^1<CR>
BTS|2|<CR>
FTS|1<CR>
```

NYSIIS answers the file from the above example with a file of ACK messages. Valley Clinic's message 00000123 had the value AL in field MSH-15, asking for acknowledgements of all messages. The value AA in MSA-1 indicates that this message was processed without error. The next message, 00000124, uses the value ER to ask for acknowledgement only in case of errors, so this message is acknowledged implicitly by the absence of an ACK message for it. This example while legitimate is for purposes of illustration and most providers will probably prefer to follow the NYSIIS recommendation of error acknowledgements only. The last message, 00000125, did contain an error, and the ERR segment in its acknowledgement indicates the segment ID (RXA) of the segment, the line number (152) where it appears in the input file, the errant field (17) and the field component (1). The MSA segment contains the error message. Errors will be generated for missing required data, invalid data or any other deviance from the form and content of messages as specified in this document. If all three messages in the first file above had requested error acknowledgement only and none had any errors, then the answering file from NYSIIS would contain just the FSH, BHS, BTS, and FTS segments. All the messages would be implicitly acknowledged as successfully processed.

In the sample file exchange above, the outside system initiated the exchange with the file of ADT and VXU segments and NYSIIS responded with ACK segments. The format is identical when NYSIIS sends ADT and VXU segments out and the ACK responses are similar too. In the FHS, BHS, and MSH segments, the values of the fourth and sixth fields are reversed to show sender and receiver. NYSIIS always sends its own patient identifier in the required field PID-03 and includes the outside system's identifier in PID-03 if known. Outside systems are encouraged to store NYSIIS's patient ID, and use it in PID-03 when sending to NYSIIS. This provides a firm basis for patient identification makes processing easier for the NYSIIS system and avoids errors in storing patient information, such as creation of duplicate records when an insufficiently identified patient record cannot be matched with a record already in the NYSIIS database. Though NYSIIS makes a great effort to match patient records effectively, use of the NYSIIS patient ID is the best guarantee of clean and useful data.

22. Real-time Processing through PHINMS

“Real-time” processing refers to the ability to transmit an HL7 2.4 formatted VXQ^V01 Message (Query for Vaccination Record) and a VXU^V04 Message (Unsolicited Vaccination Update) and receive from NYSIIS the resulting HL7 2.4 Response Message in real time. A provider organization will query a registry to get information on a certain patient (i.e. send an HL7 2.4 VXQ^V01 message) and will receive an HL7 2.4 Message Response (i.e. VXR^V03, VXX^V02, ACK or QAK) to that query in real time

In order to have this capability, provider organizations need to perform the following:

1. Obtain or develop, install and configure a patient interface capable of transmitting an HL7 formatted Message file via the Electronic Business using eXtensible Markup Language (eXML) infrastructure to securely transmit public health information over the Internet to the Public Health Information Network Messaging System (PHINMS) Message Receiver.
The CDC provides, free of charge, their PHINMS client Message Sender for communication with their PHINMS Message Receiver. Alternatively, the provider may choose to develop their own eXML Message Sender to communicate with the PHINMS Message Receiver.
2. The provider organization will submit a text file containing HL7 2.4 formatted VXQ^V01 and VXU^V04 Messages (up to 1000 messages are accepted) to be delivered via their eXML-based patient Message Sender to the NYSIIS PHINMS Message Receiver. NYSIIS will process the Messages and send back via the PHINMS Message Receiver a file of HL7 2.4 formatted Response Messages, one per associated query or vaccination update request.
3. It is the responsibility of the provider organization to obtain or develop, install and configure an eXML patient Message Sender for sending the HL7 2.4 formatted Message Requests and receiving the resulting HL7 2.4 formatted Message Response file generated by NYSIIS.
4. The provider organization will need to obtain from NYSIIS a CPA (Collaboration Protocol Agreement) for access to the NYSIIS Real-time system.
5. The provider organization will need to obtain the NYSIIS SSL certificate for secure access. See Appendix C (Obtaining the NYSIIS SSL Certificate) for detailed instructions. Please note: your certificate must be renewed annually. You will need to repeat the procedure detailed in Appendix C on an annual basis.

****NYSIIS PROVIDES NEITHER INSTALLATION, CONFIGURATION NOR TECHNICAL SUPPORT FOR THE EBXML PATIENT MESSAGE SENDER.**

Full documentation and contact information for the PHINMS product may be found at the following link:

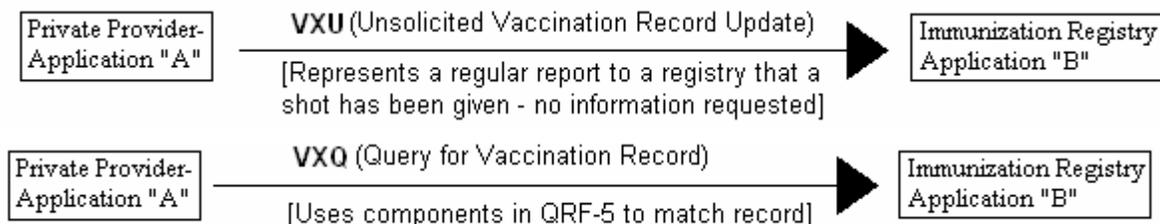
<http://www.cdc.gov/phin/>

Full documentation for the eXML specification may be found at the following link:

<http://www.ebxml.org/specs>

PHINMS is eXML version 2.0 compliant.

The following section outlines the various message types that are sent in real-time files.



Private Provider-Application "A"



Immunization Registry Application "B"

1. **VXR** (Response to Vaccination Query Returning the Vaccination record)
2. **VXX** (Response to Vaccination Query Returning Multiple PID Matches)
[Indicates several possible matches - No medical data returned]
3. **ACK** (General Acknowledgment)
[Receiving registry was able to receive the message. Can indicate errors]
4. **QCK** (Query General Acknowledgment - no matching records)
[Receiving registry was not able to match patient]

Real-time files that provider organizations send to the NYSIIS can contain any of the following message types:

22.1 VXU^V04

Unsolicited Vaccination Update

MSH	Message Header	
PID	Patient Identification	
[PD1]	Patient Additional Demographic	
[[NK1]]		Next of Kin
/ Associated Parties		
[PV1]	Patient Visit	
RXA	Pharmacy / Treatment Administration (at least ONE RXA is REQUIRED by NYSIIS)	
[RXR]	Pharmacy / Treatment Route (Only one RXR per RXA segment)	
[[OBX]]	Observation/Result	

22.2 VXQ^V01

Query for Vaccination Record

MSH	Message Header Segment	
QRD	Query Definition Segment	
QRF	Query Filter Segment (NYSIIS has made this segment REQUIRED)	

Real-time (response) files that the NYSIIS sends to provider organizations can contain any of the following message types:

22.3 VXR^V03

Response TO Vaccination Query Returning the Vaccination Record

MSH	Message Header Segment (One per message)	
MSA	Message Acknowledgment Segment (One per message)	
QRD	Query Definition Segment (One per message)	
QRF	Query Filter Segment (One per message—required by NYSIIS)	
PID	Patient Identification Segment (One per matching patient)	
[PD1]	Additional Demographics	
[[NK1]]	Next of Kin Segment (Optional, zero or more per matching patient)	
[PV1]		
[[
RXA	Pharmacy Administration	

[RXR]	Pharmacy Route
[{{OBX}}]	Observation/Result Contraindications or Reactions
}}	
[[OBX]]	Observation/Result Vaccines Due Next

22.4 VXX^V03

Response TO Vaccination Query (Returning Multiple PID Matches)

Returning Multiple PID Matches will occur if any number other than 1 is in the QRD-07 segment of the query being sent in as explained on page 28 explaining the QRD segment.

MSH	Message Header Segment (One per message)
MSA	Message Acknowledgment Segment (One per message)
QRD	Query Definition Segment (One per message)
QRF	Query Filter Segment (One per message—required by NYSIIS)
{	
PID	Patient Identification Segment (One per matching patient)
[[NK1]]	Next of Kin Segment (Optional, zero or more per matching patient)
}	

22.5 ACK

General Acknowledgment

MSH	Message Header Segment
MSA	Message Acknowledgment Segment
[ERR]	Error

22.6 QCK

Query General Acknowledgment

MSH	Message Header Segment
MSA	Message Acknowledgment Segment
[ERR]	Error
[QAK]	Query Acknowledgment Segment

Page 39 of this document outlines the rules/specifications needed to construct a HL7 message. These same rules must be applied for Real-time message processing. ****Note:** Batch Message Headers (i.e. FHS, BHS) and footers (i.e. FTS, BTS) are NOT required for Real-time processing.

The message segments below are needed to construct message types that are used by NYSIIS. Each segment is given a brief description excerpted from the HL7 standard. The tables define what fields make up each segment. Since NYSIIS does not use all the fields that HL7 defines, there are sometimes gaps in the ordinal sequence of fields. Following HL7 rules, the gaps do not diminish the number of field separators within the segment. For example, if the second and third fields in a segment are not present, their field separators remain in order to indicate that the next field present is the fourth: field1|||field4.

22.7 MSH

Message Header Segment

For VXU and VXQ message types, the MSH segment must be constructed according to normal HL7 format specifications (refer to Pg. 5 of this document). For Real-time processing, NYSIIS limits the number of MSH segments that can be processed in a single file. Files containing more than 1000 MSH segments will be rejected and an ACK message will be generated, informing the provider that 1000 is the maximum number of MSH segments that NYSIIS accepts for Real-time processing.

This is to minimize any impact on actual production performance of NYSIIS in normal usage.

22.8

22.9

22.10 VXU^V04

Unsolicited Vaccination Record Update

As stated earlier in this document, the VXU message is used for sending patient demographic and immunization specific data. This message type can be sent via Real-time. VXU segments should be constructed according to normal HL7 format specifications (refer to pages 5-9 of this document). A VXU message must be received in the HL7 2.4 format; NYSIIS does not support prior HL7 versions for Real-time processing. NYSIIS validates the version by reading the MSH-12 field. A VXU message must contain |2.4^^| in MSH-12.

Immunization deletions can be submitted for both batch HL7 2.4 and Real-time submissions. To indicate a deletion, the RXA-21 field mut must be populated with a value of "D". Below is an example of a RXA deletion segment. If the number of deletions received through batch exceeds 5% of the total number of immunizations or more than 50 immunizations are marked for deletion, NYSIIS will reject the file.

```
RXA|0|999|19860715|19860715|^90718^Td^CPT|0||05^^^^^|^208^^^^^^^^^^^^^^|D|
```

22.11 VXQ^V01

Query for Vaccination Record

When a health care provider (participating in an immunization registry) needs to obtain a complete patient vaccination record, a VXQ (query) is sent to the immunization registry for the definitive (last updated) immunization record. The three segments that make up a VXQ message are the MSH (message header), QRD (query definition) and QRF (query filter). For a VXQ message, the MSH-09 field must contain |VXQ^V01| and the segments must be in the following sequence order:

```
MSH|^~\&|NYSIISPH|NYSIISPH|NYSIISPH|NYSIISPH|200212091511||VXQ^V01|0000001|P^|2.4|||ER
QRD|19970522|R||000000001||25^RD|4211^KENNEDY^JOHN^FITZGERALD^JR|VXI|^VACCINE INFORMATION^HL700048|^S11S|
QRF|MA0000|||256946789~19900607~MA~MA99999999~88888888~KENNEDY^JACQUELINE^LEE~BOUVIER~898666725~KENN
EDY^JOHN^FITZGERALD~822546618|
```

The QRD and QRF segments are outlined in detail below.

22.12 QRD

Query Definition Segment

Used to define a query.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	26	TS	R			Query date/time
2	1	ID	R		0106	Query Format Code
3	1	ID	R		0091	Query Priority
4	10	ST	R			Query ID
5	1	ID	O		0107	Deferred response type
6	26	TS	O			Deferred response date/time
7	10	CQ	R		0126	Quantity limited request
8	60	XCN	R	Y		Who subject filter
9	60	CE	R	Y	0048	What subject filter
10	60	CE	R	Y		What department data code
11	20	CM	O	Y		What data code value qualifier
12	1	ID	O		0108	Query results level

Field Notes:

QRD-01 Date the query was generated by the application program. NYSIIS requires this field and verifies that a valid date is

- received. The minimum format of YYYYMMDD is required. A null/invalid value results in message rejection.
- QRD-02 Query/response format code. NYSIIS requires this field and only accepts a value of “R”. A null/invalid value results in message rejection.
- QRD-03 Time frame in which the response is expected. NYSIIS requires this field and only accepts a value of “T”. A null/invalid value results in message rejection.
- QRD-04 Unique identifier for the query assigned by the querying application. NYSIIS requires this field and null/invalid values result in message rejection. This field is returned intact by NYSIIS in a response (VXR or VXX).
- QRD-05 Used to indicate a deferred response. This is an optional field. NYSIIS does not support a deferred response.
- QRD-06 Used to indicate the date/time of the deferred response. This is an optional field. NYSIIS does not support a deferred response.
- QRD-07 Maximum length of the response that can be accepted by the requesting system. NYSIIS requires this field and only accepts a value of “RD” in the 2nd component. The 1st component is a numerical value. A null/invalid value in either sub-component results in message rejection. NYSIIS will interpret the units as the maximum number of client MATCHES to be returned via a VXX response message.

*Note: NYSIIS will return a maximum of 10 records per query message submitted. If a value of 0 (zero) is received (i.e. |0^RD|) then NYSIIS will return the maximum allowable number of patients found to be matching the NYSIIS.

- QRD-08 Identifies the subject of the query or whom the inquiry is about. The 1st component is optional. It is used to identify the NYSIIS ID for the patient, if known. The 2nd component is required by NYSIIS. If the first or last name OR both names are missing (regardless if there are repeating full names after the first) it results in message rejection. NYSIIS supports repetition of this field.

Note: If the 1st component is used, NYSIIS will find the patient in the registry with the matching internal ID. If a match is found, NYSIIS will then compare the first and last name along with the birth date of both the matched patient and the patient in the QRD. If the name and birth date is exact, the patient is returned in a VXR. If a patient isn’t found using the internal ID, NYSIIS will ignore that value and find patients that match the remaining information.

- QRD-09 Describes the kind of information required to satisfy the request. NYSIIS requires this field and a value of “VXI” must populate the 1st component. NYSIIS supports repetition of this field. Null/invalid values result in message rejection if the field does not repeat. If the field repeats there must be at least one value of “VXI” to be valid.
- QRD-10 Identifies the “what” department data code. NYSIIS requires this field and supports repetition of it. Null/invalid values will result in message rejection.
- QRD-11 Further refines the inquiry by data code qualifiers by providing a window or range. This is an optional and repeatable field.
- QRD-12 Used to control level of detail in results. This field is optional and will be populated by NYSIIS with the total count of PID matches found in NYSIIS when Query results in a VXX Response Message.

Example:

QRD|19970522|R||0000001|||25^RD|4211^KENNEDY^JOHN^FITZGERALD^JR|VXI|^VACCINEINFORMATION^HL700048|^S11S|20

QRF – Query Filter Segment – REQUIRED by NYSIIS

Used with the QRD segment to further refine the content of a query.

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	20	ST	R	Y		Where subject filter
2	26	TS	O			When data start date/time
3	26	TS	O			When data end date/time
4	60	ST	O	Y		What user qualifier
5	60	ST	O	Y		Other query subject filter
6	12	ID	O	Y	0156	Which data/time qualifier
7	12	ID	O	Y	0157	Which date/time status qualifier
8	12	ID	O	Y	0158	Date/time selection qualifier
9	60	TQ	O	Y		When quantity/timing qualifier

Field Notes:

-
- QRF-01 Identifies the department, system or subsystem to which the query pertains. NYSIIS requires this field. A null/invalid value results in message rejection.
 - QRF-02 Data representing dates and times (registries do not value this component). This is an optional field.
 - QRF-03 Data representing dates and times (registries do not value this component). This is an optional field.
 - QRF-04 An identifier to further define characteristics of the data of interest. This is an optional field.
 - QRF-05 This field is used by registries to transmit up to ten separate search “keys”. NYSIIS requires this field and does NOT support repetition. The 2nd component (patient DOB) is minimally required by NYSIIS. A null/invalid format results in message rejection. Format is YYYYMMDD.

Example:

QRF|MA0000|||256946789~1990607~MA~MA9999999~88888888~KENNEDY^JACQUELINE^LEE~BOUVIER~898666725~KENNEDY^JOHN^FITZGERALD~822546618|

VXR^V03 – Response TO Vaccination Query (Returning the Vaccination Record)

When a patient has been uniquely identified (there is only one “match” to the query), the response to the query is a VXR^V03 message that is generated and sent back to the querying organization.

22.13 VXR segment detail

Several segments make up the VXR message type. The following segments have been outlined previously in this document and will follow the same formatting for the VXR message type.

MSH, MSA, QRD, QRF, PID, PD1, NK1, PV1, RXA, RXR, OBX (Observation/Result Contraindications or Reactions)

In addition to supplying the querying organization with patient specific demographic and immunization data (contained in the above segments), the VXR message also specifies “Observation/Result Vaccines Due Next” information. This information is supplied by generating a minimum of 3 OBX segments per 1 recommendation. NYSIIS will report the Vaccination Schedule in the OBX segments through the specification of the LOINC code 30979-9 (Vaccines Due Next) and its sub-components in OBX-03. NYSIIS requires specification of OBX-05 when OBX-03 is specified and valid. Further, NYSIIS has superimposed a CE data type on the OBX-05 field. The corresponding observation values will be specified in OBX-05. Combinations are as follows:

OBX-03

30979-9

30979-9&30980-7

30979-9&30981-5

OBX-05

HL70292 (Codes for vaccines administered CVX)

Date Vaccine Due (NYSIIS provides date recommended)

Earliest date to give (NYSIIS provides)

Below you’ll find an example of what a recommendation might look like in a VXR message response (see **bolded** OBX’s below).

