

**Massachusetts Department of Public Health  
Massachusetts Immunization Information System  
MIIS Flat File Transfer Specifications for Provider Sites  
Version 1.7**

For use with:	Version
MIIS	2.4
HL7 Gateway	1.0
MIIS Web Service	1.5

**05/22/2012**



# 1 Revision History

<b>Date</b>	<b>Version</b>	<b>Description</b>	<b>Author</b>
November 22, 2011	1.0	Draft	D. Michaud
December 9, 2011	1.0	Inserted footnote at CVX table and CVX field about availability of CPT to CVX mapping document.	D. Michaud
December 12, 2011	1.0	Remove Batch Header and Batch Trailer segments.	D. Michaud
	1.0	Adding File Naming Convention requirements for Providers	D. Michaud
December 14, 2011	1.0	Removed RVRS sections to new document	D. Michaud
January 6, 2012	1.0	Removed references to all HL7 segment fields and removed references to Batch Header and Batch Trailer segments.	D. Michaud J. Schaeffer
February 21, 2012	1.5	Removed Tuberculin skin tests from CVX list. Added double quotation request for commas within a field.	A. Stecko
March 8, 2012	1.6	Updated Manufacturer and Vaccine Table based on latest copy of the Reference Code Tables	A. Martis
May 22, 2012	1.7	Updated field D26- Primary Care Facility Specification. Changed from 'RE' to 'R' . Updated example based on change.	A. Martis

## **2** **Contacts**

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## Table of Contents

1	Revision History .....	2
2	Contacts .....	3
3	Introduction .....	5
4	Audience .....	5
5	MIIS Flat File: Scope of Use.....	5
6	Purpose of This Document.....	5
7	Prerequisites for Data Exchange with the MIIS .....	5
8	Scope.....	5
9	Implementation Steps .....	6
10	Process Flow Diagram.....	6
11	Message File Naming Convention for Provider Flat Files .....	6
12	Flat File Layout and Data Fields .....	7
13	Tagging Message Sections .....	7
14	Usage Codes for Record Fields .....	8
15	Patient Demographic Field Listing .....	8
16	Sample Single Record in Flat File Record Format from Provider.....	12
17	Appendix 1: Data Tables .....	13
17.1	Administrative Sex: For Flat File Sequence Number D9 (HL7 Table 0001).....	13
17.2	Race: For Flat File Sequence Number D11 (HL7 Table 0005) .....	13
17.3	Ethnic Group: For Flat File Sequence Number D22 (HL7 Table 0189).....	14
17.4	Immunization Registry Status: For Flat File Sequence Number D28 (HL7 Table 0441).....	14
17.5	Next of Kin Relationship: For Flat File Sequence Number D31, D42 (Subset of HL7 Table 0063).....	14
17.6	Financial Class: For Flat File Sequence Number D50 (HL7 Table 0064).....	15
17.7	Insurance Company Name: For Flat File Sequence Number D51 (User-defined table UD01) ...	16
17.8	CVX Code: For Flat File Sequence Number S2 (User-defined table UD02).....	17
17.9	Substance Manufacturer Name: For Flat File Sequence Number S8 (HL7 table 0227).....	24
17.10	27	
17.11	Route: For Flat File Sequence Number S11 (HL7 Table 0162).....	27
17.12	Administration Site: For Flat File Sequence Number S12 (HL7 Table 0163).....	28

### **3 Introduction**

The Massachusetts Department of Public Health (MDPH) utilizes a flat file upload service to receive, validate, and process immunization-related records that are sent to the Massachusetts Immunization Information System (MIIS). This functionality allows a provider site to preload a large amount of historical immunization and patient data from providers.

### **4 Audience**

The following people should read and jointly discuss the contents of this Guide:

1. Technical people who are responsible for your network and external access from it.
2. Data base people familiar with patient record level data and its formats.
3. Clinical providers who collect, analyze, and act on information found in those records.

### **5 MIIS Flat File: Scope of Use**

The MIIS Flat File format and process was developed to support a one time, batched record upload of historical records to the MIIS for sites that:

- Collect information about immunization events but do not have an EHR (Electronic Health Record) System.
- EHR\HL7 sites that also have a stored, non-HL7 convertible, archive of immunization histories.
- EHR sites that desire to output and load a historical cohort of records from their current EHR into the MIIS by Flat File.