```
MSH|^~\&||NYSIIS||QUERYING ORG|20040101101||VXR^V04|001|P^|2.4|||ER
MSA|AA|001|
QRD|20040120|R||001|||1^RD|01^LAST NAME^FIRST^MIDDLE^JR|VXI^VACCINE INFORMATION^HL700048|^S11S||1|
QRF|MA000|||~19900607~WI~STATEBIR#~MA#~KENNEDY^JACQUELINE^LEE~BOUVIER~898666725~KENNEDY^JOHN^FITZ
GERALD~822546618~587421369~19630119~MN~MN99999999~88888888~DOE^JANE^ROSE~SMITH~999999999~SMITH^JOHN^I~
999999999|
PID|||1912484^^^^PI^~1234567^^^^SR^||Trolly^Eliot^J^Sr^|^^^^^|19090509|M||^^^^^|12017 N ROCK INN
RD^^ALBANY^NY^54412^USA^^^^|(715)384-8649^^^^^^^^^|^^^^^|^^^^^|
PD1|^^^^^|Y|||A||
NK1|1|Hamus^Eugene^J^Sr^|SEL^SELF^HL70063|12017 N ROCK INN RD^^ALBANY^NY^54412^USA^^^^|(715)384-8649^^^^^^^^^|
PV1|I|^^^^^|V00^20031208|
RXA|0|999|20021001|20021001|^90721^Diphtheria, Tetanus, Acellular Pertussis + HIB^CPT|0|^Health Assessment & Promotion
(HAP)^Y|^^^^|HL70227|200210141430
RXR|IM^^^^^|LA^^^^^
OBX|1|CE|30979-9^Vaccine due next^LN|1|20^DTAP^CVX^^^|
OBX|2|TS|30979-9&30980-7^Date vaccine due^LN|1|20040130^^^^^|
OBX|3|NM|30979-9&30981-5^Earliest date to give^LN|1|20040111^^^^^|
```

22.14 VXX^V03

Response TO Vaccination Query (Returning Multiple PID Matches)

When a health care provider participating in an immunization registry needs to obtain a complete patient vaccination record, a query (VXQ message) is sent to the immunization registry for the definitive (last updated) immunization record. When a query results in multiple patient matches, the VXX message response is generated. The VXX contains multiple patients and their demographic information but does not contain their vaccination information. The number of matches that NYSIIS generates will depend on what is specified in the first component of the incoming VXQ (QRD-07 Quantity Limited request field). NYSIIS will interpret the quantity specified in this field as the maximum number of client matches that the requester desires.

For example:

If the query results in 100 matches and the original quantity specified in QRD-07 was 10, then NYSIIS generates 10 PID (and if applicable, associated NK1) segments in the VXX response message.

22.15 ACK

Acknowledgment Messages (with Errors)

ACK messages are generated for message rejections and for informational error messages. Three conditions that result in message rejection are:

1. Sequencing (i.e. a PID segment must follow an MSH segment).
2. Segment required fields contain no data.
3. Segment required fields contain invalid data.

An ACK is also generated when an informational error message has occurred, but it has not resulted in message rejection (i.e. NK1 segment contains no last name). In this case, the segment is ignored but the remainder of the message is processed. An ACK message is generated with a message informing the sender of the problem. The error message in the text does NOT include "Message Rejected". The ACK contains the MSH, MSA and ERR segments.

The MSH segment is generated according to normal HL7 processing guidelines. The MSA and ERR segments are detailed below:

22.16 MSA

Message Acknowledgment Segment

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	2	ID	R		0008	Acknowledgment code
2	20	ST	R			Message control ID
3	80	ST	O			Text message
4	15	NM	O			Expected sequence number
5	1	ID	B		0102	Delayed acknowledgment type
9	100	CE	O			Error condition

Field Notes:

MSA-01 The acknowledgment code indicates whether the message was accepted, rejected, error, etc... This is a required field. NYSIIS generates an "AE" for messages resulting in informational or rejection errors. An "AA" is generated for a simple acknowledgment acceptance.

MSA-02 The message control ID is the unique ID that is sent by the sending system. This is a required field. It allows the sending system to associate each message with a response. In a response, this will be the same as the control ID that was sent in MSH-10 by the sending system.

MSA-03 This optional field further describes an error condition. When a message has been rejected, NYSIIS generates "Message Rejection" as the first portion of the text describing the error message. Informational messages will not contain "Message Rejection".

MSA-04 This optional numeric field is used in the sequence number protocol. NYSIIS does not generate this field.

MSA-05 Delayed Acknowledgement type. NYSIIS does not generate this field.

MSA-06 Error Condition. NYSIIS does not generate this field.

22.17 ERR

Error Segment

The Error segment (ERR) is used to add error comments to acknowledgment messages. If the message was rejected for functional reasons, this segment will locate the error and describe it using locally established codes. Field components include: <segment ID (ST)>^<sequence (NM)>^<field position (NM)>^<code identifying error (CE)>

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	80	CM	R		0357	Error code and location

Example:

ACK

```
MSH|^~\&||ZZ000||QUERYING ORG|20040101101||VXQ^V01|001|P^|2.4||ER
MSA|AE|001|Invalid relationship code. Defaulting to Guardian|3||102^Invalid data value^HL70357^^^
ERR|NK1^16^3^0
```

22.18 QCK

Query General Acknowledgment

A QCK message is generated when NYSIIS has processed the query message, but no match was found to the query parameters in the database. NYSIIS does NOT generate this response message for anything other than no match found (for successful VXQ processing). Remember, error messages are reported through the use of the ACK response message; therefore, the optional [ERR] segment will never be generated for the QCK response message.

The MSH segment is generated according to normal HL7 processing guidelines. The MSA and QAK segments are detailed below:

22.19 MSA

Message Acknowledgment Segment

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	2	ID	R		0008	Acknowledgment code
2	20	ST	R			Message control ID
3	80	ST	O			Text message
4	15	NM	O			Expected sequence number
5	1	ID	B		0102	Delayed acknowledgment type
9	100	CE	O			Error condition

Field Notes:

- MSA-01 The acknowledgment code indicates whether the message was accepted, rejected, error, etc...This is a required field. NYSIIS generates an AA for this field if no match is found in NYSIIS. An AR is generated if a match is found, but the "Allow sharing of data" indicator is No.
- MSA-02 The message control ID is the unique ID that is sent by the sending system. This is a required field. It allows the sending system to associate each message with a response. In a response, this will be the same as the control ID that was sent in MSH-10 by the sending system.
- MSA-03 This optional field further describes an error condition. When a message has been rejected, NYSIIS generates "Message Rejection" as the first portion of the text describing the error message. Informational messages will not contain "Message Rejection".
- MSA-04 This optional numeric field is used in the sequence number protocol. NYSIIS does not generate this field.
- MSA-05 Delayed Acknowledgement type. NYSIIS does not generate this field.
- MSA-06 Error Condition. Refer to HL7 table 0357 for possible values.

22.20 QAK

Query Acknowledgment Segment

SEQ	LEN	DT	R/O	RP/#	TBL#	ELEMENT NAME
1	32	ST			00696	Query Tag
2	2	ID	O		00708	Query response status

Field Notes:

- QAK-01 This field is valued by the initiating system to identify the query and can be used to match response messages to the originating query. If it is valued, the responding system is required to echo it back as the first field in the QAK. NYSIIS uses the value specified in the QRD-04 (of the VXQ) for the QAK-01 query tag value.
- QAK-02 This field allows the responding system to return a precise response status. Refer to HL7 table 0208 for values. NYSIIS only generates NF (no data found, no errors) for this field.

Example:

QCK

MSH|^~\&||ZZ000||QUERYING ORG|20040101101||VXX^V02|007|P^|2.4||ER

MSA|AR|007|Patient has an Allow sharing of immunization data indicator = No||500^Record Not Released^HL70357^^^|

QAK|01|NF|

This concludes real-time processing.

23. Appendix A -- HL7 Data Types

The following descriptions of HL7 data types are excerpted or adapted from the HL7 standard. See the field notes within each segment definition above on how to use data types in particular fields. Some data types have complex definitions much of which do not apply to NYSIIS usage, and for these we omit much of the HL7 definition of the data type, referring instead to the field notes in the segment definitions.

23.1.1

23.2 CE

Coded Element

Components: <identifier (ST)> ^ <text (ST)> ^ <name of coding system (ST)> ^ <alternate identifier (ST)> ^ <alternate text (ST)> ^ <name of alternate coding system (ST)>

Example:

```
|F-11380^CREATININE^I9^2148-5^CREATININE^LN|
```

This data type transmits codes and the text associated with the code. To allow all six components of a CE data type to be valued, the maximum length of this data type must be at least 60.

Identifier (ST)

Sequence of characters (the code) that uniquely identifies the item being referenced by the <text>. Different coding schemes will have different elements here.

Text (ST)

Name or description of the item in question. E.g., myocardial infarction or X-ray impression. Its data type is string (ST).

Name of coding system (ST)

Each coding system is assigned a unique identifier. This component will serve to identify the coding scheme being used in the identifier component. The combination of the **identifier** and **name of coding system** components will be a unique code for a data item. Each system has a unique identifier. ASTM E1238-94, Diagnostic, procedure, observation, drug ID, and health outcomes coding systems are identified in the tables in Section 7.1.4 [of the full HL7 standard], "Coding schemes." Others may be added as needed. When an HL7 table is used for a CE data type, the *name of coding system* component is defined as *HL7nnnn* where *nnnn* is the HL7 table number.

Alternate components

These three components are defined analogously to the above for the alternate or local coding system. If the Alternate Text component is absent, and the Alternate Identifier is present, the Alternate Text will be taken to be the same as the Text component. If the Alternate Coding System component is absent, it will be taken to mean the locally defined system.

Note: The presence of two sets of equivalent codes in this data type is semantically different from a repetition of a CE-type field. With repetition, several distinct codes (with distinct meanings) may be transmitted.

Note: For HL7-defined tables which have not been adopted from some existing standard, the third component, "name of coding system," is constructed by appending the table number to the string "HL7." Thus, the field *RXR-2-site*, is a CE data type which refers to HL7 table number 0163. Its "name of coding system" component is "HL70163".

23.3 CM

Composite

Components: <point of care (IS)> ^ <room (IS)> ^ <bed (IS)> ^ <facility (HD)> ^ <location status (IS)> ^ <patient location type (IS)> ^ <building (IS)> ^ <floor (IS)> ^ <street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^ <country (ID)> ^ <address type (ID)> ^ <other geographic designation (ST)>

Subcomponents of facility (HD): <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)>

Example:

```
|^^^Valley Clinic|
```

Definition: The first component contains the inpatient or outpatient location at which the drug or treatment was administered (if applicable). The default (null) value is the current census location for the patient. Site-specific table. The first eight components have the same form as the first eight components of *PVI-3-assigned patient location*. The final eight components replace the ninth component of *PVI-3-assigned patient location* and represent the full address specification.

23.4 CX

Extended Composite ID with Check Digit

NYSIIS uses this data type only for client identification in Patient Identification (PID) segments. See the field notes for values used for NYSIIS.

23.5 HD

Hierarchic Designator

NYSIIS uses this data type only to identify sender and receiver in Message Header (MSH) segments. See the field notes for values used for NYSIIS.

23.6 ID

Coded Value for HL7 Defined Tables

The value of such a field follows the formatting rules for a ST field except that it is drawn from a table of legal values. There shall be an HL7 table number associated with ID data types. Examples of ID fields include religion and sex. This data type should be used only for HL7 tables. The reverse is not true, since in some circumstances it is more appropriate to use the CE data type for HL7 tables.

23.6.1

23.7 IS

Coded Value for User Defined Tables

The value of such a field follows the formatting rules for a ST field except that it is drawn from a site-defined (or user-defined) table of legal values. There shall be an HL7 table number associated with IS data types. An example of an IS field is the *Event reason code* defined in Section 3.3.1.4 [of the full HL7 standard], “Event reason code.” This data type should be used only for user-defined tables. The reverse is not true, since in some circumstances, it is more appropriate to use the CE data type for user-defined tables.

23.8 NM

Numeric

A number represented as a series of ASCII numeric characters consisting of an optional leading sign (+ or -), the digits and an optional decimal point. In the absence of a sign, the number is assumed to be positive. If there is no decimal point the number is assumed to be an integer. Examples:

|999|

|-123.792|

Leading zeros, or trailing zeros after a decimal point, are not significant. For example, the following two values with different representations, “01.20” and “1.2”, are identical. Except for the optional leading sign (+ or -) and the optional decimal point (.), no non-numeric ASCII characters are allowed. Thus, the value <12 should be encoded as a structured numeric (SN) (preferred) or as a string (ST) (allowed, but not preferred) data type.

23.9 SI

Sequence ID

A non-negative integer in the form of a NM field. See the field notes in segments using this data type for specifications of SI fields.

23.10 ST

String Data

String data is left justified with trailing blanks optional. Any displayable (printable) ACSII characters (hexadecimal values between 20 and 7E, inclusive, or ASCII decimal values between 32 and 126), except the defined delimiter characters.

Example:

```
|almost any data at all|
```

To include any HL7 delimiter character (except the segment terminator) within a string data field, use the appropriate HL7 escape sequence.

Usage note: the ST data type is intended for short strings (e.g., less than 200 characters). For longer strings the TX or FT data types should be used.

23.11 TS

Time Stamp

Format: YYYY[MM[DD[HHMM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ]^<degree of precision>

Contains the exact time of an event, including the date and time. The date portion of a time stamp follows the rules of a date field and the time portion follows the rules of a time field. The specific data representations used in the HL7 encoding rules are compatible with ISO 8824-1987(E).

In prior versions of HL7, an optional second component indicates the degree of precision of the time stamp (Y = year, L = month, D = day, H = hour, M = minute, S = second). This optional second component is retained only for purposes of backward compatibility.

By site-specific agreement, YYYYMMDD[HHMM[SS[.S[S[S[S]]]]]]][+/-ZZZZ]^<degree of precision> may be used where backward compatibility must be maintained.

In the current and future versions of HL7, the precision is indicated by limiting the number of digits used, unless the optional second component is present. Thus, YYYY is used to specify a precision of “year,” YYYYMM specifies a precision of “month,” YYYYMMDD specifies a precision of “day,” YYYYMMDDHH is used to specify a precision of “hour,” YYYYMMDDHHMM is used to specify a precision of “minute,” YYYYMMDDHHMMSS is used to specify a precision of seconds, and YYYYMMDDHHMMSS.SSSS is used to specify a precision of ten thousandths of a second. In each of these cases, the time zone is an optional component. Maximum length of the time stamp is 26. Examples:

```
|19760704010159-0600| 1:01:59 on July 4, 1976 in the Eastern
Standard Time zone.
|19760704010159-0500| 1:01:59 on July 4, 1976 in the Eastern
Daylight Saving Time zone.
|198807050000|      Midnight of the night extending from July 4 to
July 5, 1988 in the local time zone of the sender.
|19880705|          Same as prior example, but precision extends
only to the day. Could be used for a
birthdate, if the time of birth is unknown.
```

The HL7 Standard strongly recommends that all systems routinely send the time zone offset but does not require it. All HL7 systems are required to accept the time zone offset, but its implementation is application specific. For many applications the time of interest is the local time of the sender. For example, an application in the Eastern Standard Time zone receiving notification of an admission that takes place at 11:00 PM in San Francisco on December 11 would prefer to treat the admission as having occurred on December 11 rather than advancing the date to December 12.

One exception to this rule would be a clinical system that processed patient data collected in a clinic and a nearby hospital that happens to be in a different time zone. Such applications may choose to convert the data to a common representation. Similar concerns apply to the transitions to and from daylight saving time. HL7 supports such requirements by requiring that the time zone information be present when the information is sent. It does not, however, specify which of the treatments discussed here will be applied by the receiving system.

23.12 XAD

Address

Components: <street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code(ST)> ^ <country (ID)> ^ < address type (ID)> ^ <other geographic designation (ST)>^ <county/parish code (IS)> ^ <census tract (IS)> ^ <address representation code (ID)>

Example:

|1234 Easy St.^Ste. 123^San Francisco^CA^95123^USA^B^^SF^^|

Street address (ST)

The street or mailing address of a person or institution.

Other designation (ST)

Second line of address. In general, it qualifies address. Examples: Suite 555 or Fourth Floor.

City (ST)

State or province (ST)

State or province should be represented by the official postal service codes for that country.

Zip or postal code (ST)

Zip or postal codes should be represented by the official codes for that country. In the US, the zip code takes the form 99999[-9999], while the Canadian postal code takes the form A9A-9A9.

Country (ID)

Defines the country of the address. See Table 0212.

Address type (ID)

Address type is optional.

Other geographic designation (ST)

Other geographic designation includes country, bioregion, SMSA, etc.

County code (IS)

A code that represents the county in which the specified address resides. Refer to *user-defined table 0289 - County*. When this component is used to represent the county, component 8 “other geographic designation” should not duplicate it (i.e., the use of “other geographic designation” to represent the county is allowed only for the purpose of backward compatibility, and should be discouraged in this and future versions of HL7).

Census tract (IS)

An optional code that represents the census track in which the specified address resides. NYSIIS does not store this value.

23.13 XCN

Extended Composite ID Number and Name for Persons

NYSIIS uses this data type only to identify Provider Organizations that administer immunizations. See the field notes for segment RXA.

23.14 XPN

Extended Person Name

Components: <family name (ST)> & <last name prefix (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (ST)> ^ <name type code (ID) > ^ <name representation code (ID)>

Example:

|Smith&St^John^J^III^DR^PHD^L|

Family name (ST)

Last Name Prefix (ST)

Given name (ST)
Middle initial or name (ST)

Suffix (ST)

Used to specify a name suffix (e.g., Jr. or III).

Prefix (ST)

Used to specify a name prefix (e.g., Dr.).

Degree (ST)

Used to specify an educational degree (e.g., MD).

Name type code (ID)

A code that represents the type of name. Refer to *HL7 table 0200 - Name type* for valid values.

Table 0200 - Name type

Value	Description
A	Alias Name
L	Legal Name
D	Display Name
M	Maiden Name
C	Adopted Name

Note: The legal name is the same as the current married name.

Name representation code (ID)

This component can be used when names are represented in ideographic or non-alphabetic systems. NYSIIS ignores this component.

23.15 XTN

Extended Telecommunication Number

Components: [NNN] [(999)]999-9999 [X999999] [B999999] [C any text] ^ <telecommunication use code (ID)> ^ <telecommunication equipment type (ID)> ^ <email address (ST)> ^ <country code (NM)> ^ <area/city code (NM)> ^ <phone number (NM)> ^ <extension (NM)> ^ <any text (ST)>

Example:

(415)555-3210^ORN^FX^

[(999)] 999-9999 [X999999] [C any text]

Defined as the TN data type, except that the length of the country access code has been increased to three.

Telecommunication use code (ID)

A code that represents a specific use of a telecommunication number. Refer to *HL7 table 0201 - Telecommunication use code* for valid values.

Table 0201 - Telecommunication use code

Value	Description
PRN	Primary Residence Number
ORN	Other Residence Number
WPN	Work Number
VHN	Vacation Home Number
ASN	Answering Service Number
EMR	Emergency Number
NET	Network (email) Address
BPN	Beeper Number

23.15.1.1

Telecommunication equipment type (ID)

A code that represents the type of telecommunication equipment. Refer to *HL7 table 0202 - Telecommunication equipment type* for valid values. Table 0202 - Telecommunication equipment type

Value	Description
PH	Telephone
FX	Fax
MD	Modem
CP	Cellular Phone
BP	Beeper
Internet	Internet Address: Use Only If Telecommunication Use Code Is NET
X.400	X.400 email address: Use Only If Telecommunication Use Code Is NET

Email address (ST)

Country code (NM)

Area/city code (NM)

Phone number (NM)

Extension (NM)

Any text (ST)

24. Appendix B -- HL7 Tables

The following tables give valid values for fields in the segments defined above, in the cases where the field definitions reference an HL7 table number. The tables are considered to be part of the HL7 standard, but those tables designated as type User have values determined by NYSIIS

Type	Table	Name	Value	Description
HL7	0001	24.1 Sex		
	0001		F	Female
	0001		M	Male
	0001		O	Other
	0001		U	Unknown
HL7	0003	24.2 Event Type		
	0003		A31	ADT/ACK - Update patient information
	0003		V04	VXU - Unsolicited vaccination record update
HL7	0004	24.3 Patient class		
	0004		E	Emergency
	0004		I	Inpatient
	0004		O	Outpatient
	0004		P	Preadmit
	0004		R	Recurring
	0004		B	Obstetrics
HL7	0005	24.4 Race		
	0005		1002-5	American Indian or Alaska Native
	0005		2028-9	Asian
	0005		2076-8	Native Hawaiian or Other Pacific Islander
	0005		2054-5	Black or African-American
	0005		2106-3	White
	0005		2135-2	Hispanic or Latino
	0005		2186-5	Not Hispanic or Latino
	0005		2131-1	Other Race
	0005		Null	Unknown
HL7	0008	24.5 Acknowledgment Code		
	0008		AA	Application Accept
	0008		AE	Application Error
	0008		AR	Application Reject
User	0063	24.6 Relationship		
	0063		ASC	Associate
	0063		BRO	Brother
	0063		CGV	Care giver
	0063		CHD	Child
	0063		DEP	Handicapped dependent
	0063		DOM	Life partner
	0063		EMC	Emergency contact
	0063		EME	Employee
	0063		EMR	Employer
	0063		EXF	Extended family
	0063		FCH	Foster Child
	0063		FND	Friend
	0063		FTH	Father
	0063		GCH	Grandchild
	0063		GRD	Guardian
	0063		GRP	Grandparent
	0063		MGR	Manager
	0063		MTH	Mother
	0063		NCH	Natural child
	0063		NON	None
	0063		OAD	Other adult

Type	Table	Name	Value	Description
	0063		OTH	Other
	0063		OWN	Owner
	0063		PAR	Parent
	0063		SCH	Stepchild
	0063		SEL	Self
	0063		SIB	Sibling
	0063		SIS	Sister
	0063		SPO	Spouse
	0063		TRA	Trainer
	0063		UNK	Unknown
	0063		WRD	Ward of court
HL7	0064	24.7 Financial class		
	0064	V00	VFC Eligibility Unknown	VFC eligibility not determined/unknown
	0064	V01	Not VFC Eligible	Not VFC Eligible
	0064	V02	Medicaid/Medicare Managed Care	VFC Eligible – Medicaid/Medicare Managed Care
	0064	V03	Uninsured	VFC eligible – Uninsured
	0064	V04	American Indian/Alaskan Native	VFC eligible – American Indian/Alaskan Native
	0064	V05	Underinsured	VFC Eligible – Underinsured
	0064	CH00	Child Health Plus B	S-Chip Coverage Not VFC eligible.
HL7	0076	24.8 Message Type		
	0076		ACK	General acknowledgment message
	0076		ADR	ADT response
	0076		ADT	ADT message
	0076		QCK	Query general acknowledgment
	0076		VXQ	Query for vaccination record
	0076		VXX	Vaccination query response with multiple PID matches
	0076		VXR	Vaccination query record response
	0076		VXU	Unsolicited vaccination record update
	0076		ORU	Unsolicited observation results
HL7	0085	24.9 Observation result status codes		
	0085		O	Order detail description only
HL7	0103	24.10 Processing ID		
	0103		P	Production
HL7	0104	24.11 Version ID		
	0104		2.3.1	Release 2.3.1 1999
	0104		2.4	Release 2.4 2000
HL7	0136	24.12 Yes/No Indicator		
	0136		Y	Yes
	0136		N	No
HL7	0155	24.13 Accept/Application Acknowledgment Conditions		
	0155		ER	Error/reject conditions only
HL7	0162	24.14 Route of Administration		
	0162		ID	Intradermal
	0162		IM	Intramuscular
	0162		IN	Intranasal

Type	Table	Name	Value	Description
	0162		IV	Intravenous
	0162		PO	Oral
	0162		SC	Subcutaneous
	0162		TD	Transdermal
	0162		MP	Multiple Puncture (Small Pox)
HL7	0163	24.15 Administrative Site		
	0163		LT	Left Thigh
	0163		LA	Left Arm
	0163		LD	Left Deltoid
	0163		LG	Left Gluteus Medius
	0163		LVL	Left Vastus Lateralis
	0163		LLFA	Left Lower Forearm
	0163		RA	Right Arm
	0163		RT	Right Thigh
	0163		RVL	Right Vastus Lateralis
	0163		RG	Right Gluteus Medius
	0163		RD	Right Deltoid
	0163		RLFA	Right Lower Forearm
HL7	0189	24.16 Ethnic Group		
	0189		2135-2	Hispanic
	0189		2186-5	Non-Hispanic
	0189		Null	Unknown
HL7	0203	24.17 Identifier Type		
	0203		BR	Birth Registry Number
	0203		MA	Medicaid Number
	0203		MC	Medicare Number
	0203		MR	Medical Record Number
	0203		PI	Patient Internal Identifier
	0203		PN	Person Number
	0203		PRN	Provider Number
	0203		PT	Patient External Identifier
	0203		RRI	Regional Registry ID
	0203		SR	State Registry Identifier
	0203		SS	Social Security Number
User	0212	24.18 Nationality		
	0212		CA	Canada
	0212		US	United States of America
User	0215	24.19 Publicity Code		
	0215		01	No reminder/recall
	0215		02	Yes reminder/recall – any method
HL7	0227	24.20 Manufacturers of vaccines (code = MVX)		
	0227		AB	Abbott
	0227		AD	Adams
	0227		ALP	Alpha
	0227		AR	Armour (Inactive – use ZLB)
	0227		AVB	Aventis Behring (Inactive use ZLB)
	0227		AVI	Aviron
	0227		BA	Baxter (Inactive - use BAH)
	0227		BAH	Baxter Health Care
	0227		BAY	Bayer

Type	Table	Name	Value	Description
	0227		BP	Berna (Inactive – use BPC)
	0227		BPC	Berna Products Corporation
	0227		CEN	Centeon L.L.C. (Inactive – use ZLB)
	0227		CHI	Chiron Corporation
	0227		CMP	Celltech Medeva Pahn (Inactive – use NOV)