### **6 Purpose of This Document**

The document describes the following:

- General overview of the functionality of the MIIS Flat File processing.
- Technical Description of the data fields included in MIIS Flat File processing.
- Description of the business logic used to process Flat File messages.
- Definition of the Flat File format utilized by the MIIS.

### **7 Prerequisites for Data Exchange with the MIIS**

In order to send electronic data to the MIIS, the following prerequisites should be met by each submitting system:

1. Ability to set up and use a FTP client to connect to the MIIS infrastructure.
2. Ability to construct a valid Flat File message.
3. System account for the sending organization in the EOHHS Virtual Gateway.

### **8 Scope**

This section describes the high level functionality and features of the flat file processing.

The primary business driver behind flat file processing is the ability to import historical data from medical providers. By minimizing the need for duplicate data entry in external applications and the MIIS, this functionality will reduce the administrative burden on providers and decrease the chance of erroneous or out of date information between systems.

This document describes the flat file processing functionality only. It does not describe any software clients which interact with the MIIS or HL7 Gateway, and it does not describe functionality of the final repository of the data, the MIIS.

## 9 Implementation Steps

The MIIS team has created three secure network directories for flat file processing and archiving that provider sites can use to upload flat file records. These are Staging, Target, and Archive:

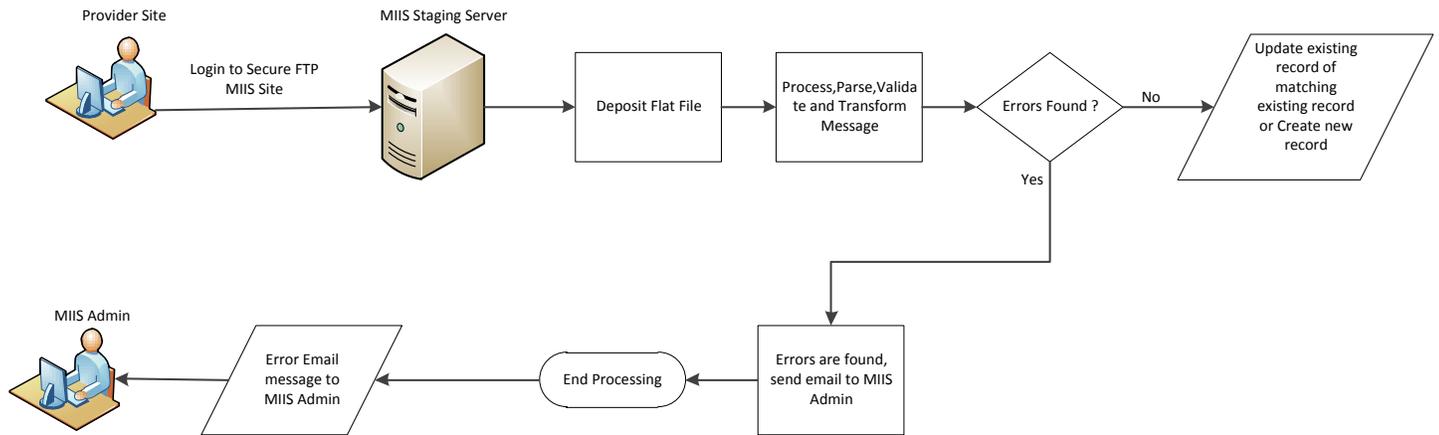
1. Site provided Flat files will be initially uploaded to a password protected FTP Staging directory interface.
2. Sites will be enrolled, identified and authenticated to use the Staging directory interface during the testing and validation phase.
3. Sites should have both technical and clinical resources assigned during the Staging phase to jointly review any errors that occur during initial upload via the interface.

The MIIS team will work with site representatives to build and validate the MIIS Flat Files and will help sites test flat file uploads to the Staging environment.

After successful parsing of the flat file, scheduled background process will upload the file into the MIIS database. If any errors in processing occur, an email acknowledgement will be generated.

## 10 Process Flow Diagram

The following diagram illustrates the important actors and steps of the flat file processing.



## 11 Message File Naming Convention for Provider Flat Files

When provider sites are ready to deposit one or more flat files, the following naming convention must be used. If any part of the file name is incorrect the file will not be processed.

The flat file naming convention string is noted below.