	0227		CNJ	Cangene Corporation
	0227		CON	Connaught (Inactive – use PMC)
	0227		DYN	DynPort Vaccine Company, LLC
	0227		EVN	Evans (Inactive – use NOV)
	0227		GRE	Greer
	0227		IAG	Immuno International AG (Inactive – use BAH)
	0227		IM	Merieux (Inactive – Use PMC)
	0227		IUS	Immuno-US
	0227		JPN	The Research foundation for Microbial Diseases of Osaka U.
	0227		KGC	Korea Green Cross
	0227		LED	Lederle (Inactive – use WAL)
	0227		MA	Massachusetts Public Health (Inactive -Use MBL)
	0227		MBL	Massachusetts Biologic Laboratories
	0227		MED	MedImmune
	0227		MIL	Miles (Inactive – use BAY)
	0227		MIP	BioPort
	0227		MSD	Merck
	0227		NAB	North American Biologicals, Inc.
	0027		NAV	North American Vaccine (Inactive – use BAH)
	0227		NYB	New York Blood Center
	0227		NOV	Novartis
	0227		NVX	Novavax, Inc
	0227		OTC	Organon Teknika
	0227		ORT	Ortho
	0227		PD	Parkdale Pharmaceuticals (formerly Parke Davis)
	0227		PMC	Aventis Pasteur Inc. (formerly Pasteur Merieux Connaught)
	0227		PRX	Praxis Biologics (Inactive – use WAL)
	0227		PWJ	Powderject Pharmaceutical
	0227		SCL	Sclavo
	0227		SOL	Solvay Pharmaceuticals
	0227		SKB	GlaxoSmithKline
	0227		SI	Swiss Serum and Vaccine Inst. (Inactive – use BPC)
	0227		TAL	Talecris Biotherapeutics (includes Bayer Biologicals)
	0227		USA	United States Army Medical Research
	0227		VXG	VaxGen
	0227		WA	Wyeth-Ayerst (Inactive – use WAL)
	0227		WAL	Wyeth-Ayerst
	0227		ZLB	ZLB Behring (includes Aventis Behring and Armour Pharmaceutical Co)
	0227		OTH	Other
	0227		UNK	Unknown manufacturer
User	0289	24.21 County (New York only)		
	0289		NY001	Albany
	0289		NY003	Allegany
	0289		NY005	Bronx
	0289		NY007	Broome
	0289		NY009	Cattaraugus
	0289		NY011	Cayuga

Type	Table	Name	Value	Description
	0289			NY013 Chautauqua
	0289			NY015 Chemung
	0289			NY017 Chenango
	0289			NY019 Clinton
	0289			NY021 Columbia
	0289			NY023 Cortland
	0289			NY025 Delaware
	0289			NY027 Dutchess
	0289			NY029 Erie
	0289			NY031 Essex
	0289			NY033 Franklin
	0289			NY035 Fulton
	0289			NY037 Genesee
	0289			NY039 Greene
	0289			NY041 Hamilton
	0289			NY043 Herkimer
	0289			NY045 Jefferson
	0289			NY047 Kings
	0289			NY049 Lewis
	0289			NY051 Livingston
	0289			NY053 Madison
	0289			NY055 Monroe
	0289			NY057 Montgomery
	0289			NY059 Nassau
	0289			NY061 New York
	0289			NY063 Niagara
	0289			NY065 Oneida
	0289			NY067 Onondaga
	0289			NY069 Ontario
	0289			NY071 Orange
	0289			NY073 Orleans
	0289			NY075 Oswego
	0289			NY077 Otsego
	0289			NY079 Putnam
	0289			NY081 Queens
	0289			NY083 Rensselaer
	0289			NY085 Richmond
	0289			NY087 Rockland
	0289			NY091 Saratoga
	0289			NY093 Schenectady
	0289			NY095 Schoharie
	0289			NY097 Schuyler
	0289			NY099 Seneca
	0289			NY089 St. Lawrence
	0289			NY101 Steuben
	0289			NY103 Suffolk
	0289			NY105 Sullivan
	0289			NY107 Tioga
	0289			NY109 Tompkins
	0289			NY111 Ulster
	0289			NY113 Warren
	0289			NY115 Washington
	0289			NY117 Wayne
	0289			NY119 Westchester
	0289			NY121 Wyoming

Type	Table	Name	Value	Description
	0289		NY123	Yates
NIP	NIP001	24.22 Immunization Information Source		
	NIP001		00	New Immunization Record
	NIP001		01	Historical Information
NIP	NIP002	24.23 Substance Refusal Reason		
	NIP002		00	Parental Refusal
	NIP002		01	Religious Exemption
NIP	NIP004	24.24 Contraindications, Precautions		
	NIP004		03	Allergy to baker's yeast (anaphylactic)
	NIP004		04	Allergy to egg ingestion (anaphylactic)
	NIP004		05	Allergy to gelatin (anaphylactic)
	NIP004		06	Allergy to neomycin (anaphylactic)
	NIP004		07	Allergy to streptomycin (anaphylactic)
	NIP004		08	Allergy to thimerosal (anaphylactic)
	NIP004		09	Allergy to previous dose of this vaccine or to any of its unlisted vaccine components (anaphylactic)
	NIP004		10	Anaphylactic (life-threatening) reaction of previous dose of this vaccine
	NIP004		11	Collapse or shock like state within 48 hours of previous dose of DTP/DTaP
	NIP004		12	Convulsions (fits, seizures) within 3 days of previous dose of DTP/DTaP
	NIP004		13	Persistent, inconsolable crying lasting 3 hours within 48 hours of previous dose of DTP/DTaP
	NIP004		14	Current diarrhea, moderate to severe
	NIP004		15	Encephalopathy within 7 days of previous dose of DTP
	NIP004		16	Current fever with moderate-to-severe illness
	NIP004		17	Fever of 40.5 C (105 F) within 48 hours of previous dose of DTP/DTaP
	NIP004		18	Gullain-Barre syndrome (GBS) within 6 weeks of previous dose of DTP/DTaP
	NIP004		19	HIV infection (in household contact)
	NIP004		20	HIV infection (in recipient)
	NIP004		21	Current acute illness, moderate to severe (with or without fever) (e.g. diarrhea, otitis media, vomiting)
	NIP004		22	Chronic illness (e.g. chronic gastrointestinal disease)
	NIP004		23	Immune globulin (IG) administration, recent or simultaneous

Type	Table	Name	Value	Description
	NIP004		24	Immunity: diphtheria
	NIP004		25	Immunity: Haemophilus influenzae type B (Hib)
	NIP004		HEPA_I	Immunity: hepatitis A
	NIP004		26	Immunity: hepatitis B
	NIP004		27	Immunity: measles
	NIP004		28	Immunity: mumps
	NIP004		29	Immunity: pertussis
	NIP004		30	Immunity: poliovirus
	NIP004		31	Immunity: rubella
	NIP004		32	Immunity: tetanus
	NIP004		33	Immunity: varicella (chicken pox)
	NIP004		33A	History of Varicella
	NIP004		34	Immunodeficiency (family history)
	NIP004		35	Immunodeficiency (household contact)
	NIP004		36	Immunodeficiency (hematologic and solid tumors, congenital immunodeficiency, long-term immunosuppressive therapy, including steroids) (in recipient)
	NIP004		37	Neurologic disorders, underlying (including seizure disorders, cerebral palsy, and developmental delay)
	NIP004		38	Otitis media (ear infection) moderate to severe (with or without fever)
	NIP004		39	Pregnancy (in recipient)
	NIP004		40	Thrombocytopenia
	NIP004		41	Thrombocytopenic purpura (history)
NIP	NIP005	24.25 Event Consequence		
	NIP005		D	Patient Died
	NIP005		L	Life threatening illness
	NIP005		E	Required emergency room/doctor visit
	NIP005		H	Required hospitalization
	NIP005		P	Resulted in prolongation of hospitalization
	NIP005		J	Resulted in permanent disability
NIP	NIP006	24.26 Patient Registry Status		
	NIP006		A	Active
	NIP006		N	Inactive
	NIP006		P	Permanently inactive (dead)
	NIP006	24.27	M	Moved or Gone Elsewhere
NYSIIS	NYS001	24.28 Reaction Codes		
	NYS001		PERTCONT	Pertussis allergic reaction
	NYS001		TETCONT	Tetanus allergic reaction
	NYS001		HYPOTON	Hypotonic-hyporesponsive collapse within 48 hours of immunization
	NYS001		SEIZURE	Seizure occurring within 3 days
	NYS001		CRYING	Persistent crying lasting >= 3 hours within 48 hours of

Type	Table	Name	Value	Description
				immunization
	NYS001		FEVER105	Temperature >= 105 (40.5 C) within 48 hours of immunization
NYSIIS	WVGC	24.29 Vaccine Group Code (WVGC)		
	WVGC		Adeno	Adeno
	WVGC		Anthrax	Anthrax
	WVGC		BCG	BCG
	WVGC		Cholera	Cholera
	WVGC		Diphtheria	Diphtheria Antitoxin
	WVGC		DTP/aP	Diphtheria, Tetanus, Acellular Pertussis
	WVGC		Encephalitis	Encephalitis
	WVGC		HepA	Hepatitis A
	WVGC		HepB	Hepatitis B
	WVGC		Hib	Hib
	WVGC		HPV	Human Papilloma Virus
	WVGC		Ig	Ig
	WVGC		Influenza	Influenza
	WVGC		Lyme	Lyme
	WVGC		Measles	Measles Virus Vaccine
	WVGC		MMR	Measles, Mumps, Rubella
	WVGC		Meningo	Meningitis
	WVGC		Mumps	Mumps Virus Vaccine
	WVGC		Pertussis	Pertussis
	WVGC		Plague	Plague
	WVGC		Pneumococcal	Pneumonia Conjugate
	WVGC		Pneumo-Poly	Pneumonia Polysaccharide
	WVGC		Polio	Poliomyelitis
	WVGC		Rabies	Rabies
	WVGC		Rotavirus	Rotavirus
	WVGC		Rubella	Rubella Virus Vaccine
	WVGC		Tetanus	Tetanus Diphtheria
	WVGC		Td	Tetanus Diphtheria
	WVGC		Typhoid	Typhoid
	WVGC		Smallpox	Vaccinia
	WVGC		Varicella	Varicella
	WVGC		Yellow Fever	Yellow Fever
	WVGC		Zoster	Zoster
NYSIIS	WVTN	24.30 Vaccine Trade Name (WVTN)		
	WVTN		Acel-Imune	DTaP
	WVTN		ActHib	Hib-PRP-T
	WVTN		Adacel	TdaP > 7 years
	WVTN		Adeno T4	Adeno T4
	WVTN		Adeno T7	Adeno T7
	WVTN		Anthrax	Anthrax
	WVTN		Attenuvax	Measles
	WVTN		BabyBIG	Botulism
	WVTN		BayTet	Tlg
	WVTN		BCG-Cancer	BCG-BC
	WVTN		BCG-TB	BCG-TB
	WVTN		Biavax II	Rubella-Mumps

Type	Table	Name	Value	Description
	WVTN		BIG	Botulism
	WVTN		Boostrix	Tdap > 7 years
	WVTN		Botulinum-antitoxin	Botulinum-antitoxin
	WVTN		Botulism	Botulism
	WVTN		Certiva	DTaP
	WVTN		Cholera-I	Cholera-Inject
	WVTN		Cholera-O	Cholera-Oral
	WVTN		CMV-IgIV	CMV-IgIV
	WVTN		Comvax	HepB-Hib
	WVTN		DAPTACEL	DTaP,5 pertussis antigens
	WVTN		DECAVAC	Td
	WVTN		Diphtheria	Diphtheria
	WVTN		Diphtheria-antitoxin	Diphtheria-antitoxin
	WVTN		Dryvax	Smallpox
	WVTN		DT	DT-Peds
	WVTN		DTP	DTP
	WVTN		Engerix-B Adult	HepB-Adult
	WVTN		Engerix-B dialysis	HepB-Dialysis 4 dose
	WVTN		Engerix-B Peds	HepB-Peds
	WVTN		Flebogamma	IgIV
	WVTN		Flu-Deleted	FLU, NOS
	WVTN		Flu-Imune	Influenza
	WVTN		Flu-Mist	FLU-Nasal
	WVTN		Flu-Shield	Influenza
	WVTN		Fluogen	Influenza
	WVTN		Fluvirin	Influenza
	WVTN		Fluvirin, Preservative-free	Preservative-Free Influenza
	WVTN		Fluzone	Influenza
	WVTN		Fluzone, Preservative-free	Preservative-Free Influenza
	WVTN		Gardasil	HPV, Quadrivalent
	WVTN		Havrix-Adult	HepA-Adult
	WVTN		Havrix-Peds 2 Dose	HepA-Ped 2 Dose
	WVTN		Havrix-Peds 3 Dose	HepA-Peds
	WVTN		HBIg	HBIg
	WVTN		Hib-TITER	Hib-HbOC
	WVTN		Ig	Ig
	WVTN		IgIV	IgIV
	WVTN		Imovax Rabies ID	Rabies-ID
	WVTN		Imovax Rabies IM	Rabies-IM
	WVTN		Infanrix	DTaP
	WVTN		IPOL	Polio-Inject
	WVTN		JE-Vax	Japanese Enceph
	WVTN		LYMERix	Lyme
	WVTN		M-R-VAX	Measles-Rubella
	WVTN		Measles	Measles
	WVTN		Measles-Rubella (MERU)	Measles-Rubella
	WVTN		Menactra	Meningococcal conjugate vaccine
	WVTN		MENOMUNE	Meningococcal
	WVTN		Meruvax II	Rubella
	WVTN		MMR II	MMR
	WVTN		MMRV	MMRV
	WVTN		Mumps	Mumps
	WVTN		Mumps-Rubella (MURU)	Rubella-Mumps
	WVTN		Mumpsvax	Mumps
	WVTN		OmniHib	Hib-PRP-T

Type	Table	Name	Value	Description
	WVTN		ORIMUNE	Polio-Oral
	WVTN		Pediarix	DTAP/Polio/Hep B
	WVTN		Pentacel	DtaP-Hib-IPV
	WVTN		PedvaxHIB	Hib-OMP
	WVTN		Plague	Plague
	WVTN		Pneumovax 23	Pneumococcal 23
	WVTN		PNU-IMUNE 23	Pneumococcal 23
	WVTN		Prevnar	Pneumo-Conjugate
	WVTN		ProHIBit	Hib-PRP-D
	WVTN		RabAvert	Rabies-IM
	WVTN		Recombivax Peds	HepB-Peds
	WVTN		Recombivax-Adult	HepB-Adult
	WVTN		Recombivax-Dialysis	HepB-Dialysis 4 dose
	WVTN		Rho(D)Full	Rho(D)Full
	WVTN		Rho(D)IV	Rho(D)IV
	WVTN		Rho(D)Mini	Rho(D)Mini
	WVTN		RIg	RIg
	WVTN		RIg-HT	RIg-HT
	WVTN		RotaShield	Rotavirus
	WVTN		RSV-IgIM	RSV-IgIM
	WVTN		RSV-IgIV	RSV-IgIV
	WVTN		Rubella	Rubella
	WVTN		Td	Td
	WVTN		Tetramune	DTP-Hib
	WVTN		TIg	TIg
	WVTN		TriHIBit	DTaP-Hib
	WVTN		Tripedia	DTaP
	WVTN		TT	Tetanus
	WVTN		Twinrix	HepA-HepB Adult
	WVTN		Typhim Vi	Typhoid-ViCPs
	WVTN		Typhoid	Typhoid-HP
	WVTN		Typhoid-AKD	Typhoid-AKD
	WVTN		Vaccinia (smallpox), diluted	Vaccinia (smallpox), diluted
	WVTN		Vaccinia immune globulin VIG	Vaccinia immune globulin VIG
	WVTN		VAQTA-Adult	HepA-Adult
	WVTN		VAQTA-Peds 2 Dose	HepA-Ped 2 Dose
	WVTN		Varivax	Varicella
	WVTN		Vivotif Berna/Ty21a	Typhoid-Oral
	WVTN		VZIg	VZIg
	WVTN		YF-VAX	Yellow Fever
	WVTN		Zostavax	Zoster (shingles), live

24.31

24.32 CPT Codes (WCPT) and CVX Codes (292)

CPT	CVX	Group	Vaccine	24.32.1 Trade Name	Description	MFG
90476	54	Adeno	Adeno T4	Adeno T4	Adenovirus type 4, live oral	WAL
90477	55		Adeno T7	Adeno T7	Adenovirus type 7, live oral	WAL
	82		Adeno, NOS		Recorded as CVX 54	
90581	24	Anthrax	Anthrax	Anthrax	Anthrax	MIP
90585	19	BCG	BCG-TB	BCG-TB	Bacillus Calmette-Guerin TB	OTC
90586			BCG-BC	BCG-BC	Bacillus Calmette-Guerin bladder cancer	OTC
90728			BCG, NOS		BCG, NOS	
90725	26	Cholera	Cholera-Injectable	Cholera-I	Cholera injectable	CHI
90592			Cholera-Oral	Cholera-O	Cholera Oral	CHI
90719		Diphtheria	Diphtheria	Diphtheria	Diphtheria	PD
90700	20	DTP/aP	DTaP	Acel-Imune	Diphtheria, tetanus, acellular pertussis	WAL
				Certiva		BAH
				Infanrix		SKB
	Tripedia	PMC				
90701	01		DTP	DTP	Diphtheria, tetanus, whole cell pertussis	PMC
90702	28		DT	DT	Diphtheria tetanus pediatric	PMC
90720	22		DTP-Hib	Tetramune	DTP – Hib combination	WAL
90721	50		DTaP-Hib	TriHIBit	DtaP-Hib combination	PMC
90723	110		DTAP-HepB-Polio	Pediarix	DTAP-HepB-Polio combination	SKB
90698	120		DtaP-Hib-IPV	Pentacel	DtaP-Hib-IPV combination	PMC
	106		DTAP, 5 pertussis antigens	DAPTACEL	Diphtheria, tetanus, acellular pertussis, 5 antigens	PMC
	107		DTaP, NOS		Recorded as CVX 20	
	102		DTP-HIB-Hep B		DTP-HIB Hep B vaccine	
90655	15	Influenza	Influenza, Preservative-Free	Fluvirin, Preservative-Free	Influenza preservative free	CHI
				Fluzone, Preservative-Free		PMC
90656				Fluvirin, Preservative-Free		CHI
	Fluzone, Preservative-Free			PMC		
90657			Influenza	Flu-Immune	Influenza split virus	WAL
				Flu-Shield		WAL
				Fluzone		PMC
				Fluvirin		CHI
				Fluogen		PD
				Fluarix		SKB
90658				Flu-Immune		WAL
				Flu-Shield		WAL
		Fluzone		PMC		
	Fluvirin	CHI				
	Fluogen	PD				
	Fluarix	SKB				
90659	16		Influenza, Whole virus		Influenza whole virus	
90660	111		Flu-nasal	Flu-Mist	Influenza live, for intranasal use	WAL
90724	88		Influenza, NOS	Flu-Deleted	Influenza, NOS	
			Flu-Unspecified			
90632	52	HepA	HepA adult	Havrix adult	Hepatitis A adult	SKB
				VAQTA adult		MSD

CPT	CVX	Group	Vaccine	24.32.1 Trade Name	Description	MFG	
0633	83		HepA ped-2 dose	Havrix ped/adol 2 dose	Hepatitis A pediatric/adolescent 2 dose	SKB	
				VAQTA ped-2		MSD	
90634	84		HepA ped-3 dose	Havrix ped/adol 3 dose	Hepatitis A pediatric/adolescent 3 dose	SKB	
						MSD	
90636	104		HepA-HepB Adult	Twinrix	Hepatitis A & Hepatitis B adult	SKB	
90730	85		Hep A, NOS		Hep A, NOS		
	31		Hep A-peds, NOS		Recorded as CVX 85		
90636	104		HepA-HepB Adult	Twinrix	Hepatitis A & Hepatitis B adult	SKB	
90723	110		DTAP-HepB-Polio	Pediarix	DTAP-HepB-Polio combination	SKB	
90731	45		Hep B, NOS		Hep B, NOS		
90740	44	HepB	Hep B-dialysis 3 dose		Hepatitis B Dialysis 3 dose		
90743	43		HepB adult	Recombivax-Adult	Hepatitis B adult dose 1ml	MSD	
				Engerix-B-Adult		SKB	
90744	08		HepB pediatric	Recombivax-Peds	Hepatitis B pediatric/adolescent .5ml	MSD	
				Engerix-B-Peds		SKB	
90745	42		Hep B, adolescent/high risk infant		Hep B, adolescent/high risk infant		
90746	43		HepB adult	Recombivax-Adult	Hepatitis B adult dose 1ml	MSD	
				Engerix-B-Adult		SKB	
90747	44		HepB-dialysis 4 dose	Recombivax-dialysis	Hepatitis B Dialysis 4 dose	MSD	
				Engerix-B dialysis		SKB	
90748	51		HepB-Hib	Comvax	HepB-Hib Combination	MSD	
			HepB-Unspecified				
90645	47		Hib	Hib-HbOC	HibTITER	Hemophilus influenza b HbOC 4 dose	WAL
90646	46			Hib-PRP-D	ProHIBit	Hemophilus influenza b PRP-D booster	PMC
90647	49			Hib-OMP	PedvaxHIB	Hemophilus influenza b OMP 3 dose	MSD
90648	48	Hib-PRP-T		OmniHib	Hemophilus influenza b PRP-T 4 dose	PMC	
				ActHib			
90720	22	DTP-Hib		Tetramune	DTP – Hib combination	WAL	
90721	50	DtaP-Hib		TriHIBit	DtaP-Hib combination	PMC	
90737	17				Hib,NOS		
90748	51	HepB-Hib		Comvax	HepB-Hib combination	MSD	
90698	120	DtaP-Hib-IPV		Pentacel	DtaP-Hib-IPV combination	PMC	
		Hib-Unspecified					
	118	HPV	HPV, bivalent	Cervaix	Human Papilloma Virus	SKB	
90649	62		HPV, Quadrivalent	Gardasil	Human Papilloma Virus	MSD	
90281	86	Ig	Ig	Ig	Ig human		
90283	87		IgIV	IgIV	Ig IV human		
				Flebogamma			
90287	27		Botulinum-antitoxin	Botulinum-antitoxin	Botulinum antitoxin equine		
90288			Botulism	BabyBIG	Botulism Immune Globulin		
				Botulism			
				BIG			
90291	29		CMV-IgIV	CMV-IgIV	Cytomegalovirus Ig IV human		
90399			Ig	Ig	Unlisted immune globulin		
90296	12		Diphtheria-antitoxin	Diphtheria-antitoxin	Diphtheria antitoxin, equine		
90371	30		HBIG	HBIG	Hepatitis B Ig human		
90375	34		RIg	Rig	Rabies Ig human		
90376	34		RIg-HT	RIg-HT	Rabies Ig heat treated human		

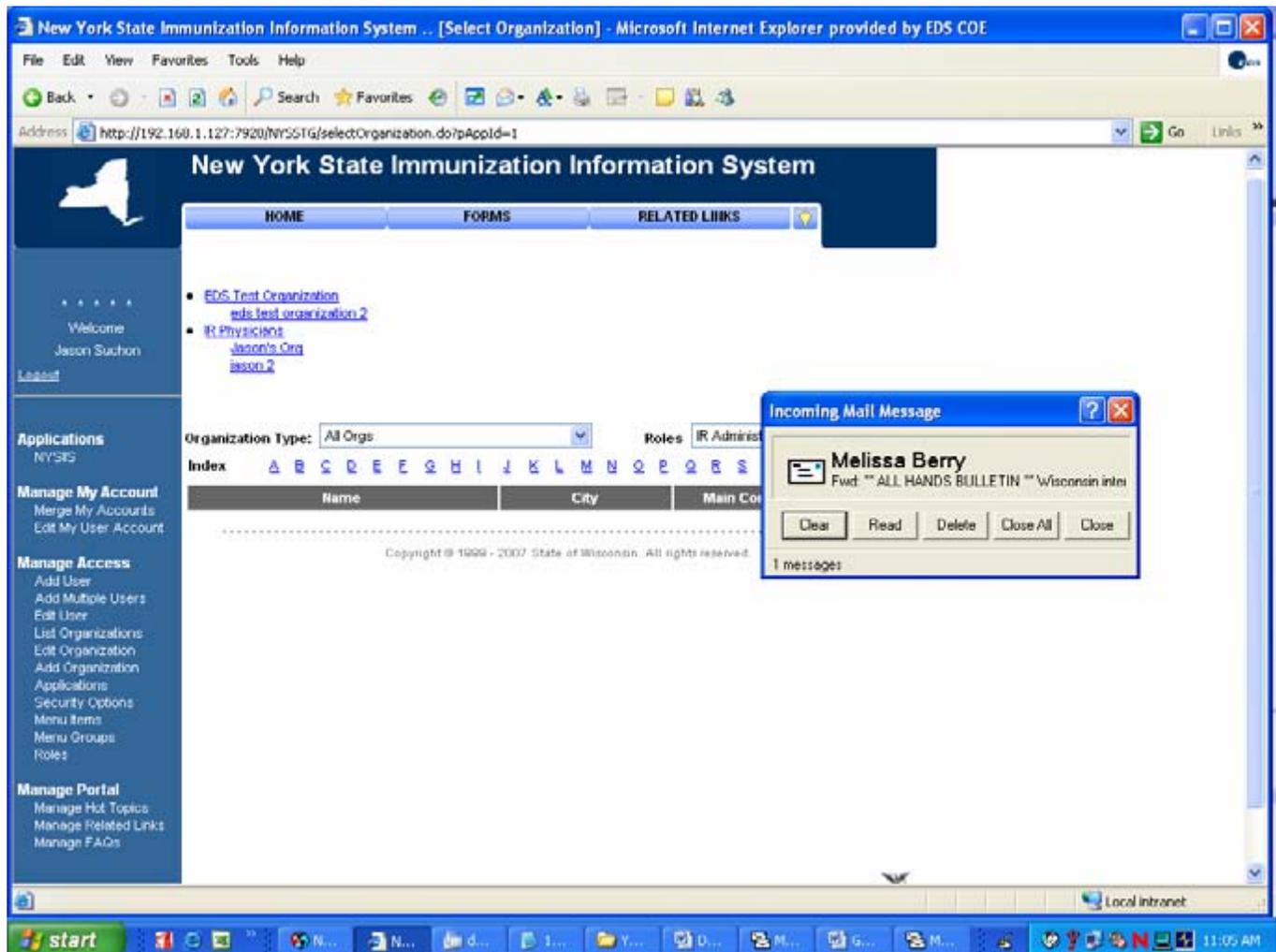
CPT	CVX	Group	Vaccine	24.32.1 Trade Name	Description	MFG
90378	93		RSV-IgIM	RSV-IgIM	Respiratory syncytial virus Ig	
90379	71		RSV-IgIV	RSV-IgIV	Respiratory syncytial virus Ig IV	
90384			Rho(D)Full	Rho(D)Full	Rho(D)Ig Rhlg human full-dose	
90385			Rho(D)Mini	Rho(D)Mini	Rho(D)Ig Rhlg human mini-dose	
90386			Rho(D)IV	Rho(D)IV	Rho(D)Ig Rhlg human IV	
90389	13		TiG	BayTet	Tetanus Ig human	
				TiG		
90393	79		Vaccinia immune globulin	Vaccinia-Ig	Vaccinialg human	
90396	36		VZIg	VZIg	Varicella-zoster Ig human	
	117		VZIG (IND)	VariZIG		CNJ
		Varicella IG				
90665	66	Lyme	Lyme	LYMERix	Lyme disease	SKB
90735	39	Encephalitis	Japanese encephalitis	JE-Vax	Japanese encephalitis	JPN
90705	05	Measles	Measles	Measles	Measles live 1964-1974 (Eli Lilly)	MSD
				Attenuvax	Measles live	MSD
90708	04	Measles-Rubella	Measles-Rubella (MERU)	M-R-VAX	Measles and rubella live	MSD
						MSD
90704	07	Mumps	Mumps	Mumps	Mumps 1950-1978	MSD
				Mumpsvax	Mumps live	MSD
90709		Rubella-Mumps, NOS				
	38	Rubella-Mumps	Rubella-Mumps	Biavax II	Rubella and mumps live	MSD
				Mumps-Rubella (MURU)		
90707	03	MMR	MMR	MMR II	Measles, mumps and rubella live	MSD
90710	94			MMRV	MMRV	Measles, mumps, rubella, varicella live
90733	32	Meningo	Meningococcal	MENOMUNE	Meningococcal polysaccharide	PMC
90734	114		Meningococcal polysaccharide conjugate	Menactra	Meningococcal [Groups A, C, Y and W-135] Polysaccharide Diphtheria Toxoid Conjugate Vaccine	PMC
	108		Meningococcal, NOS			Meningococcal, NOS
90715	115	Pertussis	Tdap > 7 Years	Adacel	Tdap > 7 years	PMC
				Boostrix		
90712	02	Polio	Polio oral	ORIMUNE	Poliovirus OPV live oral	WAL
90713	10		Polio injectable	IPOL	Poliovirus inactivated IPV	PMC
90723	110		DTAP-HepB-Polio	Pediarix	DTAP-HepB-Polio combination	SKB
90698	120		DtaP-Hib-IPV	Pentacel	DtaP-Hib-IPV combination	PMC
	89		Polio-Unspecified			Polio, NOS
90727	23	Plague	Plague	Plague	Plague	GRE
90732	33	Pneumo-Poly	Pneumococcal 23	PNU-IMUNE23	Pneumococcal polysaccharide 23 valent	WAL
				Pneumovax23		
90669	100	Pneumococcal	Pneumo-conjugate	Prevnar	Pneumococcal conjugate polyvalent	WAL
	109		Pneumococcal-Unspecified			
90675	18	Rabies	Rabies-intramuscular	RabAvert	Rabies intramuscular	CHI
				Imovax Rabies I.M.		
90676	40	Rabies-intradermal	Imovax Rabies I.D.	Rabies intradermal		PMC
90726	90	Rabies-NOS			Rabies not otherwise specified	
90680	74	Rotavirus	Rotavirus, Tet	RotaShield	Rotavirus tetravalent live oral (removed on 10/16/1999)	WAL
	116		Rotavirus, Pent	RotaTeq	Rotavirus pentavalent (after 02/02/2006)	MSD
	102		Rotavirus			(between 10/16/1999 and 02/01/2006)

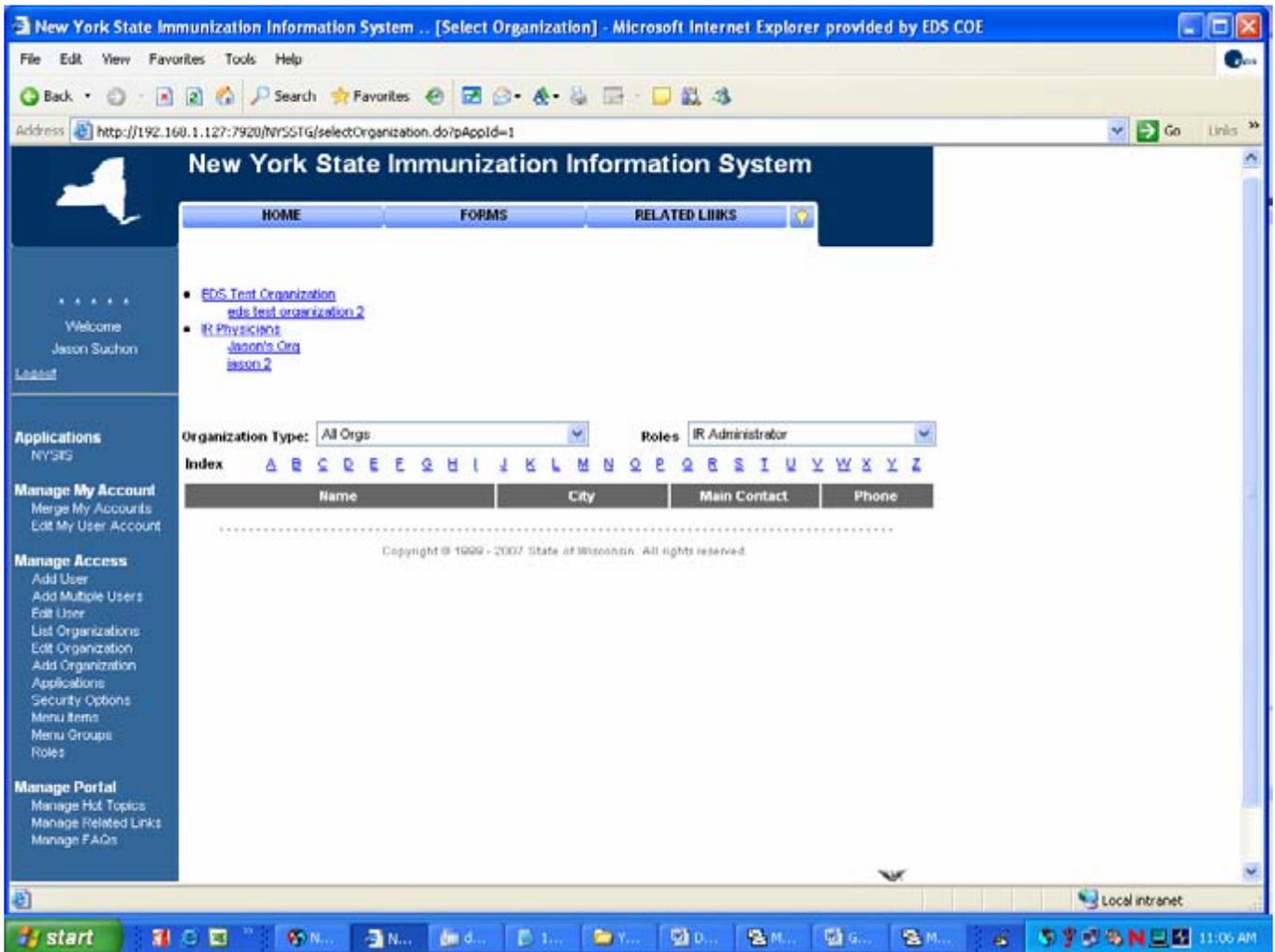
CPT	CVX	Group	Vaccine	24.32.1 Trade Name	Description	MFG
	119		Rotavirus, monovalent	Rotarix		SKB
90706	06	Rubella	Rubella	Rubella	Rubella live	MSD
				Meruvax II		MSD
90708	04		Measles-Rubella	Measles-Rubella (MERU)	Measles and rubella live	MSD
				M-R-VAX		MSD
90709			Rubella-Mumps NOS		Rubella-Mumps, NOS	
	38	Rubella-Mumps	Mumps-Rubella (MURU)	Rubella and mumps live	MSD	
			Biavax II		MSD	
	75	Smallpox	Smallpox	Dryvax	Vaccinia(Smallpox) dry	WAL
	105		Vaccinia (Smallpox), diluted	Vaccinia (smallpox), diluted	Vaccinia (smallpox), diluted	
90718	09	Td	Td	Td	Tetanus and diphtheria adult	PMC
				DECAVAC (prior to 7/1/2005)		PMC
90714	113		Td preservative free	DECAVAC	Td preservative free – CPT code is effective 7/1/2005	PMC
90715	115		Tdap > 7 Years	Adacel	Tdap > 7 years	PMC
			Boostrix	SKB		
90703	35	Tetanus	Tetanus	TT	Tetanus	PMC
	112		Tetanus Toxoid, NOS		Recorded as CVX 35	
90690	25	Typhoid	Typhoid-oral	Vivotif Berna/Ty21a	Typhoid oral	
90691	101		Typhoid-ViCps	Typhim Vi	Typoid VI capsular polysaccharide	PMC
90692	41		Typhoid-H-P	Typhoid	Typhoid heat and phenol inactivated	
90693	53		Typhoid-AKD	Typhoid-AKD	Typhoid acetone-killed, dried (military)	
90714	91		Typhoid-NOS		Typhoid not otherwise specified (after 7/1/2005, no CPT code is associated with this vaccine group)	
90710	94	Varicella	MMRV	MMRV		MSD
90716	21		Varicella	Varivax	Varicella live	MSD
90717	37	Yellow Fever	Yellow Fever	YF-VAX	Yellow Fever live	PMC
90736	121	Zoster	Zoster (shingles), live	Zostavax	Zoster (shingles), live	MSD

25. Appendix C – Obtaining the NYSIIS Real Time SSL Certificate

The following instructions detail obtaining the NYSIIS SSL certificate using Internet Explorer. Instructions for importing the certificate into the PHINMS 2.1 client certificate store are also given. If you are not using the PHINMS 2.1 client, follow the export instructions and contact your company technical support team for help with importing the certificate file into your company certificate store.

25.1 EXPORTING THE NYSIIS SSL CERTIFICATE



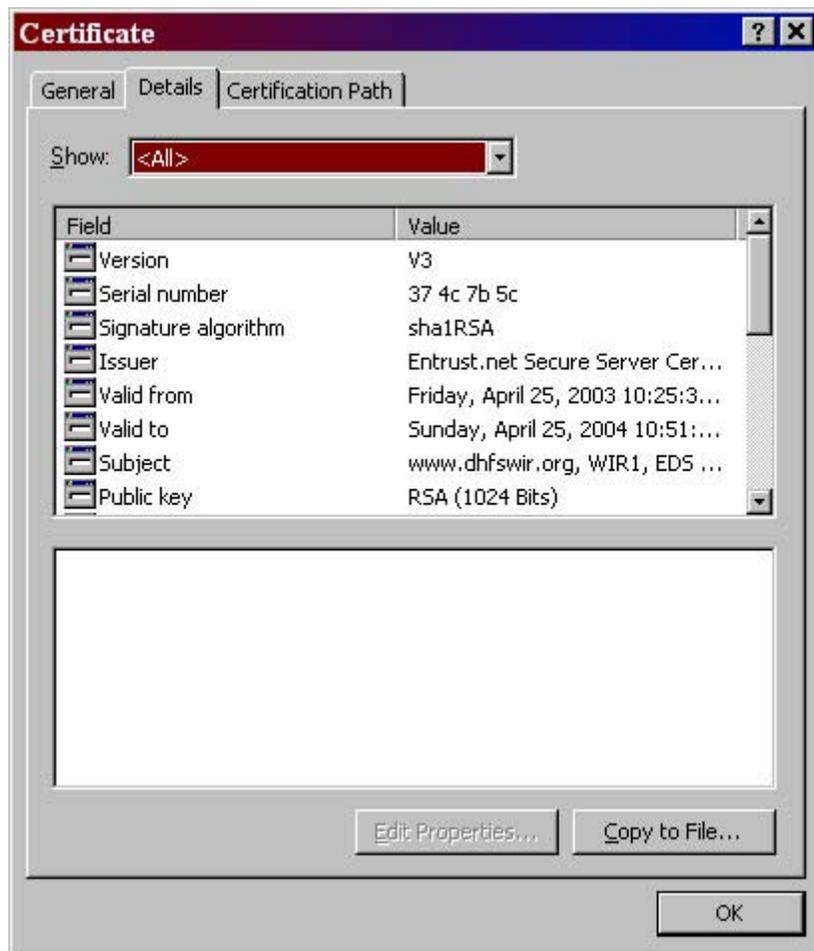


Go to <https://www.dhfwir.org>

If presented with a Certificate Prompt, select Yes. (This prompt will appear only for first time users.)
Double-click on the locked padlock icon in the lower right-hand corner of the screen.



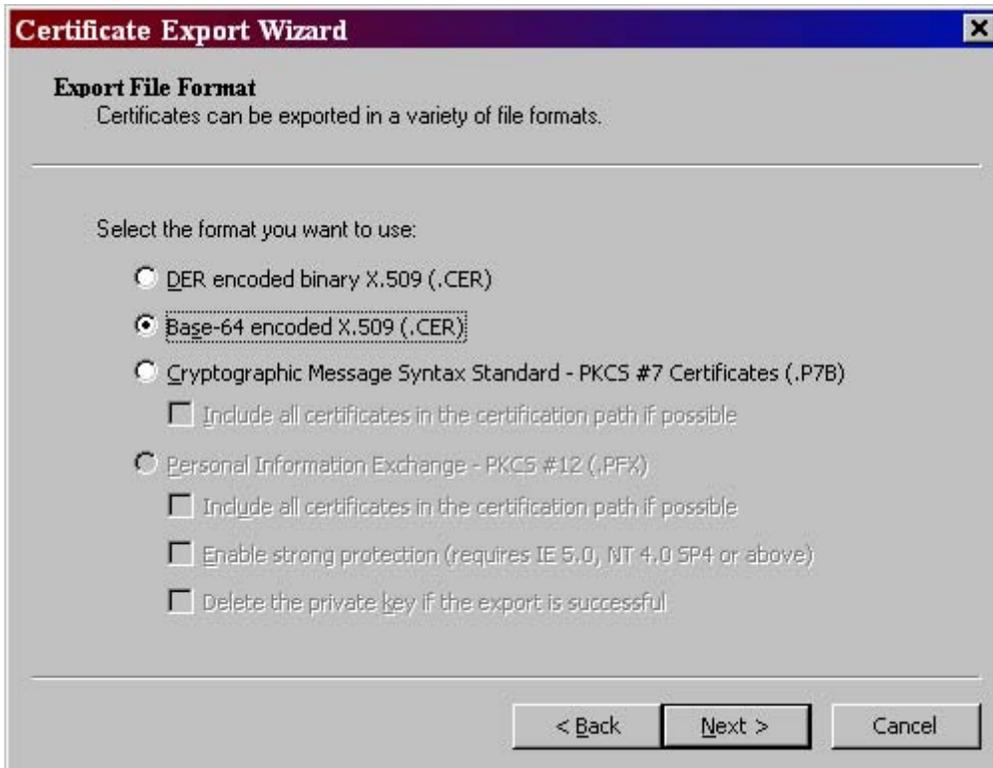
Click on the **Details** tab at the top



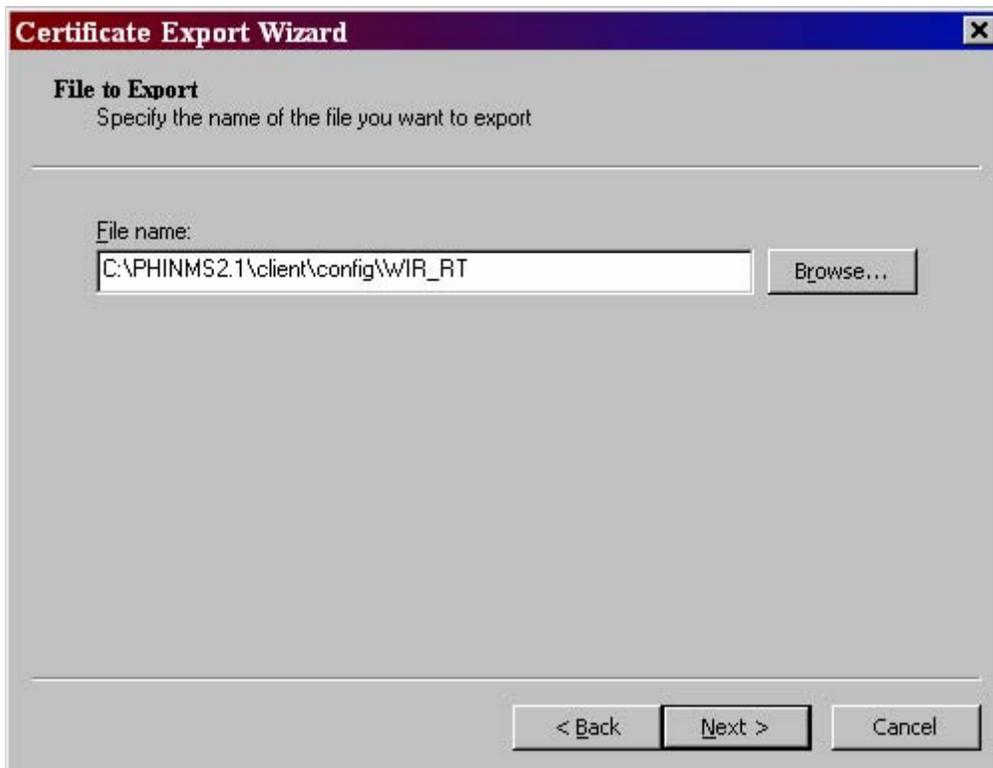
Click on the **Copy to File...** button in the lower-right



Click **Next >**



Click the **Base-64 encoded X.509 (.CER)** radio button, then click **Next >**



Type a file name to contain the exported certificate.

In example above, we have **Browsed** to the PHINMS21 client config directory and named the file **NYSIIS_RT**

Note: You will need to specify the path and file name when importing the certificate in a later step so take

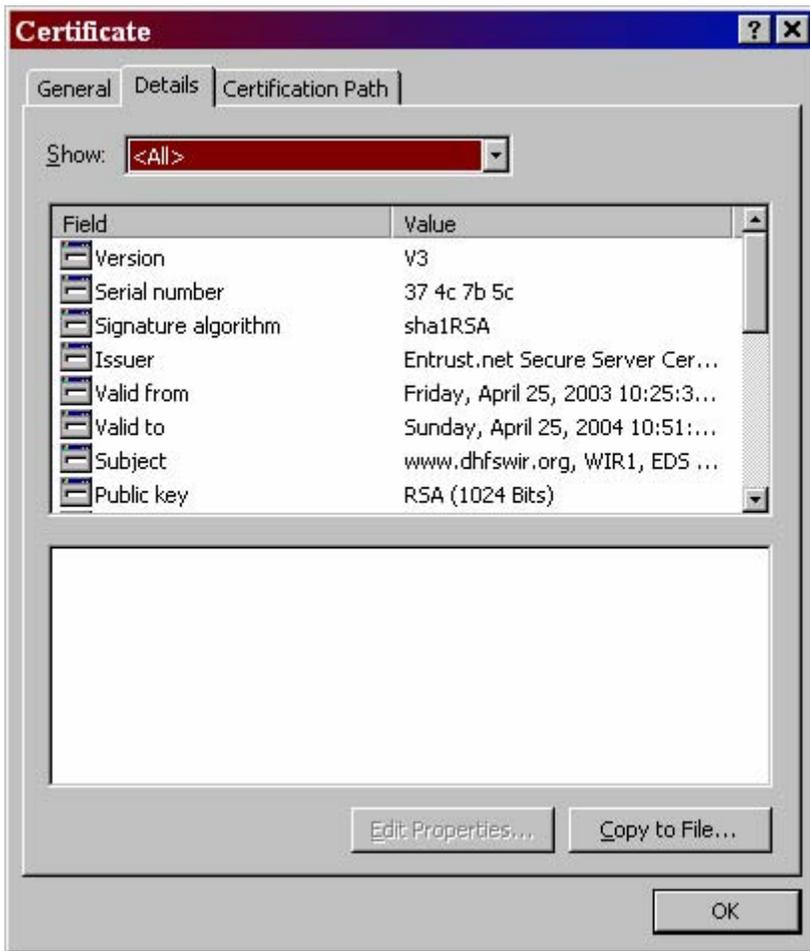
note of where you place it and what you name it.



Click **Finish**



Click **OK**

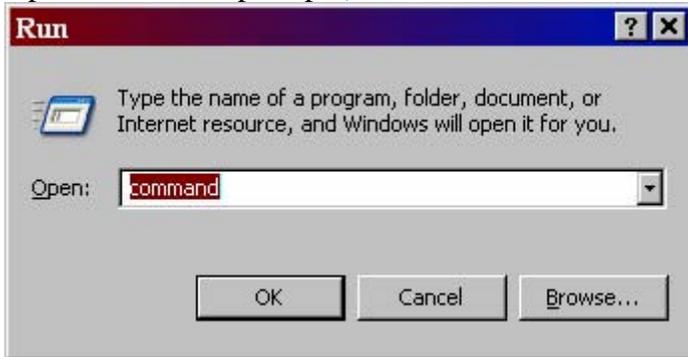


Click **OK**

25.2 IMPORTING THE NYSIIS SSL CERTIFICATE

The remaining steps assume PHINMS client usage.

Open a command prompt (on a windows machine, click **Start**, **Run**, and type **Command**)



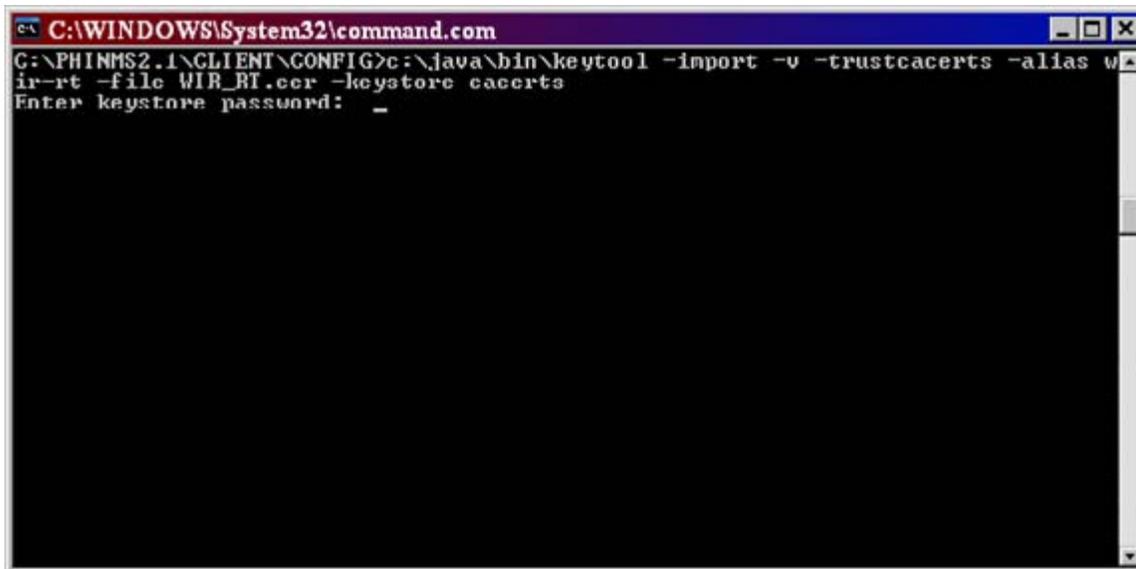
Click **OK**



Change directory to the location where the newly created certificate was stored.

Enter the following command:

keytool -import -v -trustcacerts -alias NYSIIS-rt -file NYSIIS_RT.cer -keystore cacerts
where, “NYSIIS-rt” can be anything unique and not already in the cacerts file. The cacerts is the keystore. Note: keytool is a java tool, ensure that your java/bin directory is in your path or type the full location (e.g., c:\java\bin\keytool as shown in the screenshot.)