F\_VACMANID\_SMF\_DATE(MMDDYYYY)\_ITERATIONS.txt

An example of a file name:

F\_10084\_SMF\_06122011\_1.txt

- F is required as the first digit in the file name
- The VacMan ID (“Pin”) identifies the clinical site that the MIIS will use to associate each flat file record with an existing MIIS site.
- The string “SMF” is in position three
- The date of the download must use the syntax noted above.
- Sites who are resubmitting a previously sent file on the same day (because of file rejection for some missing required data) should number the iteration pieces in the following manner. Example:

F\_10084\_SMF\_06122011\_1.txt – Previously submitted file

F\_10084\_SMF\_06122011\_1\_01.txt – resubmitted file after correcting.

If the same file is resubmitted again for some reason, it should follow the naming convention

F\_10084\_SMF\_06122011\_1\_02.txt

- The iteration number “2” indicates that this is the second flat file for the same site and that this site has deposited the second file on the same date.

## 12 Flat File Layout and Data Fields

Provider sites using the Flat File format to load historical records should ensure that the entire immunization history is included in the record.

The table below shows the data fields that comprise the Flat File required by the MIIS.

- The file format has to follow the convention for the CSV (comma separated value), where each data field is separated by a comma.
- Exact order of the fields should always be maintained for correct processing. If no value is available for a particular field, the empty place holder between commas is still expected.
- If commas exist within a comma-delimited field, the field must be enclosed with double quotation marks. For example, if the Physician name field has an entry SMITH, MD, this value should be enclosed in quotation marks “SMITH, MD”.

## 13 Tagging Message Sections

The sections of the flat file will be marked as follows:

- DEMO:** Demographics Segment (one for each client record)
- SHOT:** Immunization Record Segment (repeated for each shot)
- CLIN:** Clinical Comment Segment (repeated for each clinical comment)

## 14 Usage Codes for Record Fields

The following codes are found in the “Usage” column for each field.

Usage Code	Interpretation	Comment
<b>R</b>	Required	<ul style="list-style-type: none"> <li>• <b>Reject, and generate error.</b> The MIIS will reject the message if the required field is absent or does not meet any data type and/or code set specifications within this document. None of the data within the message will be saved.</li> </ul>
<b>RE</b>	Required but may be empty	<ul style="list-style-type: none"> <li>• <b>Accept.</b> MIIS will not raise an error if the “RE” field is absent or does not meet the data type and/or code set specifications described in this document. The MIIS will process the message.</li> </ul>
<b>O</b>	Optional	<ul style="list-style-type: none"> <li>• <b>Accept without any errors.</b> MIIS will not raise an error if it receives an unexpected value in an optional field, and will ignore the values if they do not meet specifications described in this document.</li> </ul>
<b>CE</b>	Conditional but may be empty	<ul style="list-style-type: none"> <li>• <b>Accept.</b> MIIS will not raise an error if the “CE” field is absent or does not meet any data type and/or code set specifications described in this document. The MIIS will process the message.</li> <li>• This usage has an associated condition predicate. This predicate is an attribute within the message. If the predicate is satisfied, then the sending application must always send the element.</li> </ul>

## 15 Patient Demographic Field Listing

SEQ	FLAT FILE DATA ELEMENT	MIIS DATA ELEMENT	USAGE	NOTES	MAPPED TO MIIS
D1	MRN	MRN	R	This number is associated with the VaccinePIN facility. Mapped to External Id and Facility Medical Record Number	YES

SEQ	FLAT FILE DATA ELEMENT	MIIS DATA ELEMENT	USAGE	NOTES	MAPPED TO MIIS
D2	MRN Facility	MRN Facility	RE	VaccinePIN. Mapped to Current Facility Name	YES
D3	Last Name	Last Name	R		YES
D4	First Name	First Name	R		YES
D5	Middle Name	Middle Name	RE		YES
D6	Suffix	Suffix	RE		YES
D7	Mother's Maiden Name	Mother's Maiden Name	RE		NO
D8	Birth Date	Birth Date	R	MM/DD/YYYY. (This field in converted to the YYYY-MM-DD).	YES
D9	Gender	Gender	RE	Administrative Sex: (HL7 Table 0001)	YES
D10	Alias	Alias	RE		YES
D11	Race	Race	RE	Race: (HL7 Table 0005)	YES
D12	Street Address 1	Street Address 1	RE		YES
D13	Street Address 2	Street Address 2	RE		YES
D14	City	City	RE		YES
D15	State	State	RE	Standard State Abbreviations	YES
D16	Zip Code	Zip Code	RE		YES
D17	Country	Country	RE		YES
D18	Phone1	Phone1	RE	Home Phone  Valid Phone Number formats: (nnn)nnn-nnnn; nnnnnnnnnn; nnn-nnn-nnnn	YES