```
C:\WINDOWS\System32\command.com
G:\PHINMS2.1\CLIENT\CONFIG>c:\java\bin\keytool -import -v -trustcacerts -alias w
ir-rt -file WIR_RT.cer -keystore cacerts
Enter keystore password: _
```

Enter the keystore password and press enter

If prompted to trust this certificate type “Y” and press enter



```
C:\WINDOWS\System32\command.com
Certificate was added to keystore
[Saving cacerts]
G:\PHINMS2.1\CLIENT\CONFIG>_
```

type **exit** to close the command prompt window

Appendix IV

NYC CIR batch reporting file (UPIF) specification

UPIF Provider's Guide



Citywide
Immunization
Registry



We help
you call
the shots!



Michael R. Bloomberg, Mayor,
City of New York
Thomas S. Frieden, M.D., M.P.H., Commissioner,
Department of Health and Mental Hygiene

THE NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE

visit us online: nyc.gov/health/cir

125 Worth St. CN #64R, New York, NY 10013 - (212) 676-2323 - fax (212) 676-2314

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Introduction

Overview

The Department of Health and Mental Hygiene's Citywide Immunization Registry (CIR) is designed to serve as a repository of immunization information for individuals residing in New York City. The repository will function as an information source for staff members of the DOHMH Bureau of Immunization and for NYC health care providers and agencies concerned with health who have regular contact with individuals requiring immunizations.

CIR patient data will come from a variety of existing information systems, most of which will provide ongoing data feeds. These existing systems include large hospitals in New York City, both those that are part of the NYC Health and Hospitals Corporation, as well as private hospitals, clinics, and medical offices. In addition, plans are currently in place to link immunization registries throughout New York state to simplify tracking of individuals who move within the state, or who cross jurisdictional boundaries to obtain medical care.

The integrity and security of CIR patient data is critical. Input data quality will be reviewed, and data may be edited before it is inserted into the database. Access to the data will be restricted, so that immunization providers and agencies concerned with health can get the information that they need to correctly vaccinate an individual, while limiting their ability to get residential and demographic information. The system will also restrict the ability for unauthorized personnel to randomly access patient information.

UPIF

The CIR Universal Provider Interface Format (UPIF) has been defined to provide a standard mechanism for the batch transfer of information between immunization providers and the CIR. UPIF batch files can be submitted electronically or on a magnetic medium. Each facility using UPIF to submit patient immunization data may submit their files on a different schedule, although the Health Code requires that immunizations be reported within 14 days of administration.

Immunization providers will be able to perform the following CIR transactions through the submission of UPIF files:

- Add a new patient to CIR.
- Update a patient's residence and demographic information.
- Add a new immunization event for a patient.

The UPIF contains four basic record types, which are used to identify the source of the file, perform add and update patient transactions, insert immunization events, and check file consistency.

The two principal record types have a similar structure, with an identical patient identification block followed by the appropriate data. The identification block includes universal patient ID numbers (e.g., Medicaid), facility patient identification numbers, and primary and auxiliary key data. There are several advantages to this approach:

- Patient transactions and immunization event transactions are completely independent.

- If an immunization event arrives for a patient who does not yet exist in the CIR, sufficient information is available to create a new patient record.
- Support of a single patient identification mechanism.

UPIF Record Structure

Source Record

Header	Gender Identification
--------	-----------------------

Patient Record

Header	Patient Identification	Residential and Demographic Information
--------	------------------------	---

Immunization Event Record

Header	Patient Identification	Immunization Event Data
--------	------------------------	-------------------------

Trailer Record

Header	File Statistics
--------	-----------------

A facility can use the UPIF to *register* a patient with the facility's own medical record number. Once a patient has been registered by a facility, the medical record number can be used as an identification key.

Reporting Requirements — NYC Health Code Mandate

The New York City Health Code mandates the following:

- Information for new patients and immunization events shall be reported within 14 days of administration of the immunizations (i.e., report at least bi-weekly, or more frequently).
- Reporting of all immunizations administered to all patients under the age of nineteen years is required (effective August 18, 2005).
- Reporting of immunizations administered to patients age nineteen years and over, with the patient's consent documented in the medical record, is voluntary (effective August 18, 2005).
- If an immunization history is maintained for a patient, it should be reported at the same time the patient is initially reported to CIR.

Reporting Requirements — UPIF Processing

- Each UPIF batch file must contain a Sender Record to identify the source of the batch submission. The Sender Record must be the first record in the file.
- Each UPIF batch file must contain a Trailer Record to indicate the end of file, and the number of records that the file contains. The Trailer Record must be the last record in the file.
- If a facility wishes to use its own patient number for patient identification, it must submit a Patient Record that provides all available primary and auxiliary key information for the patient, *prior* to the use of that patient identification number in reporting immunization events.
- A facility using their own patient number to identify a patient must still provide the First Name, Last Name, Date of Birth, and Gender as corroborating patient identification information.
- A facility using a NYS Medicaid number to identify a patient must still provide the First Name, Last Name, Date of Birth, and Gender as corroborating patient identification information.

Reporting Process

Each facility will need to review their options for reporting immunization information. Facilities that wish to use the UPIF for batch file transfer may choose between electronic submission and the use of magnetic media.

Certification

Before the UPIF can be used to submit patient information to the CIR, a facility must undergo a DOHMH certification process. The purpose of certification is to qualify the facility's own processes for generating the UPIF from their medical record systems.

Test Runs

The certification process is focused on the submission of test batches of UPIF data to the CIR. Each test batch will be validated at the field and record level to insure conformance to the UPIF specification. Problems in the test batch will be logged in a test report, and returned to the facility.

It is strongly recommended that a facility reapply for certification if they make changes to their medical records system that could affect the generation of UPIF files.

Regular Reporting

At the end of each reporting period, a facility will go through the following process:

1. Prepare the file. Provide information for all patients who have been added to the system (or whose records have been modified)¹, and all immunization events that have taken place during the reporting period.
2. Transfer file. Send the UPIF batch file to the CIR for processing.
3. Review batch processing report. Determine whether errors occurred during batch file processing, and whether resubmission of information is necessary.

Online Submission

The CIR will support the online submission of UPIF batch files via the Web File Repository (WFR). This is a secure and simple tool used for transferring (uploading) files from your computer to the CIR via the Internet. WFR encrypts patient data for electronic transfer to the CIR, in accordance with the HIPAA Security Rule. This method for sending files is recommended, since you will no

¹ Facilities that have medical record systems that make it difficult to extract patient records that have changed during a reporting period can submit all appropriate patient records on a quarterly or semi-annual basis, in addition to regular reporting of immunization data.

longer need to use magnetic media, and the files will be traceable. For more information on submitting UPIF files through the WFR, please call the CIR at 212-676-2323.

Magnetic Media Submission

The CIR will also support the submission of UPIF batch files on magnetic media and CD-ROM.

Each floppy disk, CD or zip disk should contain a single UPIF batch file.

The following media formats are supported by the CIR:

- 3-1/2" floppy disks (PC-formatted)
- CD-ROM (High-Sierra format)
- Zip disk

UPIF Processing Flow

Patient Identification

The CIR uses several different identification strategies to correlate each input record with the appropriate patient in the system. Among the strategies used are:

- **Medicaid Number** - NYS Medicaid identification numbers can be used to identify patients in CIR. For security purposes, the primary identification elements (i.e., First Name, Last Name, Date of Birth, and Gender) must also be provided to corroborate the use of the Medicaid number.
- **Patient Medical Record System Number** - A facility's own patient identification number (e.g., medical record number, chart number) can be used to identify patients in the Registry. For security purposes, the primary identification elements (i.e., First Name, Last Name, Date of Birth, and Gender) must also be provided to corroborate the use of the Medical Record System number.
- **Primary Identification Elements** - Many patients can be identified through the use of a small set of data elements (i.e., First Name, Last Name, Date of Birth, and Gender).
- **Primary and Auxiliary Identification Elements** - In addition to the primary data elements listed above, the CIR will use a number of additional data elements (e.g., telephone number, mother's maiden name) to identify unique record matches.
- **Partial Matching** - If the CIR fails to identify an exact match, a partial matching scheme between subsets of specified fields will be used.

It is strongly recommended that each UPIF record contain as many of the primary and auxiliary identification elements as are known to the facility. This increases the likelihood of a match, as well as helping to maintain the accuracy and completeness of CIR patient data.

UPIF Record Formats

This section specifies the details of the UPIF record structure. It describes both the structure of the record and the specific data elements.

File Name

A single UPIF file will contain sender, patient, and immunization data.

NAME	DESCRIPTION
Uxxxxxxx.nnn	<p>xxxxxxx is the seven-character institution code (provided by the DOHMH during registration).</p> <p>nnn is the sequence number. Initially 0, incremented (by one) as each UPIF file is submitted.</p>

Record Format

There are four record types used in the UPIF format. Two of the record types contain patient information, the other two identify the source of the data and provide essential consistency checking. The four record types use a common structure to simplify generation and loading.

Data Types

DATA TYPE	DESCRIPTION
(x)	Maximum length is x.
Char (x)	Text value is blank padded to fixed length x.
Varchar (x)	Text value is variable length.
Date	Date value must be in the format <i>MM/DD/YYYY</i> .
Number (x)	Numeric value must be a whole number.

Separators and Delimiters

The UPIF specifies a small number of characters to be used as separators between fields and records.

TYPE	SYMBOL	HEX VALUE	WHERE USED
Field		7C	Between two fields in the same record
Record	<carriage return>	0D	At the end of each record
End of file	(platform specific)	<end of file>	At the end of the file

A null field in a record should be represented by placing nothing at all (i.e., neither text nor blanks) between the field separators.

Sender Record

The sender record is always the first record in the file.

FIELD NUMBER	DATA ELEMENT	DATA TYPE	REQUIRED?	DESCRIPTION
1	Sequence Number	Number (7)	Yes. First record in file, so the value must be 1.	Identifies the position of the record in the file. Used in error reporting to indicate where a problem occurred.
2	Record Type	Char (1)	Yes. Always S.	Sender record.
3	Record Action	Char (1)	Yes. Either T or N.	T identifies a Test Run (for use during certification); N identifies a normal batch.
4	Facility Code	Varchar (7)	Yes	Your facility ID as registered with the CIR system. Recorded during registration by the DOHMH.
5	Facility/Unit Name	Varchar (40)	Yes	Your facility name as registered with the CIR system. Provided during registration by the DOHMH.
6	Batch Date	Date	Yes. Please use MM/DD/YYYY date format.	Date the UPIF file was produced.
7	Contact Information	Varchar (40)	No	Name and/or phone number for contact if a problem occurs during processing.

Patient Information Record

FIELD NUMBER	DATA ELEMENT	DATA TYPE	REQUIRED?	DESCRIPTION
<i>Record Header</i>				
1	Sequence Number	Number (7)	Yes	Identifies the position of the record in the file. Used in error reporting to indicate where a problem occurred.
2	Record Type	Char (1)	Yes. Must be P.	Patient Record
3	Reserved	Char (1)	Yes. Must be S.	Reserved for future use.
<i>Identification Numbers</i>				
4	Patient Number	Varchar (15)	No	Patient identification number (e.g., medical record number, chart number) the sending facility uses to identify the patient. Used as a key value for patient search. If provided, the primary key values (first and last name, gender, DOB) must also be provided for corroboration.
5	NYS Medicaid Number	Char (8)	No	Used as a key value for patient search. If provided, the primary key values (first and last name, gender, DOB) must also be provided for corroboration.
<i>Primary Key Fields</i>				
6	Date of Birth	Date	Yes. Please use MM/DD/YYYY date format.	Patient's date of birth. Primary search key.
7	Gender	Char (1)	Yes	Patient's gender. Must be M for male or F for female. Primary search key.

8	First Name	Varchar (25)	Yes	Patient's first name. Primary search key.
9	Last Name	Varchar (25)	Yes	Patient's last name. Primary search key.
Auxiliary Key Fields				
10	Multiple Birth Indicator	Char (1)	No	Was patient part of a multiple birth event (e.g., twins). Y if true, N otherwise.
11	Mother's Maiden Name	Varchar (25)	No	
12	Mother's Date of Birth	Date	No. Please use MM/DD/YYYY date format	
13	Patient's Middle Name	Varchar (25)	No	
14	Patient's Alternate First Name	Varchar (25)	No	Patient's other first name (e.g., Nickname)
15	Patient's Alternate Last Name	Varchar (25)	No	Patient's other last name (e.g., Stepparent's name)
16	Birth Facility Code	Varchar (5)	No	The facility within NYC where the patient was born. Refer to the Birth Facility reference table.
17	House Number	Varchar (10)	No	
18	Street Name	Varchar (40)	No	
19	Apt. Number	Varchar (5)	No	The numbers and/or letters designating the apartment.
20	City	Varchar (40)	No	The city/town/community in which the patient resides.
21	State	Char (2)	No	Refer to State Code reference table

22	Zip Code	Char (5)	No	
23	Zip4	Char (4)	No	
24	Telephone Number	Char (10)	No	Full telephone number (including area code)
<i>Residential and Demographic Information</i>				
25	Mother's First Name	Varchar (25)	No	
26	Mother's Last Name	Varchar (25)	No	
27	Father's First Name	Varchar (25)	No	
28	Father's Last Name	Varchar (25)	No	
29	Guardian's First Name	Varchar (25)	No	
30	Guardian's Last Name	Varchar (25)	No	
31	Hispanic	Char (1)	No	Must be Y (yes), N (no), or U (unknown).
32	Race Code	Number (2)	No	Refer to Race Code reference table.
33	Language Spoken at Home	Char (2)	No	Refer to Language code reference table.
34	Birth Country Code	Char (3)	No	The country code where the patient was born. Refer to the Country reference table.
35	Birth State Code	Char (2)	No	The state code where the patient was born. Refer to the State reference table.
36	VFC Eligibility	Number (1)	No	Refer to the VFC Eligibility reference table.

Immunization Event Record

FIELD NUMBER	DATA ELEMENT	DATA TYPE	REQUIRED?	DESCRIPTION
<i>Record Header</i>				
1	Sequence Number	Number (7)	Yes	A sequence number for the record within the file.
2	Record Type	Char (1)	Yes. Must be M .	Immunization Record.
3	Reserved	Char (1)	Yes. Must be S .	Reserved for future use.
<i>Identification Numbers</i>				
4	Patient Number	Varchar (15)	No	Patient identification number (e.g., medical record number, chart number) the sending facility uses to identify the patient. Used as a key value for patient search. If provided, the primary key values (first and last name, gender, DOB) must also be provided for corroboration.
5	Medicaid Number	Char (8)	No	Used as a key value for patient search. If provided, the primary key values (first and last name, gender, DOB) must also be provided for corroboration.
<i>Primary Key Fields</i>				
6	Date of Birth	Date	Yes. Please use MM/DD/YYYY date format	Patient's date of birth. Primary search key.
7	Gender	Char (1)	Yes	Patient's gender. Must be M -male or F -female. Primary search key.

8	First Name	Varchar (25)	Yes	Patient's first name. Primary search key.
9	Last Name	Varchar (25)	Yes	Patient's last name. Primary search key.
<i>Auxiliary Key Fields</i>				
10	Multiple Birth Indicator	Char(1)	No	Was patient part of a multiple birth event (e.g., twins). Y if true, N otherwise.
11	Mother's Maiden Name	Varchar (25)	No	
12	Mother's Date of Birth	Date	No. Please use MM/DD/YYYY date format	
13	Patient's Middle Name	Varchar (25)	No	
14	Patient's Alternate First Name	Varchar (25)	No	Patient's other first name (e.g., Nickname)
15	Patient's Alternate Last Name	Varchar (25)	No	Patient's other last name (e.g., Stepparent's name)
16	Birth Facility Code	Varchar (5)	No	The facility within NYC where the patient was born. Refer to the Birth Facility reference table.
17	House Number	Varchar (10)	No	
18	Street Name	Varchar (40)	No	
19	Apt. Number	Varchar(5)	No	
20	City	Varchar (40)	No	The city/town/community in which the patient resides.
21	State	Char(2)	No	Refer to State Code reference table
22	Zip Code	Char(5)	No	

23	Zip4	Char(4)	No	
24	Telephone Number	Char(10)	No	Full telephone number (including area code)
<i>Mandatory Reporting Information</i>				
25	Vaccination Date	Date	Yes. Please use MM/DD/YYYY date format	Date vaccination was administered.
26	Vaccine Code	Char (4)	Yes	Refer to Vaccine reference table.
27	Immunization Information Source	Char (1)	Yes	The original source of information about the event. Refer to Immunization Information Source reference table for additional information.
28	Provider First Name	Varchar (25)	Yes	
29	Provider Last Name	Varchar (25)	Yes	
30	Provider License Number	Char (6)	Yes	Provider's six-character license number.
<i>Additional Information</i>				
31	Dose Number	Number (2)	No	Dose number is used for reference purposes only.
32	Vaccine Lot Number	Varchar (16)	No	Lot number of vaccine.
33	Manufacturer Code	Varchar (6)	No	Refer to Manufacturer reference table.
34	VFC Eligibility	Number (1)	No	Refer to VFC Eligibility reference table.
35	Health Plan Code	Varchar (2)	No	Refer to Health Plan reference table.

Trailer Record

FIELD NUMBER	DATA ELEMENT	DATA TYPE	REQUIRED?	DESCRIPTION
1	Sequence Number	Number (7)	Yes	Record count number. Represents total number of records in this file.
2	Record Type	Char (1)	Yes. Must be U	UPIF Trailer Record

Questions and Answers

What is UPIF?

UPIF stands for the Universal Provider Interface Format. The purpose of the UPIF is to permit providers with existing medical record systems to submit information to the Citywide Immunization Registry in a batch file format.

What is the CIR?

The Citywide Immunization Registry is a computer system operated by the Bureau of Immunization of the NYC Department of Health and Mental Hygiene. The purpose of the CIR is to track immunizations received by individuals in NYC. The information will be used to identify under-immunized individuals, as well as to serve as a source of data for authorized immunization providers and agencies concerned with health.

Why should I tell the CIR about my patients?

The New York City Health Code, effective August 18, 2005, mandates reporting of immunizations administered to all people age eighteen years and younger, and allows for voluntary reporting of immunizations administered to people age nineteen years and older, with consent. Health care providers authorized to administer immunizations report the immunizations to the CIR.

Do I have to use the UPIF to inform the CIR about my patients?

No. The CIR allows providers to use a variety of different mechanisms to report immunizations.

- If you deliver all of your immunizations under the auspices of a clinic or hospital, you should determine whether the immunizations are being reported to the CIR for you through the facility's own information system.
- If you have a computer with Internet access available, you may report immunizations to the CIR through the Online Registry. You may also look up, and print out, the immunization records of your patients through the Online Registry and see recommendations of immunizations due.
- If you don't have a computer system available, immunizations can be reported to the CIR on paper forms.

Do I have to tell you about all my patients?

You are required to report all immunizations administered to all individuals age 18 years and under. You may choose to report immunizations administered to individuals age 19 years and over, with the patient's consent documented in the medical record.

Do I have to have a Sender Record in each file?

Yes. The Sender Record is necessary for the CIR to determine the source of patient immunization information.

Do I have to send a Patient Record for each patient?

No. You can fulfill the requirements of the mandate just by sending immunization records.

Do I have to send an Immunization Record for each immunization I deliver?

You must send an Immunization Record for each immunization you provide to an individual who is under nineteen years of age.

Do I have to send a Trailer Record?

Yes. The Trailer Record is used to indicate that there are no more records to be processed. The Trailer Record is also used for consistency checking.

Do I have to send information for all of the fields that are required?

Yes.

Does the order in which I send you the records matter?

Yes. The Sender Record must be the first record in the file, and the Trailer Record must be the last record in the file. The Patient and Immunization Records may be sent in any order, and even intermixed.

How frequently do I need to send information to the CIR?

The NYC Department of Health and Mental Hygiene mandates that the CIR be informed within 14 days for all patient immunizations. We strongly encourage you to send information more frequently, as it will help to keep the CIR current.

Do I need to send the CIR historical information about my patients?

If your medical record system contains immunization histories for individuals under nineteen years of age, then you should report this information to the CIR. If your medical record system contains immunization histories for patients nineteen years of age and over, then you must get consent from the patient before reporting this information to the CIR.

Do I need to report VFC eligibility and Child Health Plus B status?

For providers who participate in the Vaccines for Children Program (VFC), The VFC Eligibility status (field 34 in the Immunization Event Record) must be reported. Please refer to page 41 for a list of VFC Eligibility and Child Health Plus B status codes.

When would the Immunization Source be anyone other than myself?

If you did not give the immunizations yourself and are reporting the patient's immunization history, then the Immunization Source field should indicate where the information about the event came from. The fields should be used as follows:

Code	Description
V	Vaccinator. Used if the physician identified in the immunization event was responsible for giving the immunization. The Provider First Name, Provider Last Name, and Provider License Number fields refer to the physician who gave the immunization and is reporting it.
D	Document. Used if the information in the immunization event was taken from the yellow card or Lifetime Health

Record.

The Provider First Name, Provider Last Name, and Provider License Number fields refer to the reporting physician, and not the physician who gave the immunization.

- O Other Provider. Used if the information about the event came from another provider.

The Provider First Name, Provider Last Name and Provider License number fields refer to the reporting physician, and not the physician who gave the immunization.

- S System. Used if the information came from another immunization registry system.
It is expected that this code will generally be used for transfer of information between registries, and not by reporting providers.

If you have additional questions about this, contact the CIR.

What will happen if I send duplicate records to the CIR?

Duplicate records will be processed, and discarded if no new information is found.

We realize that it will be difficult for some medical record systems to keep track of whether they have already sent information about a particular patient to the CIR. To address these problems, the following is suggested:

- When you are ready to begin sending information to the CIR, send Patient and Immunization records for all current patients who are less than nineteen years of age.
- Send a Patient record to the CIR for each new patient who is added to the CIR during a reporting period.
- Send an Immunization record to the CIR for each immunization that you deliver during a reporting period.
- To ensure that the CIR is aware of all patient updates, send a new Patient record for each current patient in your system once every six months.

What if my medical records system does not contain all of the required UPIF information?

You should contact the Bureau of Immunization to discuss the situation. They will determine if an exception is warranted, or if you should use one of the alternate mechanisms (described above) to submit patient immunization data.

How do I get started providing information to the CIR with UPIF?

Assuming that you have already created a UPIF file, contact the CIR at (212) 676-2323 to arrange for certification testing. We will set up a time for you to submit your data, and you will

receive timely feedback on whether it conforms to the UPIF guidelines. UPIF certification can often involve several iterations as errors in the records are corrected and the file is resubmitted. Once all of the problems have been resolved, you can begin submitting information to the CIR.

How will I find out if there are problems with the data I have submitted?

Immunization providers who upload their UPIF files using WFR will be able to view and print a feedback report through WFR after the file is processed.

Immunization providers who submit their UPIF files on magnetic media will be contacted by the CIR if problems occur during processing.

Where do I send the UPIF file?

To send the file using WFR:

Please call (212) 676-2323 and ask to speak to Shirley Huie.

To mail the magnetic media to the CIR:

By Mail:

Citywide Immunization Registry
NYC DOHMH
125 Worth Street, CN-64R
New York, NY 10013
Attn: Fritzner Paul

By Courier Service:

Citywide Immunization Registry
NYC DOHMH
2 Lafayette Street, 19th Floor
New York, NY 10007
Attn: Fritzner Paul

Who should I contact for additional information?

Citywide Immunization Registry
NYC Department of Health and Mental Hygiene
125 Worth Street, CN-64R
New York, NY 10013

Voice: (212) 676-2323
Fax: (212) 676-2314

Examples

This section provides several fictitious examples of how the record format is populated.

The | symbol is used in these examples as a field separator. The ␣ symbol is used to indicate where a carriage return (normally an invisible character) is placed. The record length in several of the records exceeds the line length of this document, so the records have been split across multiple lines.

Sender Record

The sender record is expected as the first element in a UPIF file, so the record number should always be 1. The last field, which contains contact information, is for human use should a problem occur during file processing.

```
1|S|N|1020021|Bronx General|07/19/1996|C.P. Wong (212)555-  
1212␣
```

Patient Information Record

The first example offers a fairly complete patient record. Patient information records will seldom be completely populated, since some elements may not apply or may not be tracked by the sending facility.

```
5|P|S|||02/01/1996|M|Harry|Riff|||L|Lee||13103|45|Broadway|15  
C|New  
York|NY|10006||2128096600|Judy|Riff|Ralph|Riff||U|2|01|USA|NY  
|2␣
```

The second example of a patient information record demonstrates how a facility's patient identification number can be provided to the CIR. When the number is provided for the first time by a facility (along with all known identification elements), it will be recorded within the CIR. Subsequent uses of the patient identification number (such as that shown in the immunization event record section below), can be provided with a minimum of identification information and still have a very high probability of getting a unique match with a patient record.

```
9|P|S|YOU2917B||6/14/95|M|Woody|You|Y|||||41609|158-  
01|Sanford  
Avenue|2B|Flushing|NY|11358||7184451111|||||N|4|03|NY|1␣
```

Note that the null fields in each record are represented through adjacent field separators with no intervening text of blank spaces.

Immunization Event Record

This immunization event record uses the same patient identification block as the first patient information record shown above.

```
13|M|S|||02/01/1996|M|Harry|Riff||||L|Lee||13103|45|Broadway|1  
5C|New  
York|NY|10006||2128096600|04/30/1996|01|V|Connie|Cristantiello  
|000084|1|||5|CX
```

This second immunization record example demonstrates how the use of the patient identification number field reduces the amount of information that needs to be transmitted.

```
15|M|S|YOU2917B||6/14/95|M|Woody|You|||||||6/14/1996|  
03|V|Ashrafuz|Zaman|023684|1|CON|3|HF
```

Trailer Record

The trailer record is straightforward and requires little explanation. The record number field is checked against the total number of records read from the file in an attempt to determine if a transmission error occurred.