SEQ	FLAT FILE DATA ELEMENT	MIIS DATA ELEMENT	USAGE	NOTES	MAPPED TO MIIS
D19	Phone2	Phone2	RE	Secondary Phone  Valid Phone Number formats: (nnn)nnn-nnnn; nnnnnnnnnn; nnn-nnn-nnnn	YES
D20	Email	Email	RE	Valid Email address formats:  <a href="mailto:abc@xyz.net">abc@xyz.net</a> ; <a href="mailto:ab.c@tx.gov">ab.c@tx.gov</a> ; <a href="mailto:abc123@tx.com">abc123@tx.com</a>	YES
D21	Contact Method	Contact Method	O		YES
D22	Ethnicity	Ethnicity	RE	Ethnic Group: (HL7 Table 0189)	YES
D23	Multiple Birth	Multiple Birth	O	Y/N	NO
D24	Birth Order	Birth Order	O		NO
D25	Date of Death	Death Date	RE	MM/DD/YYYY	YES
D26	Primary Care Facility	Is Primary Facility?	R	Accepted values : YES/NO.  If field = 'YES' the MRN would persist in the MIIS System. The Provider would be able to search/view a record by MRN.  If Field = 'NO', MRN would not persist in the MIIS System. The Provider would not be able to search by MRN.	YES
D27	PCP	PCP	RE		YES
D28	Patient Status (Provider)	Patient Status (Provider)	RE	Immunization Registry Status: (HL7 Table 0441)	YES

SEQ	FLAT FILE DATA ELEMENT	MIIS DATA ELEMENT	USAGE	NOTES	MAPPED TO MIIS
D29	VFC Status	VFC Status	RE	Financial Class: (HL7 Table 0064)	YES
D30	Insurer	Insurer	RE	Insurance Company Name: (User-defined table UD01)	YES
S1	Filler Order Number	Filler Order Number	R		YES
S2	Vaccine Date Given	Vaccine Date Given	R	MM/DD/YYYY	YES
S3	CVX Code <sup>1</sup>	CVX Code	R	CVX Code: (User-defined table UD02); mapped to Vaccine Group and Name	YES
S4	Vaccine Dose	Vaccine Dose	RE		YES
S5	Immunization Information Source	Historical Shot?	RE	Y/N	YES
S6	Administered By	Administered By	RE	Name of administering physician	YES
S7	National Provider Identifier	National Provider Identifier (NPI)	RE		YES
S8	Lot Number	Lot Number	RE		YES
S9	Vaccine Manufacturer	Vaccine Manufacturer	RE	Substance Manufacturer Name: (HL7 table 0227)	YES
S10	Incomplete Dose?	Incomplete Dose?	RE	Y/N	YES
S11	Date Reported	Date Reported	RE	MM/DD/YYYY	YES
S12	Administration Route	Administration Route	RE	Route: (HL7 Table 0162)	YES

<sup>1</sup> For sites that use CPT coding to identify immunizations given, MIIS staff can provide upon request, a mapping table that maps CPT to CVX codes.

SEQ	FLAT FILE DATA ELEMENT	MIIS DATA ELEMENT	USAGE	NOTES	MAPPED TO MIIS
S13	Administration Site	Administration Site	RE	Administration Site: (HL7 Table 0163)	YES
S14	State Supplied	Is State Supplied?	RE	Y/N; If empty – default to Y	YES
S15	VIS Publication Date	VIS Publication Date	RE	MM/DD/YYYY	YES
S16	VIS Given Date	VIS Given Date	RE	MM/DD/YYYY	YES
S17	Affected by Recall?	Affected by Recall?	RE	Y/N	YES
S18	Expired Lot Administered?	Expired Lot Administered?	O	Y/N	YES

**15.1.1.1 Clinical Comments or Indications**

CCM1	Comment Code	Category	O	TBD	YES
		Contraindication			YES
CCM2	Effective Date	Applied Date	O	TBD	YES
CCM3	End Date	End Date	O	TBD	YES

**16 Sample Single Record in Flat File Record Format from Provider**

DEMO:5041,10988,Test1,Terry,,Marie,07/10/1992,M,HintonAlias,2054-5,10 Clean Street,Apt 1017,Lowell,MA,,USA,6175781234,6175781234,TTest1@testmail.com,Home Phone,2186-5,N,1,,YES,pcpxx,A,V05,16 SHOT:1234,07/10/1992,8,0.5,Y,vmattox,554321,LOT123,GSK,N,08/31/1992,IM,LL,Y,09/20/1992,09/01/1992,N CGTY:cg hinton,cgbkae,,GRD,14 western avenue,Athol,MA,2171,3333333333,4444444444,Y

17

**Appendix 1: Data Tables**

The tables in this appendix follow CDC recommendations for HL7 data mapping. Please review all Data Tables carefully. If the incoming HL7 value is not expected, the data will not load.

**17.1 Administrative Sex: For Flat File Sequence Number D9 (HL7 Table 0001)**

VALUE	DESCRIPTION
F	Female
M	Male
U	Unknown/Undifferentiated

**Race: For Flat File Sequence Number D11 (HL7 Table 0005)**

If your current EHR has additional values, please ensure that they are mapped to one of the values below.

VALUE	DESCRIPTION
1002-5	American Indian or Alaska Native
2028-9	Asian
2076-8	Native Hawaiian or Other Pacific Islander
2054-5	Black or African-American
2106-3	White
2131-1	Other Race
<empty field>	Unknown/undetermined

**Ethnic Group: For Flat File Sequence Number D22 (HL7 Table 0189)**

Value	DESCRIPTION
2135-2	Hispanic or Latino
2186-5	not Hispanic or Latino
<empty field>	Unknown

**Immunization Registry Status: For Flat File Sequence Number D28 (HL7 Table 0441)**

VALUE	DESCRIPTION
A	Active
I	Inactive--Unspecified
L	Inactive-Lost to follow-up (cannot contact)
M	Inactive-Moved or gone elsewhere (transferred)
P	Inactive-Deceased
U	Unknown

**Next of Kin Relationship: For Flat File Sequence Number D31, D42 (Subset of HL7 Table 0063)**

VALUE	DESCRIPTION
BRO	Brother
CGV	Care giver

VALUE	DESCRIPTION
FCH	Foster child
FTH	Father
GRD	Guardian
GRP	Grandparent
MTH	Mother
OTH	Other
PAR	Parent
SCH	Stepchild
SEL	Self
SIB	Sibling
SIS	Sister
SPO	Spouse

**Financial Class: For Flat File Sequence Number D50 (HL7 Table 0064)**

VALUE (PV1-20)	LABEL	DEFINITION
V01	Not VFC eligible	Client does not qualify for VFC because they do not have one of the statuses below. This category does not include the underinsured (see V08).
V02	VFC eligible - Medicaid/Medicaid Managed Care	Client is currently on Medicaid or Medicaid managed care.
V03	VFC eligible - Uninsured	Client does not have insurance coverage for vaccinations.
V04	VFC eligible - American Indian/Alaskan Native	Client is a member of a federally recognized tribe.

<b>V05</b>	VFC eligible - Federally Qualified Health Center Patient (under-insured)	Client has insurance that partially covers vaccines received on visit and so is eligible for VFC coverage at a Federally Qualified Health Center. The client must be receiving the immunizations at the FQHC.
<b>V06</b>	VFC eligible - State specific eligibility (e.g. S-CHIP plan)	Client is eligible for VFC, based on State-specific rules, such as S-CHIP.
<b>V07</b>	VFC eligibility - Local-specific eligibility	Client is eligible for VFC, based on local-specific rules.
<b>V08</b>	Not VFC eligible - Under-insured	Client has insurance that partially covers vaccines received on visit. The immunizations were not administered at a Federally Qualified Health Center (FQHC)

**Insurance Company Name: For Flat File Sequence Number D51 (User-defined table UD01)**

VALUE	DESCRIPTION
1	MassHealth
2	BlueCross and BlueShield of MA
3	Harvard Pilgrim Health Care
4	Tufts Associated Health Plan
5	Connecticut General Life Ins
6	Total Health Plan, Inc.
7	Unicare Life and Health Insurance
8	Aetna Inc.
9	Fallon Community Health Plan
10	United Healthcare Ins. Co.
11	Health New England, Inc.
12	Tufts Benefit Administrators Inc

VALUE	DESCRIPTION
13	Mass. State Carpenters Health Benefits Fund
14	Health Plans, Inc.
15	United Healthcare Service Corp
16	CIGNA HealthCare of Massachusetts
17	Massachusetts Labors' Health and Welfare Fund
18	United Healthcare Of New England
19	Neighborhood Health Plan
20	Guardian Life Ins Co of America
21	Blue Cross & Blue Shield of Rhode Island
22	London Health Administrators, LTD
23	I.B.E.W. Health Benefit Plan
24	Great-West Life and Annuity Insurance Co.
25	Chickering Claims Administrator
26	MED TAC Corporation
27	Comprehensive Benefits Administrator Inc
28	Group Insurance Service Center Inc
29	Pioneer Management Systems
30	I U O E LOCAL 4

**[2CVX Code: For Flat File Sequence Number S2 \(User-defined table UD02\)](#)**

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<sup>2</sup> For sites that use CPT coding to identify immunizations given, MIIS staff can provide upon request, a mapping table that maps CPT to CVX codes.

<b>CODE</b>	<b>VACCINE NAME</b>	<b>ACTIVE?</b>
<b>Adenovirus, type 4</b>	54	Y
<b>Adenovirus, type 7</b>	55	Y
<b>Anthrax</b>	24	Y
<b>BCG-TB</b>	19	Y
<b>Cholera-Inject</b>	26	Y
<b>CMV-IgIV</b>	29	Y
<b>DT-Peds</b>	28	Y
<b>DTP</b>	1	N
<b>Td</b>	9	Y
<b>Tetanus toxoid, adsorbed</b>	35	Y
<b>DTaP</b>	20	Y
<b>DTaP-Hib</b>	50	Y
<b>DTP-Hib</b>	22	N
<b>Japanese Encephalitis-SC (JE-VAX)</b>	39	Y
<b>Flu-TIV 6-35 mos - preservative-free</b>	140	Y
<b>Flu-TIV, whole virus</b>	16	N
<b>Flu-TIV &gt;= 3 yrs</b>	141	Y
<b>Flu-LAIV</b>	111	Y
<b>HepA-Adult</b>	52	Y
<b>HepA-Peds 3 Dose</b>	84	N
<b>HepA-Peds 2 Dose</b>	83	Y
<b>HBIg</b>	30	Y
<b>HepA-HepB Adult</b>	104	Y

<b>CODE</b>	<b>VACCINE NAME</b>	<b>ACTIVE?</b>
HepB-Hib	51	Y
HepB-Peds	8	Y
Hib-HbOC	47	Y
Hib-OMP	49	Y
Hib-PRP-D	46	N
Hib-PRP-T	48	Y
Ig	86	Y
IgIV	87	Y
Lyme	66	N
MPSV4	32	Y
Measles-Rubella	4	N
Measles	5	Y
MMR	3	Y
Mumps	7	Y
Rubella	6	Y
Rubella-Mumps	38	N
MMRV	94	Y
Plague	23	N
PCV7	100	Y
PPSV23	33	Y
IPV	10	Y
OPV	2	N
Rabies-ID	40	Y

<b>CODE</b>	<b>VACCINE NAME</b>	<b>ACTIVE?</b>
Rlg	34	Y
Rabies-IM	18	Y
RSV-IgIV	71	Y
Rotavirus, pentavalent	116	Y
Tlg	13	Y
Typhoid-AKD	53	Y
Typhoid-HP	41	Y
Typhoid-Oral	25	Y
Typhoid-ViCPs	101	Y
Vaccinia (smallpox)	75	Y
Varicella	21	Y
VZlg	36	Y
Yellow Fever	37	Y
HepB-adolescent/HR infant	42	N
RSV-IgIM	93	Y
Flu, unspecified formulation	88	N
HepA, unspecified formulation	85	N
HepB, unspecified formulation	45	N
Hib, unspecified formulation	17	N
Pneumococcal, unspecified formulation	109	N
Polio, unspecified formulation	89	N
Typhoid, unspecified formulation	91	N
HepB-Dialysis 3 Dose	44	Y

<b>CODE</b>	<b>VACCINE NAME</b>	<b>ACTIVE?</b>
HepB Adult	43	Y
DTAP-HepB-IPV	110	Y
Vaccinia immune globulin VIG	79	Y
Rabies,unspecified formulation	90	N
DTaP,5 pertussis antigens	106	Y
Vaccinia (smallpox), diluted	105	N
Botulinum-immune globulin	27	Y
Diphtheria-antitoxin	12	Y
Adenovirus, unspecified formulation	82	N
Tdap	115	Y
MCV-Menactra	114	Y
IG, unspecified formulation	14	Y
Herpes Simplex Virus, Type 2	60	N
HIV	61	N
Rotavirus, tetravalent	74	N
Rotavirus, monovalent	119	N
Rotavirus, unspecified formulation	122	N
HPV, bivalent	118	Y
HPV, quadrivalent	62	Y
Meningococcal, unspecified formulation	108	N
Dengue Fever	56	N
Hantavirus	57	N
Hep A Peds, unspecified formulation	31	N

<b>CODE</b>	<b>VACCINE NAME</b>	<b>ACTIVE?</b>
Junin Virus	63	N
Leishmaniasis	64	N
Leprosy	65	N
Malaria	67	N
Melanoma	68	N
Tularemia	78	N
DTaP-Hib-IPV	120	Y
Tetanus toxoid, unspecified formulation	112	Y
DTaP-Hib-HepB	102	N
Hep C	58	N
DTaP-IPV	130	Y
Hep E	59	N
Meningococcal C	103	N
Parainfluenza-3	69	N
Q Fever	70	N
Rheumatic Fever	72	N
Pertussis	11	N
Staph	76	N
Tick Borne Encephalitis	77	N
Rift Valley Fever	73	N
Zoster	121	Y
PCV13	133	Y
DTaP,unspecified formulation	107	N

CODE	VACCINE NAME	ACTIVE?
Diphtheria toxoid		Y
Td-preservative free	113	Y
Rho(D) immune globulin (RhIGIV), human	0	Y
Venezuelan encephalitis attenuated	80	N
Venezuelan encephalitis inactivated	81	N
Venezuelan encephalitis unspecified formulation	92	N
Flu-High Dose	135	Y
Flu-H5N1	123	Y
Flu-H1N1-preservative-free >=3 yrs	126	N
Flu-H1N1 >=3yrs	127	N
Flu-H1N1-LAIV	125	N
Flu-H1N1 6-35 mos	127	N
DTaP-IPV-Hib-Hep B, historical	132	N
HPV, unspecified formulation	137	N
MCV-Menveo	136	Y
Td (not adsorbed)	138	Y
Td, unspecified formulation	139	N
VZIG (IND)	117	N
Typhus, Historical	131	N
Flu-H5N1-unspecified formulation	128	N
Japanese encephalitis, unspecified formulation	129	N
Tetanus toxoid, not adsorbed	142	Y
Unknown vaccine or immune globulin	999	Y

CODE	VACCINE NAME	ACTIVE?
RSV-MAb - respiratory syncytial virus monoclonal antibody (motavizumab), intramuscular	145	N
DTaP,IPV,Hib,HepB	146	N
RSV-MAb	145	Y
Flu-TIV-ID	144	Y
Japanese Encephalitis-IM (IXARO)	134	N
DUMMY	998	Y

**Substance Manufacturer Name: For Flat File Sequence Number S8 (HL7 table 0227)**

VALUE	DESCRIPTION	ACTIVE?
AB	Abbott Laboratories (Ross Products Division)	Y
AB	Abbott Laboratories (Ross Products Division)	Y
ACA	Acambis, Inc	Y
AD	Adams Laboratories, Inc.	Y
AKR	Akorn, Inc	Y
ALP	Alpha Therapeutic Corporation	Y
AP	Aventis Pastuer	N
AR	Armour	N
AVB	Aventis Behring L.L.C.	N
AVI	Aviron	N
BA	Baxter Healthcare Corporation	N

VALUE	DESCRIPTION	ACTIVE?
BAH	Baxter Healthcare Corporation (includes North America Vaccine, Inc)	Y
BAY	Bayer (Including Miles And Cutter)	Y
BP	Berna Products	N
BPC	Berna (Including Swiss Serum And Vib)	Y
BRR	Barr Laboratories	Y
BTP	Biotest Pharmaceuticals Corporation	Y
CDH	California Department of Health Services	Y
CEN	Centeon (Including Armour Pharm)	N
CHI	Chiron Corporation (A business of Novartis)	N
CMP	Celltech Medeva Pharmaceuticals	N
CNJ	Cangene	Y
CON	Connaught	N
CSL	CSL Biotherapies	Y
DVC	DynPort Vaccine Company, LLC	Y
EVN	Evans Medical Limited	N
GB	Genesis Biopharm	Y
GEO	GeoVax Labs, Inc.	Y
GRE	Greer Laboratories Inc.	Y
GSK	GlaxoSmithKline (SmithKline Beecham and Glaxo Wellcome)	Y
IAG	Immuno International Ag	N
IM	Merieux	N
INT	Intercell Biomedical	Y

VALUE	DESCRIPTION	ACTIVE?
IUS	Immuno-U.S., Inc.	Y
JPN	Osaka University (Biken)	Y
KGC	Korea Green Cross Corporation	Y
LED	Lederle	N
MA	Massachusetts Public Health Biologic Lab (inactive use MBL)	Y
MBL	Massachusetts Biologic Laboratories	Y
MED	MedImmune, Inc.	Y
MIL	Miles	N
MIP	Bioport Corporation	Y
MSD	Merck & Co., Inc.	Y
NAB	NABI (formerly North American Biologicals, Inc)	Y
NAV	North American Vaccine, Inc.	N
NOV	Novartis Vaccines (Chiron, Ciba-Geigy, Sandoz, PowderJect, Celltech Medeva, Evans)	Y
NVX	Novavax, Inc.	Y
NYB	New York Blood Center	Y
ORT	Ortho-Clinical Diagnostics	Y
OTC	Organon Teknika Corporation	Y
OTH	Other Manufacturer	Y
PD	Parkedale Pharmaceuticals (formerly Parke Davis)	Y
PFI	Pfizer (formerly Wyeth, Wyeth Ayerst, Lederle and Praxis)	Y
PFR	Pfizer	Y
PMC	sanofi pasteur	Y

VALUE	DESCRIPTION	ACTIVE?
PRX	Praxis Biologics	N
PWJ	PowderJect Pharmaceuticals	N
SAN	sanofi pasteur (formerly Sanofi Pasteur, formerly Aventis Pasteur Inc., Connaught and Pasteur Merieux)	Y
SCL	Biocene Sclavo	Y
SI	Swiss Serum and Vaccine Inst.	N
SKB	GlaxoSmithKline	Y
SOL	Solvay Pharmaceuticals	Y
TAL	Talecris (includes Bayer Biologics)	Y
UNK	UNKNOWN	Y
USA	U.S. Army Med Research	Y
VXG	VaxGen	Y
WA	Wyeth-Ayerst	N
WAL	Wyeth-Ayerst	N
ZLB	ZLB Behring	N

**[Route: For Flat File Sequence Number S11 \(HL7 Table 0162\)](#)**

CODE	VALUE	DESCRIPTION
C38238	ID	Intradermal
C28161	IM	Intramuscular
C38284	NS	Nasal
	IN	Intranasal
C38276	IV	Intravenous

<b>C38288</b>	PO	Oral
	OTH	Other/Miscellaneous
<b>C38676</b>		Percutaneous
<b>C38299</b>	SC	Subcutaneous
<b>C38305</b>	TD	Transdermal

**[Administration Site: For Flat File Sequence Number S12 \(HL7 Table 0163\)](#)**

<b>VALUE</b>	<b>DESCRIPTION</b>
<b>LT</b>	Left Thigh
<b>LA</b>	Left Upper Arm
<b>LD</b>	Left Deltoid
<b>LG</b>	Left Gluteous Medius
<b>LVL</b>	Left Vastus Lateralis
<b>LLFA</b>	Left Lower Forearm
<b>RA</b>	Right Upper Arm
<b>RT</b>	Right Thigh
<b>RVL</b>	Right Vastus Lateralis
<b>RG</b>	Right Gluteous Medius
<b>RD</b>	Right Deltoid
<b>RLFA</b>	Right Lower Forearm