```
21|U
```

*An example of a complete UPIF document can be found on page 43.

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Birth Facility

<u>Code</u>	<u>Name</u>
11215	ALLEN PAVILION
42601	ASTORIA GENERAL HOSPITAL*
31350	BAPTIST HOSPITAL*
51719	BAYLEY SETON HOSPITAL*
11102	BEEKMAN DOWNTOWN HOSPITAL / NY DOWNTOWN
13103	BELLEVUE HOSPITAL
11107	BETH ISRAEL HOSPITAL
42604	BOULEVARD HOSPITAL*
21427	BRONX LEBANON
23463	BRONX MUNICIPAL HOSPITAL / JACOBI
24403	BRONX STATE HOSPITAL*
31507	BROOKDALE HOSPITAL
30005	BROOKLYN BIRTHING CENTER
31510	BROOKLYN HOSPITAL
34516	BROOKLYN STATE HOSPITAL*
31520	CALEDONIAN HOSPITAL*
17126	CARDINAL COOKE HEALTH CARE CNTR*
43634	CITY HOSPITAL AT ELMHURST
11191	COLUMBIA PRESBYTERIAN HOSPITAL
11116	COLUMBUS HOSPITAL*
31545	COMMUNITY HOSPITAL*
33522	CONY ISLAND HOSPITAL
44607	CREEDMOOR STATE HOSPITAL*
33524	CUMBERLAND HOSPITAL*
42660	DEEPDALE HOSPITAL*
11121	DOCTORS HOSPITAL - MANHATTAN*
52709	DOCTORS HOSPITAL - STATEN ISLAND*
32349	FLATBUSH HOSPITAL
41609	FLUSHING HOSPITAL*
41618	FLUSHING HOSPITAL (NORTH DIV)*
28000	FOUNDLING - BRONX*
38000	FOUNDLING - BROOKLYN*
18000	FOUNDLING - MANHATTAN*
48000	FOUNDLING - QUEENS*
58000	FOUNDLING - STATEN ISLAND*
33529	GREENPOINT HOSPITAL*
13134	HARLEM HOSPITAL
26000	HOME - BRONX
36000	HOME - BROOKLYN
16000	HOME - MANHATTAN
46000	HOME - QUEENS
56000	HOME - STATEN ISLAND
31540	INTERFAITH HOSPITAL
41612	JAMAICA HOSPITAL

Birth Facility continued

<u>Code</u>	<u>Name</u>
-------------	-------------

11154	JEWISH MEMORIAL HOSPITAL*
42656	KEW GARDENS GENERAL HOSPITAL*
33538	KINGS COUNTY HOSPITAL
32503	KINGS HIGHWAY HOSPITAL*
41619	LAGUARDIA HOSPITAL / N. SHORE UNIV HOSP
11157	LE ROY HOSPITAL*
11156	LENOX HILL HOSPITAL
23428	LINCOLN HOSPITAL
31542	LONG ISLAND COLLEGE HOSPITAL
41626	LONG ISLAND JEWISH HOSPITAL
31550	LUTHERAN MED CNTR (SIS ELIZ DIV)
31535	MAIMONIDES HOSPITAL
14163	MANHATTAN STATE HOSPITAL*
41615	MARY IMMACULATE HOSPITAL*
10002	MATERNITY CENTER ASSOCIATION*
31547	METHODIST HOSPITAL
13165	METROPOLITAN HOSPITAL
21483	MISERICORDIA HOSP. / OUR LADY OF MERCY
21429	MONTEFIORE HOSPITAL*
11171	MOUNT SINAI HOSPITAL
13231	NEW GOUVERNIER HOSPITAL*
23475	NORTH BRONX CENTER HOSPITAL
11147	NORTH GENERAL*
41647	NY HOSPITAL MED CNTR OF QUEENS
11178	NYPH/WELL CORNELL MED CENTER
41658	OSTEOPATHIC HOSPITAL
27000	OTHER PLACE - BRONX*
37000	OTHER PLACE - BROOKLYN*
17000	OTHER PLACE - MANHATTAN*
47000	OTHER PLACE - QUEENS*
57000	OTHER PLACE - STATEN ISLAND*
22402	PARKCHESTER GENERAL HOSPITAL*
42659	PARKWAY HOSPITAL*
22459	PELHAM BAY GENERAL HOSPITAL*
41625	PENINSULAR HOSPITAL*
42635	PHYSICIANS HOSPITAL*
22432	PROSPECT HOSPITAL*
43620	QUEENS GENERAL HOSPITAL
11196	ROOSEVELT HOSPITAL
51714	SI UNIV HOSPITAL, NORTH
51707	SI UNIV HOSPITAL, SOUTH*
21422	ST. BARNABAS
11199	ST. CLARES HOSPITAL*
41610	ST. JOHNS EPIS (SOUTH SHORE DIV)

Birth Facility continued

<u>Code</u>	<u>Name</u>
41629	ST. JOHNS HOSPITAL
11203	ST. LUKE'S HOSPITAL*

11223	ST. LUKE'S/WOMANS HOSPITAL
31559	ST. MARYS HOSPITAL
11207	ST. VINCENTS - MANHATTAN
51711	ST. VINCENTS - STATEN ISLAND
42675	TERRACE HGTS HOSPITAL*
11189	TISCH HOSPITAL / RUSK / UNIV. HOSP
55716	U.S. PUBLIC HEALTH*
21439	UNION HOSPITAL*
31514	UNIV HOSPITAL OF BROOKLYN
90000	UNKNOWN
29000	UNKNOWN - BRONX*
39000	UNKNOWN - BROOKLYN*
19000	UNKNOWN - MANHATTAN*
49000	UNKNOWN - QUEENS*
59000	UNKNOWN - STATEN ISLAND*
31569	VICTORY MEMORIAL HOSPITAL
21413	WEILER HOSPITAL
22443	WESTCHESTER SQUARE HOSPITAL*
54722	WILLOW BROOK SCHOOL*
20003	WOMEN'S HEALTH & BIRTHING CENTER
33539	WOODHULL CARE CENTER
31573	WYCKOFF HEIGHTS HOSPITAL

Borough

<u>Code</u>	<u>Name</u>
3	BROOKLYN
1	MANHATTAN
6	NEW YORK STATE (OUTSIDE NYC)
8	OUTSIDE NEW YORK STATE
4	QUEENS
5	STATEN ISLAND
2	THE BRONX
9	UNKNOWN OR NOT STATED

Country

<u>Code</u>	<u>Name</u>
AFG	AFGHANISTAN
ALB	ALBANIA
ALG	ALGERIA
AND	ANDORRA
ANG	ANGOLA

ANT	ANTIGUA & BARBUDA
ARG	ARGENTINA
ARM	ARMENIA
ARU	ARUBA
AUL	AUSTRALIA
AUS	AUSTRIA
AZE	AZERBAIJAN
AZO	AZORES ISLANDS
BAH	BAHAMAS
BHR	BAHRAIN
BAL	BALEARIC ISLANDS
BAN	BANGLADESH
BAR	BARBADOS
BAS	BASQUE
BLA	BELARUS
BEL	BELGIUM
BEZ	BELIZE
BEN	BENIN
BER	BERBER
BEM	BERMUDA
BHU	BHUTAN
BOL	BOLIVIA
BON	BONAIRE
BOS	BOSNIA (HERCEGOVINA)
BOT	BOTSWANA
BRA	BRAZIL
BRE	BRETON
BRU	BRUNEI
BUL	BULGARIA
BUK	BURKINA FASO
BUR	BURMA
BUI	BURUNDI
CAM	CAMBODIA
CAO	CAMEROON
CAN	CANADA
CAZ	CANAL ZONE
CAY	CANARY ISLANDS
CAP	CAPE VERDES ISLANDS

Country continued

<u>Code</u>	<u>Name</u>
CAR	CAROLINA ISLANDS
CAI	CAYMON ISLANDS
CEN	CENTRAL AFRICAN REPUBLIC
CEY	CEYLON
CHA	CHAD
CHL	CHILE
CHI	CHINA
COL	COLOMBIA

COM	COMORO ISLANDS
CON	CONGO
COS	COSTA RICA
CRO	CROATIA
CUB	CUBA
CUR	CURACAO
CYP	CYPRUS
CZE	CZECH REPUBLIC
DEN	DENMARK
DJI	DJIBOUTI
DOC	DOMINICA
DOM	DOMINICAN REPUBLIC
EAS	EAST INDIES (NOT SPECIFIED)
ECU	ECUADOR
EGY	EGYPT
ELS	EL SALVADOR
EQU	EQUATORIAL GUINEA
EST	ESTONIA
ETH	ETHIOPIA
FAL	FALKLAND ISLANDS
FJI	FJI
FIN	FINLAND
FRA	FRANCE
FRE	FRENCH GUIANA
GAB	GABON
GAL	GALAPAGOS ISLANDS
GAM	GAMBIA
GEO	GEORGIA
GER	GERMANY
GHA	GHANA
GIB	GIBRALTAR
GRE	GREECE
GRL	GREENLAND
GRD	GRENADA
GUP	GUADELOUPE
GUM	GUAM

Country continued

<u>Code</u>	<u>Name</u>
GUA	GUATEMALA
GUI	GUINEA
GUB	GUINEA BISSAU
GUY	GUYANA
HAI	HAITI
HON	HONDURAS
HOK	HONG KONG
HUN	HUNGARY
IBE	IBERIA
ICE	ICELAND

IND	INDIA
INO	INDONESIA
IRN	IRAN
IRQ	IRAQ
IRE	IRELAND
ISR	ISRAEL
ITA	ITALY
IVO	IVORY COAST
JAM	JAMAICA
JAP	JAPAN
JOR	JORDAN
KAS	KASHMIR
KAZ	KAZAKHSTAN
KEN	KENYA KIR KIRIBATI
KOR	KOREA
KUW	KUWAIT
KYR	KYRGYZSTAN
LAO	LAOS
LAT	LATVIA
LEB	LEBANON
LES	LESOTHO
LIB	LIBERIA
LBY	LIBYA
LIE	LIECHTENSTEIN
LIT	LITHUANIA
LUX	LUXEMBOURG
MAC	MACAO
MAE	MACEDONIA
MAD	MADAGASCAR
MAW	MALAWI
MAY	MALAYSIA
MAV	MALDIVES
MAL	MALI
MAT	MALTA

Country continued

<u>Code</u>	<u>Name</u>
MAN	MARIANA ISLANDS
MAS	MARSHALL ISLANDS
MAQ	MARTINIQUE
MAU	MAURITANIA
MAR	MAURITIUS
MEL	MELNESIA
MEX	MEXICO
MIC	MICRONESIA
MID	MIDWAY ISLAND
MOD	MOLDOVA
MOC	MONACO
MON	MONGOLIA

MOT	MONTserrat
MOR	MOROCCO
MOZ	MOZAMBIQUE
MYA	MYANMAR (FORMERLY BURMA)
NAM	NAMIBIA (SOUTH WEST AFRICA)
NAU	NAURU
NEP	NEPAL
NET	NETHERLANDS
NEV	NEVIS & ST. CHRISTOPHER (ST. KITTS)
NWC	NEW CALEDONIA
NWG	NEW GUINEA
NWZ	NEW ZEALAND
NIC	NICARAGUA
NIG	NIGER
NGA	NIGERIA
NOR	NORWAY
OKI	OKINAWA
OMA	OMAN
XAF	OTHER AFRICAN
XAS	OTHER ASIAN
XCA	OTHER CENT. AMERICAN (CARIBBEAN)
XEU	OTHER EUROPEAN
XNA	OTHER NORTH AMERICAN
XPI	OTHER PACIFIC ISLANDER
XSA	OTHER SOUTH AMERICAN
XSP	OTHER SPANISH
PAK	PAKISTAN
PAL	PALESTINE
PAN	PANAMA
PAP	PAPUA NEW GUINEA
PAR	PARAGUAY
PER	PERU

Country continued

<u>Code</u>	<u>Name</u>
PHI	PHILIPPINES
POL	POLAND
POR	PORTUGAL
PUE	PUERTO RICO
QAT	QATAR
RHO	RHODESIA
RUM	ROMANIA
RUS	RUSSIA
RWA	RWANDA
SMA	SAMOA (AMERICAN)
SMW	SAMOA (WESTERN)
SAN	SAN MARINO
SAO	SAO TOME & PRINCIPE
SAU	SAUDI ARABIA

SCA	SCANDINAVIA
SEN	SENEGAL
SER	SERBIA
SEY	SEYCHELLES
SIE	SIERRA LEONE
SIN	SINGAPORE
SLV	SLOVAK REPUBLIC
SOL	SOLOMON ISLANDS
SLO	SOLVENIA
SOM	SOMALL REPUBLIC
SOU	SOUTH AFRICA
SPA	SPAIN
SRI	SRI LANKA
STB	ST. BARTHOLEMY
STL	ST. LUCIA
STM	ST. MAARTIN (DUTCH)
STN	ST. MAARTIN (FRENCH)
STV	ST. VINCENT & GRENADINES
STA	STATELESS PERSON
SUD	SUDAN
SUR	SURINAM
SWA	SWAZILAND
SWE	SWEDEN
SWI	SWITZERLAND
SYR	SYRIA
TAH	TAHITI
TAI	TAIWAN
TAJ	TAJKISTAN
TAN	TANZANIA
TAT	TATAR

Country continued

<u>Code</u>	<u>Name</u>
THA	THAILAND
TIB	TIBET
TOG	TOGO
TON	TONGO
TOR	TRTOLA
TRI	TRINIDAD & TOBAGO
TRU	TRUK ISLANDS
TUN	TUNISIA
TUR	TURKEY
TRK	TURKMENISTAN
TUK	TURKS & CALCOS
UGA	UGANDA
UKR	UKRAINE
UAE	UNITED ARAB EMIRATES
UKG	UNITED KINGDOM

USA	UNITED STATES
XXX	UNKNOWN OR NOT STATED
URU	URUGUAY
USR	USSR
UZB	UZBEKISTAN
VAN	VANUATU
VAT	VATICAN CITY
VEN	VENEZUELA
VIE	VIETNAM
VIR	VIRGIN ISLANDS
WAL	WALLOON
WES	WEST INDIES (NOT SPECIFIED)
YAP	YAP ISLANDS
YEM	YEMEN (ARAB REPUBLIC)
YMA	YEMEN (PEOPLES DEM. REP)
YUG	YUGOSLAVIA
ZAI	ZAIRE
ZAM	ZAMBIA
ZIM	ZIMBABWE

County

<u>Code</u>	<u>Name</u>
02	BRONX
03	KINGS
01	NEW YORK
06	NEW YORK STATE (OUTSIDE NYC)
08	OUTSIDE NEW YORK STATE
04	QUEENS
05	RICHMOND
99	UNKNOWN

Health Plan

<u>Code</u>	<u>Name</u>
AB	ABC HEALTH PLAN
AE	AETNA U.S. HEALTHCARE
BH	BETTER HEALTH PLAN
CP	CAREPLUS
CC	CENTERCARE
CI	CIGNA HEALTH CARE OF NEW YORK
CH	COMMUNITY CHOICE HEALTH PLAN
CW	COMMUNITY CHOICE HEALTH PLAN OF WESTCHESTER
CO	COMMUNITY PREMIER PLUS
BC	EMPIRE BLUE CROSS BLUE SHIELD
FI	FIDELIS
GE	GENESIS
GH	GHI/PARTNERS IN HEALTH
HF	HEALTHFIRST

HE	HEALTHPLUS
HP	HIP
MA	MAGNAHEALTH
MP	METROPLUS
MH	MHSNY (MANAGED HEALTH SYSTEMS OF NEW YORK)
NH	NEIGHBORHOOD HEALTH PROVIDERS
NY	NEW YORK HOSPITAL
NL	NYL CARE HEALTH PLANS OF NEW YORK
XX	OTHER PLAN
OX	OXFORD
PA	PARTNERS IN HEALTH
PH	PHS (PHYSICIANS HEALTH SERVICES OF NEW YORK)
PR	PRUDENTIAL HEALTH CARE PLAN OF NEW YORK
QE	QUESTMORE (EMPIRE)
BX	THE BRONX HEALTH PLAN
UH	UNITED HEALTHCARE OF NEW YORK
UP	UNIVERSAL HEALTH PLAN
US	US HEALTH CARE
VY	VYTRA HEALTHCARE
WE	WELL.CARE
WT	WESTCHESTER PHSP
99	UNKNOWN
-1	NO HEALTH PLAN

Immunization Information Source

<u>Code</u>	<u>Name</u>
D	DOCUMENT
O	OTHER PROVIDER
S	OTHER SYSTEM
V	VACCINATOR

Note: See pages 21-22.

Language

<u>Code</u>	<u>Name</u>
07	ARABIC
03	CHINESE
01	ENGLISH
06	HAITIAN-CREOLE
04	KOREAN
09	OTHER
05	RUSSIAN
02	SPANISH

Manufacturer

<u>Code</u>	<u>Name</u>
AB	ABBOTT
AD	ADAMS
ALP	ALPHA THERAPEUTIC CORPORATION
AR	ARMOUR [Inactive -use AVB]
AVB	AVENTIS BEHRING, L.L.C [Inactive -use ZLB]
AVI	AVIRON
BA	BAXTER [Inactive -use BAH]
BAH	BAXTER HEALTHCARE CORPORATION
BAY	BAYER CORPORATION
BP	BERNA [Inactive -use BPC]
BPC	BERNA PRODUCTS CORPORATION
CEN	CENTEON L.L.C. [Inactive -use AVB]
CHI	CHIRON CORPORATION [Inactive- use NOV]
CMP	CELLTECH MEDEVA PHARMACEUTICALS [Inactive -use NOV]
CNJ	CANGENE CORPORATION
CON	CONNAUGHT [Inactive-use PMC]
DVC	DYNPORT VACCINE COMPANY
EVN	EVANS MEDICAL LIMITED (Inactive-use CHI)
GEO	GEOVAX LABS, INC.
GRE	GREER LABORATORIES, INC.

Manufacturer continued

<u>Code</u>	<u>Name</u>
IAG	IMMUNO INTERNATIONAL AG [Inactive—use BAH]
IM	MERIEUX [inactive –Use PMC]
IUS	IMMUNO -US , INC.
JPN	THE RESEARCH FOUNDATION FOR MICROBIAL DISEASES /OSAKA UNIV (BIKEN)
KGC	KOREA GREEN CROSS CORPORATION
LED	LEDERLE [Inactive –Use WAL]
MA	MASSACHUSETTS PH [Inactive –Use MBL]
MBL	MASSACHUSETTS BIOLOGIC LABORATORIES
MED	MEDIMMUNE, INC.
MIL	MILES [Inactive—use BAY]
MIP	BIOPORT CORPORATION
MSD	MERCK
NAB	NABI
NAV	NORTH AMERICAN VACCINE, INC. [Inactive—use BAH]
NOV	NOVARTIS PHARMACEUTICAL CORPORATION
NVX	NOVAVAX, INC.
NYB	NEW YORK BLOOD CENTER
ORT	ORTO-CLINICAL DIAGNOSTICS
OTC	ORGANON TEKNIKA CORPORATION
OTH	OTHER MANUFACTURER
PD	PARKEDALE PHARMACEUTICALS
PMC	SANOFI PASTEUR
PRX	PRAXIS BIOLOGICS [Inactive –Use WAL]
PWJ	POWDERJECT PHARMACEUTICALS [Inactive—useNOV]
SCL	SCLAVO
SI	SWISS SERUM AND VACCINE INST. [Inactive –Use BPC]
SKB	GLAXOSMITHKLINE
SOL	SOLVAY PHARMACEUTICALS
TAL	TALECRIS BIOTHERAPEUTICS
USA	UNITED STATES ARMY MEDICAL RESEARCH AND MATERIAL COMMAND
UNK	UNKNOWN
VXG	VAXGENE
WA	WYETH-AYERST [Inactive –Use WAL]
WAL	WYETH-AYERST
ZLB	ZLB BEHRING

For an updated list, please go to: <http://www.cdc.gov/nip/registry/h17/h17-mvx.htm>

Race

<u>Code</u>	<u>Name</u>
4	ASIAN
1	BLACK
3	NATIVE AM/ALASKAN ESKIMO
9	OTHER OR UNKNOWN
5	PACIFIC ISLANDER
2	WHITE

State

<u>Code</u>	<u>Name</u>
AL	ALABAMA
AK	ALASKA
AZ	ARIZONA
AR	ARKANSAS
CA	CALIFORNIA
CO	COLORADO
CT	CONNECTICUT
DE	DELAWARE
DC	DISTRICT OF COLUMBIA
FL	FLORIDA
FN	FOREIGN
GA	GEORGIA
HI	HAWAII
ID	IDAHO
IL	ILLINOIS
IN	INDIANA
IA	IOWA
KS	KANSAS
KY	KENTUCKY
LA	LOUISIANA
ME	MAINE
MD	MARYLAND
MA	MASSACHUSETTS
MI	MICHIGAN
MN	MINNESOTA
MS	MISSISSIPPI
MO	MISSOURI
MT	MONTANA
NE	NEBRASKA
NV	NEVADA
NH	NEW HAMPSHIRE

State Continued

New York City Department
of Health and Mental Hygiene

Citywide Immunization Registry
UPIF Specification

Release 4.0
05/08/07

NJ	NEW JERSEY
NM	NEW MEXICO
NY	NEW YORK
NC	NORTH CAROLINA
ND	NORTH DAKOTA
OK	OKLAHOMA
OR	OREGON
PA	PENNSYLVANIA
PR	PUERTO RICO
RI	RHODE ISLAND
SC	SOUTH CAROLINA
SD	SOUTH DAKOTA
TN	TENNESSEE
TX	TEXAS
XX	UNKNOWN, NOT STATED OR OUT OF COUNTRY
UT	UTAH
VT	VERMONT
VI	VIRGIN ISLANDS
VA	VIRGINIA
WA	WASHINGTON
WV	WEST VIRGINIA
WI	WISCONSIN
WY	WYOMING

Vaccine

VACCINE GROUPS	NAME	BRAND NAME	CIR CODE	CPT CODE	DESCRIPTION
----------------	------	------------	----------	----------	-------------

VACCINE GROUPS	NAME	BRAND NAME	CIR CODE	CPT CODE	DESCRIPTION
DTaP/DT/Td/Tdap	Diphtheria Antitoxin		12	90296	diphtheria antitoxin
	DT	generic	28	90702	diphtheria and tetanus toxoids, adsorbed for pediatric use, < 7 yrs.
	DTaP	Tripedia®; Infanrix®	20	90700	diphtheria, tetanus toxoids and acellular pertussis vaccine (DTaP), for use in individuals younger than seven years, for intramuscular use
	DTaP, 5 pertussis antigens ⁵	DAPTACEL®	106	90700	diphtheria, tetanus toxoids and acellular pertussis vaccine (DTaP), 5 pertussis antigens
	DTP ⁶	Tri-Immunol®	01	90701	diphtheria, tetanus toxoids and pertussis vaccine
	DTaP, NOS ⁷		107		diphtheria, tetanus toxoids and acellular pertussis vaccine, NOS
	Td	DECAVAC®	113	90714	Tetanus, diphtheria, adsorbed, preservative-free, (Td;2yrs)
	Td	generic	09	90718	Tetanus and diphtheria toxoids (Td) adsorbed for use in individuals >= 7 yrs, for intramuscular use
	Tdap	ADACEL™ Boostrix™	115	90715	Tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap), 11-64 yrs, for intramuscular use Tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap), 10-18 yrs, for intramuscular use
	TIG	Baytet®	13	90389	tetanus immune globulin
	Tetanus Toxoid	generic	35	90703	tetanus toxoid, for intramuscular use
DTaP-Hib	DTaP-Hib	TriHIBit®	50	90721	DTaP-Haemophilus influenzae type b conjugate vaccine
DTP-Hib	DTP-Hib ⁸	Tetramune®; ACTHib/DTP®	22	90720	DTP-Haemophilus influenzae type b conjugate vaccine
DTaP-HepB-IPV	DTaP-HepB-IPV	Pediarix®	110	90723	DTaP-hepatitis B and poliovirus vaccine

VACCINE GROUPS	NAME	BRAND NAME	CIR CODE	CPT CODE	DESCRIPTION
Hep B	HBIG	BayHepB®; Nabi-HB	30	90371	hepatitis B immune globulin
	Hep B	ENGERIX-B®; RECOMBIVAX HB®	08	90744	hepatitis B vaccine, pediatric or pediatric/adolescent dosage
	Hep B ^{2,4}	ENGERIX-B®; RECOMBIVAX HB®	42	90745	hepatitis B vaccine, adolescent/high-risk infant dosage
	Hep B- adult ⁴	ENGERIX-B®; RECOMBIVAX HB®	43	90743	hepatitis B vaccine, 11-15 years, 2 dose schedule;
				90746	hepatitis B vaccine, adult >20 years, 3 dose schedule
	Hep B-dialysis	ENGERIX-B®; RECOMBIVAX HB®	44	90747	hepatitis B vaccine, dialysis patient dosage, 4 dose schedule
Hep B, NOS ¹		45		hepatitis B vaccine, NOS	
Hep A	Hep A, adult	Havrix®; VAQTA®	52	90632	hepatitis A vaccine, adult dosage >=18 years, 2 dose series
	Hep A, ped/adol, 2 dose	Havrix®; VAQTA®	63	90633	hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule
	Hep A, ped/adol, 3 dose ⁶	Havrix®; VAQTA®	84	90634	hepatitis A vaccine, pediatric/adolescent dosage, 3 dose schedule
	Hep A, pediatric, NOS ¹		31		hepatitis A vaccine, pediatric dosage, NOS
HepA HepB	Hep A Hep B	Twinrix®	104	90636	Hepatitis A and Hepatitis B (Hep A-HepB), adult dosage >=18 years, intramuscular
HepB-Hib	HepB-Hib	COMVAX®	51	90748	<i>Haemophilus influenzae</i> type b conjugate and Hepatitis B vaccine
Hib	Hib-HBOC	HibTiter®	47	90645	<i>Haemophilus influenzae</i> type b vaccine, HBOC conjugate

VACCINE GROUPS	NAME	BRAND NAME	CIR CODE	CPT CODE	DESCRIPTION
	Hib-PRP-D ¹	ProHIBit®	46	90646	<i>Haemophilus influenzae</i> type b vaccine, PRP-D conjugate
	Hib-PRP-OMP	PedvaxHIB®	49	90647	<i>Haemophilus influenzae</i> type b vaccine, PRP-OMP conjugate
	Hib-PRP-T	ActHIB®	48	90648	<i>Haemophilus influenzae</i> type b vaccine, PRP-T conjugate
	Hib, NOS ¹		17		<i>Haemophilus influenzae</i> type b vaccine, conjugate NOS
Influenza	Influenza, intranasal	FluMist®	111	90660	influenza virus vaccine, live, attenuated, for intranasal use
	Influenza-split	Fluzone-split®; Fluvirin®	15	90655	influenza virus vaccine, split virus, preservative free , 6-35 months old, 0.25mL dosage, single-dose syringe
				90657	influenza virus vaccine, split virus, for children 6-35 months of age, for intramuscular use
				90656	influenza virus vaccine, split virus, preservative free, >=3 years old, 0.5mL dosage, single dose
Influenza-whole ¹	Fluzone-split®; Fluvirin®	16	90659	influenza virus vaccine, whole virus	
MMR/ Measles/Rubella	MMR	MMR II®	03	90707	measles, mumps and rubella virus vaccine (MMR), live, for subcutaneous use
	MMRV	ProQuad®	94	90710	measles, mumps, rubella, and varicella vaccine (MMRV), live, for subcutaneous use
	Measles	ATTENUVAX®	05	90705	measles virus vaccine, live, for subcutaneous use

VACCINE GROUPS	NAME	BRAND NAME	CIR CODE	CPT CODE	DESCRIPTION
	Measles and Rubella	M-R VAX II®	04	90708	measles and rubella virus vaccine, live, for subcutaneous use
	Mumps	MUMPSVAX®	07	90704	mumps virus vaccine, live, for subcutaneous use
	Rubella	Meruvax II®	06	90706	rubella virus vaccine, live, for subcutaneous use
	Rubella/Mumps ⁶		28		rubella and mumps virus vaccine
Pneumococcal	Pneumococcal conjugate	Prevnar® (PCV7)	100	90669	pneumococcal conjugate vaccine
	Pneumococcal polysaccharide	Pneumovax 23®	33	90732	pneumococcal vaccine, polysaccharide, ≥2 yrs, for subcutaneous or intramuscular use
	Pneumococcal, NOS ¹		109		pneumococcal vaccine, NOS
Polio	IPV (e-IPV)	IPOL®	10	90713	poliovirus vaccine, inactivated, for subcutaneous or intramuscular use
	OPV [†]	Orimune®	02	90712	poliovirus vaccine, live, oral
	Polio, NOS ¹		89		poliovirus vaccine, NOS
Varicella	Varicella	Varivax®	21	90716	varicella virus vaccine
	VZIG	generic	36	90396	varicella zoster immune globulin
Other	BCG ⁵	Glaxo strain®; Tice strain®	19	90585	Bacillus Calmette-Guerin vaccine
	HPV	Gardasil™	62	90649	Human Papilloma Virus (types 6,11,16 and 18), quadrivalent vaccine, women ages 9-26, for intramuscular use
	IG, NOS ¹		14		immune globulin, NOS
	Meningococcal A,C,Y,W-135 diphtheria conjugate	Menactra®	114	90734	meningococcal conjugate (MCV4; 11-55 yrs.)
	Meningococcal polysaccharide	Menomune®	32	90733	meningococcal polysaccharide vaccine (MPSV4; ≥2 yrs.)
	Meningococcal, NOS ¹		108		Meningococcal, NOS
	Plague Vaccine ⁴		23	90727	plague vaccine, for intramuscular use

VACCINE GROUPS	NAME	BRAND NAME	CIR CODE	CPT CODE	DESCRIPTION
	Rabies-intradermal injection	Imovax Rabies I.D.®	40	90676	rabies vaccine, for intradermal injection
	Rabies-intramuscular injection	RabAvert®	18	90675	rabies vaccine, for intramuscular injection
	RIG	BayRab®; Imogam®	34	90375	rabies immune globulin
	Rotavirus ⁴	Rotashield®	74	90680	rotavirus vaccine, tetravalent, live, oral
	Rotavirus	RotaTeq™	116	90680	rotavirus vaccine, pentavalent, live, oral
	Rotavirus, NOS ¹		122		rotavirus vaccine, NOS
	RSV IGIV		71	90379	respiratory syncytial virus immune globulin, intravenous
	RSV-MAb	SYNAGIS®	93	90378	respiratory syncytial virus monoclonal antibody (palivizumab), IM
	Typhoid, live oral Ty21	Vivitif Berna	25	90690	typhoid, live, oral
	Typhoid	Typhim Vi	101	90691	typhoid vaccine, Vi capsular polysaccharide (ViCPS), for intramuscular use
	Zoster (shingles)	Zostavax®	121	90736	herpes Zoster (shingles) vaccine, >= 60 years of age, for subcutaneous use
	Yellow Fever	YF-VAX	37	90717	yellow fever vaccine, live, for subcutaneous use

¹ NOS (not otherwise specified), avoid using NOS codes except to record historical records that lack indicated specificity.

² As of August 27, 1998, Merck ceased distribution of their adjuvanted high-risk infant hepatitis B vaccine dosage. Code 42 should only be used to record historical records. For current administration of hepatitis B vaccine, pediatric / adolescent dosage, use code 08.

³ Code 99 will not be used in this table to avoid confusion with code 999.

⁴ As of September 1999, a 2-dose hepatitis B schedule for adolescents (11-15 year olds) was FDA approved for Merck's Recombivax HB adult formulation. Use code 43 for both the 2-dose and the 3-dose schedules. Note the CPT codes differ.

⁵ As of May 2002, the FDA approved Aventis Pasteur's DTaP vaccine Daptacel for use in the U.S. Aventis Pasteur also manufactures the DTaP vaccine Tripedacel. Daptacel contains 5 pertussis antigens, while Tripedacel contains 2 pertussis antigens. To distinguish between the two Aventis Pasteur DTaP vaccines, code 100 was added to represent Daptacel. Use code 106 for Daptacel and code 20 for Tripedacel and other DTaP vaccines.

⁶ These vaccines are no longer manufactured in the U.S. but may be used to report historical records of known specificity.

Note: List may not include all brand names. The use of brand names does not imply endorsement of any product by the NYC Department of Health and Mental Hygiene.

Source: CDC. For a complete and updated list: www.cdc.gov/nip/registry/nip_tier1techlist/vup1.htm

Sample UPIF Document

1|P|S5678CD4|MyPracticeName|05/07/2008|MyFirstName MyLastName (718) 555-1212
2|P|S5678|XY56789A|01/30/1994|F|JANE|DOE|N|111 AVENUE A. |BROOKLYN|NY|11207|7180000000|JILL|HILL|N|1|1
3|M|S5678|XY56789A|01/30/1994|F|JANE|DOE|N|111 AVENUE A. |BROOKLYN|NY|11207|7180000000|02/12/2008|15|VFEMALE |DOCTOR|11111|1|MH
4|P|S|1112|AB23456Z|09/14/1990|F|JILL|DOE|N|222 AVENUE B. APT 5-H|BKLYN|NY|11206|7180000000|MARY|HILL|N|4|1|1
5|M|S|1112|AB23456Z|09/14/1990|F|JILL|DOE|N|222 AVENUE B. APT 5-H|BKLYN|NY|11206|7180000000|02/06/2006|15|VMALE|DOCTOR|11111|1|PX
6|M|S|1112|AB23456Z|09/14/1990|F|JILL|DOE|N|222 AVENUE B. APT 5-H|BKLYN|NY|11206|7180000000|11/01/09|1990|1100|EXAM|DOCTOR|21111|1|PX
7|J|

Appendix V

Web File Repository user's guide for transferring files to NYC CIR



**Citywide
Immunization
Registry**

visit us online: nyc.gov/health/cir



We help
you call
the shots!



Michael R. Bloomberg, Mayor,
City of New York
Thomas R. Frieden, M.D., M.P.H., Commissioner,
Department of Health and Mental Hygiene
THE NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE

125 Worth St. CN #64R, New York, NY 10013 - (212) 676-2323 - fax (212) 676-2314

4. Uploading Files:

After successful Log In, you should see a Welcome screen with your User Name, similar to this:



The user may change the password here, by clicking on the Password Button **Password** in the left-hand column, and following the directions.

To upload your files to the UPIF Files folder of the CIR:

- a. First click on the Browse button **Browse...** (near the top of the screen) and browse your directories to select your file(s). Once you have located your file(s), click on the Upload Button **Upload** to upload your file(s) into the UPIF Files folder of the CIR. The UPIF folder is the default. You may upload as many files as you need. If you have large files or many files, you may submit a zipped file. Our system will accept compressed files, such as zip and tar. Each file should be no larger than 1MB.
- b. If your Upload is successful, you will see your file(s) listed, along with the Status and Timestamp. The file will be automatically processed after about 5 minutes, and the Status will change. See example, below.



Obtain Feedback:

After you see the Status change from Pending to a different message, click on the file name to view the file processing results. Please call us if you need any further details about your files.

5. To Log Out:

Click on the Logout Button **Logout** in the left-hand column.



Web File Repository Basics Guide

1. Contact the Citywide Immunization Registry (CIR) to obtain a User Name and Password at:
212-676-2323.
2. **Prerequisites:**
 - Internet account set up through an Internet Service Provider, such as Earthlink, MSN, AT&T, Juno, AOL, or an "always-on" internet service provided by your organization.
 - Internet Browser, such as Internet Explorer or Netscape Navigator. The WFR is best viewed in Internet Explorer.
3. **Log In:**
 - a. Log onto the internet.
 - b. Make sure a browser is open or open one by clicking on your Internet Explorer or Netscape Navigator icon.
 - c. Type in the address below in the address window:

<https://a816-ftssl.nyc.gov/cgi-bin/cir-wfr>



- d. A Log In screen will open. Enter your CIR WFR Login Username and then your Password. Click the "Login" button .

CIR Web File Repository

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Release Notes

Please log in.
Please enter your username and password.

Username:

Password: