



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



IMMUNIZATION INTEGRATION PROGRAM IMMUNIZATION-RELATED REQUIREMENTS TEST PLAN

V10.0.10



Table of Contents

- Overview 6
- 1. Initial Data Load 7
 - 1.1 Juana Mariana Vazquez Initial Data Load..... 7
 - 1.1.1 Step 1: Enter Initial Demographic Data for New Patient Juana Mariana Vazquez..... 8
 - 1.1.2 Step 2: Enter Initial Immunization Data for Juana Mariana Vazquez: Immunizations from Practice 11
 - 1.1.3 Step 3: Enter Initial Immunization Data for Juana Mariana Vazquez from Another Practice 13
 - 1.1.4 Step 4: Attempt to enter vaccination too long ago for Juana Mariana Vazquez 15
 - 1.1.5 Step 5: Attempt to enter historical vaccination for current date for Juana Mariana Vazquez..... 17
 - 1.1.6 Step 6: Enter Initial Immunization Data for Juana Mariana Vazquez Reported by Parent 18
 - 1.2 Juan Marcel Marina Initial Data Load..... 21
 - 1.2.1 Step 1: Enter Initial Demographic Data for New Patient Juan Marcel Marina..... 22
 - 1.2.2 Step 2: Enter Clinical History for Juan Marcel Marina 24
 - 1.3 Juana Mariela Gonzales Initial Data Load 26
 - 1.3.1 Step 1: Enter Initial Demographic Data for Juana Mariela Gonzales..... 27
 - 1.4 Juana Maria Gonzales Initial Data Load 30
 - 1.4.1 Step 1: Enter Initial Demographic Data for Juana Maria Gonzales..... 30
 - 1.5 Anita Francesca Marina Initial Data Load..... 34
 - 1.5.1 Step 1: Demographic Data Quality Checks for Anita Francesca Marina..... 35
 - 1.5.2 Step 2: Enter Initial Demographic Data for Anita Francesca Marina 38
 - 1.5.3 Step 3: Anita Francesca Marina Electronically Submits Prior Immunization to Provider 41
 - 1.5.4 Step 4: Provider Review and Entry of Immunization Data for Anita Francesca Marina Provided by Patient..... 42
 - 1.5.5 Step 5: Enter Clinical History for Anita Francesca Marina 44
 - 1.6 Enter Inventory 46
 - 1.6.1 Step 1: Enter Vaccine Inventory 46
 - 1.6.2 Step 2: View Inventory 50
 - 1.7 Manage Configuration 53
 - 1.7.1 Step 1: Add New Vaccine Information 54
 - 1.7.2 Step 2: Update Vaccine Schedule Information 55
 - 1.7.3 Step 3: Configure SOAP-based CDC WSDL..... 56
 - 1.7.4 Step 4: Configure Jurisdiction-Specific Vaccine Eligibility Code..... 57
- 2. Juana Mariana Vazquez Visit 59
 - 2.1 Query the Registry for Juana Mariana Vazquez 59
 - 2.1.1 Step 1: Select Patient Juana Mariana Vazquez..... 61
 - 2.1.2 Step 2: Query Registry for vaccination history and forecast for Juana Mariana Vazquez 62



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



2.1.3 Step 3: View and Compare response to request for vaccination history for Juana Mariana Vazquez	63
2.1.4 Step 4: Mark first MMR Dose as Invalid	66
2.1.5 Step 5: View the vaccination forecast for Juana Mariana Vazquez	67
2.1.6 Step 6: Reconcile and import vaccinations from Evaluated History and Forecast for Juana Mariana Vazquez	68
2.1.7 Step 7: View the updated vaccination forecast for Juana Mariana Vazquez	70
2.2 Juana Mariana Vazquez, Enter Orders and Immunizations	72
2.2.1 Step 1: Order IPV and view prior reaction	73
2.2.2 Step 2: Vaccine Refusal Data Quality Checks	74
2.2.3 Step 3: IPV Parental Refusal	76
2.2.4 Step 4: Enter Immunization Data for MMR Given 2 Weeks Prior	77
2.2.5 Step 5: Attempt to Order Varicella Dose	79
2.2.6 Step 6: Order Influenza Vaccine	80
2.2.7 Step 7: Vaccine Dosing and Administration Data Quality Checks	81
2.2.8 Step 8: Record Influenza Vaccine administration	83
2.3 Juana Mariana Vazquez Transmit Immunization Report	86
2.3.1 Step 1: Transmit the immunization report to the Immunization Registry	87
2.3.2 Step 2: Receive ACK Z23 from Immunization Registry	88
2.3.3 Step 3: Record an adverse reaction	89
2.4 Juana Mariana Vazquez Display Immunization Report	91
2.4.1 Step 1: Produce an immunization report for Juana Mariana Vazquez including all history	91
2.5 Juana Mariana Vazquez Provide Patient Access to Immunization Report	105
2.5.1 Step 1: Produce an immunization report for Juana Mariana Vazquez including all history	106
2.5.2 Step 2: Provide access to Printable Immunization Record for Juana Mariana Vazquez	118
2.5.3 Step 3: Provide access to Vaccine Information Statements	131
3. Juan Marcel Marina Visit	133
3.1 Query the Registry for Juan Marcel Marina	133
3.1.1 Step 1: Select Patient Juan Marcel Marina	134
3.1.2 Step 2: Query Registry for vaccination history and forecast for Juan Marcel Marina ...	136
3.1.3 Step 3: View and import response to request for vaccination history for Juan Marcel Marina	137
3.1.4 Step 4: View the vaccination forecast for Juan Marcel Marina	139
3.2 Juan Marcel Marina, Enter Orders and Immunizations	141
3.2.1 Step 1: Orders Administration of Hepatitis B vaccine	142
3.2.2 Step 2: Orders administration of DTaP vaccine and alerted that the dose is too early .	143
3.2.3 Step 3: Attempt to record HepB Vaccine administration route with data validation checking	144
3.2.4 Step 4: Records Hepatitis B Vaccine lot number with expired lot alert	145



- 3.2.5 Step 5: Record Hepatitis B Vaccine administration 147
- 3.2.6 Step 6: Records Influenza Vaccine administration with VFC eligibility checking 149
- 3.2.7 Step 7: Record Influenza Vaccine administration for Juan Marcel Marina 151
- 3.2.8 Step 8: Attempt to administer DTaP vaccine and alerted that the dose is too early 153
- 3.3 Juan Marcel Marina Transmit Immunization Report 155
 - 3.3.1 Step 1: Transmit the Immunization Report for Juan Marcel Marina 156
 - 3.3.2 Step 2: Receive ACK Z23 from Immunization Registry 157
 - 3.3.3 Step 3: Transmit Delete for Vaccine Recorded in Error 158
 - 3.3.4 Step 4: Receive ACK Z23 from Immunization Registry 160
- 4. Juana Mariela Gonzales Visit 161
 - 4.1 Query the Registry for Juana Mariela Gonzales 161
 - 4.1.1 Step 1: Select Patient Juana Mariela Gonzales 162
 - 4.1.2 Step 2: Query Registry for vaccination history and forecast for Juana Mariela Gonzales 164
 - 4.1.3 Step 3: View and import response to request for vaccination history for Juana Mariela Gonzales 165
 - 4.1.4 Step 4: View the vaccination forecast for Juana Mariela Gonzales 166
 - 4.2 Juana Mariela Gonzales, Enter Orders and Immunizations 169
 - 4.2.1 Step 1: Enter Initial Clinical Information for Juana Mariela 170
 - 4.2.2 Step 2: Vaccine Deferral Data Quality Checks 171
 - 4.2.3 Step 3: Enters a medical deferral for the vaccines due 172
 - 4.3 Juana Mariela Gonzales Transmit Immunization Report 175
 - 4.3.1 Step 1: Transmit the Immunization Report for Juana Mariela Gonzales 176
 - 4.3.2 Step 2: Receive ACK Z23 from Immunization Registry 177
- 5 Juana Maria Gonzales Visit 179
 - 5.1 Query the Registry for Juana Maria Gonzales 179
 - 5.1.1 Step 1: Select Patient Juana Maria Gonzales 180
 - 5.1.2 Step 2: Query Registry for vaccination history and forecast too many matches found response 182
 - 5.1.3 Step 3: Error Handling – Too many matches found 183
 - 5.1.4 Step 4: Query Registry for vaccination history and forecast no persons found response 184
 - 5.1.5 Step 5: Error Handling – No persons found 185
 - 5.1.6 Step 6: Query Registry for vaccination history and forecast for Juana Maria Gonzales 186
 - 5.1.7 Step 7: View and import response to request for vaccination history for Juana Maria Gonzales 187
 - 5.1.8 Step 8: View the vaccination forecast for Juana Maria Gonzales 189
 - 5.2 Juana Maria Gonzales, Enter Orders and Immunizations 191
 - 5.2.1 Step 1: Record Combo Vaccine administration 192
 - 5.3 Juana Maria Gonzales Transmit Immunization Report – Error Handling 194



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



5.3.1 Step 1: Transmit the immunization report for Juana Maria Gonzales – Fatal Error Handling.....	195
5.3.2 Step 2: Receive ACK Z23 Fatal Error – CVX Code.....	196
5.3.3 Step 3: Transmit the Immunization Report for Juana Maria Gonzales – warning handling	197
5.3.4 Step 4: Receive ACK Z23 Warning – Invalid Value	198
5.3.5 Step 5: Transmit the Immunization Report for Juana Maria Gonzales – Multiple warning handling	199
5.3.6 Step 6: Receive ACK Z23 Multiple Warnings	200
6. Reporting	202
6.1 Due and Overdue Immunizations	202
6.1.1 Step 1: Produce Overdue Immunizations Cohort Report	203
6.2 Acknowledgment Error Reporting	206
6.2.1 Step 1: Produce Acknowledgments Report	206
7 Anita Francesca Marina Visit	209
7.1 Notify Patients of Immunization Status	209
7.1.1 Step 1: Notify New Vaccine Candidate Patients	209
7.2 Query the Registry for Anita Francesca Marina.....	212
7.2.1 Step 1: Select the Set of Patients to be Seen in the Vaccination Clinic.....	213
7.2.2 Step 2: Query Registry for vaccination history and recommendations for Anita Francesca Marina.....	214
7.2.3 Step 3: View and import response to request for vaccination history for adult patient Anita Francesca Marina.....	215
7.2.4 Step 4: View the vaccination recommendations for Anita Francesca Marina.....	217
7.3 Anita Francesca Marina, Enter Orders and Immunizations	219
7.3.1 Step 1: Vaccine Administration Data Quality Checks	220
7.3.2 Step 2: Record Vaccine Administration for Hepatitis B.....	222
7.3.3 Step 3: Record Vaccine Administration for New Vaccine.....	224
7.4 Anita Francesca Marina Transmit Immunization Report	227
7.4.1 Step 1: Transmit the Immunization Report for Anita Francesca Marina.....	227
7.4.2 Step 2: Receive ACK Z23 from Immunization Registry.....	229
8 Review Inventory.....	231
8.1 View Inventory.....	231
8.1.1 Step 1: View updated vaccine inventory	231
8.2 Produce Inventory Report of Remaining Stock	235
8.2.1 Step 1: Produce Stock Inventory Report - Expiration Date Sort.....	235
8.2.2 Step 2: Produce Stock Inventory Report - Funding Source Sort.....	238



Overview

This test plan is to be used for the testing of the Immunization Integration Program: Immunization-Related Capabilities and Guidance developed under a cooperative agreement with the American Immunization Registry Association (AIRA) and the Centers for Disease Control and Prevention (CDC). All test cases are required to be executed where they include test objectives for which conformance is claimed. The test plan includes both functional and interoperability tests including Vaccine Update Notifications (HL7 V2.5.1 VXU/Z22) and Query and Response (Evaluated History and Forecast Group Z44/Z42).

This version is updated for use in the 2022 test cycle. It is aligned with ONC 2015 Certification Criteria for § 170.315(f)(1) Transmission to Immunization Registries. This test plan is approved by ONC to demonstrate conformance to these criteria.

This release includes:

- Testing for 3 new requirements:
 - Requirement 9.4 Add Jurisdiction-Specific Vaccine Eligibility Code
 - Requirement 9.5 Acknowledgment Data Reporting
 - Requirement 5.15 Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration
- Removal of testing for deprecated requirement: 2.6 Notify Public Health Immunization Registry (IIS) of Update from Adverse Event
- Updated messages to remove submission of adverse events and to correct refusal messages.
- Added ADT Messages to Initial Data Load for all patients to minimize data entry and notes to indicate manual entry of one of the patient demographics and clinical history will be required (or reviewed) to ensure that entry of the required fields is possible.
- Annual update of all dates to age the patient and associated vaccine products/vaccinations.
- Removed data elements for County and Birth location information
- Added Publicity Code Effective Dates.
- Added specific data entry instructions for VIS data.
- Updated new vaccination to replace the temporary Anthrax concepts with Pfizer Covid products along with associated qualifying language relating to the substituted vaccine.
- Editorial consistency updates.

The 2019/2020 release included:

- additional clarification in the notes offering additional guidance regarding variations such as:
 - Forecasting variation relating to patient age at the time the test is run
 - Clarification that the 11-digit NDC code with dashes is required
 - Clarifying new vaccine information needs to be added before inventory can be added for a specific vaccine,
- updates to products reflecting those available at the time of the documented vaccine, primarily for influenza vaccines with frequent product changes,
- date corrections to align the message content with the test instructions
- administration site corrections to align the message content with the test instructions
- added testing for the requirement to Produce Vaccine History Report
- updates to use of EHR term and clarification that criteria apply to EHRs or other clinical software systems
- added testing for Select One or More Patients
- added testing for adding new vaccine codes
- added testing for Receive Dose Not Indicated Alert Upon Vaccine Administration
- added testing for Update Patient Immunization Schedule
- added testing for Provide Access to Printable Immunization Record
- added testing for Review Patient-Provided Immunization Information
- added testing for Provide Access to Update Immunization Information
- added testing for Notify Patients of Immunization Status
- added testing for SOAP-based CDC WSDL
- added testing for Data Quality Checks
- correcting HL7 Encoded Messages



1. Initial Data Load

The initial data load will consist of the vendor entering data during live interactive testing for five (5) patients with various scenarios. The data entry will include demographic data, immunization histories and specific conditions for each patient. The initial data load will also populate the inventory used in the use case.

1.1 Juana Mariana Vazquez Initial Data Load

Demonstrates the ability to record pediatric demographic data, historical vaccinations, and clinical conditions for a school-aged child Juana Mariana Vazquez. There are no transactions associated with this test case.

Description

The practice site for the scenario is Shoreline Pediatrics. The EHR vendor loads demographic data and clinical history for Juana Mariana Vazquez. The data includes immunizations provided by the practice.

The vendor also enters:

- Two vaccines administered at other sites
 1. an influenza vaccine given at a local pharmacy
 2. an inactivated polio vaccine given elsewhere and not reported to the registry – the history includes an adverse reaction (febrile seizure) 8 hours after the vaccine was administered
- Adverse reaction to inactivated polio vaccine (febrile seizure) and the date and source of information

NOTE: the historical vaccines will be imported during the Registry query (e.g., from another practice).

Comments

Set-up step evaluating EHR functions for capturing and storing patient pediatric demographic data, historical immunizations, and clinical conditions. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of the pediatric demographic data, historical immunizations, and clinical conditions in the record created for Juana Mariana Vazquez using the test data provided.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHR or other clinical software system must be able to store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother's maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient's information to external systems such as an immunization registry.



Record Past Immunizations: The EHR or other clinical software system allows providers to enter information about immunizations given elsewhere (e.g., by another doctor, at a public health clinic, pharmacy, etc.) with incomplete details.

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2104: Indicates that a historical dose is being reported for the current date.
- 2204: Indicates that the administration being reported occurred too far in the past.

Supporting data for:

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History: The public health immunization registry has returned the requested immunization history for a patient (Return Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient's local immunization history and include the time of the update and the source of the new information.

Identify Adverse Event: The EHR or other clinical software system enables capture of structured data regarding adverse events.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

1.1.1 Step 1: Enter Initial Demographic Data for New Patient Juana Mariana Vazquez

Juana Mariana Vazquez is entered as a patient in the EHR, including all pediatric demographic information.

Description

The EHR vendor loads demographic data for Juana Mariana Vazquez.

Comments



Set-up step evaluating EHR functions for capturing and storing patient pediatric demographic data. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of the pediatric demographic in the record created for Juana Mariana Vazquez.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHR or other clinical software system must be able to store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother's maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient's information to external systems such as an immunization registry.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all demographic data provided, and in particular (mother's maiden name, multiple birth, birth order), with all required attributes indicated by [Y]. The code values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the specified coded value when the attribute is conveyed in later transaction messages.

For systems that document vaccine program eligibility at the patient level: VFC Eligible

To minimize data entry, the ADT A04 message below the data table may be used to automate data entry. If this option is used, the proctor will review the ability of the system to record, modify, and store these attributes.

Patient ID (previously listed as "Medicaid Number")	Vendor supplied	Y
Patient ID: Assigning Authority ID (i.e., owning source)/Facility Name	Shoreline Pediatrics	Y
Patient ID: Type (e.g., medical record number, IIS ID)	Vendor supplied	Y
Patient Name: First	Juana	Y
Patient Name: Middle	Mariana	Y
Patient Name: Last	Vazquez	Y
Patient Date of Birth	11/01/2016	Y
Birth Time	11:05 am	N
Patient Gender (Administrative Sex)	F	Y
Patient Multiple Birth Indicator	No	Y



Patient Birth Order	N/A	C
Responsible Person Name: First	Joanna	Y
Responsible Person Name: Middle	Merida	Y
Responsible Person Name: Last	Vazquez	Y
Responsible Person Name: Relationship to Patient	Grandparent	Y
Mother's Name: First	Maria	Y
Mother's Name: Middle	Merida	Y
Mother's Name: Last	Vazquez	Y
Mother's Name: Maiden Last	Acosta	Y
Patient Address: Street	4345 Standish Way	Y
Patient Address: City	Stamford	Y
Patient Address: State	CT	Y
Patient Address: Country	USA	Y
Patient Address: Zip code	06903	Y
Race	White	Y
Ethnicity	Hispanic or Latino	Y
Patient Primary Language	English	Y
Patient Telephone Number	(203) 555-1212	Y
Patient Telephone Number Type (e.g., home, cell)	cell	Y
Patient E-mail Address	jmg@gmail.com	N
Publicity Code	Reminder/recall - any method (02 HL70215)	Y
Publicity Code Effective Date	11/01/2016	Y
Protection Indicator	N	Y
Protection Indicator Effective Date	11/01/2016	Y
Immunization Registry Status	Active	Y
Preferred Contact Method	Text	Y

ADT A04 Message:

MSH|^~\&|Test EHR Application|X68||NIST Test Iz Reg|20211031082240-0500||ADT^A04^ADT_A01|NIST-IZ-001.00|P|2.5.1|||ER|AL||||

EVN|A04|202110310822|202110310822|01||202110310822

PID|1||123456^^^MYEHR^MR~987633^^^MYIIS^SR||Vazquez^Juana^Mariana^^^L|Acosta^Maria^Merida^^^M|201611011105|F||2106-3^White^CDCREC|4345 Standish Way^^Stamford^CT^06903^USA^L||^PRN^CP^^1^203^5551212~^NET^^jmg@gmail.com||eng^English^ISO639|||2135-2^Hispanic or Latino^CDCREC||N

PD1|||||||||02^Reminder/Recall - any method^HL70215|N|20161101|||A|20161101|20161101

NK1|1|Vazquez^Joanna^Merida^^^L|GRP^Grandparent^HL70063|4345 Standish Way^^Stamford^CT^06903^^L|^PRN^CP^^1^203^5551212~^NET^^jmg@gmail.com



PV1||O||||^Smith^Frank^^^^^^L^^^^^^^^^^MD|^Smith^Frank^^^^^^L^^^^^^^^^^MD|
 ||||||||||||||||||||SP^Shoreline Pediatrics^HL70362|||||

Notes

Publicity Code is included in order to support documentation of communication method for the TestCaseGroup:Cohort Report. If the EHR does not support this attribute, the result for this step may indicate pass, but the lack of support should be documented as a notable exception.

The date/time of birth for the twins includes birth time. This aids in distinguishing the birth order for multiple births. Since this patient is not a multiple birth, the vendor can pass with notable exception if the birth date/time does not include precision of birth time. The notable exception should document the lack of support for birth time.

While the PID indicates that it is Vendor Supplied, the ID returned from the registry query is: 123456^^^MYEHR^MR~987633^^^MYIIS^SR. The IIS will not know the PID of the local system, and there is no context-based validation checking for the PID.

Registry status of 'Active' is required when sending a VXU to the IIS which will be done for this patient.

Manual entry of one of the patient demographics and clinical history will be required (or reviewed) to ensure that entry of the required fields is possible.

1.1.2 Step 2: Enter Initial Immunization Data for Juana Mariana Vazquez: Immunizations from Practice

Patient History from the local practice is entered into the EHR.

Description

The EHR vendor loads immunization history data from the local practice for Juana Mariana Vazquez. This includes an MMR dose that was given too early. This MMR dose serves to seed checking for dose given too early in TestCaseGroup: Juana Mariana Vazquez Visit, TestCase: Query the Registry for Juana Mariana Vazquez, TestStep: Mark first MMR Dose as Invalid.

Comments

No Comments

Pre-Condition

The EHR has recorded all of the pediatric demographic data in the record created for Juana Mariana Vazquez.

Post-Condition

The EHR has recorded all of the pediatric demographic data in the record created for Juana Mariana Vazquez.

Test Objectives



Record Past Immunizations: The EHR or other clinical software system allows providers to enter information about immunizations given elsewhere (e.g., by another doctor, at a public health clinic, pharmacy, etc.) with incomplete details.

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Supporting data for:

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History: The public health immunization registry has returned the requested immunization history for a patient (Return Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient's local immunization history and include the time of the update and the source of the new information.

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all immunization data known to the local practice as provided, with all required attributes indicated by [Y]. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Vaccine from Practice - HepB		
Entered By	Sandra Molina	Y
Ordering Provider	Frank Smith	N
Entering Organization	Shoreline Pediatrics	Y
Administration Notes (Vaccine Event information source)	New immunization record (NIP001 00)	Y
Date/Time of Start of Administration	12/20/2016	Y
Vaccine Administered	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08, NDC 58160-0820-43)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Sandra Molina	N
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901	N
Lot Number	6352FK1	Y
Substance Expiration Date	12/14/2016	Y
Substance Manufacturer Name	GlaxoSmithKline Biologicals SA (MVX SKB)	Y
Completion Status	Completed (CP)	Y
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)	Y



Administration Site	Left Thigh (HL70163: LT)	Y
Vaccine from Practice – MMR		
Entered By	Sandra Molina	Y
Ordering Provider	Frank Smith	N
Entering Organization	Shoreline Pediatrics	Y
Vaccine Event information source	New immunization record (NIP001 00)	Y
Date/Time of Start of Administration	08/22/2017	Y
Vaccine Administered	Measles, mumps, rubella virus vaccine (CVX 03, NDC 00006-4681-01)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Sandra Molina	N
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901	N
Lot Number	0853CC	Y
Substance Expiration Date	12/15/2017	Y
Substance Manufacturer Name	Merck and Co Inc (MVX MSD)	Y
Completion Status	Completed (CP)	Y
Route of Administration	Subcutaneous (NCIT C38299, HL70162: SC)	Y
Administration Site	Left Thigh (HL70163 LT)	Y

Notes

The MMR dose serves to seed checking for dose given too early in TestCaseGroup: Juana Mariana Vazquez Visit, TestCase: Query the Registry for Juana Mariana Vazquez, TestStep: Mark first MMR Dose as Invalid. The EHR does not need to specify a 'new immunization', as long as there is a way to indicate that it is a new immunization within the EHR, this is acceptable (e.g. the default interpretation of the data entry is that it is a new immunization and not historical).

1.1.3 Step 3: Enter Initial Immunization Data for Juana Mariana Vazquez from Another Practice

Patient History from another practice is entered into the EHR.

Description

The EHR vendor loads immunization history data from another practice into the record for Juana Mariana Vazquez.

Comments

No Comments

Pre-Condition



The EHR has recorded all of the pediatric demographic data in the record created for Juana Mariana Vazquez.

Post-Condition

The immunization history from another practice is loaded into the record created for Juana Mariana Vazquez.

Test Objectives

Record Past Immunizations: The EHR or other clinical software system allows providers to enter information about immunizations given elsewhere (e.g., by another doctor, at a public health clinic, pharmacy, etc.) with incomplete details.

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Supporting data for:

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History: The public health immunization registry has returned the requested immunization history for a patient (Return Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient’s local immunization history and include the time of the update and the source of the new information.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all immunization history data from another practice as provided, with all required attributes indicated by [Y]:

Historical Vaccine from Another Practice – DtaP		
Entered By	Sandra Molina	Y
Ordering Provider	J. Rodriguez	N
Entering Organization	Shoreline Pediatrics	Y
Vaccine Event information source (Administration Notes)	Historical information – from other provider (NIP001 02)	Y
Date/Time of Start of Administration	11/20/2020	Y
Vaccine Administered	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) (NDC 49281-0286-58)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Linda Casera	N



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Administered-at Location	4253 Standish Way, Stamford Connecticut 06903	N
Lot Number	D643QS8243	Y
Substance Expiration Date	12/1/2020	Y
Substance Manufacturer Name	Sanofi Pasteur Inc (MVX PMC)	Y
Completion Status	Completed (CP)	Y
Route of Administration	Intramuscular (NCIT: C28161, HL70162 IM)	Y
Administration Site	Left Deltoid (HL70163: LD)	Y
Historical Vaccine from Another Practice – Polio		
Entered By	Sandra Molina	Y
Ordering Provider	J. Rodriguez	N
Entering Organization	Shoreline Pediatrics	Y
Vaccine Event information source	Historical information – from other provider (NIP001 02)	Y
Date/Time of Start of Administration	2/21/2018	Y
Vaccine Administered	poliovirus vaccine, inactivated (CVX 10) (NDC 49281-0860-88)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Linda Casera	N
Administered-at Location	4253 Standish Way, Stamford Connecticut 06903	N
Lot Number	D335PV9644	Y
Substance Expiration Date	4/22/2018	Y
Substance Manufacturer Name	Sanofi Pasteur Inc (MVX PMC)	Y
Completion Status	Completed (CP)	Y
Route of Administration	Subcutaneous (NCIT: C28161, HL70162 SC)	Y
Administration Site	Left Arm (HL70163: LA)	Y
Reaction	Adverse Reaction of (VXC12^fever of >40.5C (105F) within 48 hours of dose^CDCPHINVS)	Y

Notes

No Note

1.1.4 Step 4: Attempt to enter vaccination too long ago for Juana Mariana Vazquez

A historical vaccination is identified as too long ago.

Description

The provider attempts to enter immunization data with a data entry error and is alerted that the date identified is too long ago, in this case, before birth.

Comments



This situation may arise where the vaccination date on the materials provided was misread.

Pre-Condition

The EHR has recorded all of the pediatric demographic data in the record created for Juana Mariana Vazquez.

Post-Condition

The provider has been alerted that the vaccination date was too long ago.

Test Objectives

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

2204: Indicates that the administration being reported occurred too far in the past.

Evaluation Criteria

Evaluation Criteria: During the course of data entry for information below, the EHR triggers the following data quality issues:

1. Triggers error that the vaccination date entered was too long ago (2204)

Historical Vaccine from Pharmacy Reported by Parent – Influenza		
Entered By	Sandra Molina	N
Ordering Provider	Gina Ricci	N
Entering Organization	Shoreline Pediatrics	N
Vaccine Event information source (Administration Notes)	Historical information – from parent's written record (NIP001 03)	
Date/Time of Start of Administration	10/15/2016	Y – Triggers error that the vaccination date entered was too long ago Will be corrected to current date
Vaccine Administered	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) Influenza, injectable, quadrivalent, preservative free, pediatric (NDC 49281-0521-00)	May also trigger error that the NDC is not valid for 2016, but the key error is related to the administration date/time
Administered Amount (of Vaccine)	0.5	N
Administered Units (of Measure)	mL	N



Administering Provider	Gina Ricci	N
Administered-at Location	Oceanview Pharmacy, 15 Post Road, Stamford Connecticut 06901	N
Lot Number	8L4B3423	N
Substance Expiration Date	12/30/2016	N
Substance Manufacturer Name	Sanofi Pasteur Inc (MVX PMC)	N
Completion Status	Completed (CP)	N
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)	N
Administration Site	Left Deltoid (HL70163: LD)	N

Notes

Full vaccination details are provided, but only the minimum data entry necessary to trigger the alert is required for this test step as determined by the vendor. This same information with the correct date will be entered in later in this test case.

1.1.5 Step 5: Attempt to enter historical vaccination for current date for Juana Mariana Vazquez

A historical vaccination is documented for the current date and triggers a data quality alert.

Description

The provider attempts to enter historical immunization for the current date and is alerted that of the possible data quality error.

Comments

No comment.

Pre-Condition

The EHR has recorded all of the pediatric demographic data in the record created for Juana Mariana Vazquez.

Post-Condition

The provider has been alerted that the vaccination date for the historical administration was documented as the current date.

Test Objectives

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.



Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

2104: Indicates that a historical dose is being reported for the current date.

Evaluation Criteria

Evaluation Criteria: Vendor alerts provider that the historical vaccination date entered is the current date:

Historical Vaccine from Pharmacy Reported by Parent – Influenza		
Entered By	Sandra Molina	N
Ordering Provider	Gina Ricci	N
Entering Organization	Shoreline Pediatrics	Y
Vaccine Event information source (Administration Notes)	Historical information – from parent’s written record (NIP001 03)	N
Date/Time of Start of Administration	Current Date	Y
Vaccine Administered	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) Influenza, injectable, quadrivalent, preservative free, pediatric (NDC 49281-0521-00)	Y
Administered Amount (of Vaccine)	0.5	N
Administered Units (of Measure)	mL	N
Administering Provider	Gina Ricci	N
Administered-at Location	Oceanview Pharmacy, 15 Post Road, Stamford Connecticut 06901	N
Lot Number	8L4B3423	N
Substance Expiration Date	12/30/2016	N
Substance Manufacturer Name	Sanofi Pasteur Inc (MVX PMC)	N
Completion Status	Completed (CP)	N
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)	N
Administration Site	Left Deltoid (HL70163: LD)	N

Notes

Full vaccination details are provided, but only the minimum data entry necessary to trigger the alert is required for this test step as determined by the vendor. This same information with the correct date will be entered in later in this test case.

1.1.6 Step 6: Enter Initial Immunization Data for Juana Mariana Vazquez Reported by Parent

Patient History from a pharmacy as reported by the parent is entered into the EHR.

Description

The provider enters immunization data from a pharmacy as reported by the parent for Juana Mariana Vazquez.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Comments

No Comments

Pre-Condition

The EHR has recorded all of the pediatric demographic data in the record created for Juana Mariana Vazquez.

Post-Condition

The immunization history from the pharmacy as reported by the parent is loaded into the record created for Juana Mariana Vazquez.

Test Objectives

Record Past Immunizations: The EHR or other clinical software system allows providers to enter information about immunizations given elsewhere (e.g., by another doctor, at a public health clinic, pharmacy, etc.) with incomplete details.

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Supporting data for:

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History: The public health immunization registry has returned the requested immunization history for a patient (Return Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient's local immunization history and include the time of the update and the source of the new information.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all immunization history data from the pharmacy as provided by the parent with all required attributes indicated by [Y]:

Historical Vaccine from Pharmacy Reported by Parent – Influenza		
Entered By	Sandra Molina	Y
Ordering Provider	Gina Ricci	N
Entering Organization	Shoreline Pediatrics	Y
Vaccine Event information source (Administration Notes)	Historical information – from parent's written record (NIP001 03)	Y
Date/Time of Start of Administration	10/15/2020	Y



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Vaccine Administered	influenza, injectable, quadrivalent, preservative free (CVX 161) Influenza, injectable, quadrivalent, preservative free, pediatric (NDC 49281-0520-00)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Gina Ricci	N
Administered-at Location	Oceanview Pharmacy, 15 Post Road, Stamford Connecticut 06901	Y
Lot Number	8L4B3423	Y
Substance Expiration Date	12/30/2020	Y
Substance Manufacturer Name	Sanofi Pasteur Inc (MVX PMC)	Y
Completion Status	Completed (CP)	Y
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)	Y
Administration Site	Left Deltoid (HL70163: LD)	Y

Notes

No Note



1.2 Juan Marcel Marina Initial Data Load

Demonstrates the ability to record pediatric demographic data, historical vaccinations, and clinical conditions for 1 ½-year old Juan Marcel Marina. There are no transactions associated with this test case.

Description

The practice site for the scenario is Shoreline Pediatrics. The EHR vendor loads demographic data and clinical history for Juan Marcel Marina. The data includes a clinical history of varicella, and serological evidence of Hepatitis A immunity.

Comments

Set-up step evaluating EHR functions for capturing and storing patient pediatric demographic data, historical immunizations, and clinical conditions. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of the pediatric demographic data, historical immunizations, and clinical conditions in the record created for Juan Marcel Marina using the test data provided.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHR or other clinical software system must be able to store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother's maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient's information to external systems such as an immunization registry.

Supporting data for:

Modify Antigen Recommendations Based on Active Diagnoses: The EHR or other clinical software system notifies the provider of any conflicts between recommended vaccines in the updated forecast and the patient's current or historical diagnoses.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note



1.2.1 Step 1: Enter Initial Demographic Data for New Patient Juan Marcel Marina

Juan Marcel Marina is entered as a patient in the EHR, including all pediatric demographic information.

Description

The EHR vendor loads demographic data for Juan Marcel Marina.

Comments

Set-up step evaluating EHR functions for capturing and storing patient pediatric demographic data. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of the pediatric demographic in the record created for Juan Marcel Marina.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHR or other clinical software system must be able to store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother's maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient's information to external systems such as an immunization registry.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all demographic data provided, and in particular (Mother's maiden name, multiple birth, birth order), with all required attributes indicated by [Y]. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

For systems that document vaccine program eligibility at the patient level: Not VFC Eligible

To minimize data entry, the ADT A04 message below the data table may be used to automate data entry. If this option is used, the proctor will review the ability of the system to record, modify, and store these attributes.

Patient ID (previously listed as "Medicaid Number")	Vendor supplied	Y
Patient ID: Assigning Authority ID (i.e., owning source)/Facility Name	Shoreline Pediatrics	Y



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Patient ID: Type (e.g., medical record number, IIS ID)	Vendor supplied	Y
Patient Name: First	Juan	Y
Patient Name: Middle	Marcel	Y
Patient Name: Last	Marina	Y
Patient Date of Birth	03/04/2020	Y
Birth Time	11am	N
Patient Gender (Administrative Sex)	M	Y
Patient Multiple Birth Indicator	N	Y
Patient Birth Order	N/A	C
Responsible Person Name: First	Manuel	Y
Responsible Person Name: Middle	Marcel	Y
Responsible Person Name: Last	Marina	Y
Responsible Person Name: Relationship to Patient	Father	Y
Mother's Name: First	Anita	Y
Mother's Name: Middle	Francesca	Y
Mother's Name: Last	Marina	Y
Mother's Name: Maiden Last	Morales	Y
Patient Address: Street	4623 Standish Way	Y
Patient Address: City	Stamford	Y
Patient Address: State	CT	Y
Patient Address: Country	USA	Y
Patient Address: Zip code	06903	Y
Race	White	Y
Ethnicity	Hispanic or Latino	Y
Patient Primary Language	English	Y
Patient Telephone Number	(203) 555-1213	Y
Patient Telephone Number Type (e.g., home, cell)	cell	Y
Patient E-mail Address	None	N
Publicity Code	Reminder/recall – no calls (03 HL70215)	Y
Publicity Code Effective Date	03/04/2020	Y
Protection Indicator	N	Y
Protection Indicator Effective Date	03/04/2020	Y
Immunization Registry Status	Active	Y
Preferred Contact Method	Text	Y

ADT A04 Message:

MSH|^~\&|Test EHR Application|X68||NIST Test Iz Reg|20211031082240-0500||ADT^A04^ADT_A01|NIST-IZ-001.00|P|2.5.1|||||||

PID|1||123456^^^MYEHR^MR~987633^^^MYIIS^SR||Marina^Juan^Marcel^^^^L|Morales^Anita^Francesca^^^^M|202003041100|M||2106-3^White^CDCREC|4623 Standish



Way^Stamford^CT^06903^USA^L|^PRN^CP^1^203^5551213|eng^English^ISO639|2135-2^Hispanic or Latino^CDCREC|N

PD1|03^Reminder/recall – no calls^HL70215|N|20200304|A|20200304|20200304

NK1|1|Marina^Manuel^Marcel^FTH^Father^HL70063|4623 Standish
Way^Stamford^CT^06903^L|^PRN^CP^1^203^5551213

PV1|O|^Smith^Frank^MD|^Smith^Frank^MD|
|SP^Shoreline Pediatrics^HL70362|

OBX|1|CE|51913-2^Hepatitis A virus IgG+IgM Ab [Presence] in Serum
^LN|1|260373001^Detected^SCT|^F|^20210115

DG1|2|^38907003^Varicella (disorder)^SCT|20210316|^F|

Notes

Publicity Code is included in order to support documentation of communication method for the TestCaseGroup:Cohort Report. If the EHR does not support this attribute, the result for this step may indicate pass, but the lack of support should be documented as a notable exception.

The date/time of birth for the twins includes birth time. This aids in distinguishing the birth order for multiple births. Since this patient is not a multiple birth, the vendor can pass with notable exception if the birth date/time does not include precision of birth time. The notable exception should document the lack of support for birth time.

While the PID indicates that it is Vendor Supplied, the ID returned from the registry query is: 123456^MYEHR^MR~987633^MYIIS^SR. The IIS will not know the PID of the local system, and there is no context-based validation checking for the PID.

Registry status of 'Active' is required when sending a VXU to the IIS which will be done for this patient.

Manual entry of one of the patient demographics and clinical history will be required (or reviewed) to ensure that entry of the required fields is possible.

1.2.2 Step 2: Enter Clinical History for Juan Marcel Marina

The EHR captures structured data regarding a problem of Chicken Pox (Varicella) as part of the clinical history.

Description

The clinical history of Chicken Pox (Varicella) is documented in the record created for Juan Marcel Marina.

The lab tests show serologic immunity to Hep A and a finding is added indicating Hepatitis A Immune.

Comments

No Comments

Pre-Condition

The EHR has recorded all of the pediatric demographic in the record created for Juan Marcel Marina.

Post-Condition



The clinical history of the Varicella is documented in the record created for Juan Marcel Marina.

The serologic immunity (Hepatitis A virus IgG+IgM Ab [Presence] in Serum) – result positive and a finding of Hepatitis A Immune is documented in the record for Juan Marcel Marina.

Test Objectives

Supporting data for:

Modify Antigen Recommendations Based on Active Diagnoses: The EHR or other clinical software system notifies the provider of any conflicts between recommended vaccines in the updated forecast and the patient's current or historical diagnoses.

Note: In this case, the vaccine is not recommended due to the history of the vaccine preventable condition (Varicella).

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all clinical history data provided with all required attributes indicated by [Y]. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Serologic Evidence of Immunity to Hepatitis A is documented in the record:

Lab Result and Finding (1/15/2021):

LOINC 51913-2 Hepatitis A virus IgG+IgM Ab [Presence] in Serum – result positive.

Finding of Hepatitis A Immunity is recorded (SNOMED 278971009 Hepatitis A Immune (finding)).

To minimize data entry, the ADT A04 message provided in Step 1 for this patient: Enter Initial Demographic Data for New Patient Juan Marcel Marina, included this clinical data table and may be used to automate data entry for this step. If this option is used, the proctor will review the ability of the system to record, modify, and store these attributes.

History of Varicella (reason for vaccine forecast to not indicate varicella vaccine due)		
Problem (3/16/2021)	Varicella (disorder) SNOMED-CT 38907003; Varicella without complication – (ICD-10-CM B01.9) Coded Value expected using SNOMED-CT or ICD-10-CM	Y

Notes

Manual entry of one of the patient demographics and clinical history will be required (or reviewed) to ensure that entry of the required fields is possible.



1.3 Juana Mariela Gonzales Initial Data Load

Demonstrates the ability to record pediatric demographic data, historical vaccinations, and clinical conditions for infant twin Juana Mariela Gonzales. There are no transactions associated with this test case.

Description

The practice site for the scenario is Shoreline Pediatrics. The EHR vendor loads demographic data and clinical history for twin Juana Mariela Gonzales.

Comments

Set-up step evaluating EHR functions for capturing and storing patient pediatric demographic data, historical immunizations, and clinical conditions. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of the pediatric demographic data, historical immunizations, and clinical conditions in the record created for Juana Mariela Gonzales using the test data provided.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHR or other clinical software system must be able to store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother's maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient's information to external systems such as an immunization registry.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note



1.3.1 Step 1: Enter Initial Demographic Data for Juana Mariela Gonzales

Juana Mariela Gonzales, infant twin, is entered as a new patient in the EHR, including all pediatric demographic information.

Description

The EHR vendor loads demographic data for Juana Mariela Gonzales.

Comments

Set-up step evaluating EHR functions for capturing and storing patient pediatric demographic data. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of the pediatric demographic data in the record created for Juana Mariela Gonzales.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHR or other clinical software system must be able to store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother's maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient's information to external systems such as an immunization registry.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all demographic data provided, and in particular (Mother's maiden name, multiple birth, birth order), with all required attributes indicated by [Y]. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

For systems that document vaccine program eligibility at the patient level: not VFC Eligible

To minimize data entry, the ADT A04 message below the data table may be used to automate data entry. If this option is used, the proctor will review the ability of the system to record, modify, and store these attributes.

Patient ID (previously listed as "Medicaid Number")	Vendor supplied	Y
Patient ID: Assigning Authority ID (i.e., owning source)/Facility Name	Shoreline Pediatrics	Y
Patient ID: Type (e.g., medical record number, IIS ID)	Vendor supplied	Y



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Patient Name: First	Juana	Y
Patient Name: Middle	Mariela	Y
Patient Name: Last	Gonzales	Y
Patient Date of Birth	10/01/2021	Y
Birth Time	11am	N
Patient Gender (Administrative Sex)	F	Y
Patient Multiple Birth Indicator	Yes	Y
Patient Birth Order	1	Y
Responsible Person Name: First	Joanna	Y
Responsible Person Name: Middle	Elena	Y
Responsible Person Name: Last	Gonzales	Y
Responsible Person Name: Maiden Last	Morales	N
Relationship to Patient	Mother	Y
Mother's Name: First	Joanna	Y
Mother's Name: Middle	Elena	Y
Mother's Name: Last	Gonzales	Y
Mother's Name: Maiden Last	Morales	Y
Patient Address: Street	3321 Standish Way	Y
Patient Address: City	Stamford	Y
Patient Address: State	CT	Y
Patient Address: Country	USA	Y
Patient Address: Zipcode	06903	Y
Race	White	Y
Ethnicity	Hispanic or Latino	Y
Patient Primary Language	English	Y
Patient Telephone Number	(203) 555-1214	Y
Patient Telephone Number Type (e.g., home, cell)	cell	Y
Patient E-mail Address	none	N
Publicity Code	Reminder/recall – no calls (03 HL70215)	Y
Publicity Code Effective Date	10/01/2021	Y
Protection Indicator	N	N
Protection Indicator Effective Date	10/01/2021	N
Immunization Registry Status	active	Y
Preferred Contact Method	Text	Y

ADT A04 Message:

MSH|^~\&|Test EHR Application|X68||NIST Test Iz Reg|20211031082240-0500||ADT^A04^ADT_A01|NIST-IZ-001.00|P|2.5.1|||||||



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS™



PID|1||123456^^^MYEHR^MR~987633^^^MYIIS^SR||Gonzales^Juana^Mariela^^^^L|Morales^Joanna^Elena^^
^M|202110011100|F||2106-3^White^CDCREC|3321 Standish
Way^Stamford^CT^06903^USA^L|^PRN^CP^^1^203^5551214||eng^English^ISO639|||||||2135-2^Hispanic or
Latino^CDCREC||Y|1

PD1|||||||||03^Reminder/recall – no calls^HL70215|N|20211001|||A|20211001|20211001

NK1|1|Gonzales^Joanna^Elena^^^^L|MTH^Mother^HL70063|3321 Standish
Way^^Stamford^CT^06903^^L|^PRN^CP^^1^203^5551214

PV1||O|||||^Smith^Frank^^^^^^L^^^^^^^^^^MD|^Smith^Frank^^^^^^L^^^^^^^^^^MD|||||||||||||||||||||||SP^Sh
oreline Pediatrics^HL70362|||||

Notes

Publicity Code is included in order to support documentation of communication method for the TestCaseGroup:Cohort Report. If the EHR does not support this attribute, the result for this step may indicate pass, but the lack of support should be documented as a notable exception.

The date/time of birth for the twins includes birth time. This aids in distinguishing the birth order of the twins, but as long as birth order is supplied, the vendor can pass with notable exception if the birth date/time does not include precision of birth time. The notable exception should document the lack of support for birth time.

While the PID indicates that it is Vendor Supplied, the ID returned from the registry query is: 123456^^^MYEHR^MR~987633^^^MYIIS^SR. The IIS will not know the PID of the local system, and there is no context-based validation checking for the PID.

Protection Indicator Effective Date may use current date if constrained by EHR workflow.

Registry status of 'Active' is required when sending a VXU to the IIS which will be done for this patient.

Manual entry of one of the patient demographics and clinical history will be required (or reviewed) to ensure that entry of the required fields is possible.



1.4 Juana Maria Gonzales Initial Data Load

Demonstrates the ability to record pediatric demographic data, historical vaccinations, and clinical conditions for infant twin Juana Maria Gonzales. There are no transactions associated with this test case.

Description

The practice site for the scenario is Shoreline Pediatrics. The EHR vendor loads demographic data and clinical history for twin Juana Maria Gonzales.

Comments

Set-up step evaluating EHR functions for capturing and storing patient pediatric demographic data, historical immunizations, and clinical conditions. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of the pediatric demographic data, historical immunizations, and clinical conditions in the record created for Juana Maria Gonzales using the test data provided.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHR or other clinical software system must be able to store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother's maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient's information to external systems such as an immunization registry.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

1.4.1 Step 1: Enter Initial Demographic Data for Juana Maria Gonzales

Juana Maria Gonzales, infant twin, is entered as a new patient in the EHR, including all pediatric demographic information.

Description



The EHR vendor loads demographic data for Juana Maria Gonzales.

Comments

Set-up step evaluating EHR functions for capturing and storing patient pediatric demographic data. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of the pediatric demographic data in the record created for Juana Maria Gonzales.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHR or other clinical software system must be able to store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother’s maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient’s information to external systems such as an immunization registry.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all demographic data provided, and in particular (Mother’s maiden name, multiple birth, birth order), with all required attributes indicated by [Y]. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

For systems that document vaccine program eligibility at the patient level: Not VFC Eligible

To minimize data entry, the ADT A04 message below the data table may be used to automate data entry. If this option is used, the proctor will review the ability of the system to record, modify, and store these attributes.

Patient ID (previously listed as “Medicaid Number”)	Vendor supplied	Y
Patient ID: Assigning Authority ID (i.e., owning source)/Facility Name	Shoreline Pediatrics	Y
Patient ID: Type (e.g., medical record number, IIS ID)	Vendor supplied	Y
Patient Name: First	Juana	Y
Patient Name: Middle	Maria	Y
Patient Name: Last	Gonzales	Y



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Patient Date of Birth	10/01/2021	Y
Birth Time	11:15am	N
Patient Gender (Administrative Sex)	F	Y
Patient Multiple Birth Indicator	Yes	Y
Patient Birth Order	2	Y
Responsible Person Name: First	Joanna	Y
Responsible Person Name: Middle	Elena	Y
Responsible Person Name: Last	Gonzales	Y
Responsible Person Name: Relationship to Patient	Mother	Y
Mother's Name: First	Joanna	Y
Mother's Name: Middle	Elena	Y
Mother's Name: Last	Gonzales	Y
Mother's Name: Maiden Last	Morales	Y
Patient Address: Street	3321 Standish Way	Y
Patient Address: City	Stamford	Y
Patient Address: State	CT	Y
Patient Address: Country	USA	Y
Patient Address: Zipcode	06903	Y
Race	White	Y
Ethnicity	Hispanic or Latino	Y
Patient Primary Language	English	Y
Patient Telephone Number	(203) 555-1214	Y
Patient Telephone Number Type (e.g., home, cell)	cell	Y
Patient E-mail Address	none	N
Publicity Code	Reminder/recall – no calls (03 HL70215)	Y
Publicity Code Effective Date	10/01/2021	Y
Protection Indicator	Y	Y
Protection Indicator Effective Date	10/01/2021	Y
Immunization Registry Status	active	Y
Preferred Contact Method	Text	Y

ADT A04 Message:

MSH|^~\&|Test EHR Application|X68||NIST Test Iz Reg|20211031082240-0500||ADT^A04^ADT_A01|NIST-IZ-001.00|P|2.5.1|||||||

PID|1||123456^^^MYEHR^MR~987633^^^MYIIS^SR||Gonzales^Juana^Maria^^^^L|Morales^Joanna^Elena^^^^M|202110011115|F||2106-3^White^CDCREC|3321 Standish Way^^Stamford^CT^06903^USA^L||^PRN^CP^^1^203^5551214||eng^English^ISO639|||||||2135-2^Hispanic or Latino^CDCREC||Y|2

PD1|||||||03^Reminder/recall – no calls^HL70215|Y|20211001|||A|20211001|20211001

NK1|1|Gonzales^Joanna^Elena^^^^L|MTH^Mother^HL70063|3321 Standish Way^^Stamford^CT^06903^^L|^PRN^CP^^1^203^5551214



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS™



PV1||O||||^Smith^Frank^^^^^^L^^^^^^^^^^^MD|^Smith^Frank^^^^^^L^^^^^^^^^^^MD||||||||||||||||||||||||||||||||||||||||||SP^Sh
oreline Pediatrics^HL70362||||||

Notes

Publicity Code is included in order to support documentation of communication method for the TestCaseGroup:Cohort Report. If the EHR does not support this attribute, the result for this step may indicate pass, but the lack of support should be documented as a notable exception.

The date/time of birth for the twins includes birth time. This aids in distinguishing the birth order of the twins, but as long as birth order is supplied, the vendor can pass with notable exception if the birth date/time does not include precision of birth time. The notable exception should document the lack of support for birth time.

While the PID indicates that it is Vendor Supplied, the ID returned from the registry query is: 123456^^^MYEHR^MR~987633^^^MYIIS^SR. The IIS will not know the PID of the local system, and there is no context-based validation checking for the PID.

Protection Indicator Effective Date may use current date if constrained by EHR workflow.

Registry status of 'Active' is required when sending a VXU to the IIS which will be done for this patient.

Manual entry of one of the patient demographics and clinical history will be required (or reviewed) to ensure that entry of the required fields is possible.



1.5 Anita Francesca Marina Initial Data Load

Demonstrates the ability to record adult demographic data, historical vaccinations, and clinical conditions for adult Anita Francesca Marina. There are no transactions associated with this test case.

Description

The practice site for the scenario is Metro Primary Care. The EHR vendor loads demographic data and clinical history for Adult Anita Francesca Marina.

Comments

Set-up step evaluating EHR functions for capturing and storing patient adult demographic data, historical immunizations, and clinical conditions. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of the adult demographic data, historical immunizations, and clinical conditions in the record created for Anita Francesca Marina using the test data provided.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHR or other clinical software system must be able to store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother's maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient's information to external systems such as an immunization registry.

Provide Access to Update Immunization Information: The patient is able to add or request an update to immunization information for review by the provider.

Review Patient-Provided Immunization Information: The EHR or other clinical software system provides a mechanism for the provider to review patient-generated immunization data. It also provides a mechanism for the provider to update or annotate the immunization history, indicating the source of the information.

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.



Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2002: Indicates that the date of birth messaged in PID-7 is after the date of death messaged in PID-29.
- 2100: Indicates that any date field is in the future. Specific errors for date transmitted in an OBX are also provided.
- 2202: Indicates individual components of the address are valid, but overall, the address is invalid (conflict between elements, non-existent address, etc.)
- 2007: Indicates a conflict between PID-29 and PID-30 or between PD1-16 and either PID field. In other words, one element indicates the patient is deceased and another element indicates the patient is not deceased.
- 2306: Indicates that the patient found is too old.

Supporting data for:

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History:

The public health immunization registry has returned the requested immunization history for a patient (Return Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient’s local immunization history and include the time of the update and the source of the new information.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

1.5.1 Step 1: Demographic Data Quality Checks for Anita Francesca Marina

The provider attempts to add Anita Francesca Marina as a new adult patient in the EHR. Demographic data quality checks are verified during data entry.

Description

The EHR vendor attempts to enter demographic data for new adult patient Anita Francesca Marina. These data quality checks primarily relate to improving patient matching information that will be included when submitting data to the immunization registry or when querying the immunization registry.

Comments

Evaluates EHR functions for verifying data quality of demographic data used for patient matching. There is no transaction associated with this test step.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Pre-Condition

No Pre-Condition

Post-Condition

The EHR has alerted the provider for each of the data quality checks verified for Anita Francesca Marina.

Test Objectives

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2002: Indicates that the date of birth messaged in PID-7 is after the date of death messaged in PID-29.
- 2100: Indicates that any date field is in the future. Specific errors for date transmitted in an OBX are also provided.
- 2202: Indicates individual components of the address are valid, but overall, the address is invalid (conflict between elements, non-existent address, etc.)
- 2007: Indicates a conflict between PID-29 and PID-30 or between PD1-16 and either PID field. In other words, one element indicates the patient is deceased and another element indicates the patient is not deceased.
- 2306: Indicates that the patient found is too old.

Evaluation Criteria

Evaluation Criteria: During the course of data entry for information below, the EHR triggers the following data quality issues:

1. Triggers Error that patient is too old (2306)
2. Triggers error indicating, conflict: one element indicates the patient is deceased and another element indicates the patient is not deceased. (2207)
3. Triggers Error that the birth date is after the death date (2002)
4. Triggers conflict in address (Zip inconsistent with city and state) (2202)

Patient ID (previously listed as "Medicaid Number")	Vendor supplied	N
Patient ID: Assigning Authority ID (i.e., owning source)/Facility Name	Metro Primary Care	N
Patient ID: Type (e.g., medical record number, IIS ID)	Vendor supplied	N
Patient Name: First	Anita	N
Patient Name: Middle	Francesca	N



Patient Name: Last	Marina	N
Patient Date of Birth	06/01/1886	Y – Triggers Error that patient is too old (2306)
Corrected Date of Birth	06/01/1996	Y
Death Indicator	Not Deceased	Y – Triggers error indicating, conflict: one element indicates the patient is deceased and another element indicates the patient is not deceased. (2207)
Patient Death Date	12/01/1991	Y – Triggers Error that the birth date is after the death date (2002)
Birth Time	N/A	N
Patient Gender (Administrative Sex)	F	N
Patient Multiple Birth Indicator	No	N
Patient Birth Order	1	N
Responsible Person Name: First	Anita	N
Responsible Person Name: Middle	Francesca	N
Responsible Person Name: Last	Marina	N
Responsible Person Name: Maiden Last	N/A	N
Responsible Person Name: Relationship to Patient	Self	N
Mother's Name: First	Sophia	N
Mother's Name: Middle	Serena	N
Mother's Name: Last	Santos	N
Mother's Name: Maiden Last	Ramirez	N
Patient Address: Street	4623 Standish Way	N
Patient Address: City	Stamford	Y – Triggers conflict in address with ZIP (2202)
Patient Address: State	CT	Y – Triggers conflict in address with ZIP (2202)
Patient Address: Country	USA	N
Patient Address: Zip code	96903	Y – Triggers conflict in address with City and State (2202)
Race	White	N
Ethnicity	Hispanic or Latino	N
Patient Primary Language	English	N
Patient Telephone Number	(203) 555-1215	N
Patient Telephone Number Type (e.g., home, cell)	Cell	N
Patient E-mail Address	Proctor Supplied	N
Publicity Code	Reminder/recall – any method (02 HL70215)	N
Publicity Code Effective Date	10/01/2012	Y
Protection Indicator	N	Y



Protection Indicator Effective Date	06/1/2026	Y – Triggers error that date is in the future (2100)
Immunization Registry Status	active	Y
Preferred Contact Method	Email	N

Notes

The full demographic details are provided here to facilitate the documentation constraints and/or screens that may be required by the vendor in order to attempt to document the data of interest, but these are not verified until the next step.

The Anita Francesca email supplied should be provided by the test proctor so they can receive the patient notifications. For the purpose of internal Vendor testing, they can use their own emails.

Registry status of 'Active' is required when sending a VXU to the IIS which will be done for this patient.

Manual entry of one of the patient demographics and clinical history will be required (or reviewed) to ensure that entry of the required fields is possible.

1.5.2 Step 2: Enter Initial Demographic Data for Anita Francesca Marina

Anita Francesca Marina, adult, is entered as a new patient in the EHR, including all adult demographic information. Clinical and Social History data supporting immunization related recommendations are also documented.

Description

The EHR vendor loads demographic and social history data for Anita Francesca Marina.

Comments

Set-up step evaluating EHR functions for capturing and storing adult demographic data and social history data supporting immunization recommendations. There is no transaction associated with this test step.

Pre-Condition

No Pre-Condition

Post-Condition

The EHR has recorded all of demographic and social history data in the record created for Anita Francesca Marina.

Test Objectives

Register New Patients: The EHR or other clinical software system must allow a user to enter distinguishing information about patients so that providers can uniquely identify patients who have similar sounding names or other similar identifying information. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar names. The EHRs or other clinical software system must be able to



store information to successfully match with patients in immunization registries, if the information is available. Specific to immunization registries, that information includes the mother's maiden name, whether the patient was part of a multiple birth, and the birth order (i.e., ordinal number of birth, first, second, etc.). This information allows the provider to correctly identify the patient and also helps ensure a match when the EHR sends the patient's information to external systems such as an immunization registry.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all demographic data provided, with all required attributes indicated by [Y]. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

To minimize data entry, the ADT A04 message below the data table may be used to automate data entry. If this option is used, the proctor will review the ability of the system to record, modify, and store these attributes. This ADT message includes clinical content referenced in step 5.

Patient ID (previously listed as "Medicaid Number")	Vendor supplied	Y
Patient ID: Assigning Authority ID (i.e., owning source)/Facility Name	Metro Primary Care	Y
Patient ID: Type (e.g., medical record number, IIS ID)	Vendor supplied	Y
Patient Name: First	Anita	Y
Patient Name: Middle	Francesca	Y
Patient Name: Last	Marina	Y
Patient Date of Birth	06/01/1986	Y
Birth Time	N/A	N
Patient Gender (Administrative Sex)	F	Y
Patient Multiple Birth Indicator	N	Y
Patient Birth Order	N/A	Y
Responsible Person Name: First	Anita	Y
Responsible Person Name: Middle	Francesca	Y
Responsible Person Name: Last	Marina	Y
Responsible Person Name: Maiden Last	N/A	N
Responsible Person Name: Relationship to Patient	Self	Y
Mother's Name: First	Sophia	Y
Mother's Name: Middle	Serena	Y
Mother's Name: Last	Santos	Y
Mother's Name: Maiden Last	Ramirez	Y
Patient Address: Street	4623 Standish Way	Y
Patient Address: City	Stamford	Y
Patient Address: State	CT	Y
Patient Address: Country	USA	Y
Patient Address: Zip code	06903	Y
Race	White	Y
Ethnicity	Hispanic or Latino	Y



Patient Primary Language	English	Y
Patient Telephone Number	(203) 555-1213	Y
Patient Telephone Number Type (e.g., home, cell)	Cell	Y
Patient E-mail Address	Proctor Supplied	Y
Publicity Code	Reminder/recall – any method (02 HL70215)	Y
Publicity Code Effective Date	10/01/2012	Y
Protection Indicator	N	Y
Protection Indicator Effective Date	10/1/2012	Y
Immunization Registry Status	active	Y
Preferred Contact Method	Email	Y

Social History:

Occupation	Adult Health Clinical Nurse Specialist [Clinical Nurse Specialists]	C
Industry	Home nursing services (except private practices) [Home Health Care Services]	C
Employer	River Rehabilitation Center	C

ADT A04 Message:

MSH|^~\&|Test EHR Application|X68||NIST Test Iz Reg|20211031082240-0500|ADT^A04^ADT_A01|NIST-IZ-001.00|P|2.5.1|||||

PID|1||123456^^^MYEHR^MR~987633^^^MYIIS^SR||Marina^Anita^Francesca^^^L|Santos^Sophia^Serena^^^M|19860601|F||2106-3^White^CDCREC|4623 Standish Way^^Stamford^CT^06903^USA^L||^PRN^CP^^1^203^5551213||eng^English^ISO639|||||2135-2^Hispanic or Latino^CDCREC||N

PD1|||||||02^Reminder/Recall – any method^HL70215|N|20121001|||A|20121001|20121001

NK1|1||EMR^Employer^HL70063^^^2.5.1|15 State St^^Stamford^CT^06903^L|||||||River Rehabilitation Center^L|||||||

PV1||O||||^Jobs^John^L^MD|^Jobs^John^L^MD|||||||MPC^Metro Primary Care^HL70362|||||

OBX|1|CE|51913-2^Hepatitis A virus IgG+IgM Ab [Presence] in Serum^LN|1|260373001^Detected^SCT|||||F|||20160515

OBX|2|CE|51914-0^Hepatitis B virus core IgG+IgM Ab [Presence] in Serum^LN|1|260415000^Not Detected^SCT|||||F|||20160515

OBX|3|CWE|21844-6^Usual Industry^LN||621610.008495^Home nursing services (except private practices)^ODH|||||F|||20211031|||||

OBX|4|CWE|21843-8^History of Usual Occupation^LN||29-1141.04.000450^Adult Health Clinical Nurse Specialist^ODH|||||F|||20211031|||||

DG1|1|||278971009^Hepatitis A immune (finding)^SCT|20160515|F|

DG1|2|||165808001^Hepatitis B non-immune (finding)^SCT|20160515|F|

Notes



Publicity Code is included in order to support documentation of communication method for the TestCase: Notify Patients of Immunization Status. If the EHR does not support this attribute, the result for this step may indicate pass, but the lack of support should be documented as a notable exception.

While the PID indicates that it is Vendor Supplied, the ID returned from the registry query is: 123456^^^MYEHR^MR~987633^^^MYIIS^SR. The IIS will not know the PID of the local system, and there is no context-based validation checking for the PID.

Protection Indicator Effective Date may use current date if constrained by EHR workflow.

Document in notable exceptions where any of the social history attributes cannot be captured/recorded by product.

The Anita Francesca email supplied should be provided by the test proctor so they can receive the patient notifications. For the purpose of internal Vendor testing, they can use their own emails.

1.5.3 Step 3: Anita Francesca Marina Electronically Submits Prior Immunization to Provider

The patient communicates to her Primary Care Provider that she received her annual influenza vaccine through her employer in another state, and she provided the information for her PCP to review through patient facing features (e.g., portal) offered by the EHR.

Description

The patient is able to provide information about the influenza vaccine that she received through her employer out of state using the patient facing features (e.g., portal) offered by the EHR.

Comments

No Comments

Pre-Condition

The patient has been provided access to a patient facing mechanism to provide information electronically to the provider regarding her historical immunization record.

Post-Condition

The immunization history from the employer as reported by the patient is available for review by the provider through the EHR.

Test Objectives

Provide Access to Update Immunization Information: The patient is able to add or request an update to immunization information for review by the provider.

Evaluation Criteria



Evaluation Criteria: Vendor successfully captures the historical vaccination information from the patient that she received through her employer. The electronic information provided may be supplied by whatever means is offered through the EHR (e.g., email, uploaded pdf, patient entered into a form, etc.).

The information provided by the patient for review by the physician includes:

Historical Vaccine from Employer Reported by Patient – Influenza		
Entered By	Anita Francesca Marina	Y
Ordering Provider	John Jobs	N
Entering Organization	N/A	N
Vaccine Event information source (Administration Notes)	Historical information – from other provider (NIP001 02)	Y
Date/Time of Start of Administration	09/01/2021	Y
Vaccine Administered	influenza, recombinant, quadrivalent, injectable, preservative free (CVX 185) Flublok Quadrivalent Northern Hemisphere (NDC 49281-0721-88)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Sophia Muir	N
Administered-at Location	River Rehabilitation Center, 15 River Road, Port Chester New York 10573	Y
Lot Number	8L4B3423	Y
Substance Expiration Date	12/31/2021	Y
Substance Manufacturer Name	Sanofi Pasteur Inc. (MVX PMC)	Y
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)	Y
Administration Site	Right Deltoid (HL7 HL70163: RD)	Y
Completion Status	Completed (CP)	Y

Notes

The EHR may collect the information from the patient through any electronic means. The tester shall document the method used to capture the information.

The patient provided information is not part of the EHR until the provider reviews the information in the next step and accepts/modifies the content.

1.5.4 Step 4: Provider Review and Entry of Immunization Data for Anita Francesca Marina Provided by Patient

The provider is able to review the patient provided vaccine information for the annual influenza vaccine through her employer in another state. The provider is able to document this historical vaccine in the EHR.

Description

The provider is able to review the patient provided vaccine information for the influenza vaccine that she received through her employer out of state. The provider is able to document this historical vaccine in the EHR.



Comments

No Comments

Pre-Condition

The patient has been provided access to the patient immunization history record.

The immunization administered through Anita Francesca Marina's employer, and as reported by the patient is available for review by the provider through the EHR.

Post-Condition

The immunization history from patient-provided vaccine history has been reviewed by the provider and is loaded into the record created for Anita Francesca Marina.

Test Objectives

Review Patient-Provided Immunization Information: The EHR or other clinical software system provides a mechanism for the provider to review patient-generated immunization data. It also provides a mechanism for the provider to update or annotate the immunization history, indicating the source of the information.

Record Past Immunizations: The EHR or other clinical software system allows providers to enter information about immunizations given elsewhere (e.g., by another doctor, at a public health clinic, pharmacy, etc.) with incomplete details.

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Supporting data for:

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History: The public health immunization registry has returned the requested immunization history for a patient (Return Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient's local immunization history and include the time of the update and the source of the new information.

Evaluation Criteria

Evaluation Criteria: Vendor enables the provider to successfully review and record the historical vaccination information electronically provided by the patient, Anita Francesca Marina.



The information provided by the patient for review and recording by the physician includes:

Historical Vaccine from Employer Reported by Patient – Influenza		
Entered By	Jessica Mason	Y
Ordering Provider	John Jobs	N
Entering Organization	Metro Primary Care	Y
Vaccine Event information source (Administration Notes)	Historical information – from other provider (NIP001 02)	Y
Date/Time of Start of Administration	09/01/2021	Y
Vaccine Administered	influenza, recombinant, quadrivalent, injectable, preservative free (CVX 185) Flublok Quadrivalent Northern Hemisphere (NDC 49281-0721-88)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Sophia Muir	N
Administered-at Location	River Rehabilitation Center, 15 River Road, Port Chester New York 10573	Y
Lot Number	8L4B3423	Y
Substance Expiration Date	12/31/2021	Y
Substance Manufacturer Name	Sanofi Pasteur Inc. (MVX PMC)	Y
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)	Y
Administration Site	Right Deltoid (HL7 HL70163: RD)	Y
Completion Status	Completed (CP)	Y

Notes

The EHR may collect the information from the patient through any electronic means. The tester shall document the method used to inform the provider of the historical vaccine information and to allow for the provider review.

1.5.5 Step 5: Enter Clinical History for Anita Francesca Marina

The EHR documents structured laboratory tests showing serologic immunity to Hepatitis A, and no serologic immunity to Hepatitis B as part of the clinical history.

Description

Lab tests show serologic immunity to Hepatitis A, and no serologic immunity to Hepatitis B. These findings are documented in the record created for Anita Francesca Marina indicating that she is Hepatitis A Immune, and that she has no immunity to Hepatitis B.

Comments

No Comments



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Pre-Condition

The EHR has recorded the demographic information in the record created for Anita Francesca Marina.

Post-Condition

The serologic immunity (Hepatitis A virus IgG+IgM Ab [Presence] in Serum) – result positive and a finding of Hepatitis A Immune is documented in the record for Anita Francesca Marina.

The lack of serologic immunity (Hepatitis B virus IgG+IgM Ab [Presence] in Serum) – result negative and a finding of Hepatitis B non-immunity is documented in the record for Anita Francesca Marina.

Test Objectives

Support for:

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient’s newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service, but should reference the most recent recommendations.

Note: clinical history for adult healthcare worker supporting vaccine recommendations.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all clinical history data provided. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Serologic Evidence of Non-Immunity to Hepatitis B and Serologic evidence of Immunity to Hepatitis A are documented in the record:

Lab Result and Finding (5/15/2016):

LOINC 51913-2 Hepatitis A virus IgG+IgM Ab [Presence] in Serum – result positive

LOINC 51914-0 Hepatitis B virus core IgG+IgM Ab [Presence] in Serum – result negative

Finding of Hepatitis A Immunity is recorded (SNOMED 278971009 Hepatitis A immune (finding))

Finding of Hepatitis B non-immunity is recorded (SNOMED 165808001 Hepatitis B non-immune (finding))

Notes

Manual entry of one of the patient demographics and clinical history will be required (or reviewed) to ensure that entry of the required fields is possible.



1.6 Enter Inventory

Demonstrates the ability to enter and update inventory with stock received.

Description

The provider enters vaccine inventory data from available inventory.

Comments

2D barcodes are provided as an option to enter the inventory.

Pre-Condition

No Pre-Condition

Post-Condition

Vaccine inventory is recorded and available in the EHR.

Test Objectives

Update Vaccine Inventory from Stock Receipt: The EHR or other clinical software system updates the vaccine inventory when new stock is received at the site and updates the correct count of each vaccine, including those for use in guarantee programs (such as Vaccines for Children) and for private stock.

Display Available Vaccine Antigens: The EHR or other clinical software system presents a list of vaccine antigens available for administration to patients (i.e., private stock vs. specific guarantee program).

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

Vendors are encouraged to scan the 2D barcode images as data input. Tester should document feedback and any identified issues with 2D barcode images.

1.6.1 Step 1: Enter Vaccine Inventory

Demonstrates the ability to enter and update inventory with stock received.

Description

The provider receives a vaccine delivery and records the new vaccine data in available inventory.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Comments

Set-up step evaluating EHR functions for capturing and storing vaccine inventory data.

Pre-Condition

No Pre-Condition

Post-Condition

Vaccine inventory is recorded and available in the EHR.

Test Objectives

Update Vaccine Inventory from Stock Receipt: The EHR or other clinical software system updates the vaccine inventory when new stock is received at the site and updates the correct count of each vaccine, including those for use in guarantee programs (such as Vaccines for Children) and for private stock.

Evaluation Criteria

Vendor successfully records all vaccine inventory data provided:

1.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	8L4B3521
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC
Quantity:	12 Vials
2D Barcode:	

2.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8422
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC
Quantity:	15 Vials



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS




2D Barcode:




3.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8855
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	Non-VFC
Quantity:	12 Vials
2D Barcode:	

4.


Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK18
Expiration Date:	6/15/2021
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	18 Syringes (or doses)
2D Barcode:	

5.


Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK26
Expiration Date:	12/31/2022
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	20 Syringes (or doses)
2D Barcode:	

6.


Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0811-43
Product Name:	PEDIARIX

Lot#:	6559FK32
Expiration Date:	12/31/2022
GTIN:	10358160811439
Vaccine source:	Non-VFC
Quantity:	16 Syringes (or doses)
2D Barcode:	

7.

Manufacturer:	Pfizer, Inc
NDC:	59267-1000-01
Product Name:	Pfizer-BioNTech Covid-19 Vaccine
Lot#:	8L7B3418
Expiration Date:	12/31/2022
GTIN:	00359267100016
Vaccine source:	Non-VFC
Quantity:	75 Vials (or 450 doses @6-doses/vial)
2D Barcode:	

8.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0821-05
Product Name:	ENERGIX-B
Lot#:	6942FL12
Expiration Date:	12/31/2022
GTIN:	10358160821056
Vaccine source:	Non-VFC
Quantity:	16 Syringes (or doses)
2D Barcode:	

Notes

Vendors are encouraged to scan the 2D Barcode images as data input. Tester should document feedback and any identified issues with 2D Barcode images.

A GTIN for FLUZONE QUADRIVALENT (NDC: 49281-0521-00) had not yet been assigned at the time this test plan was generated. A GTIN was generated for the purpose of this test according to GS1 standards and may be updated in the future should this be changed in [IIS: NDC Lookup Crosswalk](#) published by CDC.

Because the Flu season may not align with the test plan execution, the most current Flu vaccine may not be present.

The new vaccine information needs to be added before inventory can be added for a specific vaccine.



1.6.2 Step 2: View Inventory

Demonstrates the ability to enter and update inventory with stock received.

Description

The provider reviews the full list of vaccine inventory.

Comments

No Comments

Pre-Condition

Inventory has been entered into the EHR.

Post-Condition

The list of available inventory is displayed.

Test Objectives

Display Available Vaccine Antigens: The EHR or other clinical software system presents a list of vaccine antigens available for administration to patients (i.e., private stock vs. specific guarantee program).

Evaluation Criteria

The EHR inventory shows (minimally):

1.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	8L4B3521
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC
Quantity:	12 Syringes (or doses)

2.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8422
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Quantity:	15 Vials
-----------	----------

3.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8855
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	Non-VFC
Quantity:	12 Vials

4.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK18
Expiration Date:	6/15/2021
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	18 Syringes (or doses)

5.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK26
Expiration Date:	12/31/2022
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	20 Syringes (or doses)

6.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0811-43
Product Name:	PEDIARIX
Lot#:	6559FK32
Expiration Date:	12/31/2022
GTIN:	10358160811439
Vaccine source:	Non-VFC
Quantity:	16 Syringes (or doses)

7.

Manufacturer:	Pfizer, Inc
NDC:	59267-1000-01
Product Name:	Pfizer-BioNTech Covid-19 Vaccine
Lot#:	8L7B3418
Expiration Date:	12/31/2022
GTIN:	00359267100016
Vaccine source:	Non-VFC
Quantity:	75 vials (or 450 doses @6-doses/vial)

8.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0821-05
Product Name:	ENERGIX-B
Lot#:	6942FL12
Expiration Date:	12/31/2022



GTIN:	10358160821056	
Vaccine source:	Non-VFC	
Quantity:	16 Syringes (or doses)	

Notes

Tester should document how quantity is displayed and what is present (e.g. volume, # doses).

A GTIN for FLUZONE QUADRIVALENT (NDC: 49281-0521-00) had not yet been assigned at the time this test plan was generated. A GTIN was generated for the purpose of this test according to GS1 standards and may be updated in the future should this be changed in [IIS: NDC Lookup Crosswalk](#) published by CDC..

Because the Flu season may not align with the test plan execution, the most current Flu vaccine may not be present.



1.7 Manage Configuration

Demonstrates the ability to modify the configuration with new information (e.g., New Vaccine codes, new VIS document information, etc.), the ability to modify vaccine recommendations, and the ability to configure and use the SOAP-based CDC WSDL for Transport.

Description

The user responsible for the EHR configuration updates the system with new vaccine codes, new vaccine schedules, and establishes SOAP-bases CDC WSDL configuration.

Comments

No Comments

Pre-Condition

The EHR configuration needs updating.

Post-Condition

The codes for the new vaccine are available in the EHR to document the administration of a new vaccine product. The vaccine recommendation is updated for this new vaccine, and the EHR is configured to use the SOAP-based CDC WSDL for communications with an IIS.

Test Objectives

Add new vaccine codes: Add codes to support new vaccines. This includes vaccine codes (CVX), National Drug Codes (NDC), and Vaccine Information Statement codes (VIS).

Update Patient Immunization Schedule: The EHR or other clinical software system displays a patient's anticipated immunization schedule routinely and updates the patient's schedule when immunization guidelines change.

Configure SOAP-based CDC WSDL for Transport:

The EHR or other clinical software system configures connectivity using the SOAP-based CDC WSDL and demonstrates compliance with the transport standard

Add Jurisdiction-Specific Vaccine Eligibility Code: The EHR or other clinical software system demonstrates the ability to configure publicly funded dose level vaccine eligibility codes per jurisdictional requirements. This includes tracking and exchanging jurisdiction-specific dose level eligibility code(s) for administered vaccines. This capability only applies to newly administered doses, not historical doses.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

None



1.7.1 Step 1: Add New Vaccine Information

Demonstrates the ability to modify the configuration with new information (e.g., New Vaccine codes, new VIS document information, etc.).

Description

The user responsible for the EHR configuration updates the system with new CVX, NDC, and VIS vaccine codes.

Comments

No Comments

Pre-Condition

The EHR configuration needs updating with new vaccine information.

Post-Condition

The CVX, NDC, and VIS codes for the new vaccine are available in the EHR to document the administration of this new product.

Test Objectives

Add new vaccine codes: Add codes to support new vaccines. This includes vaccine codes (CVX), National Drug Codes (NDC), and Vaccine Information Statement codes (VIS).

Evaluation Criteria

The EHR vendor demonstrates the mechanism to add the following new vaccine information:

Vaccine Name:	Pfizer-BioNTech Covid-19 Vaccine
CVX:	208
NDC:	59267-1000-01
VIS Fully Encoded Text-String	253088698300033211210501
VIS Publication Date	1/3/2022

Notes

These codes will be used to administer the new vaccine in later test steps



It is acceptable to demonstrate without saving the information, and a substitute vaccine will be used later in the testing.

Should additional content be needed to complete the new record, the vendor may supply this detail, and the tester will document such information to inform future updates.

The vendor may need to show the screens and omit the commit action. If so, a substitute vaccine may be leveraged for later steps.

The tester shall document any additional comments or concerns identified by the vendor.

The new vaccine information needs to be added before inventory can be added for a specific vaccine.

1.7.2 Step 2: Update Vaccine Schedule Information

Demonstrates the ability to modify the configuration with a new vaccination schedule.

Description

The user responsible for the EHR configuration updates the system with a new vaccine schedule.

Comments

No Comments

Pre-Condition

The EHR needs to be updated with a new immunization schedule for a vaccine product.

Post-Condition

The updated Patient Immunization Schedule for the vaccine product is available.

Test Objectives

Update Patient Immunization Schedule: The EHR or other clinical software system displays a patient's anticipated immunization schedule routinely and updates the patient's schedule when immunization guidelines change.

Evaluation Criteria

The EHR is able to update the patient immunization schedule for the following adult vaccine:

CVX:	208
Vaccine Name:	Pfizer-BioNTech Covid-19 Vaccine
Age group 12+	2-dose series separated by 21 days. A series started with Pfizer-BioNTech COVID-19 Vaccine should be completed with this product



Moderately and severely immunocompromised people:	Administer an additional primary dose at least 28 days after the initial 2-dose primary series.
Booster Dose:	Administer a booster dose at least 6 months after the last dose of a COVID-19 mRNA vaccine primary series (i.e., the 2 nd dose or additional primary series dose for moderately or severely immunocompromised people). <ul style="list-style-type: none"> Should be given to people 18 years of age and older (use of heterologous – mix and match – booster doses is allowed; however, mRNA COVID-19 vaccines are preferred) May be given to people 16 and 17 years of age based on their individual benefits and risks

Notes

The vendor may leverage an external tool to support vaccine schedule information. If so, the vendor should provide documentation regarding how the schedule is updated, how the EHR vendor and providers are notified of the updated schedule, and where in the EHR the modification has impact.

These codes will be used to administer the new vaccine in later test steps.

It is acceptable to demonstrate without saving the information, and a substitute vaccine will be used later in the testing.

Should additional content be needed to complete the new record, the vendor may supply this detail, and the tester will document such information to inform future updates.

The vendor may need to show the screens and omit the commit action. If so, a substitute vaccine may be leveraged for later steps.

The tester shall document any additional comments or concerns identified by the vendor.

The test is the ability to enter the schedule and it may not reflect the current COVID schedule.

1.7.3 Step 3: Configure SOAP-based CDC WSDL

Demonstrates the ability to configure connectivity using the SOAP-based CDC WSDL.

Description

The user responsible for the EHR configuration establishes SOAP-based CDC WSDL configuration and successfully submits a VXU record.

Comments

No Comments

Pre-Condition



The EHR is ready to be configured to established connectivity with an IIS.

Post-Condition

Transport is configured to use the SOAP-based CDC WSDL.

Test Objectives

Configure SOAP-based CDC WSDL for Transport: The EHR or other clinical software system configures connectivity using the SOAP-based CDC WSDL and demonstrates compliance with this standard transport.

Evaluation Criteria

Using the test tool and instructions published by NIST at: <https://hl7v2-iz-cdc-testing.nist.gov/iztool/#/soapConn> the EHR or other clinical software system is able to successfully execute both Sender (Initiator) test cases:

- Test Case: SOAPCON_1_BasicMessage_ConnectivityRequest
- Test Case: SOAPCON_3_SubmitSingleMessage_Message

Notes

All instructions and test details are available at <https://hl7v2-iz-cdc-testing.nist.gov/iztool/#/soapConn>.

The tester shall document any additional comments or concerns identified by the vendor.

1.7.4 Step 4: Configure Jurisdiction-Specific Vaccine Eligibility Code

Demonstrates the ability to configure in-standard local vaccine eligibility codes.

Description

The user responsible for the EHR configuration adds a list of jurisdiction dose level vaccine eligibility codes that reflect jurisdiction-specific vaccine campaigns.

Comments

No Comments

Pre-Condition

The EHR is ready to be configured to established connectivity with an IIS that uses jurisdiction dose level vaccine eligibility codes for jurisdiction-specific vaccine campaigns.

Post-Condition



Jurisdiction dose level vaccine eligibility codes are configured and available for recording during vaccine administration.

Test Objectives

Add Jurisdiction-Specific Vaccine Eligibility Code: The EHR or other clinical software system demonstrates the ability to configure publicly funded dose level vaccine eligibility codes per jurisdictional requirements. This includes tracking and exchanging jurisdiction-specific dose level eligibility code(s) for administered vaccines. This capability only applies to newly administered doses, not historical doses.

Evaluation Criteria

The EHR or other clinical software system demonstrates the addition of the following jurisdiction dose level vaccine eligibility codes:

Code	Label	Definition
IIP021	HEPB09- Privately Insured	Client has private insurance, but is eligible for the vaccine provided based on the following local based rule: <ul style="list-style-type: none"> • Jurisdiction HEPB09 Campaign/Effort
IIP022	HEPB09- Underinsured	Client has private insurance, but it does not cover vaccines, limits the vaccines covered, or caps vaccine coverage at a certain amount and so client is eligible for the vaccine provided based on the following local based rule: <ul style="list-style-type: none"> • Jurisdiction HEPB09 Campaign/Effort
IIP023	HEPB09-Uninsured	Client does not have private insurance coverage and is eligible for the vaccine provided based on the following local based rule: <ul style="list-style-type: none"> • Jurisdiction HEPB09 Campaign/Effort

Notes

For 2021/2022 HIMSS IIP test evaluation, this capability is introduced as a ‘Discovery’ requirement. Developers will be requested to walk through desktop testing to identify current or prospective approaches. They will demonstrate the capability if the functionality exists. The HIMSS IIP observer will record the process to evaluate whether this capability should be included in future testing.



2. Juana Mariana Vazquez Visit

Juana Mariana Vazquez visits the provider where her immunization history is retrieved from the registry and reconciled with the local information in the medical record to determine vaccines that are due. Vaccinations are ordered and administered. The parents refuse the Polio vaccine due to prior issues. The vaccines are reported to the immunization registry and a vaccine summary is available for the patient.

2.1 Query the Registry for Juana Mariana Vazquez

The EHR generates a Z44 query to the Immunization Registry to retrieve the Evaluated History and Forecast for Juana Mariana Vazquez. The Z42 response is used to display, reconcile, and update the immunization information in the EHR.

Description

The EHR generates a Z44 query to the Immunization Registry to retrieve the Evaluated History and Forecast for Juana Mariana Vazquez.

Querying the registry will consist of the vendor creating Z44 messages for Juana Mariana Vazquez to be sent to the registry. The response will be processed as part of the 'Display, Reconcile, Import and Update Immunization Information' activity.

Using the Z42 Response to Immunization Registry Query, the EHR displays the Evaluated History and Forecast to the user for reconciliation and update. The vendor will receive information back from the registry and show the ability to view and reconcile, and import the information returned by the registry (NOTE: the Z42 message will be provided either manually, or as part of the tool). This test will also look at the system's ability to view the forecast returned by the registry and create a new forecast after reconciling the information.

Comments

No Comments

Pre-Condition

Juana Mariana Vazquez is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the 'Juana Mariana Vazquez Initial Data Load.'

Post-Condition

A Z44 Query is generated and submitted to the Immunization Registry/Test tool, and a Z42 response is returned.

Test Objectives

Select New Patient: The EHR or other clinical software system must allow a user to distinguish information about patients with similar names or identifying information in order to select the right patient from the providers' EHR or other clinical software system. This information is crucial for identifying and selecting the correct patient. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar sounding names. In order to match patients with those already in the immunization registry, the EHR or other clinical software should have the ability to record the mother's maiden name, whether the patient was part of a multiple birth, and if so, the order of birth (when such information is available). The provider should be aware of how often the protection indicator information must be updated based on local rules.



Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry “on demand,” or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother’s maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History: The public health immunization registry has returned the requested immunization history for a patient (Return Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient’s local immunization history and include the time of the update and the source of the new information.

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

View Immunization Forecast: The EHR or other clinical software system provides a view of the immunization forecast provided by the IIS. The display includes the recommended vaccines and their associated dates (e.g., earliest, recommended, past due, latest) for each vaccine included in the forecast.

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient’s newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service but should reference the most recent recommendations.

Review Patient Immunization History: The EHR or other clinical software systems displays vaccine history by vaccine series.

Record Past Immunizations: The EHR or other clinical software system allows providers to enter information about immunizations given elsewhere (e.g., by another doctor, at a public health clinic, pharmacy, etc.) with incomplete details.

Support for:

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note



2.1.1 Step 1: Select Patient Juana Mariana Vazquez

Select patient Juana Mariana Vazquez, distinguishing the patient from other patients with similar demographics (similar names).

Description

Juana Mariana Vazquez is selected as the patient and her record is opened in the EHR.

Comments

No Comments

Pre-Condition

Juana Mariana Vazquez Initial Data Load completed.

Post-Condition

Juana Mariana Vazquez is the active working patient in the EHR.

Test Objectives

Select New Patient: The EHR or other clinical software system must allow a user to distinguish information about patients with similar names or identifying information in order to select the right patient from the providers' EHR or other clinical software system. This information is crucial for identifying and selecting the correct patient. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar sounding names. In order to match patients with those already in the immunization registry, the EHR or other clinical software should have the ability to record the mother's maiden name, whether the patient was part of a multiple birth, and if so, the order of birth (when such information is available). The provider should be aware of how often the protection indicator information must be updated based on local rules.

Evaluation Criteria

Tester shall verify that the product can distinguish Juana Mariana Vazquez from similar sounding names using all of the pediatric demographics. Tester verifies that the product can select the correct patient. The following subset of the patient demographic attributes entered during the initial data load are verified to assure that the correct patient is selected:

Patient Name: First	Juana
Patient Name: Middle	Mariana
Patient Date of Birth:	11/01/2016
Birth Time:	11:05
Patient Gender (Administrative Sex):	F
Multiple Birth Indicator	No
Patient Address: Street	4345 Standish Way
Patient Address: City	Stamford
Patient Address: State	CT
Patient Address: Country	USA
Patient Address: Zip code	06903



Patient Telephone Number:	(203) 555-1212
Patient Telephone Number Type (e.g., home, cell)	cell

Notes

No Note

2.1.2 Step 2: Query Registry for vaccination history and forecast for Juana Mariana Vazquez

The EHR generates a Z44 query for immunization history and forecast correctly and without omission according to supplied test data.

Description

The provider uses the EHR to query the Immunization Registry for an Evaluated History and Forecast based on information known to the Immunization Registry.

Comments

No Comments

Pre-Condition

Juana Mariana Vazquez Initial Data Load is completed. Juana Mariana Vazquez is the active working patient in the EHR.
--

Post-Condition

The Immunization Registry responds with Evaluated Vaccine History and Forecast for Juana Mariana Vazquez.

Test Objectives

<p>Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry “on demand,” or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother’s maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).</p> <p>Support for:</p> <p>Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with</p>



the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Evaluation Criteria

Tester shall verify that the vendor can produce a valid Z44 query in accordance with the test data correctly and without omission.

Tester shall verify that the data in the message corresponds to the data in the EHR and contains all test data attributes supplied.

Notes

No Note

HL7 Encoded Message



Juana Mariana Vazquez z44.txt

2.1.3 Step 3: View and Compare response to request for vaccination history for Juana Mariana Vazquez

The EHR displays the Immunization History results (Z42) returned in response to the Z44 Query and compares to those in the EHR.

Description

The Immunization Registry returns an Evaluated History and Forecast (Z42) to the EHR in response to the query for patient (Juana Mariana Vazquez). The provider reviews the immunization history from the registry and compares to the immunization history in the EHR. The provider reviews the information from these sources, identifying information known only to the registry, and identifying information that is more accurately reflected in the local EHR:

The physician accesses the record for Juana Mariana Vazquez and the EHR differentiates:

The following vaccinations are available only to the EHR:

diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 11/20/2020
poliovirus vaccine, inactivated (CVX 10) administered 2/21/2018, -- Adverse Reaction: febrile seizure (e.g., Simple febrile seizure (finding) 432354000) VXC11^convulsions (fits, seizures) within 72 hours of dose^CDCPHINV)
Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) administered 10/15/2020

The EHR differentiates the following vaccinations which differ between the EHR and the IIS:

For the hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 12/20/2016, that EHR displays different text for the IIS (which documents a Non-specific formulation) and EHR (which documents hepatitis B vaccine, pediatric or pediatric/adolescent dosage) for Vaccine administered
--



The EHR differentiates the following vaccinations that are available from both the IIS that and the local EHR:

measles, mumps, rubella virus vaccine (CVX 03) administered 8/22/2017 (an invalid dose)

The EHR differentiates the following vaccinations that are available from the IIS that are not known to the local EHR:

hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 11/01/2016
hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 05/20/2017
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 1/22/2017
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 3/23/2017
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 5/22/2017
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 2/21/2018
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 1/22/2017
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 3/23/2017
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 5/22/2017
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 11/21/2017
poliovirus vaccine, inactivated (CVX 10) administered 1/22/2017
poliovirus vaccine, inactivated (CVX 10) administered 3/23/2017 – Adverse Reaction: (VXC12^fever of >40.5C (105F) within 48 hours of dose^CDCPHINVS)
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 1/22/2017
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 3/23/2017
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 5/22/2017
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 1/11/2018
rotavirus, live, monovalent vaccine (CVX 119) administered 1/22/2017
rotavirus, live, monovalent vaccine (CVX 119) administered 3/23/2017
Influenza, seasonal, injectable (CVX 161) administered 9/25/2017
Influenza, seasonal, injectable (CVX 161) administered 10/29/2017
Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) administered 10/2/2018
Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) administered 11/4/2019
hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) administered 11/23/2017
hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) administered 5/23/2018
measles, mumps, rubella virus vaccine (CVX 03) administered 9/22/2020
Varicella virus vaccine (CVX 21) administered 12/15/2018

Comments

No Comments

Pre-Condition

Juana Mariana Vazquez Initial Data Load is completed.

Juana Mariana Vazquez is the active working patient in the EHR.

A Z44 query has been submitted to the Immunization Registry and a Z42 response is provided back to the EHR.

Post-Condition



Evaluated Immunization History returned from the registry is reviewed and compared to the immunizations in the patient record (Juana Mariana Vazquez).

Test Objectives

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 Version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History: The public health immunization registry has returned the requested immunization history for a patient (Return Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient’s local immunization history and include the time of the update and the source of the new information.

Review Patient Immunization History: The EHR or other clinical software system displays vaccine history by vaccine series.

Support for:

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Evaluation Criteria

1. The EHR is able to receive the response from the Immunization Registry.
2. The EHR displays the information returned from the Immunization Registry according to the Juror Document.
 - Complete review for Polio administered 3/23/2017, MMR 8/22/2017.
 - remaining vaccines may be reviewed only for the vaccine name and date administered.
3. The EHR is able to differentiate the vaccines in the comparison between the EHR and the vaccination history.

Notes

The juror document also contains the verification content for the immunization forecast, which is tested and graded separately at step 5: View the vaccination history for Juana Mariana Vazquez. The criteria for this step is tested separately here and graded only with respect to the vaccine history.

Visualization of the adverse reaction for the Polio Vaccine in the history returned from the IIS is an advanced function. The adverse event is returned in the message and may be displayed during comparison by the EHR, but it is not listed in the Juror document.

The EHR must minimally display the vaccine administered and the date of the immunization.

HL7 Encoded Message



Juana Mariana
Vazquez z42.txt

Juror Document



Juana Mariana Juror
Document.pdf

2.1.4 Step 4: Mark first MMR Dose as Invalid

Identify the first MMR dose which is given too early, as invalid. If the EHR does not already flag the first MMR as invalid, the provider updates the first MMR to indicate it is invalid as it was given too early (as notified by the registry).

Description

If the EHR does not already flag the first MMR as invalid, the provider updates the first MMR to indicate it is "invalid" as it was given too early (as notified by the registry).

Comments

If the EHR already recognizes the dose as invalid, then this step may be skipped.

Pre-Condition

Initial Data Load – Step 2: Enter Initial Immunization Data for Juana Mariana Vazquez: Immunizations from practice.

Post-Condition

MMR status for the first MMR dose is set to invalid.

Test Objectives

Dose validity is an important aspect of:

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient's newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service but should reference the most recent recommendations.

Evaluation Criteria



Evaluation Criteria: The vendor is able to record that the first MMR vaccination dose is invalid with a reason that it was given too early, and therefore the dose administered on 9/22/2020 should indicated dose '1'.

Notes

In the steps that follow, the MMR returned from the registry will be imported and the vaccine forecasting steps will further verify the correct documentation of the dose that will be imported from the registry as dose '1'.

2.1.5 Step 5: View the vaccination forecast for Juana Mariana Vazquez

Vendor can successfully display the current Immunization Forecast (vaccination names and recommended vaccination dates) as returned by the Registry (Z42).

Description

The physician accesses the record for Juana Mariana Vazquez and:
 - Displays the registry forecast as returned by the immunization registry.

Comments

No Comments

Pre-Condition

A Z44 query has been submitted to the Immunization Registry and a Z42 response is provided back to the EHR.

Post-Condition

Immunization Forecast returned from the registry has been displayed to the user.

Test Objectives

View Immunization Forecast: The EHR or other clinical software system provides a view of the immunization forecast provided by the IIS. The display includes the recommended vaccines and their associated dates (e.g., earliest, recommended, past due, latest) for each vaccine included in the forecast.

Evaluation Criteria

1. The EHR displays the information returned from the Immunization Registry according to the Juror Document.
2. Verify that all forecast vaccines and dates returned by the registry are displayed to the user.

Notes

The verification content for the vaccine forecast also is part of the juror document in the prior step 3: View and Compare response to request for vaccination history for Juana Mariana Vazquez. The criteria for this step is tested separately here and graded only with respect to the vaccine forecast. Date when Vaccine Overdue may be omitted for the Influenza Vaccine.

For MMR, the 2nd dose is due 10/31/19 according to the schedule. Since the first one was given too early, the child is behind. Verify that the EHR shows all 3 dates returned by the registry:

- Earliest Date to Give
- Vaccine Due Date
- Date When Vaccine Overdue

HL7 Encoded Message



Juana Mariana
Vazquez z42.txt

Juror Document



Juana Mariana Juror
Document.pdf

2.1.6 Step 6: Reconcile and import vaccinations from Evaluated History and Forecast for Juana Mariana Vazquez

The Provider uses the EHR to compare the immunization history results (Z42) returned by the Immunization Registry in response to the Z44 Query with the immunization history in the local system and reconcile (import/update) records.

Description

Juana Mariana Vazquez immunization registry provided Evaluated History and Forecast is reconciled with the immunization history information in the EHR.

Comments

No Comments

Pre-Condition

A Z44 query has been submitted to the Immunization Registry and a Z42 response is provided back to the EHR, and the response is available in the EHR for reconciliation and import.

Post-Condition

Evaluated Immunization History returned from the registry is reconciled and imported into the patient record (Juana Mariana Vazquez).

Test Objectives



Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software system stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History: The public health immunization registry has returned the requested immunization history for a patient (Return Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient's local immunization history and include the time of the update and the source of the new information.

Review Patient Immunization History: The EHR or other clinical software system displays vaccine history by vaccine series.

Support for:

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Evaluation Criteria

The user imports the vaccination, date administered, and documents adverse reactions reconciled from the returned vaccinations as follows:

Vaccinations NOT imported:

hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 12/20/2016
measles, mumps, and rubella virus vaccine (CVX 03) administered 8/22/2017
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 11/20/2020 [known only to EHR, not available from IIS]
poliovirus vaccine, inactivated (CVX 10) administered 2/21/2018 [known only to EHR, not available from IIS], adverse reaction: VXC12^fever of >40.5C (105F) within 48 hours of dose^CDCPHINVS
Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) administered 10/15/2020 [known only to EHR, not available from IIS]

Vaccinations Imported:

hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 11/01/2016
hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 05/20/2017
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 1/22/2017
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 3/23/2017
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 5/22/2017
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 2/21/2018



Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 1/22/2017
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 3/23/2017
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 5/22/2017
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 11/21/2017
poliovirus vaccine, inactivated (CVX 10) administered 1/22/2017
poliovirus vaccine, inactivated (CVX 10) administered 3/23/2017, adverse reaction: 31044-1^Reaction^LN 1 VXC11^convulsions (fits, seizures) within 72 hours of dose^CDCPHINVS
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 1/22/2017
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 3/23/2017
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 5/22/2017
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 1/11/2018
rotavirus, live, monovalent vaccine (CVX 119) administered 1/22/2017
rotavirus, live, monovalent vaccine (CVX 119) administered 3/23/2017
Influenza, seasonal, injectable (CVX 161) administered 9/25/2017
Influenza, seasonal, injectable (CVX 161) administered 10/29/2017
Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) administered 10/2/2018
Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) administered 11/4/2019
hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) administered 11/23/2017
hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) administered 5/23/2018
measles, mumps, rubella virus vaccine (CVX 03) administered 9/22/2020
Varicella virus vaccine (CVX 21) administered 12/15/2018

The tester verifies that the Reconciled Patient Immunization History can be displayed to the user.

Notes

No Note

2.1.7 Step 7: View the updated vaccination forecast for Juana Mariana Vazquez

Using the reconciled vaccine history information, the EHR displays the current Immunization Forecast to the user for Juana Mariana Vazquez.

Description

Once the vaccine history is reconciled in the EHR, the vaccine forecast is updated.

Comments

No Comments

Pre-Condition

EHR Vaccine History is Reconciled with Immunization History from the IIS (previous step 'Reconcile and import vaccinations from Evaluated History and Forecast returned by the Registry for Juana Mariana Vazquez').

Post-Condition

An updated vaccine forecast based upon the reconciled vaccine history is available to the user.

Test Objectives



View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient’s newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service, but should reference the most recent recommendations.

Evaluation Criteria

Tester verifies that the vendor can display the immunization forecast based upon the reconciled vaccination history:

1. Verify that the EHR does not include in reconciled vaccine forecast:

IPV	due on 4/29/2017
-----	------------------

2. Verify that the EHR includes in reconciled vaccine forecast:

IPV	due on 10/31/2020
MMR	due on 10/31/2020
Varicella	due on 10/31/2020
influenza, unspecified formulation	due on 09/01/2021 or later (annual recommendation – specific date may vary somewhat)

Notes

The due date must be in range for the date shown. Vaccine forecast dates may be plus or minus 10 days to accommodate differences in date handling.

Since Influenza is seasonal, forecasting of Influenza may vary by test date. Once the Flu season is past, the next Flu vaccine forecast will be for the next season. The forecasting for children who are playing immunization catch-up may differ from the standard immunization forecast. Tester should document incidences where influenza is not forecasted and verify that the rationale for the omission is due to the date of the test. Variations relating to IPV refusals and catch-up should also be documented by the tester. Overdue date may be omitted for influenza. While there is not an expected recommendation for the earliest date to give for influenza, this may appear in some EHR implementations. Tester should note if this is included.

Further variation should be documented in the notable exceptions, but minimally each forecast vaccine must be present.



2.2 Juana Mariana Vazquez, Enter Orders and Immunizations

The provider selects to order IPV and views information about the prior febrile seizure post-IPV vaccine.

Description

This test will consist of ordering vaccines for the test patients, reviewing any alerts caused by specific scenarios, and documenting vaccinations administered to the patients.

Comments

No Comments

Pre-Condition

Juana Mariana Vazquez is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the 'Juana Mariana Vazquez Initial Data Load.'

Post-Condition

Visit orders are entered in Juana Mariana Vazquez's record.

Test Objectives

Notify of Previous Adverse Event: The EHR or other clinical software system alerts providers to previous adverse events for a specific patient, in order to inform clinical decision-making when providers view an existing immunization record.

Record Vaccine Administration Deferral: The EHR or other clinical software system allows a user to enter a reason or reasons why a specific immunization was not given to a patient (e.g., due to contraindication, refusal, etc.). The system also stores that information in a structured way so it can be reported and analyzed as needed.

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g., intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid "oral" route for IM vaccines, and assure dose is appropriate for the vaccine).

Receive Dose Not Indicated Alert Upon Vaccine Administration: The EHR or other clinical software system notifies the individual administering a vaccine that the vaccine is inconsistent with expected timing intervals as suggested by the vaccine forecast. The method and timing of notification can be specified to meet local clinical workflow. This requirement is a "failsafe" mechanism in case the provider orders a vaccine dose that is inconsistent with appropriate timing intervals.

Enter Vaccination Order: The EHR or other clinical software system allows providers to order immunizations for a patient using filters for type of vaccine, including combination vaccines.



Record Past Immunizations: The EHR or other clinical software system allows providers to enter information about immunizations given elsewhere (e.g., by another doctor, at a public health clinic, pharmacy, etc.) with incomplete details.

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration:

The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or pre-filled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2008: Indicates that either a refusal reason was messaged in RXA-18 when the completion status in RXA-20 was not RE or a valid refusal reason was not messaged when the completion status was RE
- 2014: Indicates that the administration amount is inconsistent with the vaccine administered
- 2016: Indicates that the administration route is inconsistent with the vaccine administered

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

2.2.1 Step 1: Order IPV and view prior reaction

The provider selects to order IPV and views information about the prior febrile seizure post-IPV vaccine.

Description

The provider accesses the record for Juana Mariana Vazquez and:
 - Selects order for IPV and views information about the prior febrile seizure post-IPV vaccine.
 - IPV is ordered for the patient.

Comments



In this step, the order is recorded after receiving the alert. This step is followed by parental refusal when the administration is attempted.

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR.

Post-Condition

IPV order entered in patient record. User notified of history of adverse reaction to IPV (febrile seizures).

Test Objectives

Enter Vaccination Order: The EHR or other clinical software system allows providers to order immunizations for a patient using filters for type of vaccine, including combination vaccines.

Notify of Previous Adverse Event: The EHR or other clinical software system alerts providers to previous adverse events for a specific patient, in order to inform clinical decision-making when providers view an existing immunization record.

Evaluation Criteria

The EHR records the following order information and Alert. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source	New immunization record (NIP001 00)
Value/Text for Vaccine Type	IPV (CVX 10)
Date/Time Vaccine Refusal was recorded	Current Date
Alert	Alerts user to information about the prior febrile seizure post-IPV vaccine

Notes

No Note

2.2.2 Step 2: Vaccine Refusal Data Quality Checks

The provider attempts to document vaccine refusal information for Juana Mariana Vazquez in the EHR. Vaccination refusal data quality checks are verified during data entry.

Description



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



The provider attempts to document vaccine refusal information for the immunization for Juana Mariana Vazquez. These data quality checks primarily relate to improving vaccine refusal information and associated observations that will be included when submitting data to the immunization registry.

Comments

Evaluates EHR functions for verifying data quality of vaccine refusal data and associated observations used for reporting vaccinations to the immunization registry. There is no transaction associated with this test step.

Pre-Condition

Order is placed for the IPV vaccine.

Post-Condition

The EHR has alerted the provider for each of the vaccine refusal data quality checks verified for Juana Mariana Vazquez.

Test Objectives

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2008: Indicates that either a refusal reason was messaged in RXA-18 when the completion status in RXA-20 was not RE or a valid refusal reason was not messaged when the completion status was RE.

Evaluation Criteria

Evaluation Criteria: During the course of data entry for the variant information below, the EHR triggers the following data quality issues:

- Triggers Error that completion status indicates a Refusal Reason is documented, but completion status is not documented as RE (2008)

Substance/Treatment Refusal Reason	Parental decision (NIP002 00)	
Completion Status	CP	Triggers Error that completion status indicates a Refusal Reason is documented, but completion status is not documented as RE (2008)
Date/Time Vaccine Refusal was recorded	Current Date	
Refusal Reason	Parental decision (NIP002 00)	
Deferral Status	Deferred	

- Triggers Error a completion status of RE, but no valid Refusal Reason is documented (2008)

Substance/Treatment Refusal Reason	not documented	Triggers Error a completion status of RE, but no valid Refusal Reason is documented (2008)
Completion Status	RE	
Date/Time Vaccine Refusal was recorded	Current Date	
Refusal Reason	not documented	Triggers Error a completion status of RE, but no valid Refusal Reason is documented (2008)
Deferral Status	Deferred	

- Triggers Error a completion status of RE, but no valid Refusal Reason is documented (2008)

Substance/Treatment Refusal Reason	Concern	Triggers Error a completion status of RE, but no valid Refusal Reason is documented (2008)
Completion Status	RE	
Date/Time Vaccine Refusal was recorded	Current Date	
Refusal Reason	Reason documented not in value set (NIP002 – Substance refusal reason)	Triggers Error a completion status of RE, but no valid Refusal Reason is documented (2008)
Deferral Status	Deferred	

Notes

The full vaccination refusal details are provided here to facilitate the documentation constraints and/or screens that may be required by the vendor in order to attempt to document the data of interest, but these are not verified until the next step. Only those attributes specified that are anticipated to result in data quality alerts are required for this step.

2.2.3 Step 3: IPV Parental Refusal

Documents mother's refusal for IPV vaccine indicating the parent decision, the reason and documents a deferral.

Description

The mother is concerned about administering the IPV due to the prior adverse reaction and refuses to have the child immunized for IPV. The provider documents mother's refusal for IPV vaccine indicating the parent decision, the reason and documents a deferral at the time of attempted administration.

Comments

No Comments

Pre-Condition



Prior Immunization History loaded and reconciled from the Immunization Registry. Order is entered for IPV. Provider has been alerted to prior adverse reaction to IPV of febrile seizures.

Post-Condition

Vaccine non-administration due to parental refusal is documented in the patient record. Deferral is recorded.

Test Objectives

Record Vaccine Administration Deferral: The EHR or other clinical software system allows a user to enter a reason or reasons why a specific immunization was not given to a patient (e.g., due to contraindication, refusal, etc.). The system also stores that information in a structured way so it can be reported and analyzed as needed.

Evaluation Criteria

The EHR documents the non-administration of the IPV due to the parental refusal. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Substance/Treatment Refusal Reason	Parental decision (NIP002 00)
Completion Status	RE
Date/Time Vaccine Deferral was recorded	Current Date
Refusal Reason	Parental decision (NIP002 00)
Deferral Status	Deferred

Notes

No Note

2.2.4 Step 4: Enter Immunization Data for MMR Given 2 Weeks Prior

Patient History from the parent for the latest MMR vaccine that was given 2 weeks prior to the current visit is entered into the EHR. This is a pre-condition to the attempt to enter the varicella vaccine order.

Description

The EHR vendor loads immunization history data for an MMR dose entered 2 weeks prior to the current visit date and an MMR dose that was given too early. These MMR doses serve to seed checking for the condition that it is too early to give a live vaccine in TestCaseGroup: Juana Mariana Vazquez Visit, TestCase: Juana Mariana Vazquez, Enter Orders and Immunizations, TestStep: Attempt to order Varicella Dose.

Comments



No Comments

Pre-Condition

The EHR has recorded all of the pediatric demographic data in the record created for Juana Mariana Vazquez. All test steps that are part of the Query the Registry for Juana Mariana test steps are completed, including the vaccination forecasting.

Post-Condition

The immunization history of the MMR that was administered 2 weeks prior to the test date is loaded into the record created for Juana Mariana Vazquez.

Test Objectives

Record Past Immunizations: The EHR or other clinical software system allows providers to enter information about immunizations given elsewhere (e.g., by another doctor, at a public health clinic, pharmacy, etc.) with incomplete details.

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Supporting data for:

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Receive Dose Not Indicated Alert Upon Vaccine Administration: The EHR or other clinical software system notifies the individual administering a vaccine that the vaccine is inconsistent with expected timing intervals as suggested by the vaccine forecast. The method and timing of notification can be specified to meet local clinical workflow. This requirement is a “failsafe” mechanism in case the provider orders a vaccine dose that is inconsistent with appropriate timing intervals.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all immunization data known to the local practice as provided, with all required attributes indicated by [Y]. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Vaccine from Practice MMR II		
Entered By	Sandra Molina	Y
Ordering Provider	Frank Smith	Y
Entering Organization	Shoreline Pediatrics	Y



Administration Notes (Vaccine Event information source)	Historical information – from parent’s written record (NIP001 03)	Y
Date/Time of Start of Administration	14 days prior to the Current Date	Y
Vaccine Administered	measles, mumps and rubella virus vaccine (CVX 03, NDC 00006-4681-01 – MMR II)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Sandra Molina	Y
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901	Y
Lot Number	0934GG	Y
Substance Expiration Date	12/31/2022	Y
Substance Manufacturer.	Merck and Co Inc (MVX MSD)	Y
Completion Status	Completed (CP)	Y
Route of Administration	Subcutaneous (NCIT: C28399, HL70162: SC)	Y
Administration Site	Left Arm (HL70163: LA)	Y

Notes

The MMR doses serve to seed checking for the condition that it is too early to give a live vaccine in TestCaseGroup: Juana Mariana Vazquez Visit, TestCase: Juana Mariana Vazquez, Enter Orders and Immunizations, TestStep: Attempt to order Varicella Dose.

2.2.5 Step 5: Attempt to Order Varicella Dose

The provider attempts to give a Varicella dose and is warned that it is too soon to give a live vaccine dose.

Description

The provider attempts to give a Varicella dose and is warned that it is too soon to give a live vaccine dose.

Comments

No Comments

Pre-Condition

Initial data load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. MMR dose entered at 14 days prior to the current date in TestCaseGroup: Juana Mariana Vazquez Visit, TestCase: Juana Mariana Vazquez, Enter Immunization Data for MMR Given 2 Weeks Prior.

Post-Condition

The provider has been issued a warning that it is too soon to give another live virus dose.



Test Objectives

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Evaluation Criteria

There should be a warning that the attempt to give a new Varicella Dose is too early – should get warning that 28 days must pass between 2 live virus vaccines if not administered at the same time due to the prior MMR vaccination 14 days earlier.

Notes

If the checking that the dose is too early is handled in the forecast logic rather than the orders interface, this is acceptable to demonstrate the capability.

It can be expressed where it is not part of the recommended forecast and showing it is not 'due' or recommended until a later date.

2.2.6 Step 6: Order Influenza Vaccine

The provider selects to order Influenza vaccine.

Description

The physician accesses the record for Juana Mariana Vazquez and:
- Selects order for Influenza vaccine.

Comments

This order is a pre-condition to the following two steps related to recording the Influenza vaccine.

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR.

Post-Condition

Influenza order entered in patient record.

Test Objectives



Enter Vaccination Order: The EHR or other clinical software system allows providers to order immunizations for a patient using filters for type of vaccine, including combination vaccines.

Evaluation Criteria

The EHR records the following order information. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source	New immunization record (NIP001 00)
Value/Text for Vaccine Type	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161, NDC 49281-0521-00)
Date/Time Vaccine was recorded	Current Date

Notes

No Note

2.2.7 Step 7: Vaccine Dosing and Administration Data Quality Checks

The provider attempts to document vaccine dosing and administration information for Juana Mariana Vazquez in the EHR. Vaccination dosing and administration data quality checks are verified during data entry.

Description

The provider attempts to document vaccine route and administration amount for the influenza immunization for Juana Mariana Vazquez. These data quality checks primarily relate to improving vaccine dosing and administration information that will be included in the vaccination details when submitting data to the immunization registry.

The nurse documents administration route for the IM inactivated influenza vaccine as 'intranasal':

- Is alerted when documenting "intranasal" for intramuscular inactivated influenza vaccine.
- Is alerted when documenting the incorrect administration amount for the vaccine administered.

Comments

Evaluates EHR functions for verifying data quality of vaccine dosing and administration data used for reporting vaccinations to the immunization registry. There is no transaction associated with this test step.

Pre-Condition

Order is placed for intramuscular inactivated influenza vaccine.

Post-Condition



The EHR has alerted the provider for each of the vaccine dosing and administration data quality checks verified for Juana Mariana Vazquez.

Test Objectives

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2014: Indicates that the administration amount is inconsistent with the vaccine administered
- 2016: Indicates that the administration route is inconsistent with the vaccine administered

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine


Administration: The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Evaluation Criteria

Evaluation Criteria: During the course of data entry for the variant information below, the EHR triggers the following data quality issues:

- Triggers Error that the administration amount is inconsistent with the vaccine administered (2014)
- Triggers Error that the administration route is inconsistent with the vaccine administered (2016)

The EHR Records the following vaccine administration information:

Entered By	Sandra Molina	
Ordering Provider	Frank Smith	
Entering Organization	Shoreline Pediatrics	
Vaccine Event information source (Administration Notes)	New immunization record (NIP001 00)	
Value/Text for Vaccine Type	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161, NDC 49281-0521-00)	
Vaccine 2D Barcode		
Date/Time of Start of Administration	Current Date	
Administered Amount (of Vaccine)	.25	Triggers Error that the administration amount is



		inconsistent with the vaccine administered (2014)
Administered Units (of Measure)	mL	
Administering Provider	Sandra Molina	
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901	
Lot Number	8L4B3521	
Substance Expiration Date	12/31/2022	
Substance Manufacturer Name	Sanofi Pasteur (PMC)	
Completion Status	Completed (CP)	
Route of Administration	Given by nose (NCIT: C38284, HL70162: NS)	Triggers Error that the administration route is inconsistent with the vaccine administered (2016)
Administration Site	Left Deltoid (HL70163: LD)	
VFC Eligibility	Yes	
Funding Source	Public	
VIS Given Date	Current Date	
VIS Fully Encoded Text-String	253088698300010311210806	

Notes

The full vaccination details are provided here to facilitate the documentation constraints and/or screens that may be required by the vendor in order to attempt to document the data of interest, but these are not verified until the next step. Only those attributes specified that are anticipated to result in data quality alerts are required for this step.

While this test step requires verification of an appropriate route, the SUT should be sure that alternate route documentation is not restricted. While not part of this use case, there are situations where an alternate site may be medically indicated.

2.2.8 Step 8: Record Influenza Vaccine administration

The provider documents in the EHR all attributes associated with the new vaccine administration.

Description

The nurse administers the inactivated influenza vaccine:
- Documents all required information for the vaccine.

Comments

No Comments

Pre-Condition

Order is placed for inactivated influenza vaccine.

Post-Condition



The inactivated influenza vaccinations is recorded in the EHR.

Test Objectives


Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g., intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid “oral” route for IM vaccines, and assures dose is appropriate for the vaccine).

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration: The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Evaluation Criteria

The tester Verifies that there is a choice for VFC stock as she is VFC Eligible. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

The EHR records the following vaccine administration information, and using the 2D Barcode found on the Unit-of-Use for vaccine administration, automatically populates the Vaccine Type/product administered, the expiration date and the lot number:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source (Administration Notes)	New immunization record (NIP001 00)
Value/Text for Vaccine Type	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161, NDC 49281-0521-00)
Vaccine 2D Barcode	
Date/Time of Start of Administration	Current Date
Administered Amount (of Vaccine)	0.5
Administered Units (of Measure)	mL
Administering Provider	Sandra Molina
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901
Lot Number	8L4B3521



Substance Expiration Date	12/31/2022
Substance Manufacturer Name	Sanofi Pasteur (PMC)
Completion Status	Completed (CP)
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)
Administration Site	Left Deltoid (HL70163: LD)
VFC Eligibility	Yes
Funding Source	Public
VIS Given Date	Current Date
VIS Fully Encoded Text-String	253088698300010311210806

Notes

The EHR does not need to specify a 'new immunization', as long as there is a way to indicate that it is a new immunization within the EHR, this is acceptable (e.g., the default interpretation of the data entry is that it is a new immunization and not historical).



2.3 Juana Mariana Vazquez Transmit Immunization Report

Send the Immunization Report to the Immunization Registry (VXU/Z22) for Juana Mariana Vazquez.

Description

Following the vaccinations given during the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The Vaccination report includes all newly administered vaccines. The report should include vaccines incorrectly recorded in the IIS. The report MAY send the immunizations that the EHR imported from the IIS.

Comments

The report must include all newly administered vaccines in any order. The report should also include the corrected information where the EHR has different information than the IIS and may also include the information imported from the IIS.

Pre-Condition

The vaccines for the visit have been administered.

Post-Condition

The IIS has received the vaccine information (Z22 message).

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Identify Adverse Event: The EHR or other clinical software system enables capture of structured data regarding adverse events.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

Sending information updated in the EHR back to the registry is an advanced function and some registries will not accept updates.



2.3.1 Step 1: Transmit the immunization report to the Immunization Registry

The EHR sends the Immunization Report to the Immunization Registry (VXU/Z22) for updated vaccination information from the visit. This includes all newly administered vaccines and may include historical information updated in the EHR during the visit.

Description

Following the vaccinations given during the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The Vaccination report includes all newly administered vaccines. The report should include vaccines incorrectly recorded in the IIS. The report MAY send the immunizations that the EHR imported from the IIS.

Comments

The report must include all newly administered vaccines in any order. The report should also include the corrected information where the EHR has different information than the IIS and may also include the information imported from the IIS.

Pre-Condition

The vaccines for the visit have been administered.

Post-Condition

The Immunization Report has been transmitted to the IIS using a valid Z22 VXU in accordance with the test data correctly and without omission.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient’s newly administered or newly identified immunization history to public health immunization registries.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Evaluation Criteria

The VXU/Z22 message passes validation using the NIST Immunization VXU Validation Tool (Z22) (context-free). The content of the message correctly reflects the test data (context-based) in accordance with the Test Data Specification and the Message Content.

Notes



Sending information updated in the EHR back to the registry is an advanced function and some registries will not accept updates.

The test data anticipate that the entire vaccine history is included in the message transmitted to the registry. Due to variation in practice, it is acceptable for the message to include only new vaccinations or only new vaccinations with updated content. The tester should document such instances and may augment the submitted test message with such missing 'history' in order to run the test without error.

All NDC coded values are required to use the format that includes dashes ('-').

HL7 Encoded Message



Transmit_Juana
Mariana Vazquez_z22

2.3.2 Step 2: Receive ACK Z23 from Immunization Registry

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Description

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Comments

No Comments

Pre-Condition

A VXU message is generated by the EHR.

Post-Condition

The ACK Z23 is received by the EHR.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Evaluation Criteria



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS™



The acknowledgement message is consumed by the system responsible for the content of the administration message without error. This is not typically part of the user interface, so this may be demonstrated through back-end evidence.

Notes

Important note regarding the MSH-10 and MSA-2: The NIST acknowledgment message is predefined and is based on the VXU message. Most systems will automatically create the message control Identifier and may require it for importing, linking, and processing the ACK message. The NIST ACK test message can be modified such that MSA-2 matches MSH-10 of the VXU message generated by the system-under test.

HL7 Encoded Message



Transmit_Juana
Mariana Vazquez_ACI

2.3.3 Step 3: Record an adverse reaction

The Provider records in the EHR an adverse reaction of rash within 14 days of dose.

Description

Following the vaccine administration, the mother reports that the patient had a rash within 14 days of dose.

Comments

No Comments

Pre-Condition

The vaccinations for the visit have been administered.

Post-Condition

The adverse reaction to the Influenza vaccination of rash within 14 days of dose is recorded in the EHR.

Test Objectives

Identify Adverse Event: The EHR or other clinical software system enables capture of structured data regarding adverse events.

Evaluation Criteria



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Verify that vendor can record the adverse reaction to the Influenza vaccination of rash within 14 days of dose correctly and without omission (VXC14). The coded value is not expected to be displayed to the user, but it is expected that the value selected has the identified meaning.

If the vendor is unable to record the concept (VXC14) using the CDCPHINVS coding system, the vendor may specify the reaction using SNOMED-CT or Narrative Text. This should be recorded as passing, but with a notable exception documented.

Notes

Adverse Reactions may be documented with SNOMED-CT or as a narrative note. These two approaches may be considered passing with notable exception. The approach that is used instead of the value set PHVS_VaccinationReaction_IIS 2.16.840.1.114222.4.11.3289 should be documented in the tester notes. The test data anticipate that the entire vaccine history is included in the message transmitted to the registry. Due to variation in practice, it is acceptable for the message to include only the record with the adverse reaction. The tester should document such instances and may augment the submitted test message with such missing 'history' in order to run the test without error.



2.4 Juana Mariana Vazquez Display Immunization Report

Produce an immunization report for the patient including all history (the report can be provided in various formats – e.g., print, send to patient portal, etc.).

Description

Following the vaccination visit, the provider uses the EHR to produce an immunization report for the patient including all history (the report can be provided in various formats – e.g., print, send to patient portal, etc.).

Comments

No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. New vaccinations have been administered.

Post-Condition

The patient/parent has been provided a patient immunization history report.

Test Objectives

Produce Standard Patient Immunization History Report: The EHR or other clinical software system produces a report of a patient’s immunization history that is appropriate for various entities, such as schools and day-care centers.

Produce Immunization Forecast Report: The EHR or other clinical software system creates a list of immunizations to be administered within a specified time frame.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

2.4.1 Step 1: Produce an immunization report for Juana Mariana Vazquez including all history

The EHR is used to produce an immunization report for the patient including all history (the report can be provided in various formats – e.g., print, send to patient portal, etc.).

Description



Following the vaccination visit, the provider uses the EHR to produce an immunization report for the patient including all history (the report can be provided in various formats – e.g., print, send to patient portal, etc.).

Comments

No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. New vaccinations have been administered.

Post-Condition

The patient/parent has been provided a patient immunization history report.

Test Objectives

Produce Standard Patient Immunization History Report: The EHR or other clinical software system produces a report of a patient's immunization history that is appropriate for various entities, such as schools and day-care centers.

Produce Immunization Forecast Report: The EHR or other clinical software system creates a list of immunizations to be administered within a specified time frame.

Evaluation Criteria

The following patient demographics are displayed:

Patient Identifier Number:	Vendor Assigned
Patient Identifier Type Code:	Vendor Assigned
Patient Name:	Juana Mariana Vazquez
Date/Time of Birth:	11/01/2016 11:05am
Sex:	Female
Patient Address:	4345 Standish Way, Stamford, CT, 06903
Multiple Birth Indicator:	No
Birth Order:	N/A

The following Vaccination History is displayed:

Vaccine Group:	Hep B Peds NOS
Administered:	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)
Date Administered:	11/01/2016
Additional Observations:	None
Dose #:	1
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Jane Carter
Entered By:	Lisa Sirtis



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Entering Organization:	Shoreline Hospital
Administered Amt:	0.5 mL
Administering Provider:	Jane Carter
Administered at Location:	325 Shoreline Drive, Stamford Connecticut 06901
Lot#:	6332FK33
Exp Date:	12/14/2016
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	Hep B Peds NOS
Administered:	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)
Date Administered:	12/20/2016
Additional Observations:	None
Dose #:	2
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	400 Shoreline Drive, Stamford Connecticut 06901
Lot#:	6352FK1
Exp Date:	12/14/2016
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	Hep B Peds NOS
Administered:	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)
Date Administered:	05/20/2017
Additional Observations:	None
Dose #:	3
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6352FK24
Exp Date:	8/31/2018
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	1/22/2017
Additional Observations:	None
Dose #:	1
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS2341
Exp Date:	11/30/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	3/23/2017
Additional Observations:	None
Dose #:	2
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS2433
Exp Date:	9/4/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	5/22/2017
Additional Observations:	None
Dose #:	3
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS3255
Exp Date:	12/1/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	2/21/2018
Additional Observations:	None
Dose #:	4
Doses in Series:	5
Valid Dose:	Y



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS249
Exp Date:	3/1/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	11/20/2020
Additional Observations:	None
Dose #:	5
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	J. Rodriguez
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Linda Casera
Administered at Location:	4253 Standish Way, Stamford Connecticut 06903
Lot#:	D643QS8243
Exp Date:	12/01/2020
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	1/22/2017
Additional Observations:	None
Dose #:	1
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M54K9245
Exp Date:	3/24/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	3/23/2017
Additional Observations:	None
Dose #:	2
Doses in Series:	4



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M55K3342
Exp Date:	10/30/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	5/22/2017
Additional Observations:	
Dose #:	3
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M75K4566
Exp Date:	5/23/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	11/21/2017
Additional Observations:	
Dose #:	4
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M53K5534
Exp Date:	2/22/2018
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	poliovirus vaccine, inactivated
Administered:	poliovirus vaccine, inactivated (CVX 10) IPOL (NDC 49281-0860-88)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1
Doses in Series:	4



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D333PV2431
Exp Date:	10/4/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	poliovirus vaccine, inactivated
Administered:	poliovirus vaccine, inactivated (CVX 10) IPOL (NDC 49281-0860-88)
Date Administered:	3/23/2017
Additional Observations:	Adverse Reaction of (VXC11^convulsions (fits, seizures) within 72 hours of dose^CDCPHINVS)
Dose #:	2
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D333PV4344
Exp Date:	3/23/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	poliovirus vaccine, inactivated
Administered:	poliovirus vaccine, inactivated (CVX 10) IPOL (NDC 49281-0860-88)
Date Administered:	2/21/2018
Additional Observations:	Adverse Reaction of (VXC12^fever of >40.5C (105F) within 48 hours of dose^CDCPHINVS)
Dose #:	3
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	J. Rodriguez
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Linda Casera
Administered at Location:	4253 Standish Way, Stamford Connecticut 06903
Lot#:	D335PV9644
Exp Date:	4/22/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1



Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P243V3281
Exp Date:	1/30/2017
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P343V8321
Exp Date:	3/30/2017
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	5/22/2017
Additional Observations:	
Dose #:	3
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P853V2164
Exp Date:	8/30/2017
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: LT)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	1/11/2018
Additional Observations:	



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Dose #:	4
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P853V58532
Exp Date:	4/18/2018
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	rotavirus
Administered:	rotavirus, live, monovalent vaccine (CVX 119) ROTARIX (NDC 58160-0851-01)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	1 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RV533
Exp Date:	2/15/2017
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Oral (NCIT: C38288, HL70162: PO)
Site:	(N/A)
Vaccine Group:	rotavirus
Administered:	rotavirus, live, monovalent vaccine (CVX 119) ROTARIX (NDC 58160-0851-01)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	1 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RV932
Exp Date:	5/10/2017
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Oral (NCIT: C38288, HL70162: PO)
Site:	(N/A)
Vaccine Group:	influenza
Administered:	Influenza, seasonal, injectable (CVX 161)
Date Administered:	9/25/2017
Additional Observations:	



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D8043IN8734
Exp Date:	7/25/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)

Vaccine Group:	influenza
Administered:	Influenza, seasonal, injectable (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0517-00)
Date Administered:	10/29/2017
Additional Observations:	
Dose #:	2
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D8043IN8746
Exp Date:	3/12/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)

Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0518-00)
Date Administered:	10/2/2018
Additional Observations:	
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D9334IN9333
Exp Date:	5/22/2019
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)

Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0519-00)



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Date Administered:	11/4/2019
Additional Observations:	
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D9553IN2243
Exp Date:	4/30/2020
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0520-00)
Date Administered:	10/15/2020
Additional Observations:	
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Gina Ricci
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	.5 mL
Administering Provider:	Gina Ricci
Administered at Location:	Oceanview Pharmacy, 15 Post Road, Stamford Connecticut 06901
Lot#:	8L4B3423
Exp Date:	12/30/2020
Manufacturer:	Sanofi Pasteur Inc. (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0521-00)
Date Administered:	Current Date
Additional Observations:	Adverse Reaction of (VXC14^Rash within 14 days of dose ^CDCPHINVS)
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	400 Shoreline Drive, Stamford Connecticut 06901
Lot#:	8L4B3521
Exp Date:	12/31/2022
Manufacturer:	Sanofi Pasteur Inc. (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	Hep A



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Administered:	hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) HAVRIX (NDC 58160-0825-43)
Date Administered:	11/23/2017
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RT33
Exp Date:	1/4/2018
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Deltoid (HL70163: RD)
Vaccine Group:	Hep A
Administered:	hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) HAVRIX (NDC 58160-0825-43)
Date Administered:	5/23/2018
Additional Observations:	
Dose #:	2
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RT48
Exp Date:	9/11/2018
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	MMR
Administered:	measles, mumps, rubella virus vaccine (CVX 03) MMR II (NDC 00006-4681-01)
Date Administered:	08/22/2017
Additional Observations:	Invalid because it was given too soon
Dose #:	
Doses in Series:	2
Valid Dose:	N
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	0853CC
Exp Date:	12/15/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Thigh (HL70163: LT)



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS

DRUMMOND

Vaccine Group:	MMR
Administered:	measles, mumps, rubella virus vaccine (CVX 03) MMR II (NDC 00006-4681-01)
Date Administered:	9/22/2020
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	0854FF
Exp Date:	4/13/2021
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	MMR
Administered:	measles, mumps, rubella virus vaccine (CVX 03) MMR II (NDC 00006-4681-01)
Date Administered:	14 days PRIOR to day of TEST
Additional Observations:	
Dose #:	2
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	400 Shoreline Drive, Stamford Connecticut 06901
Lot#:	0934GG
Exp Date:	12/31/2022
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	Varicella
Administered:	Varicella vaccine (CVX 21) Varivax (NDC 00006-4827-01)
Date Administered:	12/15/2018
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	2341BB
Exp Date:	12/1/2019
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Right Arm (HL70163: RA)



Vaccine Group:	IPV
Due Date:	10/31/2020
Earliest Date to Give:	10/31/2020
Overdue Date:	10/31/2022
Immunization Schedule:	ACIP
Vaccine Group:	Varicella
Due Date:	10/31/2020
Earliest Date to Give:	10/31/2020
Overdue Date:	10/31/2022
Immunization Schedule:	ACIP

Notes

The immunization report may provide a subset of demographic information sufficient to identify the patient. Any demographic information included should be evaluated against the listed demographic information for accuracy.

The immunization report does not need to display all of the information listed in the evaluation criteria for each vaccination, but they do need to produce the complete list of vaccines given and the date.

The tester is requested to document separately the success or failure of the Immunization History and the Immunization forecast as these two requirements are tested concurrently.

Influenza vaccine should be due between September and October of the flu season, which may show as the prior year to testing or the year of testing.



2.5 Juana Mariana Vazquez Provide Patient Access to Immunization Report

Provide patient access to the immunization record for the patient including all history and forecast information. The report can be provided in various formats, including view, and print. The patient is also able to access the Vaccine Information Statements.

Description

Following the vaccination visit, the provider uses the EHR to produce an immunization report that can be accessed by the patient including all history and forecast information. The report can be provided in various formats, including view, and print. The patient is also able to access the Vaccine Information Statements.

Comments

No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. New vaccinations have been administered.

Post-Condition

The patient/parent has been provided access to patient immunization history record.

Test Objectives

Provide Access to Patient Immunization Record: The EHR or other clinical software system provides patients and their authorized representatives with electronic access to immunization records (either directly or by interacting with an external system such as a patient portal).

Provide Access to Recommendations and Vaccine Information Statement(s): The immunization record displays immunization recommendations to be discussed with a provider, displaying the relevant Vaccine Information Statement.

Provide Access to Printable Immunization Record: The EHR or other clinical software system provides a printable version of the immunization record.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note



2.5.1 Step 1: Produce an immunization report for Juana Mariana Vazquez including all history

The EHR is used to produce an immunization report for the patient including all history (the report can be provided in various formats – e.g., print, send to patient portal, etc.).

Description

Following the vaccination visit, the patient/parent uses the specified interface to access the immunization report for the patient including all history (the report can be provided in various formats – e.g., print, send to patient portal, etc.).

Comments

No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. New vaccinations have been administered. The parent/patient is provided with an account to access the immunization history.

Post-Condition

The patient/parent has been provided a patient immunization history report.

Test Objectives

Provide Access to Patient Immunization Record: The EHR or other clinical software system provides patients and their authorized representatives with electronic access to immunization records (either directly or by interacting with an external system such as a patient portal).

Provide Access to Recommendations and Vaccine Information Statement(s): The immunization record displays immunization recommendations to be discussed with a provider, displaying the relevant Vaccine Information Statement.

Evaluation Criteria

Using the patient facing features (e.g., portal), show that the vaccine history can be displayed including today's vaccine/forecast:

The following patient demographics are displayed:

Patient Identifier Number:	Vendor Assigned
Patient Identifier Type Code:	Vendor Assigned
Patient Name:	Juana Mariana Vazquez
Date/Time of Birth:	11/01/2016 11:05am
Sex:	Female
Patient Address:	4345 Standish Way, Stamford, CT, 06903
Multiple Birth Indicator:	No
Birth Order:	N/A



The following Vaccination History is displayed:

Vaccine Group:	Hep B Peds NOS
Administered:	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)
Date Administered:	11/01/2016
Additional Observations:	None
Dose #:	1
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Jane Carter
Entered By:	Lisa Sirtis
Entering Organization:	Shoreline Hospital
Administered Amt:	0.5 mL
Administering Provider:	Jane Carter
Administered at Location:	325 Shoreline Drive, Stamford Connecticut 06901
Lot#:	6332FK33
Exp Date:	12/14/2016
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)

Vaccine Group:	Hep B Peds NOS
Administered:	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)
Date Administered:	12/20/2016
Additional Observations:	None
Dose #:	2
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	400 Shoreline Drive, Stamford Connecticut 06901
Lot#:	6352FK1
Exp Date:	12/14/2016
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)

Vaccine Group:	Hep B Peds NOS
Administered:	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)
Date Administered:	05/20/2017
Additional Observations:	None
Dose #:	3
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6352FK24
Exp Date:	8/31/2018
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	1/22/2017
Additional Observations:	None
Dose #:	1
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS2341
Exp Date:	11/30/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS2433
Exp Date:	9/4/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	5/22/2017
Additional Observations:	
Dose #:	3
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS3255
Exp Date:	12/1/2017



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	2/21/2018
Additional Observations:	
Dose #:	4
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS249
Exp Date:	3/1/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	11/20/2020
Additional Observations:	
Dose #:	5
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	J. Rodriguez
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Linda Casera
Administered at Location:	4253 Standish Way, Stamford Connecticut 06903
Lot#:	D643QS8243
Exp Date:	12/01/2020
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M54K9245



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS

DRUMMOND

Exp Date:	3/24/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M55K3342
Exp Date:	10/30/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	5/22/2017
Additional Observations:	
Dose #:	3
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M75K4566
Exp Date:	5/23/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	11/21/2017
Additional Observations:	
Dose #:	4
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS

DRUMMOND

Lot#:	7M53K5534
Exp Date:	2/22/2018
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	poliovirus vaccine, inactivated
Administered:	poliovirus vaccine, inactivated (CVX 10) IPOL (NDC 49281-0860-88)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D333PV2431
Exp Date:	10/4/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	poliovirus vaccine, inactivated
Administered:	poliovirus vaccine, inactivated (CVX 10) IPOL (NDC 49281-0860-88)
Date Administered:	3/23/2017
Additional Observations:	Adverse Reaction of (VXC11^convulsions (fits, seizures) within 72 hours of dose^CDCPHINVS)
Dose #:	2
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D333PV4344
Exp Date:	3/23/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	poliovirus vaccine, inactivated
Administered:	poliovirus vaccine, inactivated (CVX 10) IPOL (NDC 49281-0860-88)
Date Administered:	2/21/2018
Additional Observations:	Adverse Reaction of (VXC12^fever of >40.5C (105F) within 48 hours of dose^CDCPHINVS)
Dose #:	3
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	J. Rodriguez
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Linda Casera
Administered at Location:	4253 Standish Way, Stamford Connecticut 06903



Lot#:	D335PV9644
Exp Date:	4/22/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P243V3281
Exp Date:	1/30/2017
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P343V8321
Exp Date:	3/30/2017
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	5/22/2017
Additional Observations:	
Dose #:	3
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P853V2164
Exp Date:	8/30/2017
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	1/11/2018
Additional Observations:	
Dose #:	4
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P853V58532
Exp Date:	4/18/2018
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	rotavirus
Administered:	rotavirus, live, monovalent vaccine (CVX 119) ROTARIX (NDC 58160-0851-01)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	1 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RV533
Exp Date:	2/15/2017
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Oral (NCIT: C38288, HL70162: PO)
Site:	(N/A)
Vaccine Group:	rotavirus
Administered:	rotavirus, live, monovalent vaccine (CVX 119) ROTARIX (NDC 58160-0851-01)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	1 mL



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RV932
Exp Date:	5/10/2017
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Oral (NCIT: C38288, HL70162: PO)
Site:	(N/A)
Vaccine Group:	influenza
Administered:	Influenza, seasonal, injectable (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0517-00)
Date Administered:	9/25/2017
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D8043IN8734
Exp Date:	7/25/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	influenza
Administered:	Influenza, seasonal, injectable (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0517-00)
Date Administered:	10/29/2017
Additional Observations:	
Dose #:	2
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D8043IN8746
Exp Date:	3/12/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0518-00)
Date Administered:	10/2/2018
Additional Observations:	
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D9334IN9333
Exp Date:	5/22/2019
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0519-00)
Date Administered:	11/4/2019
Additional Observations:	
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D9553IN2243
Exp Date:	4/30/2020
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0520-00)
Date Administered:	10/15/2020
Additional Observations:	
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Gina Ricci
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	.5 mL
Administering Provider:	Gina Ricci
Administered at Location:	Oceanview Pharmacy, 15 Post Road, Stamford Connecticut 06901
Lot#:	8L4B3423
Exp Date:	12/30/2020
Manufacturer:	Sanofi Pasteur Inc. (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0521-00)
Date Administered:	Current Date
Additional Observations:	Adverse Reaction of (VXC14^Rash within 14 days of dose ^CDCPHINVS)
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Entering Organization:	Shoreline Pediatrics
Administered Amt:	.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	400 Shoreline Drive, Stamford Connecticut 06901
Lot#:	8L4B3521
Exp Date:	12/31/2022
Manufacturer:	Sanofi Pasteur Inc. (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	Hep A
Administered:	hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) HAVRIX (NDC 58160-0825-43)
Date Administered:	11/23/2017
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RT33
Exp Date:	1/4/2018
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Deltoid (HL70163: RD)
Vaccine Group:	Hep A
Administered:	hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) HAVRIX (NDC 58160-0825-43)
Date Administered:	5/23/2018
Additional Observations:	
Dose #:	2
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RT48
Exp Date:	9/11/2018
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	MMR
Administered:	measles, mumps, rubella virus vaccine (CVX 03) MMR II (NDC 00006-4681-01)
Date Administered:	08/22/2017
Additional Observations:	Invalid because it was given too soon
Dose #:	
Doses in Series:	2
Valid Dose:	N
Ordering Provider:	Frank Smith



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	0853CC
Exp Date:	12/15/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	MMR
Administered:	measles, mumps, rubella virus vaccine (CVX 03) MMR II (00006-4681-01)
Date Administered:	11/22/2020
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	0854FF
Exp Date:	4/13/2021
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	MMR
Administered:	measles, mumps, rubella virus vaccine (CVX 03) MMR II (NDC 00006-4681-01)
Date Administered:	14 days PRIOR to day of TEST
Additional Observations:	
Dose #:	2
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	400 Shoreline Drive, Stamford Connecticut 06901
Lot#:	0934GG
Exp Date:	12/31/2022
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	Varicella
Administered:	Varicella vaccine (CVX 21) Varivax (NDC 00006-4827-01)
Date Administered:	12/15/2018
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez



Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	2341BB
Exp Date:	12/1/2019
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Right Arm (HL70163: RA)
Vaccine Group:	IPV
Due Date:	10/31/2020
Earliest Date to Give:	10/31/2020
Overdue Date:	10/31/2022
Immunization Schedule:	ACIP
Vaccine Group:	Varicella
Due Date:	10/31/2020
Earliest Date to Give:	10/31/2020
Overdue Date:	10/31/2022
Immunization Schedule:	ACIP

Notes

If the same immunization report verified in TestCase 4 for Juana Mariana Vazquez is used for the patient access to the immunization record, then content verification does not need to be repeated. Influenza vaccine should be due between September and October of the flu season, which may show as the prior year to testing or the year of testing.

Also, since MMR was given 2 weeks prior, forecasting of immunizations due may be adjusted by the vendor forecast to account for the requirement that there must be at least 28 days between immunizations using a live virus. Tester should document incidences where the forecast is adjusted or annotated as a result of this requirement.

2.5.2 Step 2: Provide access to Printable Immunization Record for Juana Mariana Vazquez

The EHR is used to provide a printable immunization record for Juana Mariana Vazquez.

Description

Following the vaccination visit, the patient/parent uses the specified interface to print the immunization report for the patient including all history and forecast information.

Comments

No Comments

Pre-Condition



Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. New vaccinations have been administered. The parent/patient is provided with an account to access the immunization history.

Post-Condition

The patient/parent has been provided a printed copy of the patient immunization history report.

Test Objectives

Provide Access to Patient Immunization Record: The EHR or other clinical software system provides patients and their authorized representatives with electronic access to immunization records (either directly or by interacting with an external system such as a patient portal).

Provide Access to Printable Immunization Record: The EHR or other clinical software system provides a printable version of the immunization record.

Evaluation Criteria

Using the patient facing features (e.g., portal), show that the vaccine history including today's vaccine/forecast can be printed:

The following patient demographics are included in the printable report:

Patient Identifier Number:	Vendor Assigned
Patient Identifier Type Code:	Vendor Assigned
Patient Name:	Juana Mariana Vazquez
Date/Time of Birth:	11/01/2016 11:05am
Sex:	Female
Patient Address:	4345 Standish Way, Stamford, CT, 06903
Multiple Birth Indicator:	No
Birth Order:	N/A

The following Vaccination History is available in printed report:

Vaccine Group:	Hep B Peds NOS
Administered:	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)
Date Administered:	11/01/2016
Additional Observations:	None
Dose #:	1
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Jane Carter
Entered By:	Lisa Sirtis
Entering Organization:	Shoreline Hospital
Administered Amt:	0.5 mL
Administering Provider:	Jane Carter
Administered at Location:	325 Shoreline Drive, Stamford Connecticut 06901
Lot#:	6332FK33
Exp Date:	12/14/2016
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Vaccine Group:	Hep B Peds NOS
Administered:	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)
Date Administered:	12/20/2016
Additional Observations:	None
Dose #:	2
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	400 Shoreline Drive, Stamford Connecticut 06901
Lot#:	6352FK1
Exp Date:	12/14/2016
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	Hep B Peds NOS
Administered:	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)
Date Administered:	05/20/2017
Additional Observations:	None
Dose #:	3
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6352FK24
Exp Date:	8/31/2018
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	1/22/2017
Additional Observations:	None
Dose #:	1
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS2341
Exp Date:	11/30/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Site:	Left Thigh (HL70163: LT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS2433
Exp Date:	9/4/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	5/22/2017
Additional Observations:	
Dose #:	3
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS3255
Exp Date:	12/1/2017
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	2/21/2018
Additional Observations:	
Dose #:	4
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D409QS249
Exp Date:	3/1/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	diphtheria, tetanus toxoids and acellular pertussis vaccine
Administered:	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) DAPTACEL (NDC 49281-0286-58)
Date Administered:	11/20/2020
Additional Observations:	
Dose #:	5
Doses in Series:	5
Valid Dose:	Y
Ordering Provider:	J. Rodriguez
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Linda Casera
Administered at Location:	4253 Standish Way, Stamford Connecticut 06903
Lot#:	D643QS8243
Exp Date:	12/01/2020
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M54K9245
Exp Date:	3/24/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M55K3342
Exp Date:	10/30/2017



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	5/22/2017
Additional Observations:	
Dose #:	3
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M75K4566
Exp Date:	5/23/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	Hib
Administered:	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) PedvaxHIB (NDC 00006-4897-01)
Date Administered:	11/21/2017
Additional Observations:	
Dose #:	4
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	7M53K5534
Exp Date:	2/22/2018
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	poliovirus vaccine, inactivated
Administered:	poliovirus vaccine, inactivated (CVX 10) IPOL (NDC 49281-0860-88)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D333PV2431
Exp Date:	10/4/2017



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	poliovirus vaccine, inactivated
Administered:	poliovirus vaccine, inactivated (CVX 10) IPOL (NDC 49281-0860-88)
Date Administered:	3/23/2017
Additional Observations:	Adverse Reaction of (VXC11^convulsions (fits, seizures) within 72 hours of dose^CDCPHINVS)
Dose #:	2
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D333PV4344
Exp Date:	3/23/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	poliovirus vaccine, inactivated
Administered:	poliovirus vaccine, inactivated (CVX 10) IPOL (NDC 49281-0860-88)
Date Administered:	2/21/2018
Additional Observations:	Adverse Reaction of (VXC12^fever of >40.5C (105F) within 48 hours of dose^CDCPHINVS)
Dose #:	3
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	J. Rodriguez
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Linda Casera
Administered at Location:	4253 Standish Way, Stamford Connecticut 06903
Lot#:	D335PV9644
Exp Date:	4/22/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	1/22/2016
Additional Observations:	
Dose #:	1
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P243V3281



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Exp Date:	1/30/2017
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P343V8321
Exp Date:	3/30/2017
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	5/22/2017
Additional Observations:	
Dose #:	3
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	P853V2164
Exp Date:	8/30/2017
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	pneumococcal
Administered:	pneumococcal conjugate vaccine, 13 valent (CVX 133) PREVNAR 13 (NDC 00005-1971-01)
Date Administered:	1/11/2018
Additional Observations:	
Dose #:	4
Doses in Series:	4
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Lot#:	P853V58532
Exp Date:	4/18/2018
Manufacturer:	Pfizer, Inc (MVX PFR)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	rotavirus
Administered:	rotavirus, live, monovalent vaccine (CVX 119) ROTARIX (NDC 58160-0851-01)
Date Administered:	1/22/2017
Additional Observations:	
Dose #:	1
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	1 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RV533
Exp Date:	2/15/2017
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Oral (NCIT: C38288, HL70162 : PO)
Site:	(N/A)
Vaccine Group:	rotavirus
Administered:	rotavirus, live, monovalent vaccine (CVX 119) ROTARIX (NDC 58160-0851-01)
Date Administered:	3/23/2017
Additional Observations:	
Dose #:	2
Doses in Series:	3
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	1 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RV932
Exp Date:	5/10/2017
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Oral (NCIT: C38288, HL70162 : PO)
Site:	(N/A)
Vaccine Group:	influenza
Administered:	Influenza, seasonal, injectable (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0517-00)
Date Administered:	9/25/2017
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D8043IN8734
Exp Date:	7/25/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	influenza
Administered:	Influenza, seasonal, injectable (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0517-00)
Date Administered:	10/29/2017
Additional Observations:	
Dose #:	2
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D8043IN8746
Exp Date:	3/12/2018
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Thigh (HL70163: RT)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0518-00)
Date Administered:	10/2/2018
Additional Observations:	
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D9334IN9333
Exp Date:	5/22/2019
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0519-00)
Date Administered:	11/4/2019
Additional Observations:	
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	.25 mL



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	D9553IN2243
Exp Date:	4/30/2020
Manufacturer:	Sanofi Pasteur Inc (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0520-00)
Date Administered:	10/15/2020
Additional Observations:	
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Gina Ricci
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	.5 mL
Administering Provider:	Gina Ricci
Administered at Location:	Oceanview Pharmacy, 15 Post Road, Stamford Connecticut 06901
Lot#:	8L4B3423
Exp Date:	12/30/2020
Manufacturer:	Sanofi Pasteur Inc. (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	influenza
Administered:	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) FLUZONE QUADRIVALENT (NDC 49281-0521-00)
Date Administered:	Current Date
Additional Observations:	Adverse Reaction of (VXC14^Rash within 14 days of dose ^CDCPHINVS)
Dose #:	
Doses in Series:	
Valid Dose:	
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	400 Shoreline Drive, Stamford Connecticut 06901
Lot#:	8L4B3521
Exp Date:	12/31/2022
Manufacturer:	Sanofi Pasteur Inc. (MVX PMC)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	Hep A
Administered:	hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) HAVRIX (NDC 58160-0825-43)
Date Administered:	11/23/2017
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RT33
Exp Date:	1/4/2018
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Right Deltoid (HL70163: RD)
Vaccine Group:	Hep A
Administered:	hepatitis A vaccine, pediatric/adolescent dosage, 2 dose schedule (CVX 83) HAVRIX (NDC 58160-0825-43)
Date Administered:	5/23/2018
Additional Observations:	
Dose #:	2
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	6359RT48
Exp Date:	9/11/2018
Manufacturer:	GlaxoSmithKline Biologicals SA (MVX SKB)
Route:	Intramuscular (NCIT: C28161, HL70162: IM)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	MMR
Administered:	measles, mumps, rubella virus vaccine (CVX 03) MMR II (NDC 00006-4681-01)
Date Administered:	08/22/2017
Additional Observations:	Invalid because it was given too soon
Dose #:	
Doses in Series:	2
Valid Dose:	N
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Shoreline Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	0853CC
Exp Date:	12/15/2017
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Thigh (HL70163: LT)
Vaccine Group:	MMR
Administered:	measles, mumps, rubella virus vaccine (CVX 03) MMR II (00006-4681-01)
Date Administered:	9/22/2020
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	0854FF
Exp Date:	4/13/2021
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Arm (HL70163: LA)
Vaccine Group:	MMR
Administered:	measles, mumps, rubella virus vaccine (CVX 03) MMR II (NDC 00006-4681-01)
Date Administered:	14 days PRIOR to day of TEST
Additional Observations:	
Dose #:	2
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Frank Smith
Entered By:	Sandra Molina
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	Sandra Molina
Administered at Location:	400 Shoreline Drive, Stamford Connecticut 06901
Lot#:	0934GG
Exp Date:	12/31/2022
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Left Deltoid (HL70163: LD)
Vaccine Group:	Varicella
Administered:	Varicella vaccine (CVX 21) Varivax (NDC 00006-4827-01)
Date Administered:	12/15/2018
Additional Observations:	
Dose #:	1
Doses in Series:	2
Valid Dose:	Y
Ordering Provider:	Carlos Herrera
Entered By:	J. Martinez
Entering Organization:	Oceanview Pediatrics
Administered Amt:	0.5 mL
Administering Provider:	J. Martinez
Administered at Location:	333 Oceanview Lane, Stamford Connecticut 06901
Lot#:	2341BB
Exp Date:	12/1/2019
Manufacturer:	Merck and Co Inc (MVX MSD)
Route:	Subcutaneous (NCIT: C38299, HL70162: SC)
Site:	Right Arm (HL70163: RA)
Vaccine Group:	IPV
Due Date:	10/31/2020
Earliest Date to Give:	10/31/2020
Overdue Date:	10/31/2022
Immunization Schedule:	ACIP
Vaccine Group:	Varicella
Due Date:	10/31/2020
Earliest Date to Give:	10/31/2020



Overdue Date:	10/31/2022
Immunization Schedule:	ACIP

Notes

If the same immunization report verified in TestCase 4 for Juana Mariana Vazquez is used for the patient access to the immunization record, then content verification does not need to be repeated.

Influenza vaccine should be due between September and October of the flu season, which may show as the prior year to testing or the year of testing.

Also, since MMR was given 2 weeks prior, forecasting of immunizations due may be adjusted by the vendor forecast to account for the requirement that there must be at least 28 days between immunizations using a live virus. Tester should document incidences where the forecast is adjusted or annotated as a result of this requirement.

2.5.3 Step 3: Provide access to Vaccine Information Statements

The EHR is used to provide the patient access to the Vaccine Information Statements.

Description

The EHR is used to provide the patient access to the Vaccine Information Statements (VIS) for those vaccines administered during the visit.

Comments

No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. New vaccinations have been administered. The parent/patient is provided with an account to access the Vaccine Information Statements (VIS).

Post-Condition

The patient/parent has been provided access to the Vaccine Information Statements (VIS) for those vaccines administered during the visit.

Test Objectives

Provide Access to Recommendations and Vaccine Information Statement(s): The immunization record displays immunization recommendations to be discussed with a provider, displaying the relevant Vaccine Information Statement.

Evaluation Criteria



Using the patient facing features (e.g., portal), show that the patient can access the Vaccine Information Statements (VIS) for those vaccines administered during today's visit:

Vaccine VIS	VIS Fully-Encoded Text String	Edition Date	Location
Influenza Vaccine VIS	253088698300010311210806	8/6/2021 (current)	https://www.cdc.gov/vaccines/hcp/vis/vis-statements/flu.html

Notes

The VIS may be provided as a link, PDF, or other format, but the VIS must be the current VIS for the product administered during the visit.

The EHR does not need to provide access to VIS from historical vaccinations.



3. Juan Marcel Marina Visit

Juan Marcel Marina visits the provider where his immunization history is retrieved from the registry and reconciled with the local information in the medical record to determine vaccines that are due. Vaccinations are ordered and administered. The vaccines are reported to the immunization registry and a vaccine summary is available for the patient.

3.1 Query the Registry for Juan Marcel Marina

The EHR Generates a Z44 query to the Immunization Registry to retrieve the Evaluated History and Forecast for Juan Marcel Marina.

Description

Querying the registry will consist of the vendor creating Z44 messages for Juan Marcel Marina to be sent to the registry. The response will be processed as part of the 'Display, Reconcile, Import and Update Immunization Information' activity.

Using the Z42 Response to Immunization Registry Query, the EHR displays the Evaluated History and Forecast to the user for reconciliation and update. The vendor will receive information back from the registry and show the ability to view and reconcile, and import the information returned by the registry (NOTE: the Z42 message will be provided either manually, or as part of the tool). This test will also look at the system's ability to view the forecast returned by the registry and create a new forecast after reconciling the information.

Comments

No Comments

Pre-Condition

Juan Marcel Marina is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the 'Juan Marcel Marina Initial Data Load'.

Post-Condition

A Z44 Query is generated and submitted to the Immunization Registry/Test tool, and a Z42 response is returned.

Test Objectives

Select New Patient: The EHR or other clinical software system must allow a user to distinguish information about patients with similar names or identifying information in order to select the right patient from the providers' EHR or other clinical software system. This information is crucial for identifying and selecting the correct patient. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar sounding names. In order to match patients with those already in the immunization registry, the EHR or other clinical software should have the ability to record the mother's maiden name, whether the patient was part of a multiple birth, and if so, the order of birth (when such information is available). The provider should be aware of how often the protection indicator information must be updated based on local rules.

Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry "on demand," or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother's maiden name, a multiple birth indicator, and



the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Request/Receive Patient Immunization Data and Identify Source: The EHR stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient’s newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service but should reference the most recent recommendations.

Review Patient Immunization History: The EHR or other clinical software systems displays vaccine history by vaccine series.

Support for:

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

3.1.1 Step 1: Select Patient Juan Marcel Marina

Select patient Juan Marcel Marina, distinguishing the patient from other patients with similar demographics (similar names).

Description

Juan Marcel Marina is selected as the patient and his record is opened in the EHR.

Comments

No Comments

Pre-Condition

Juan Marcel Marina Initial Data Load completed.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Post-Condition

Juan Marcel Marina is the active working patient in the EHR.

Test Objectives

Select New Patient: The EHR or other clinical software system must allow a user to distinguish information about patients with similar names or identifying information in order to select the right patient from the providers' EHR or other clinical software system. This information is crucial for identifying and selecting the correct patient. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar sounding names. In order to match patients with those already in the immunization registry, the EHR or other clinical software should have the ability to record the mother's maiden name, whether the patient was part of a multiple birth, and if so, the order of birth (when such information is available). The provider should be aware of how often the protection indicator information must be updated based on local rules.

Evaluation Criteria

Tester shall verify that the product can distinguish Juan Marcel Marina from similar sounding names using all of the pediatric demographics:

Patient ID (previously listed as "Medicaid Number")	Vendor supplied
Patient ID: Assigning Authority ID (i.e., owning source)/Facility Name	Shoreline Pediatrics
Patient ID: Type (e.g., medical record number, IIS ID)	Vendor supplied
Patient Name: First	Juan
Patient Name: Middle	Marcel
Patient Name: Last	Marina
Patient Date of Birth	03/04/2020
Birth Time	11:00AM
Patient Gender (Administrative Sex)	M
Patient Multiple Birth Indicator	No
Patient Birth Order	N/A
Responsible Person Name: First	Manuel
Responsible Person Name: Middle	Marcel
Responsible Person Name: Last	Marina
Responsible Person Name: Relationship to Patient	Father
Mother's Name: First	Anita
Mother's Name: Middle	Francesca
Mother's Name: Last	Marina
Mother's Name: Maiden Last	Morales
Patient Address: Street	4623 Standish Way
Patient Address: City	Stamford
Patient Address: State	CT
Patient Address: Country	USA
Patient Address: Zip code	06903
Race	White
Ethnicity	Hispanic or Latino
Patient Primary Language	English
Patient Telephone Number	(203) 555-1213
Patient Telephone Number Type (e.g., home, cell)	cell
Patient E-mail Address	None
Publicity Code- Reminder/recall	no calls (03 HL70215)
Publicity Code Effective Date	03/04/2020
Protection Indicator	No
Protection Indicator Effective Date	03/04/2020



Immunization Registry Status	Active
Preferred Contact Method	Text

Notes

No Note

3.1.2 Step 2: Query Registry for vaccination history and forecast for Juan Marcel Marina

The EHR generates a Z44 query for immunization history and forecast correctly and without omission according to supplied test data.

Description

The provider uses the EHR to query the Immunization Registry for an Evaluated History and Forecast based on information known to the Immunization Registry.

Comments

No Comments

Pre-Condition

Juan Marcel Marina Initial Data Load is completed.
Juan Marcel Marina is the active working patient in the EHR.

Post-Condition

The Immunization Registry responds with Evaluated Vaccine History and Forecast for Juan Marcel Marina.

Test Objectives

Request/Receipt of Patient Immunization History: The EHR or other clinical system sends a request to the public health immunization registry “on demand,” or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother’s maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Evaluation Criteria

Tester shall verify that the vendor can produce a valid Z44 query in accordance with the test data correctly and without omission.
Tester shall verify that the data in the message corresponds to the data in the EHR and contains all test data attributes supplied.



Notes

No Note

HL7 Encoded Message



Juan Marcel Marina
z44.txt

3.1.3 Step 3: View and import response to request for vaccination history for Juan Marcel Marina

The EHR displays the Immunization History results (Z42) returned in response to the Z44 Query and import them into the EHR.

Description

The physician accesses the record for Juan Marcel Marina and:
- Accepts the vaccines provided by the registry as this is a new patient and there are no prior vaccines recorded.

Comments

There is no reconciliation step as there are no historical immunizations in the EHR. All will be imported from the Z42 response.

Pre-Condition

A Z44 query has been submitted to the Immunization Registry and a Z42 response is provided back to the EHR, and the response is available in the EHR for reconciliation and import.

Post-Condition

Evaluated Immunization History returned from the registry is reconciled and imported into the patient record (Juan Marcel Marina).

Test Objectives

Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software system stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History: The public health immunization registry has returned the requested immunization history for a patient (Return



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Evaluated Immunization History and Forecast (Z42) – HL7 Version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5). The EHR is able to display the evaluated immunization history received from the registry as well as the immunization history already present in the EHR so that a user can compare them. The EHR provides a way for the provider to view both histories, determine what is different (if anything), and update the existing EHR immunization history with new information from the public health registry if they choose to do so. The system must store the new information as structured data as part of the patient’s local immunization history and include the time of the update and the source of the new information.

Review Patient Immunization History: The EHR or other clinical software system displays vaccine history by vaccine series.

Supporting data for:

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Evaluation Criteria

1. The EHR displays the information returned from the Immunization Registry according to the Juror Document.
2. The user imports returned vaccinations as follows using only the vaccination, and administration dates returned from the Immunization Registry:

Vaccinations Imported:

hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 3/4/2020
hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 4/15/2020
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 5/15/2020
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 7/13/2020
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 9/16/2020
diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106) administered 8/20/2021
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 5/14/2020
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 7/21/2020
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 9/27/2020
Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49) administered 5/4/2021
poliovirus vaccine, inactivated (CVX 10) administered 5/14/2020
poliovirus vaccine, inactivated (CVX 10) administered 7/21/2020
poliovirus vaccine, inactivated (CVX 10) administered 10/15/2020
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 5/18/2020
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 7/21/2020
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 9/27/2020
pneumococcal conjugate vaccine, 13 valent (CVX 133) administered 5/4/2021
rotavirus, live, monovalent vaccine (CVX 119) administered 5/18/2020
rotavirus, live, monovalent vaccine (CVX 119) administered 9/21/2020
Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) administered 9/27/2020
Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161) administered 10/20/2021
measles, mumps, rubella virus vaccine (CVX 03) administered 6/20/2021

Notes

The EHR must minimally display the vaccine administered and the date of the immunization.

HL7 Encoded Message



Juan Marcel Marina
z42.txt

Juror Document



Juan Marcel Juror
Document.pdf

3.1.4 Step 4: View the vaccination forecast for Juan Marcel Marina

The EHR displays the current Immunization Forecast to the user for Juan Marcel Marina either as returned by the IIS in prior step, or as generated through any local means.

Description

The physician accesses the record for Juan Marcel Marina and, once the vaccine history is reconciled in the EHR, the vaccine forecast is updated.

- The provider views the updated vaccine forecast (either as provided by the Immunization Registry or as determined through EHR defined methods).

Comments

The vaccine forecast may be imported from the Immunization Registry Vaccination History and Forecast (Z42) response, or it may be generated by EHR defined means.

Pre-Condition

EHR Vaccine History is imported from the Immunization History returned from the Immunization Registry (previous step 'View and import response to request for vaccination history for Juan Marcel Gonzales).

Post-Condition

A vaccine forecast based upon the imported vaccine history is available to the user.

Test Objectives

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient's newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service but should reference the most recent recommendations.

Modify Antigen Recommendations Based on Active Diagnoses: The EHR or other clinical system notifies the provider of any conflicts between recommended vaccines in the updated forecast and the patient's current or historical diagnoses.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Evaluation Criteria

1. Tester verifies that the vendor can display the immunization forecast based upon the reconciled vaccination history:
2. Verify that the EHR includes in the vaccine forecast:

Hep B Peds NOS due on 9/4/2021

influenza, unspecified formulation due on Sep 4, 2021, or later (annual recommendation – specific date may vary somewhat)

In support of test objective 'Modify Antigen Recommendations Based on Active Diagnoses' the tester verifies that the system notifies the provider that:

Varicella due on 3/4/2021 – Forecast should not show that they need vaccine for Varicella; because of known diagnosis that this is due.

Hep A is due 3/4/2021 – Forecast may not show that they need the vaccine for Hepatitis A due to serologic immunity to the disease.
--

Notes

The due date must be in range for the date shown. Vaccine forecast dates may be plus or minus 10 days to accommodate differences in date handling.

Further variation should be documented in the notable exceptions, but minimally each forecast vaccine must be present.

While there is not an expected recommendation for the earliest date to give for influenza, this may appear in some EHR implementations. Tester should note if this is included.

Tester should document how evidence of prior disease (Varicella) is documented (e.g., if not in forecast, is there a reason available to clinician).

Manual override does not fulfill the 'modify antigen recommendations based on active diagnoses' (e.g., if the system does not support this through CDS then not fulfilled).

This criteria is considered 'Advanced', so tester should note support for this criteria separately.



3.2 Juan Marcel Marina, Enter Orders and Immunizations

Orders and Immunization events, non-administrations, and alerts presented for current visit.

Description

This test will consist of ordering vaccines for the test patients, reviewing any alerts caused by specific scenarios, and documenting vaccinations administered to the patients.

Comments

No Comments

Pre-Condition

Juan Marcel Marina is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the 'Juan Marcel Marina Initial Data Load.'

Post-Condition

Visit orders are entered in Juan Marcel Marina's record.

Test Objectives

Modify Antigen Recommendations Based on Active Diagnoses: The EHR or other clinical system notifies the provider of any conflicts between recommended vaccines in the updated forecast and the patient's current or historical diagnoses.

Enter Vaccination Order: The EHR or other clinical software system allows providers to order immunizations for a patient using filters for type of vaccine, including combination vaccines.

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Receive Dose Not Indicated Alert Upon Vaccine Administration: The EHR or other clinical software system notifies the individual administering a vaccine that the vaccine is inconsistent with expected timing intervals as suggested by the vaccine forecast. The method and timing of notification can be specified to meet local clinical workflow. This requirement is a "failsafe" mechanism in case the provider orders a vaccine dose that is inconsistent with appropriate timing intervals.

Notify of Vaccine Dose Expiration: The EHR or other clinical software system notifies the provider administering a vaccine if the dose chosen for administration is expired.

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g., intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid "oral" route for IM vaccines, and assure dose is appropriate for the vaccine).



Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration:

The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Notify of Vaccine Dose Ineligibility: The EHR or other clinical software system provides a method for alerting a provider if a vaccine is selected for a patient who is not eligible for the inventory item selected.

Add Jurisdiction-Specific Vaccine Eligibility Code: The EHR or other clinical software system demonstrates the ability to configure publicly funded dose level vaccine eligibility codes per jurisdictional requirements. This includes tracking and exchanging jurisdiction-specific dose level eligibility code(s) for administered vaccines. This capability only applies to newly administered doses, not historical doses.

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2013: Indicates that the funding source code in an OBX segment conflicts with other data in the message (eligibility, age, etc.)
- 2016: Indicates that the administration route is inconsistent with the vaccine administered
- 2001: Indicates a conflict between the administration date in RXA-3 and the expiration date in RXA-16. In other words it indicates that an expired vaccine was administered

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

3.2.1 Step 1: Orders Administration of Hepatitis B vaccine

The provider orders a Hepatitis B vaccine (dose 3).

Description

As indicated by the vaccine forecast, the third Hepatitis B is overdue, and is ordered.

Comments

No Comments

Pre-Condition



Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. Vaccine forecast reviewed.

Post-Condition

Hepatitis B vaccine is ordered for the patient.

Test Objectives

Enter Vaccination Order: The EHR or other clinical software system allows providers to order immunizations for a patient using filters for type of vaccine, including combination vaccines.

Evaluation Criteria

The EHR records the following order information: The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source	New immunization record (NIP001 00)
Order Value/Text for Vaccine Type	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08, NDC 58160-0820-43)
Date/Time Vaccine was recorded	Current Date

Notes

No Note

3.2.2 Step 2: Orders administration of DTaP vaccine and alerted that the dose is too early

The provider orders a DTaP vaccine (dose 5). The EHR provides an alert that the vaccine dose is too early.

Description

The fifth DTaP is ordered, and the provider is notified that the dose is too early.

Comments

No Comments

Pre-Condition



Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. Vaccine forecast is available in the EHR.

Post-Condition

DTaP vaccine is ordered for the patient, and provider is notified that the dose is too early.

Test Objectives

Receive Dose Not Indicated Alert for Single Vaccine Order: The EHR or other clinical software system notifies the provider in instances when there are single or combination vaccine orders that are inconsistent with the expected timing intervals included in the vaccine forecast. Inconsistencies include suggestion of different date(s) for ordering the vaccine(s) or indication the vaccine(s) is/are no longer required.

Enter Vaccination Order: The EHR or other clinical software system allows providers to order immunizations for a patient using filters for type of vaccine, including combination vaccines.

Evaluation Criteria

The EHR records the following order information and Alert. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source	New immunization record (NIP001 00)
Value/Text for Vaccine Type	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106)
Date/Time Vaccine order was recorded	Current Date
Alert	Notification that the dose is too early

Notes

In step 8, there will be a request to attempt to record this DTaP dose, which is also expected to result in an alert notification. There may be systems that require an alert override to establish this DTaP order to be able to execute Step 8: Attempt to administer DTaP vaccine and alerted that the dose is too early.

3.2.3 Step 3: Attempt to record HepB Vaccine administration route with data validation checking

The provider records the vaccine administration route in the EHR and is prevented from incorrectly documenting vaccine route.

Description

The nurse documents administration route for the HepB vaccine:



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



- Is prevented from documenting "oral" for HepB vaccine.

Comments

This step covers data quality checking as an informative aspect of vaccine administration.

Pre-Condition

Order is placed for HepB vaccine.

Post-Condition

The HepB vaccination route has failed to be recorded as 'oral' in the EHR.

Test Objectives

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g., intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid "oral" route for IM vaccines, and assure dose is appropriate for the vaccine).

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2016: Indicates that the administration route is inconsistent with the vaccine administered

Evaluation Criteria

The EHR warns the user that 'Oral' as a route for the HepB vaccine is not correct.

Notes

Verification checking for invalid route or site should not prevent the user from selecting the alternate route or site. While this test case example is not one wherein that would make sense to ignore the warning, there are situations where an alternate site or route may be medically indicated. This test should not be interpreted to restrict the ability of the EHR to document such alternate routes or sites that may be intentionally selected by the clinician.

3.2.4 Step 4: Records Hepatitis B Vaccine lot number with expired lot alert

The provider records the vaccine administration lot number in the EHR and is alerted of the expired lot.

Description



The nurse documents administration lot number for the Hepatitis B vaccine:

- Is prevented from ordering the Hepatitis B lot as it has expired.
- Documents administration from a different lot that is not expired.

Comments

No Comments

Pre-Condition

Order is placed for Hepatitis B vaccine.

Post-Condition

The provider has been notified of the expired Hepatitis B vaccination lot. Documentation of a lot to be administered that is not expired is recorded in the EHR.

Test Objectives

Notify of Vaccine Dose Expiration: The EHR or other clinical software system notifies the provider administering a vaccine if the dose chosen for administration is expired.

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration:

The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2001: Indicates a conflict between the administration date in RXA-3 and the expiration date in RXA-16. In other words, it indicates that an expired vaccine was administered.

Evaluation Criteria


During the course of data entry for the variant information below, the EHR triggers the following data quality issues:

- Triggers indication that an expired vaccine was administered (2001)



The EHR records the following order information and Alert. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

The EHR records the following vaccine administration information, and using the 2D Barcode found on the Unit-of-Use for vaccine administration, automatically populates the Vaccine Type/product administered, the expiration date and the lot number:

Entered By	Sandra Molina	
Ordering Provider	Frank Smith	
Entering Organization	Shoreline Pediatrics	
Vaccine Event information source	New immunization record (NIP001 00)	
Date/Time of Start of Administration	Current Date	
Vaccine Administered	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)	
Vaccine 2D Barcode		
Lot Number (Expired)	6332FK18	
Substance Expiration Date (Expired)	6/15/2021	Triggers indication that an expired vaccine was administered (2001)
Substance Manufacturer Name	GlaxoSmithKline Biologicals SA (MVX SKB)	
Alert	Alerts user to expired lot	

Notes

The full vaccination details are provided here to facilitate the documentation constraints and/or screens that may be required by the vendor in order to attempt to document the data of interest, but these are not verified until the next step. Only those attributes specified that are anticipated to result in data quality alerts are required for this step.

If the EHR or other clinical system is not supporting the Jurisdiction-specific eligibility code, then mark VFC Eligibility as non-VFC Eligible.

3.2.5 Step 5: Record Hepatitis B Vaccine administration

The EHR is able to document all attributes associated with the new vaccine administration.

Description

The nurse administers the Hepatitis B vaccine:
- Documents all required information for the vaccine.

Comments

No Comments



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Pre-Condition

Order is placed for Hepatitis B vaccine.

Post-Condition

The Hepatitis B vaccination is recorded in the EHR.

Test Objectives

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g., intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid “oral” route for IM vaccines, and assure dose is appropriate for the vaccine).

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration: The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Add Jurisdiction-Specific Vaccine Eligibility Code: The EHR or other clinical software system demonstrates the ability to configure publicly funded dose level vaccine eligibility codes per jurisdictional requirements. This includes tracking and exchanging jurisdiction-specific dose level eligibility code(s) for administered vaccines. This capability only applies to newly administered doses, not historical doses.


Evaluation Criteria

The EHR records the following vaccine administration information. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions,

The EHR records the following vaccine administration information, and using the 2D Barcode found on the Unit-of-Use for vaccine administration, automatically populates the Vaccine Type/product administered, the expiration date and the lot number:

Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source	New immunization record (NIP001 00)
Date/Time of Start of Administration	Current Date
Vaccine Administered	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) ENGERIX-B (NDC 58160-0820-43)



Vaccine 2D Barcode	
Administered Amount (of Vaccine)	0.5
Administered Units (of Measure)	mL
Administration Notes	
Administering Provider	Sandra Molina
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901
Lot Number	6332FK26
Substance Expiration Date	12/31/2022
Substance Manufacturer Name	GlaxoSmithKline Biologicals SA (MVX SKB)
Completion Status	Completed (CP)
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)
Administration Site	Left Deltoid (HL70163: LD)
Vaccine Program Eligibility	IIP021 – Privately Insured
Funding Source	Public non-VFC (VXC52)
VIS Given Date	Current Date
VIS Fully Encoded Text-String	253088698300005911211015

Notes

The EHR does not need to specify a 'new immunization', as long as there is a way to indicate that it is a new immunization within the EHR, this is acceptable (e.g., the default interpretation of the data entry is that it is a new immunization and not historical).

If the EHR or other clinical system is not supporting the Jurisdiction-specific eligibility code, then mark Vaccine Program Eligibility as non-VFC Eligible using Private funding source.

3.2.6 Step 6: Records Influenza Vaccine administration with VFC eligibility checking

The provider records the vaccine administration from a VFC source and alerted that the patient is not VFC eligible.

Description

The nurse documents administration for the inactivated influenza vaccine from a VFC source:

- Is alerted that the patient is not eligible for VFC.
- Orders a different non-VFC lot of inactivated influenza vaccine.

Comments

No Comments

Pre-Condition

Order is placed for inactivated influenza vaccine.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Post-Condition

The user is notified of vaccine dose ineligibility.

Test Objectives

Notify of Vaccine Dose Ineligibility: The EHR or other clinical software system provides a method for alerting a provider if a vaccine is selected for a patient who is not eligible for the inventory item selected.

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration:

The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.


Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections. Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

2013: Indicates that the funding source code in an OBX segment conflicts with other data in the message (eligibility, age, etc.).

Evaluation Criteria

The provider documents a VFC lot to be administered in the EHR. Once notified that the patient is not eligible for the VFC, then a non-VFC lot is selected. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

The EHR records the following vaccine administration information, and using the 2D Barcode found on the Unit-of-Use for vaccine administration, automatically populates the Vaccine Type/product administered, the expiration date and the lot number:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source	New immunization record (NIP001 00)
Value/Text for Vaccine Type	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161), FLUZONE QUADRIVALENT (NDC 49281-0521-00)
Date/Time of Start of Administration	Current Date
Vaccine Administered	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161), FLUZONE QUADRIVALENT (NDC 49281-0521-00)
Vaccine 2D Barcode	
VFC lot (not administered)	D8043IN8422



Substance Expiration Date	12/31/2022
Substance Manufacturer Name	Sanofi Pasteur (MVX PMC)
Alert	Patient is not VFC Eligible
Funding Source	Private

The Provider selects a non-VFC Lot:

Vaccine Lot # (administered):	D8043IN8855
Vaccine Expiration Date:	12/31/2022

Notes

The full vaccination details are provided here to facilitate the documentation constraints and/or screens that may be required by the vendor in order to attempt to document the data of interest, but these are not verified until the next step. Only those attributes specified that are anticipated to result in data quality alerts are required for this step.

Administration for the non-VFC dose of this vaccine is completed in the next step.

3.2.7 Step 7: Record Influenza Vaccine administration for Juan Marcel Marina

The EHR is able to document all attributes associated with the new vaccine administration.

Description

The nurse administers the inactivated influenza vaccine:
- Documents all required information for each vaccine.

Comments

No Comments

Pre-Condition

Order is placed for inactivated influenza vaccine.

Post-Condition

The inactivated influenza vaccine administration is recorded in the EHR.

Test Objectives

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g., intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid "oral" route for IM vaccines, and assure dose is appropriate for the vaccine).

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration: The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D




barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Evaluation Criteria

EHR records the following vaccine administration information. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

The EHR records the following vaccine administration information, and using the 2D Barcode found on the Unit-of-Use for vaccine administration, automatically populates the Vaccine Type/product administered, the expiration date and the lot number:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source (Administration Notes)	New immunization record (NIP001 00)
Value/Text for Vaccine Type	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161), FLUZONE QUADRIVALENT (NDC 49281-0521-00)
Date/Time of Start of Administration	Current Date
Vaccine Administered	Influenza, injectable, quadrivalent, preservative free, pediatric (CVX 161), FLUZONE QUADRIVALENT (NDC 49281-0521-00)
Vaccine 2D Barcode	
Administered Amount (of Vaccine)	0.25
Administered Units (of Measure)	mL
Administering Provider	Sandra Molina
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901
Lot Number	D8043IN8855
Substance Expiration Date	12/31/2022
Substance Manufacturer Name	Sanofi Pasteur (MVX PMC)
Completion Status	CP
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)
Site	Left Deltoid (HL70163: LD)
VFC Eligibility	No
Funding Source	Private
VIS Given Date	Current Date
VIS Fully Encoded Text-String	253088698300010311210806

Notes

The EHR does not need to specify a 'new immunization', as long as there is a way to indicate that it is a new immunization within the EHR, this is acceptable (e.g., the default interpretation of the data entry is that it is a new immunization and not historical).



3.2.8 Step 8: Attempt to administer DTaP vaccine and alerted that the dose is too early

The provider attempts to administer a DTaP vaccine (dose 5). The EHR provides an alert that the vaccine dose is too early.

Description

The provider attempts to administer the fifth DTaP vaccine, and the provider is notified that the dose is too early.

Comments

No Comments

Pre-Condition

Order is placed for DTaP vaccine.

Post-Condition

DTaP vaccine is not administered to the patient, following notification that the dose is too early.

Test Objectives

Receive Dose Not Indicated Alert Upon Vaccine Administration: The EHR or other clinical software system notifies the individual administering a vaccine that the vaccine is inconsistent with expected timing intervals as suggested by the vaccine forecast. The method and timing of notification can be specified to meet local clinical workflow. This requirement is a “failsafe” mechanism in case the provider orders a vaccine dose that is inconsistent with appropriate timing intervals.

Evaluation Criteria

The provider prepares to administer the 5th DTaP vaccine, and system alerts the provider that the dose is too early. The provider records the following order information with an indication of a similar Alert:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source	New immunization record (NIP001 00)
Value/Text for Vaccine Type	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106)
Date/Time Vaccine order was recorded	Current Date
Alert	Notification that the dose is too early

Notes



The EHR may not allow for recording of a vaccine administration if the DTaP has not been ordered. This may require an override or alert acceptance in Step 2: Orders administration of DTaP vaccine and alerted that the dose is too early.

2D Barcode is not included as this test case does not result in a vaccine administration.



3.3 Juan Marcel Marina Transmit Immunization Report

Send the Immunization Report to the Immunization Registry (VXU/Z22) for Juan Marcel Marina.

Description

Following the vaccinations given during the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The Vaccination report includes all newly administered vaccines. The report should include vaccines incorrectly recorded in the IIS. The report MAY send the immunizations that the EHR imported from the IIS.

Comments

No Comments

Pre-Condition

The vaccines for the visit have been administered.

Post-Condition

The IIS has received the vaccine information (Z22 message).

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Add Jurisdiction-Specific Vaccine Eligibility Code: The EHR or other clinical software system demonstrates the ability to configure publicly funded dose level vaccine eligibility codes per jurisdictional requirements. This includes tracking and exchanging jurisdiction-specific dose level eligibility code(s) for administered vaccines. This capability only applies to newly administered doses, not historical doses.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note



3.3.1 Step 1: Transmit the Immunization Report for Juan Marcel Marina

The EHR sends the Immunization Report to the Immunization Registry (VXU/Z22) for updated vaccination information from the visit. This includes all newly administered vaccines and may include historical information updated in the EHR during the visit. This also includes notification that Varicella is not administered due to history of the disease.

Description

Following the vaccinations given during the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The Vaccination report includes all newly administered vaccines, and an indication that Varicella was not administered due to a history of the disease as evidence of immunity. The Vaccination report also includes an indication that Hepatitis A was not administered due to serological evidence of immunity. The report MAY send the immunizations that the EHR imported from the IIS.

Comments

The Report must include all newly administered vaccines in any order. The report may include the information imported from the IIS.

Pre-Condition

The vaccines for the visit have been administered. The clinical information has been documented for Juan Marcel Marina in the Initial Data Load.

Post-Condition

The Immunization Report has been transmitted to the IIS using a valid Z22 VXU in accordance with the test data correctly and without omission.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Add Jurisdiction-Specific Vaccine Eligibility Code: The EHR or other clinical software system demonstrates the ability to configure publicly funded dose level vaccine eligibility codes per jurisdictional requirements. This includes tracking and exchanging jurisdiction-specific dose level eligibility code(s) for administered vaccines. This capability only applies to newly administered doses, not historical doses.

Evaluation Criteria

The VXU/Z22 message passes validation using the NIST Immunization VXU Validation Tool (Z22) (context-free). The content of the message correctly reflects the test data (context-based) in accordance with the Test Data Specification and the Message Content.

This includes indication that Varicella was not administered due to history of the disease, and an indication that Hepatitis A was not administered due to serological evidence of immunity.

Notes

All NDC coded values are required to use the 11-Character format that includes dashes ('-').

If the EHR or other clinical system is not supporting the Jurisdiction-specific eligibility code, then OBX observation for VFC-Eligibility may pass with notable exception using vaccine program eligibility as non-VFC Eligible and OBX observation for funding source using Private funding source.

The message may fail to validate because the new Vaccine Program Eligibility code is not in the HL70064_IZ code set. This is expected behavior and the system may pass with notable exception.

HL7 Encoded Message



Transmit_Juan
Marcel Marina_Z22.tx

3.3.2 Step 2: Receive ACK Z23 from Immunization Registry

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Description

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Comments

No Comments

Pre-Condition

A VXU message is generated by the EHR.

Post-Condition

The ACK Z23 is received by the EHR.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Evaluation Criteria

The acknowledgement message is consumed by the system responsible for the content of the administration message without error.

Notes

Important note regarding the MSH-10 and MSA-2: The NIST acknowledgment message is predefined and is based on the VXU message. Most systems will automatically create the message control Identifier and may require it for importing, linking, and processing the ACK message. The NIST ACK test message can be modified such that MSA-2 matches MSH-10 of the VXU message generated by the system-under test.

HL7 Encoded Message



Transmit_Juan
Marcel Marina_ACK_Z

3.3.3 Step 3: Transmit Delete for Vaccine Recorded in Error

The Provider realizes that the notification that the Hepatitis B vaccine that was not administered was inadvertently documented and transmitted to the registry. A delete notification for the Hepatitis B vaccination administered is transmitted to the Immunization Registry.

Description

The provider identifies that the vaccine administration of Hepatitis B for this visit was documented in error. The vaccine was not administered during the visit but was inadvertently documented as administered. A delete notification for the Hepatitis B vaccination administered is transmitted to the Immunization Registry for Juan Marcel Marina.

Comments

No Comments

Pre-Condition

The vaccinations for the visit have been administered.

The vaccination report (Z22) has been transmitted to the IIS, including the record of the Hepatitis B vaccination which was inadvertently documented as administered.

Post-Condition

The EHR has recorded that the hepatitis B vaccination was documented in error. Juan Marcel Marina's record is updated to reflect that the immunization was not given. The Delete notification for this vaccination has been transmitted to the Immunization Registry.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Add Jurisdiction-Specific Vaccine Eligibility Code: The EHR or other clinical software system demonstrates the ability to configure publicly funded dose level vaccine eligibility codes per jurisdictional requirements. This includes tracking and exchanging jurisdiction-specific dose level eligibility code(s) for administered vaccines. This capability only applies to newly administered doses, not historical doses.

Support for delete functionality.

Evaluation Criteria

Verify that EHR can correct the vaccination documented in error. Verify that the vaccination record for Juan Marcel Marina for the Hepatitis B vaccination given on the date of the test is marked as invalid.

Verify that a valid Delete notification is transmitted to the Immunization Registry for this vaccination: The VXU/Z22 message passes validation using the NIST Immunization VXU Validation Tool (Z22). The content of the message correctly reflects the test data (context-based) in accordance with the Test Data Specification and the Message Content.

Notes

All NDC coded values are required to use the 11-Character format that includes dashes ('-').

If the EHR or other clinical system is not supporting the jurisdiction-specific eligibility code, then OBX observation for Vaccine Program Eligibility may pass with notable exception using vaccine program eligibility as non-VFC Eligible and OBX observation for funding source using Private funding source.

The message may fail to validate because the new Vaccine Program Eligibility code is not in the HL70064_IZ code set. This is expected behavior and the system may pass with notable exception.

HL7 Encoded Message



Transmit_Juan
Marcel Marina_Delet

3.3.4 Step 4: Receive ACK Z23 from Immunization Registry

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Description

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Comments

No Comments

Pre-Condition

A VXU message is generated by the EHR.

Post-Condition

The ACK Z23 is received by the EHR.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Evaluation Criteria

The acknowledgement message is consumed by the system responsible for the content of the administration message without error.

Notes

Important note regarding the MSH-10 and MSA-2: The NIST acknowledgment message is predefined and is based on the VXU message. Most systems will automatically create the message control Identifier and may require it for importing, linking, and processing the ACK message. The NIST ACK test message can be modified such that MSA-2 matches MSH-10 of the VXU message generated by the system-under test.

HL7 Encoded Message



Transmit_Juan
Marcel Marina_ACK_Z



4. Juana Mariela Gonzales Visit

Infant twin, Juana Mariela Gonzales visits the provider where her immunization history is retrieved from the registry and reconciled with the local information in the medical record to determine vaccines that are due. Vaccinations are ordered and administered. The vaccines are reported to the immunization registry and a vaccine summary is available for the patient.

4.1 Query the Registry for Juana Mariela Gonzales

The EHR generates a Z44 query to the Immunization Registry to retrieve the Evaluated History and Forecast for Juana Mariela Gonzales.

Description

The EHR generates a Z44 query to the Immunization Registry to retrieve the Evaluated History and Forecast for Juana Mariela Gonzales. Querying the registry will consist of the vendor creating Z44 messages for Juana Mariela Gonzales to be sent to the registry. The response will be processed as part of the 'Display, Reconcile, Import and Update Immunization Information' activity.

Using the Z42 Response to Immunization Registry Query, the EHR displays the Evaluated History and Forecast to the user for reconciliation and update. The vendor will receive information back from the registry and show the ability to view and reconcile, and import the information returned by the registry (NOTE: the Z42 message will be provided either manually, or as part of the tool). This test will also look at the system's ability to view the forecast returned by the registry and create a new forecast after reconciling the information.

Comments

No Comments

Pre-Condition

Juana Mariela Gonzales is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the Juana Mariela Gonzales Initial Data Load.

Post-Condition

A Z44 Query is generated and submitted to the Immunization Registry/Test tool, and a Z42 response is returned.

Test Objectives

Select New Patient: The EHR or other clinical software system must allow a user to distinguish information about patients with similar names or identifying information in order to select the right patient from the providers' EHR or other clinical software. This information is crucial for identifying and selecting the correct patient. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar sounding names. In order to match patients with those already in the immunization registry, the EHR or other clinical software should have the ability to record the mother's maiden name, whether the patient was part of a multiple birth, and if so, the order of birth (when such information is available). The provider should be aware of how often the protection indicator information must be updated based on local rules.

Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry "on demand," or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother's maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request



Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient’s newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service, but should reference the most recent recommendations.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

4.1.1 Step 1: Select Patient Juana Mariela Gonzales

Select patient Juana Mariela Gonzales, Infant Twin, distinguishing the patient from other patients with similar demographics (twins).

Description

Juana Mariela Gonzales is selected as the patient and her record is opened in the EHR.

Comments

No Comments

Pre-Condition

Juana Mariela Gonzales Initial Data Load completed.

Post-Condition

Juana Mariela Gonzales is the active working patient in the EHR.

Test Objectives

Select New Patient: The EHR or other clinical software system must allow a user to distinguish information about patients with similar names or identifying information in order to select the right patient from the



providers' EHR or other clinical software. This information is crucial for identifying and selecting the correct patient. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar sounding names. In order to match patients with those already in the immunization registry, the EHR or other clinical software should have the ability to record the mother's maiden name, whether the patient was part of a multiple birth, and if so, the order of birth (when such information is available). The provider should be aware of how often the protection indicator information must be updated based on local rules.

Evaluation Criteria

Tester shall verify that the product can distinguish Juana Mariela Gonzales from similar sounding names and her twin using all of the pediatric demographics:

Patient ID (previously listed as "Medicaid Number")	Vendor supplied
Patient ID: Assigning Authority ID (i.e., owning source)/Facility Name	Shoreline Pediatrics
Patient ID: Type (e.g., medical record number, IIS ID)	Vendor supplied
Patient Name: First	Juana
Patient Name: Middle	Mariela
Patient Name: Last	Gonzales
Patient Date of Birth	10/01/2021
Birth Time	11:00am
Patient Gender (Administrative Sex)	F
Patient Multiple Birth Indicator	Yes
Patient Birth Order	1
Responsible Person Name: First	Joanna
Responsible Person Name: Middle	Elena
Responsible Person Name: Last	Gonzales
Responsible Person Name: Relationship to Patient	Mother
Mother's Name: First	Joanna
Mother's Name: Middle	Elena
Mother's Name: Last	Gonzales
Mother's Name: Maiden Last	Morales
Patient Address: Street	3321 Standish Way
Patient Address: City	Stamford
Patient Address: State	CT
Patient Address: Country	USA
Patient Address: Zipcode	06903
Race	White
Ethnicity	Hispanic or Latino
Patient Primary Language	English
Patient Telephone Number	(203) 555-1214
Patient Telephone Number Type (e.g., home, cell)	cell
Patient E-mail Address	none
Publicity Code	Reminder/recall – no calls (03 HL70215)
Publicity Code Effective Date	10/01/2021
Protection Indicator	No
Protection Indicator Effective Date	10/01/2021
Immunization Registry Status	Active
Preferred Contact Method	Text

Notes

Patient last name from the hospital returned by the IIS is Morales (the mother's maiden name). The patient's last name in the EHR should be Gonzales. This test verifies that the EHR can match the returned record despite the different last name.



4.1.2 Step 2: Query Registry for vaccination history and forecast for Juana Mariela Gonzales

The EHR generates a Z44 query for immunization history and forecast correctly and without omission according to supplied test data.

Description

The provider uses the EHR to query the Immunization Registry for an Evaluated History and Forecast based on information known to the Immunization Registry.

Comments

No Comments

Pre-Condition

Juana Mariela Gonzales Initial Data Load is completed.
 Juana Mariela Gonzales is the active working patient in the EHR.

Post-Condition

The Immunization Registry responds with Evaluated Vaccine History and Forecast for Juana Mariela Gonzales.

Test Objectives

Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry “on demand,” or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother’s maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Evaluation Criteria

Tester shall verify that the vendor can produce a valid Z44 query in accordance with the test data correctly and without omission.
 Tester shall verify that the data in the message corresponds to the data in the EHR and contains all test data attributes supplied.

Notes

No Note

HL7 Encoded Message



Juana Mariela
Gonzales z44.txt

4.1.3 Step 3: View and import response to request for vaccination history for Juana Mariela Gonzales

The EHR displays the Immunization History results (Z42) returned in response to the Z44 Query and import them into the EHR.

Description

The physician accesses the record for Juana Mariela Gonzales and:
- Accepts the single vaccine in the registry record into the EHR history.

Comments

There is no reconciliation step as there are no historical immunizations in the EHR. All will be imported from the Z42 response.

Pre-Condition

A Z44 query has been submitted to the Immunization Registry and a Z42 response is provided back to the EHR, and the response is available in the EHR for reconciliation and import.

Post-Condition

Evaluated Immunization History returned from the registry is reconciled and imported into the patient record (Juana Mariela Gonzales).

Test Objectives

Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software system stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Evaluation Criteria

1. The EHR displays the information returned from the Immunization Registry according to the Juror Document.
2. The user imports returned vaccinations as follows:

Vaccinations Imported:

Hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 10/1/2021.

Notes

If the EHR is unable to match and import the previous immunization record, they will need to add the following historical immunization manually:

Vaccine from Practice HepB		
Entered By	Susan Pike	Y
Ordering Provider	Justin Parker	Y
Entering Organization	Stamford Regional Hospital	Y
Administration Notes (Vaccine Event information source)	New immunization record (NIP001 00)	Y
Date/Time of Start of Administration	10/01/2021	Y
Vaccine Administered	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08, NDC 58160-0820-43)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Susan Pike	Y
Administered-at Location	15 Atlantic Avenue, Stamford, CT, 06903	Y
Lot Number	6332FK34	Y
Substance Expiration Date	12/31/2021	Y
Substance Manufacturer Name	GlaxoSmithKline Biologicals SA (MVX SKB)	Y
Completion Status	Completed (CP)	Y
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)	Y
Administration Site	Left Thigh (HL70163: LT)	Y

HL7 Encoded Message



Juana Mariela
Gonzales z42lrf.txt

Juror Document



Juana Mariela Juror
Document.pdf

4.1.4 Step 4: View the vaccination forecast for Juana Mariela Gonzales

The EHR displays the current Immunization Forecast to the user for Juana Mariela Gonzales either as returned by the IIS in prior step, or as generated thru any local means.

Description

The physician accesses the record for Juana Mariela Gonzales and:



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



- Views the vaccine forecast (either as provided by the Immunization Registry or as determined through EHR defined methods).

Comments

No Comments

Pre-Condition

The EHR Vaccine History is imported from the Immunization History returned from the Immunization Registry (previous step View and import response to request for vaccination history for Juana Mariela Gonzales).

Post-Condition

A vaccine forecast based upon the imported vaccine history is available to the user.

Test Objectives

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient's newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service, but should reference the most recent recommendations.

Evaluation Criteria

1. Tester verifies that the vendor can display the immunization forecast based upon the reconciled vaccination history:
2. Verify that the EHR includes in the vaccine forecast:

Hep B Peds NOS due on 10/31/2021
DTaP due on 11/30/2021
Hib due on 11/30/2021
IPV due on 11/30/2021
Pneumococcal conjugate due on 11/30/2021
Rotavirus due on 11/30/2021
HepA due on 10/1/2022
MMR due on 10/1/2022
Varicella due on 10/1/2022
influenza, unspecified formulation due on Sept 1, 2022, or later

Notes

NOTE: Influenza does not have an overdue date. For DTaP: catchup schedule at this age doesn't really have an overdue date; same with Hib; Jan 14, 2022, is latest date to start rotavirus so depends on the date of the test; For these younger children, the EHR may follow a more detailed schedule based on age at the time of the test. This will result in variation in the forecast for this patient depending upon the date the test is run. Tester should document the rotavirus forecast implemented by the vendor. While there is not an expected



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



recommendation for the earliest date to give for influenza, this may appear in some EHR implementations. Tester should note if this is included.

The due date must be in range for the date shown. Vaccine forecast dates may be plus or minus 10 days to accommodate differences in date handling.

Further variation should be documented in the notable exceptions, but minimally each forecast vaccine must be present.

Rotavirus not due after 14 weeks, so depending on when the test is run, this may be due or not due.



4.2 Juana Mariela Gonzales, Enter Orders and Immunizations

Orders and Immunization events, non-administrations, and alerts presented for current visit.

Description

This test will consist of ordering vaccines for the test patients, reviewing any alerts caused by specific scenarios, and documenting vaccinations administered to the patients.

Comments

No Comments

Pre-Condition

Juana Mariela Gonzales is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the 'Juana Mariela Gonzales Initial Data Load'.

Post-Condition

Visit orders are entered in Juana Mariela Gonzales' record.

Test Objectives

Supporting data for documenting contraindications (it could also trigger an alert as a locally configured alert rule)

Modify Antigen Recommendations Based on Active Diagnoses: The EHR or other clinical software system notifies the provider of any conflicts between recommended vaccines in the updated forecast and the patient's current or historical diagnoses.

Record Vaccine Administration Deferral: The EHR or other clinical software system allows a user to enter a reason or reasons why a specific immunization was not given to a patient (e.g., due to contraindication, refusal, etc.). The system also stores that information in a structured way so it can be reported and analyzed as needed.

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2101: Indicates that a contraindication effective date messaged in OBX-5 is in the future

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

4.2.1 Step 1: Enter Initial Clinical Information for Juana Mariela

The EHR captures structured data indicating that Juana Mariela has a fever in the current visit.

Description

The triage nurse enters basic information on Juana Mariela Gonzales – she has a fever (Temperature of 100.8 degrees F).

Comments

No comments

Pre-Condition

The EHR has recorded all of the pediatric demographic data in the record created for Juana Mariela Gonzales.

Post-Condition

The clinical record for Juana Mariela Gonzales indicates that she currently has a fever (temperature 100.8 degrees F).

Test Objectives

Supporting data for documenting contraindications (it could also trigger an alert as a locally configured alert rule):

Modify Antigen Recommendations Based on Active Diagnoses: The EHR or other clinical software system notifies the provider of any conflicts between recommended vaccines in the updated forecast and the patient's current or historical diagnoses.

Evaluation Criteria

Evaluation Criteria: Vendor successfully records all clinical data provided with all required attributes indicated by [Y]. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Vital Signs	Fever of 100.8 (@code LOINC 8310-5 @value 100.8)
Vital Signs Observation Date	Date of current visit
Problems (If vendor uses problems for alert computations, then this should be included.)	Problem list: (Low grade pyrexia (finding) 304213008)
Problem Observation Date	Date of current visit



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Notes

No Note

4.2.2 Step 2: Vaccine Deferral Data Quality Checks

The provider attempts to document vaccine deferral information for Juana Mariela Gonzales in the EHR. Vaccination deferral data quality checks are verified during data entry.

Description

The provider attempts to document vaccine deferral information for the immunization for Juana Mariela Gonzales. These data quality checks primarily relate to improving vaccine deferral information and associated observations that will be included when submitting data to the immunization registry.

Comments

Evaluates EHR functions for verifying data quality of vaccine deferral data and associated observations used for reporting vaccinations to the immunization registry. There is no transaction associated with this test step.

Pre-Condition

Prior Immunization History loaded and reconciled from the Immunization Registry. Vaccine forecast is available in the EHR indicating 6 vaccines are due: Hepatitis B, DTaP, Hib, IPV, Pneumococcal conjugate (PCV13) and Rotavirus.

Post-Condition

The EHR has alerted the provider for each of the vaccine deferral data quality checks verified for Juana Mariela Gonzales.

Test Objectives

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2101: Indicates that a contraindication effective date messaged in OBX-5 is in the future

Evaluation Criteria

Evaluation Criteria: During the course of data entry for the variant information below, the EHR triggers the following data quality issues:

Triggers Error that a contraindication effective date is in the future (2101):



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Entered By	Sandra Molina	
Ordering Provider	Frank Smith	
Entering Organization	Shoreline Pediatrics	
Vaccine Event information source	New immunization record (NIP001 00)	
Value/Text for Vaccine Type	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08)	
	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106)	
	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49)	
	poliovirus vaccine (CVX 10)	
	pneumococcal conjugate vaccine, 13 valent (CVX 133)	
	rotavirus, live, monovalent vaccine (CVX 119)	
Date/Time Vaccine not administered was recorded	Current Date	
Alert	contraindication of fever	
Substance/Treatment Deferral Start Date: Vaccination contraindication/precaution effective date (30946-8 LOINC)	Current Date+1 day	Triggers Error that a contraindication effective date is in the future (2101)
Vaccination temporary contraindication/precaution expiration date (Deferred for 1 month)	Current Date + 1 month	

Notes

The full vaccination deferral details are provided here to facilitate the documentation constraints and/or screens that may be required by the vendor in order to attempt to document the data of interest, but these are not verified until the next step. Only those attributes specified that are anticipated to result in data quality alerts are required for this step.

4.2.3 Step 3: Enters a medical deferral for the vaccines due

Enters a deferral for vaccines due (Hepatitis B, DTaP, Hib, Pneumococcal conjugate (PCV13) and Rotavirus) due to medical reason, indicating low grade fever, and defers for 1 month.

Description

The physician accesses the record for Juana Mariela Gonzales and:
 - Enters a deferral for the vaccines due (Hepatitis B, DTaP, Hib, Pneumococcal conjugate (PCV13) and Rotavirus) due to medical reason, indicating low grade fever, and defers for 1 month.

Comments



No Comments

Pre-Condition

Prior Immunization History loaded and reconciled from the Immunization Registry. Vaccine forecast is available in the EHR indicating 6 vaccines are due: Hepatitis B, DTaP, Hib, IPV, Pneumococcal conjugate (PCV13) and Rotavirus.

Post-Condition

Vaccine deferral is recorded indicating the medical reason of low-grade fever.

Test Objectives

Record Vaccine Administration Deferral: The EHR or other clinical software system allows a user to enter a reason or reasons why a specific immunization was not given to a patient (e.g., due to contraindication, refusal, etc.). The system also stores that information in a structured way so it can be reported and analyzed as needed.

Evaluation Criteria

The EHR records the following vaccine administration information. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source	New immunization record (NIP00100)
Value/Text for Vaccine Type	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08)
	diphtheria, tetanus toxoids and acellular pertussis vaccine, 5 pertussis antigens (CVX 106)
	Haemophilus influenzae type b vaccine, PRP-OMP conjugate (CVX 49)
	poliovirus vaccine (CVX 10)
	pneumococcal conjugate vaccine, 13 valent (CVX 133)
	rotavirus, live, monovalent vaccine (CVX 119)
Date/Time Vaccine not administered was recorded	Current Date
Alert	contraindication of fever
Substance/Treatment Deferral Start Date: Vaccination contraindication/precaution effective date (30946-8 LOINC)	Current Date



Vaccination temporary contraindication/precaution expiration date (Deferred for 1 month)	Current Date + 1month
--	-----------------------

Notes

The EHR does not need to specify a 'new immunization', as long as there is a way to indicate that it is a new immunization within the EHR, this is acceptable (e.g., the default interpretation of the data entry is that it is a new immunization and not historical).



4.3 Juana Mariela Gonzales Transmit Immunization Report

Send the Immunization Report to the Immunization Registry (VXU/Z22) for Juana Mariela Gonzales.

Description

Following the vaccinations given during the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The Vaccination report includes deferrals for the vaccines that were due this visit indicating the medical reason. The report MAY send the immunizations that the EHR imported from the IIS.

Comments

No Comments

Pre-Condition

The vaccines for the visit have been deferred.

Post-Condition

The IIS has received the vaccine information (Z22 message).

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient’s newly administered or newly identified immunization history to public health immunization registries.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note



4.3.1 Step 1: Transmit the Immunization Report for Juana Mariela Gonzales

The EHR sends the Immunization Report to the Immunization Registry (VXU/Z22) for updated vaccination information from the visit. This includes the vaccine deferral and may include historical information updated in the EHR during the visit.

Description

Following the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The Vaccination report includes the vaccine deferrals. The report MAY send the immunizations that the EHR imported from the IIS.

Comments

The Report must include all vaccine deferrals recorded in the EHR in any order. The report may include the information imported from the IIS.

Pre-Condition

The vaccines for the visit have been administered.

Post-Condition

The Immunization Report has been transmitted to the IIS using a valid Z22 VXU in accordance with the test data correctly and without omission.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations

Evaluation Criteria

The VXU/Z22 message passes validation using the NIST Immunization VXU Validation Tool (Z22) (context-free). The content of the message correctly reflects the test data (context-based) in accordance with the Test Data Specification and the Message Content. The message must contain all deferrals recorded in the EHR. Current Date is expected for the Non-Administration date and deferral date.

Notes

All NDC coded values are required to use the 11-Character format that includes dashes ('-').

HL7 Encoded Message



Transmit_Juana
Mariela Gonzales_Z22

4.3.2 Step 2: Receive ACK Z23 from Immunization Registry

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Description

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Comments

No Comments

Pre-Condition

A VXU message is generated by the EHR.

Post-Condition

The ACK Z23 is received by the EHR.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Evaluation Criteria

The acknowledgement message is consumed by the system responsible for the content of the administration message without error.

Notes

Important note regarding the MSH-10 and MSA-2: The NIST acknowledgment message is predefined and is based on the VXU message. Most systems will automatically create the message control Identifier and may require it for importing, linking, and processing the ACK message. The NIST ACK test message can be modified such that MSA-2 matches MSH-10 of the VXU message generated by the system-under test.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



HL7 Encoded Message



Transmit_Juana
Mariela Gonzales_ACI



5 Juana Maria Gonzales Visit

Infant twin, Juana Maria Gonzales visits the provider where her immunization history is retrieved from the registry and reconciled with the local information in the medical record to determine vaccines that are due. Vaccinations are ordered and administered. The vaccines are reported to the immunization registry and a vaccine summary is available for the patient.

5.1 Query the Registry for Juana Maria Gonzales

The EHR generates a Z44 query to the Immunization Registry to retrieve the Evaluated History and Forecast for Juana Maria Gonzales.

Description

The EHR generates a Z44 query to the Immunization Registry to retrieve the Evaluated History and Forecast for Juana Maria Gonzales. Querying the registry will consist of the vendor creating Z44 messages for Juana Maria Gonzales to be sent to the registry. The response will be processed as part of the 'Display, Reconcile, Import and Update Immunization Information' activity.

Using the Z42 Response to Immunization Registry Query, the EHR displays the Evaluated History and Forecast to the user for reconciliation and update. The vendor will receive information back from the registry and show the ability to view and reconcile, and import the information returned by the registry (NOTE: the Z42 message will be provided either manually, or as part of the tool). This test will also look at the system's ability to view the forecast returned by the registry and create a new forecast after reconciling the information.

Comments

No Comments

Pre-Condition

Juana Mariela Gonzales is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the Juana Mariela Gonzales Initial Data Load.

Post-Condition

A Z44 Query is generated and submitted to the Immunization Registry/Test tool, and a Z42 response is returned.

Test Objectives

Select New Patient: The EHR or other clinical software system must allow a user to distinguish information about patients with similar names or identifying information in order to select the right patient from the providers' EHR or other clinical software. This information is crucial for identifying and selecting the correct patient. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar sounding names. In order to match patients with those already in the immunization registry, the EHR or other clinical software should have the ability to record the mother's maiden name, whether the patient was part of a multiple birth, and if so, the order of birth (when such information is available). The provider should be aware of how often the protection indicator information must be updated based on local rules.

Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry "on demand," or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother's maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request



Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software system stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient’s newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service, but should reference the most recent recommendations.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

5.1.1 Step 1: Select Patient Juana Maria Gonzales

Select patient Juana Maria Gonzales, Infant Twin, distinguishing the patient from other patients with similar demographics (twins).

Description

Juana Maria Gonzales is selected as the patient and her record is opened in the EHR.

Comments

No Comments

Pre-Condition

Juana Maria Gonzales Initial Data Load completed.

Post-Condition

Juana Maria Gonzales is the active working patient in the EHR.

Test Objectives

Select New Patient: The EHR or other clinical software system must allow a user to distinguish information about patients with similar names or identifying information in order to select the right patient from the



providers' EHR or other clinical software. This information is crucial for identifying and selecting the correct patient. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar sounding names. In order to match patients with those already in the immunization registry, the EHR or other clinical software should have the ability to record the mother's maiden name, whether the patient was part of a multiple birth, and if so, the order of birth (when such information is available). The provider should be aware of how often the protection indicator information must be updated based on local rules.

Evaluation Criteria

Tester shall verify that the product can distinguish Juana Maria Gonzales from similar sounding names and her twin using all of the pediatric demographics:

Patient ID (previously listed as "Medicaid Number")	Vendor supplied
Patient ID: Assigning Authority ID (i.e., owning source)/Facility Name	Shoreline Pediatrics
Patient ID: Type (e.g., medical record number, IIS ID)	Vendor supplied
Patient Name: First	Juana
Patient Name: Middle	Maria
Patient Name: Last	Gonzales
Patient Date of Birth	10/01/2021
Birth Time	11:15am
Patient Gender (Administrative Sex)	F
Patient Multiple Birth Indicator	Yes
Patient Birth Order	2
Responsible Person Name: First	Joanna
Responsible Person Name: Middle	Elena
Responsible Person Name: Last	Gonzales
Responsible Person Name: Relationship to Patient	Mother
Mother's Name: First	Joanna
Mother's Name: Middle	Elena
Mother's Name: Last	Gonzales
Mother's Name: Maiden Last	Morales
Patient Address: Street	3321 Standish Way
Patient Address: City	Stamford
Patient Address: State	CT
Patient Address: Country	USA
Patient Address: Zip code	06903
Race	White
Ethnicity	Hispanic or Latino
Patient Primary Language	English
Patient Telephone Number	(203) 555-1214
Patient Telephone Number Type (e.g., home, cell)	cell
Patient E-mail Address	None
Publicity Code	Reminder/recall – no calls (03 HL70215)
Publicity Code Effective Date	10/01/2021
Protection Indicator	Yes
Protection Indicator Effective Date	10/01/2021
Immunization Registry Status	active
Preferred Contact Method	Text

Notes

No Note



5.1.2 Step 2: Query Registry for vaccination history and forecast too many matches found response

Vendor SHALL be able to Generate a Z44 Query correctly and without omission according to supplied test data.

Description

The provider uses the EHR to query the Immunization Registry for an Evaluated History and Forecast based on information known to the Immunization Registry. This query will result in an error that too many matches are found.

Comments

While the query is identical, the response to this step will be that no persons are found. No demographic changes are requested for this step as the error trigger is specific to the test step.

Pre-Condition

Juana Maria Gonzales Initial Data Load is completed.
Juana Maria Gonzales is the active working patient in the EHR.

Post-Condition

The Immunization Registry responds with Evaluated Vaccine History and Forecast for Juana Maria Gonzales.

Test Objectives

Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry “on demand,” or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother’s maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Setup step to test error handling: Test the capability of the EHR to process a response message that returns no persons found and to provide an indication to the end user.

Evaluation Criteria

Tester shall verify that the vendor can produce a valid Z44 query in accordance with the test data correctly and without omission.
Tester shall verify that the data in the message corresponds to the data in the EHR and contains all test data attributes supplied.

Notes

No Note

HL7 Encoded Message



Juana Maria
Gonzales z44.txt

5.1.3 Step 3: Error Handling – Too many matches found

The EHR receives a response from the registry query that too many persons are found. The EHR notifies the user/clinician.

Description

The EHR processes notifies the user that there were too many matches found in response to the query the Immunization Registry for an Evaluated History and Forecast.

Comments

The sending (querying) system will need to accept a response indicating that too many matches were found.

Pre-Condition

A Z44 query has been submitted to the Immunization Registry and a Z42 response is provided back to the EHR, and the response is available in the EHR for reconciliation and import.

Post-Condition

The Immunization Registry responds with a message is indicating too many matches are found. The EHR has notified the user.

Test Objectives

Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software system stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Tests error handling: Test the capability of the EHR to process a response message that returns too many matches found and to provide an indication to the end user.

Evaluation Criteria

The tester verifies that the user/clinician is notified of no match.

The EHR shall display a notification indicating that the query for an Evaluated Immunization History and Immunization Forecast is complete but too many matching records were found for the person in the query.

Notes

No Note

HL7 Encoded Message



Transmit_Juana
Maria Gonzalez_Error

5.1.4 Step 4: Query Registry for vaccination history and forecast no persons found response

Vendor SHALL be able to Generate a Z44 Query correctly and without omission according to supplied test data.

Description

The provider uses the EHR to query the Immunization Registry for an Evaluated History and Forecast based on information known to the Immunization Registry. This query will result in an error that no persons are found.

Comments

This step is a repeat of Step 2: Query Registry for vaccination history and forecast for Juana Maria Gonzales in order to set up the error-checking response for 'No Persons Found'.

While the query is identical, the response to this step will be that no persons are found. No demographic changes are requested for this step as the error trigger is specific to the test step.

Pre-Condition

Juana Maria Gonzales Initial Data Load is completed.
Juana Maria Gonzales is the active working patient in the EHR.

Post-Condition

The Immunization Registry responds with Evaluated Vaccine History and Forecast for Juana Maria Gonzales.

Test Objectives

Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry "on demand," or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother's maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Tests error handling: Test the capability of the EHR to process a response message that returns no persons found and to provide an indication to the end user.

Evaluation Criteria

Tester verifies that the message has been created and submitted in the test plan to trigger the error handling response in the next step.

Notes

Query step is the same as Step 2: Query Registry for vaccination history and forecast for Juana Maria Gonzales. No new requirements tested.

HL7 Encoded Message



Juana Maria
Gonzales z44.txt

5.1.5 Step 5: Error Handling – No persons found

The EHR receives a response from the registry query that no persons are found. The EHR notifies the user/clinician.

Description

The EHR processes notifies the user that there were no persons found in response to the query the Immunization Registry for an Evaluated History and Forecast.

Comments

The sending (querying) system will need to accept a response indicating that no matches were found.

Pre-Condition

A Z44 query has been submitted to the Immunization Registry and a Z42 response is provided back to the EHR, and the response is available in the EHR for reconciliation and import.

Post-Condition

The Immunization Registry responds with a message indicating no person record is found. The EHR has notified the user.

Test Objectives

Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software system stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such

information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Tests error handling: Test the capability of the EHR to process a response message that returns no persons found and to provide an indication to the end user.

Evaluation Criteria

The tester verifies that the user/clinician is notified of no match.

The EHR shall display a notification indicating that the query for an Evaluated Immunization History and Immunization Forecast is complete, but no matching records were found for the person in the query.

Notes

No Note

HL7 Encoded Message



Transmit_Juana
Maria Gonzalez_Error

5.1.6 Step 6: Query Registry for vaccination history and forecast for Juana Maria Gonzales

Vendor SHALL be able to Generate a Z44 Query correctly and without omission according to supplied test data.

Description

The provider uses the EHR to query the Immunization Registry for an Evaluated History and Forecast based on information known to the Immunization Registry.

Comments

This step is a repeat of Step 2: Query Registry for vaccination history and forecast for Juana Maria Gonzales in order to set up the response for the history and forecast that will be imported in the following step.

Pre-Condition

Juana Maria Gonzales Initial Data Load is completed.

Juana Maria Gonzales is the active working patient in the EHR.

Post-Condition

The Immunization Registry responds with Evaluated Vaccine History and Forecast for Juana Maria Gonzales.

Test Objectives

Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry “on demand,” or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother’s maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Evaluation Criteria

Tester verifies that the message has been created and submitted in the test plan to trigger the error handling response in the next step.

Notes

Query step is the same as Step 2: Query Registry for vaccination history and forecast for Juana Maria Gonzales. No new requirements tested.

HL7 Encoded Message



Juana Maria
Gonzales z44.txt

5.1.7 Step 7: View and import response to request for vaccination history for Juana Maria Gonzales

The EHR displays the Immunization History results (Z42) returned in response to the Z44 Query and import them into the EHR.

Description

The physician accesses the record for Juana Maria Gonzales and:
- Accepts the single vaccine in the registry record into the EHR history.

Comments

There is no reconciliation step as there are no historical immunizations in the EHR. All will be imported from the Z42 response.

Pre-Condition

A Z44 query has been submitted to the Immunization Registry and a Z42 response is provided back to the EHR, and the response is available in the EHR for reconciliation and import.

Post-Condition



Evaluated Immunization History returned from the registry is reconciled and imported into the patient record (Juana Maria Gonzales).

Test Objectives

Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software system stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Evaluation Criteria

1. The EHR displays the information returned from the Immunization Registry according to the Juror Document.
2. The user imports the vaccination given and the date administered returned from the immunization registry as follows:

Vaccinations Imported:

hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08) administered 10/1/2021

Notes

The message returns 'BG2' in the first name of the patient as the first immunization was given at the time of birth before the patient's first name was selected. The EHR should be able to import this record into the patient record despite the apparent name mismatch retaining the original name, Juana Maria Gonzales.

If the EHR is unable to match and import the previous immunization record, they will need to add the following historical immunization manually. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

Vaccine from Practice HepB		
Entered By	Susan Pike	Y
Ordering Provider	Justin Parker	Y
Entering Organization	Stamford Regional Hospital	Y
Administration Notes (Vaccine Event information source)	New immunization record (NIP001 00)	Y
Date/Time of Start of Administration	10/01/2021	Y
Vaccine Administered	hepatitis B vaccine, pediatric or pediatric/adolescent dosage (CVX 08, NDC 58160-0820-43)	Y
Administered Amount (of Vaccine)	0.5	Y
Administered Units (of Measure)	mL	Y
Administering Provider	Susan Pike	Y
Administered-at Location	15 Atlantic Avenue, Stamford, CT, 06903	Y
Lot Number	6332FK34	Y
Substance Expiration Date	12/31/2021	Y
Substance Manufacturer Name	GlaxoSmithKline Biologicals SA (MVX SKB)	Y



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Completion Status	Completed (CP)	Y
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)	Y
Administration Site	Left Thigh (HL70163: LT)	Y

HL7 Encoded Message



Juana Maria
Gonzales z42 lrf.txt

Juror Document



Juana Maria Juror
Document.pdf

5.1.8 Step 8: View the vaccination forecast for Juana Maria Gonzales

The EHR displays the current Immunization Forecast to the user for Juana Maria Gonzales either as returned by the IIS in prior step, or as generated thru any local means.

Description

The physician accesses the record for Juana Maria Gonzales and:
- Views the vaccine forecast (either as provided by the Immunization Registry or as determined through EHR defined methods).

Comments

No Comments

Pre-Condition

The EHR Vaccine History is imported from the Immunization History returned from the Immunization Registry (previous step 'View and import response to request for vaccination history' for Juana Maria Gonzales).

Post-Condition

A vaccine forecast based upon the imported vaccine history is available to the user.

Test Objectives

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient's newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service, but should reference the most recent recommendations.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Evaluation Criteria

1. Tester verifies that the vendor can display the immunization forecast based upon the reconciled vaccination history.
2. Verify that the EHR includes in the vaccine forecast:

Hep B Peds NOS due on 10/31/2021
DTaP due on 11/30/2021
Hib due on 11/30/2021
IPV due on 11/30/2021
Pneumococcal conjugate due on 11/30/2021
Rotavirus due on 11/30/2021
HepA due on 10/1/2022
MMR due on 10/1/2022
Varicella due on 10/1/2022
influenza, unspecified formulation due on Sept 1, 2022, or later

Notes

NOTE: Influenza does not have an overdue date. For DTaP: catchup schedule at this age doesn't really have an overdue date; same with Hib; Jan 14, 2021, is latest date to start rotavirus so depends on the date of the test; For these younger children, the EHR may follow a more detailed schedule based on age at the time of the test. This will result in variation in the forecast for this patient depending upon the date the test is run. Tester should document the rotavirus forecast implemented by the vendor. While there is not an expected recommendation for the earliest date to give for influenza, this may appear in some EHR implementations. Tester should note if this is included.

The due date must be in range for the date shown. Vaccine forecast dates may be plus or minus 10 days to accommodate differences in date handling.

Further variation should be documented in the notable exceptions, but minimally each forecast vaccine must be present.



5.2 Juana Maria Gonzales, Enter Orders and Immunizations

Orders and Immunization events, non-administrations, and alerts presented for current visit.

Description

This test will consist of ordering vaccines for the test patients, reviewing any alerts caused by specific scenarios, and documenting vaccinations administered to the patients.

Comments

No Comments

Pre-Condition

Juana Maria Gonzales is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the 'Juana Maria Gonzales Initial Data Load'.

Post-Condition

Visit orders are entered in Juana Maria Gonzales' record.

Test Objectives

Supporting data for error handling tests.

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g., intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid "oral" route for IM vaccines, and assure dose is appropriate for the vaccine).

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration: The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note



5.2.1 Step 1: Record Combo Vaccine administration

The EHR is able to document all attributes associated with the new vaccine administration.

Description

The nurse administers the DTaP-hepatitis B and poliovirus vaccine:
- Documents all required information for the vaccine.

Comments

No Comments

Pre-Condition

Prior Immunization History loaded and reconciled from the Immunization Registry. Vaccine forecast is available in the EHR indicating 6 vaccines are due: Hepatitis B, DTaP, Hib, IPV, Pneumococcal conjugate (PCV13) and Rotavirus.
Order is placed for DTaP-hepatitis B and poliovirus vaccine.

Post-Condition

The DTaP-hepatitis B and poliovirus vaccination is recorded in the EHR.

Test Objectives

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g., intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid "oral" route for IM vaccines, and assure dose is appropriate for the vaccine).

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration: The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Evaluation Criteria

The EHR records the following vaccine administration information. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions.



The EHR records the following vaccine administration information, and using the 2D Barcode found on the Unit-of-Use for vaccine administration, automatically populates the Vaccine Type/product administered, the expiration date and the lot number:

Entered By	Sandra Molina
Ordering Provider	Frank Smith
Entering Organization	Shoreline Pediatrics
Vaccine Event information source	New immunization record (NIP001 00)
Date/Time of Start of Administration	Current Date
Vaccine Administered	DTaP-hepatitis B and poliovirus vaccine (CVX 110) Pediarix (NDC 58160-0811-43)
2D Barcode	
GTIN	10358160811439
Administered Amount (of Vaccine)	0.5
Administered Units (of Measure)	mL
Administration Notes	
Administering Provider	Sandra Molina
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901
Lot Number	6559FK32
Substance Expiration Date	12/31/2022
Substance Manufacturer Name	GlaxoSmithKline Biologicals SA (MVX SKB)
Completion Status	Completed (CP)
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)
Administration Site	Left Deltoid (HL70163: LD)
VFC Eligibility	No
Funding Source	Private
VIS Given Date	Current Date
VIS Fully Encoded Text-String	253088698300026411211015

Notes

The EHR does not need to specify a 'new immunization', as long as there is a way to indicate that it is a new immunization within the EHR, this is acceptable (e.g., the default interpretation of the data entry is that it is a new immunization and not historical).



5.3 Juana Maria Gonzales Transmit Immunization Report – Error Handling

This Test Case verifies the ability of the EHR to handle errors and warnings in response to the Send the Immunization Report to the Immunization Registry (VXU/Z22) transaction for Juana Maria Gonzales.

Description

Following the vaccinations given during the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The Vaccination report includes all newly administered vaccines. The report MAY send the immunizations that the EHR imported from the IIS.

This transaction will result in an error or warning from the IIS.

Comments

No Comments

Pre-Condition

The vaccines for the visit have been administered.

Post-Condition

The IIS has received the vaccine information (Z22 message) and issued a Z23 response with an error or warning.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient’s newly administered or newly identified immunization history to public health immunization registries.

Verify that the EHR is able to receive and display the error or warning response from the IIS.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note



5.3.1 Step 1: Transmit the immunization report for Juana Maria Gonzales – Fatal Error Handling

The EHR sends the Immunization Report to the Immunization Registry (VXU/Z22) for updated vaccination information from the visit. This will result in a fatal error from the IIS to assess the EHR ability to receive and display the error.

Description

Following the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The report MAY send the immunizations that the EHR imported from the IIS. This will result in a warning from the IIS to assess the EHR ability to receive and display the error.

Comments

The Report must include all vaccine deferrals recorded in the EHR in any order. The report may include the information imported from the IIS.

Pre-Condition

The vaccines for the visit have been administered.

Post-Condition

The Immunization Report has been transmitted to the IIS using a valid Z22 VXU in accordance with the test data correctly and without omission.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient’s newly administered or newly identified immunization history to public health immunization registries.

Setup to verify that the EHR is able to receive and display the error response from the IIS.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Evaluation Criteria

The VXU/Z22 message passes validation using the NIST Immunization VXU Validation Tool (Z22) (context-free). The content of the message correctly reflects the test data (context-based) in accordance with the Test Data Specification and the Message Content.

Notes

The protection indicator for Juana Maria is 'Yes'. If this setting restricts the EHR from transmitting to the IIS, then the protection indicator for Juana Maria may be modified to 'No' for the purpose of this transaction.

All NDC coded values are required to use the 11-Character format that includes dashes ('-').

HL7 Encoded Message



Transmit_Juana
Maria Gonzales_Z22lr

5.3.2 Step 2: Receive ACK Z23 Fatal Error – CVX Code

The Immunization Registry returns a fatal error message indicating a table mapping error for the CVX code submitted was found during the course of filing the message.

Description

The Immunization Registry returns a fatal error message indicating a table mapping error for the CVX code submitted was found during the course of filing the message.

Comments

No Comments

Pre-Condition

A VXU message is generated by the EHR.

Post-Condition

The ACK Z23 is received by the EHR.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Error Handling Support for a fatal error returned by the IIS, and the ability of the EHR to display a notification of this error to the user.

Evaluation Criteria

The acknowledgement error message is consumed by the system responsible for the content of the administration message.

The error returned is visible in the EHR.

Notes

Important note regarding the MSH-10 and MSA-2: The NIST acknowledgment message is predefined and is based on the VXU message. Most systems will automatically create the message control Identifier and may require it for importing, linking, and processing the ACK message. The NIST ACK test message can be modified such that MSA-2 matches MSH-10 of the VXU message generated by the system-under test.

HL7 Encoded Message



Transmit_Juana
Maria Gonzales_ACK_

5.3.3 Step 3: Transmit the Immunization Report for Juana Maria Gonzales – warning handling

The EHR sends the Immunization Report to the Immunization Registry (VXU/Z22) for updated vaccination information from the visit. This will result in a warning from the IIS to assess the EHR ability to receive and display the warning.

Description

Following the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. This will result in multiple warnings from the IIS to assess the EHR ability to receive and display the error.

Comments

The Report must include the newly administered vaccine recorded in the EHR. The report may include the information imported from the IIS.

Pre-Condition

The vaccines for the visit have been administered.

Post-Condition

The Immunization Report has been transmitted to the IIS using a valid Z22 VXU in accordance with the test data correctly and without omission.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Set up to verify that the EHR is able to receive and display the multiple warning response from the IIS.



Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Evaluation Criteria

The VXU/Z22 message passes validation using the NIST Immunization VXU Validation Tool (Z22) (context-free). The content of the message correctly reflects the test data (context-based) in accordance with the Test Data Specification and the Message Content.

Notes

The protection indicator for Juana Maria is 'Yes'. If this setting restricts the EHR from transmitting to the IIS, then the protection indicator for Juana Maria may be modified to 'No' for the purpose of this transaction.

All NDC coded values are required to use the 11-Character format that includes dashes ('-').

HL7 Encoded Message



Transmit_Juana
Maria Gonzales_Z22lr

5.3.4 Step 4: Receive ACK Z23 Warning – Invalid Value

The Immunization Registry returns a warning message indicating an invalid administration site code submitted was found during the course of filing the message.

Description

The Immunization Registry returns a warning message indicating an unrecognized administration site code submitted was found during the course of filing the message.

Comments

No Comments

Pre-Condition

A VXU message is generated by the EHR.

Post-Condition

The ACK Z23 is received by the EHR.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Error Handling Support for a warning returned by the IIS, and the ability of the EHR to display a notification of this warning to the user.

Evaluation Criteria

The acknowledgement warning message is consumed by the system responsible for the content of the administration message.

The warning returned is visible in the EHR.

Notes

Important note regarding the MSH-10 and MSA-2: The NIST acknowledgment message is predefined and is based on the VXU message. Most systems will automatically create the message control Identifier and may require it for importing, linking, and processing the ACK message. The NIST ACK test message can be modified such that MSA-2 matches MSH-10 of the VXU message generated by the system-under test.

HL7 Encoded Message



Transmit_Juana
Maria_Gonzales_ACK_

5.3.5 Step 5: Transmit the Immunization Report for Juana Maria Gonzales – Multiple warning handling

The EHR sends the Immunization Report to the Immunization Registry (VXU/Z22) for updated vaccination information from the visit. This will result in multiple warnings from the IIS to assess the EHR ability to receive and display the warnings.

Description

Following the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. This will result in multiple warnings from the IIS to assess the EHR ability to receive and display the warnings.

Comments

The Report must include the newly administered vaccine recorded in the EHR. The report may include the information imported from the IIS.

Pre-Condition

The vaccines for the visit have been administered.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Post-Condition

The Immunization Report has been transmitted to the IIS using a valid Z22 VXU in accordance with the test data correctly and without omission.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Set up to verify that the EHR is able to receive and display the multiple warning response from the IIS.

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Evaluation Criteria

The VXU/Z22 message passes validation using the NIST Immunization VXU Validation Tool (Z22) (context-free). The content of the message correctly reflects the test data (context-based) in accordance with the Test Data Specification and the Message Content.

Notes

The protection indicator for Juana Maria is 'Yes'. If this setting restricts the EHR from transmitting to the IIS, then the protection indicator for Juana Maria may be modified to 'No' for the purpose of this transaction.

All NDC coded values are required to use the 11-Character format that includes dashes ('-').

HL7 Encoded Message



Transmit_Juana
Maria Gonzales_Z22lr

5.3.6 Step 6: Receive ACK Z23 Multiple Warnings

The Immunization Registry returns a message with multiple warnings for invalid administration site codes submitted found during the course of filing the message.

Description

The Immunization Registry returns a message with multiple warnings indicating unrecognized administration site codes submitted were found during the course of filing the message.

Comments

No Comments



Pre-Condition

A VXU message is generated by the EHR.

Post-Condition

The ACK Z23 is received by the EHR.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Error Handling Support for multiple warnings returned by the IIS, and the ability of the EHR to display a notification of these warnings to the user.

Evaluation Criteria

The acknowledgement warning message is consumed by the system responsible for the content of the administration message.

The multiple warnings returned is visible in the EHR.

Notes

Important note regarding the MSH-10 and MSA-2: The NIST acknowledgment message is predefined and is based on the VXU message. Most systems will automatically create the message control Identifier and may require it for importing, linking, and processing the ACK message. The NIST ACK test message can be modified such that MSA-2 matches MSH-10 of the VXU message generated by the system-under test.

HL7 Encoded Message



Transmit_Juana
Maria Gonzales_ACK_



6. Reporting

These tests will include generation of cohort reports and acknowledgement error reports.

6.1 Due and Overdue Immunizations

List all patients who are due or overdue for immunizations showing all overdue immunizations: This test will consist of generating a cohort report to list all patients who are due or overdue for immunizations showing all overdue immunizations with the associated due/overdue dates.

Description

The provider periodically uses the EHR to identify the cohort of patients that are due or overdue for immunizations along with their contact information in order to send reminder notifications to the patients/parents.

Comments

No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. The vaccine forecast is available to the EHR.

Post-Condition

The Cohort report for all patients that are due or overdue for immunizations is available to the provider through the EHR.

Test Objectives

Produce Population-Level Report: The EHR or other clinical software system generates aggregate, population-level reports based on known patient immunization data.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note



6.1.1 Step 1: Produce Overdue Immunizations Cohort Report

The provider uses the EHR to create a report for all patient vaccinations overdue with the contact information.

Description

The provider periodically uses the EHR to identify the cohort of patients that are due or overdue for immunizations along with their contact information in order to send reminder notifications to the patients/parents.

Comments

No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Historical Vaccination reconciled and loaded into the EHR. The vaccine forecast is available to the EHR for Vaccines administered throughout this test plan.

Post-Condition

The Cohort report for all patients that are due or overdue for immunizations is available to the provider through the EHR for Vaccines administered throughout this test plan.

Test Objectives

Produce Population-Level Report: The EHR or other clinical software system generates aggregate, population-level reports based on known patient immunization data.

Evaluation Criteria

The following patient information is provided on the cohort report:

Patient Name	Juana Mariana Vazquez
Preferred Contact Method	Phone
Contact information using preferred contact (email, text, phone, mailing address)	(203) 555-1212
Patient Identifier Number	Vendor Supplied
Patient Identifier Type Code	Vendor Supplied
Date/Time of Birth	11/1/2016 11:05am
Sex	Female
Vaccine Group	IPV
Due Date	10/31/2020
Overdue Date	10/31/2022
Dose #	4



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS™



Dose in Series	4
Vaccine Group	Varicella
Due Date	10/31/2020
Overdue Date	10/31/2022
Dose #	2
Dose in Series	2
Link to full record	Vendor Supplied
Patient Name	Juana Mariela Gonzales
Preferred Contact Method	Text
Contact information using preferred contact (email, text, phone, mailing address)	(203) 555-1214
Patient Identifier Number	Vendor Supplied
Patient Identifier Type Code	Vendor Supplied
Date/Time of Birth	10/1/2021 11am
Sex	Female
Vaccine Group	Hep B Peds NOS
Due Date	10/31/2021
Overdue Date	1/1/2022
Dose #	2
Dose in Series	3
Vaccine Group	DTaP
Due Date	11/30/2021
Dose #	1
Dose in Series	5
Vaccine Group	Hib
Due Date	11/30/2021
Dose #	1
Dose in Series	4
Vaccine Group	IPV
Due Date	11/30/2021
Dose #	1
Dose in Series	4
Vaccine Group	Pneumococcal conjugate
Due Date	11/30/2021
Dose #	1
Dose in Series	4
Link to full record	Vendor Supplied
Vaccine Group	Rotavirus
Due Date	11/30/2021
Dose #	1



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Dose in Series	4
Link to full record	Vendor Supplied
Patient Name	Juana Maria Gonzales
Preferred Contact Method	Text
Contact information using preferred contact (email, text, phone, mailing address)	(203) 555-1214
Patient Identifier Number	Vendor Supplied
Patient Identifier Type Code	Vendor Supplied
Date/Time of Birth	10/1/2021 11:15am
Sex	Female
Vaccine Group	Hib
Due Date	11/30/2021
Dose #	1
Dose in Series	4
Vaccine Group	Pneumococcal conjugate
Due Date	11/30/2021
Dose #s	1
Dose in Series	4
Vaccine Group	Rotavirus
Due Date	11/30/2021
Dose #	1
Dose in Series	4
Link to full record	Vendor Supplied

Notes

The vaccines due for the infants, in particular, may vary depending upon when the test is run as they may be subject to variation in the due dates as part of a catch-up schedule. Tester should document any such variances.

Vaccines due for adult patient, Anita Francesca Marina are not required to be included in this report.



6.2 Acknowledgment Error Reporting

Generate a report of all acknowledgment errors, either as a reporting function within the EHR or other clinical system, or as an export for processing in a reporting tool.

Description

The EHR has received acknowledgment errors for vaccinations submitted to the IIS. The provider staff uses the EHR to generate an Acknowledgment Error Report or to export the information for use in a reporting tool.

Comments

No Comments

Pre-Condition

The EHR or other clinical software system has received acknowledgement errors from an IIS.

Post-Condition

An acknowledgment report is generated from the EHR or other clinical software system or the report data has been exported to a reporting tool.

Test Objectives

Acknowledgment Data Reporting: The EHR or other clinical software system is able to generate an Aggregate Error Report using the acknowledgment error message data returned in the ACK response to a vaccine update message (VXU/Z22). The report data must include the following data elements:

- Clinic code and name
- Patient identifier
- Vaccination date
- IIS error severity
- IIS error code and description

The aggregate report functionality should include grouping and sorting by error code, clinic, and vaccination date. Drill-down capability by error or date should also be supported as it is important to support identifying the source of the data errors and to correct the issue.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

6.2.1 Step 1: Produce Acknowledgments Report

An EHR user is able to create a report that aggregates fatal errors reported in acknowledgment messages from the IIS.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Description

The provider has received acknowledgment errors for vaccinations submitted to the IIS. The provider staff uses the EHR to generate an Acknowledgment Error Report or to export the information for use in a reporting tool.

Comments

In addition to the acknowledgment data received during the course of this test plan, additional acknowledgement errors are provided in this test step.

Pre-Condition

The EHR or other clinical software system has received acknowledgment errors from an IIS.

Post-Condition

An acknowledgment report is generated from the EHR or other clinical software system or the report data has been exported to a reporting tool.

Test Objectives

Acknowledgment Data Reporting: The EHR or other clinical software system is able to generate an Aggregate Error Report using the acknowledgment error message data returned in the ACK response to a vaccine update message (VXU/Z22). The report data must include the following data elements:

- Clinic code and name
- Patient identifier
- Vaccination date
- IIS error severity
- IIS error code and description

The aggregate report functionality should include grouping and sorting by error code, clinic, and vaccination date. Drill-down capability by error or date should also be supported as it is important to support identifying the source of the data errors and to correct the issue.

Evaluation Criteria

The EHR or other clinical software is able to generate an Aggregate Error Report using the acknowledgement error message data returned in the ACK response to a vaccine update message (VXU/Z22). The export data must include the following data elements:

- clinic code and name
- patient identifier
- vaccination date
- IIS error severity
- IIS error code and description

The aggregate report functionality should include grouping and sorting by error code, clinic, vaccination date, and vaccine type. Drill-down capability by error or date should also be supported as it is important to support identifying the source of the data errors and to correct the issue.



This functionality may be accomplished either by leveraging reporting functionality to produce an Aggregate Error Report provided by the EMR or other clinical software system or, as an alternative to the creation of an Aggregate Error Report, the EHR or other clinical software system have the option to allow ACK data to be exported as described in the IIP [Aggregate Immunization Acknowledgment Message Reports Guidance White Paper](#)¹:

Software developers who do not intend to incorporate aggregate acknowledgment report functionality must be able to support ACK data export functionality. This allows ACK messages received from an IIS to be downloaded in a common electronic format, including raw HL7, which can also be accessed by data analysts and/or third-party tools. The export functionality should allow the user to select a specified period and could have additional filtering capabilities.

Notes

Developers should note which requirement is selected and need not demonstrate both requirements (capabilities). Whichever requirement is selected will be noted if a product achieves IIP recognition.

For the 2021-2022 year this capability is considered “discovery” and is not required.

Developers will be requested to walk through desktop testing to identify current or prospective approaches. They will demonstrate the capability if the functionality exists. The IIP observer will record the process to evaluate whether this capability should be included in future testing.



7 Anita Francesca Marina Visit

Anita Francesca Marina works as a CNA and is identified as a high-priority candidate for a new adult vaccine. She makes an appointment for the vaccination clinic where she will receive the vaccination. The provider identifies the list of patients that will be vaccinated the following day and requests the patient history from the registry. Anita is one of these patients. Her immunization history is retrieved from the registry and reconciled with the local information in the medical record to determine vaccines that are due. Vaccinations are ordered and administered. The vaccines are reported to the immunization registry and a vaccine summary is available for the patient.

7.1 Notify Patients of Immunization Status

Patients are identified that are high-priority candidates for a new adult vaccine campaign. The patients are notified. Anita Francesca Marina is one of these candidates.

Description

The EHR is used to identify patients that are high-priority candidates for a new adult vaccine campaign due to their status as a healthcare worker. The EHR is used to notify patients. Anita Francesca Marina is one of these candidates.

Comments

No Comments

Pre-Condition

Anita Francesca Marina is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Social History Data according to the steps in the Anita Francesca Marina Initial Data Load.

Post-Condition

Anita has received notification of the vaccine eligibility.

Test Objectives

Notify Patients of Immunization Status: The EHR or other clinical software provides the ability to notify patients of recommendations based on their individual preferences for receiving notification.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

7.1.1 Step 1: Notify New Vaccine Candidate Patients

The provider uses the EHR to create a report for all patients that work in the healthcare industry for a vaccine campaign for a newly available vaccine.

Description



The provider is able to use the EHR to identify the cohort of patients that work in the healthcare industry that are prioritized for a newly available vaccine.

Comments

No Comments

Pre-Condition

Initial Adult patient data load completed with demographic data, vaccination history, and social history. Historical Vaccination reconciled and loaded into the EHR.

Post-Condition

The list of patients that work in the healthcare industry are identified as candidates for the new vaccine campaign.

Test Objectives

Notify Patients of Immunization Status: The EHR or other clinical software provides the ability to notify patients of recommendations based on their individual preferences for receiving notification.

Evaluation Criteria

The EHR identifies the following patients with documented occupation/industry information that indicate that they work in healthcare, and sends notification that they are a candidate for the new vaccine using their established preferred contact method, for those that have agreed to be contacted per the Publicity Code recorded for the patient.

Patient Name	Anita Francesca Marina
Preferred Contact Method	email
Contact information using preferred contact (email, text, phone, mailing address)	Email provided for Anita Francesca Marina
Patient Identifier Number	Vendor Supplied
Patient Identifier Type Code	Vendor Supplied
Date/Time of Birth	6/1/1986
Sex	Female
Publicity Code	Reminder/recall – any method (02 HL70215)
Publicity Code Effective Date	10/01/2012

Notes

If the EHR is not able to select based on Occupation or Industry, they may select by employer. The tester will document any variation needed to establish this notification.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



If there are additional patients in the EHR database that are healthcare workers, they may also appear in this list.



7.2 Query the Registry for Anita Francesca Marina

The EHR allows the provider to select the patients that will be seen in the clinic for the day. Generates a Z44 query to the Immunization Registry to retrieve the patients to be seen in the clinic for the day. Anita Francesca Marina is among these patients, and her vaccine history and recommend vaccinations will be retrieved from the registry for review and reconciliation in the EHR to inform the provider's vaccination decisions.

Description

The EHR allows the provider to select the patients that will be seen in the clinic for the day. Anita Francesca Marina is one of these patients, and a query will be sent to the registry to retrieve her vaccine history.

Querying the registry will consist of the vendor creating a Z44 message for Anita Francesca Marina.

Using the Z42 Response to Immunization Registry Query, the EHR displays the Evaluated History and Forecast to the user for reconciliation and update. The vendor will receive information back from the registry and show the ability to view and reconcile, and import the information returned by the registry. This test will also look at the system's ability to view the vaccine recommendation returned by the registry and create a new recommendation after reconciling the information.

Comments

No Comments

Pre-Condition

Anita Francesca Marina is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the Anita Francesca Marina Initial Data Load.

Post-Condition

A Z44 Query is generated and submitted to the Immunization Registry/Test tool, and a Z42 response is returned.

Test Objectives

Select One or More Patients: The EHR or other clinical software system must allow a provider to specify one or more patients in real time or those scheduled for appointment(s) in the future (e.g., the next day, week, month, etc.) so that a request can be sent to the public health immunization registry for each patient's complete immunization history.

Select New Patient: The EHR or other clinical software system must allow a user to distinguish information about patients with similar names or identifying information in order to select the right patient from the providers' EHR or other clinical software. This information is crucial for identifying and selecting the correct patient. For example, twins living in the same household will have similar dates of birth, addresses, and may have similar sounding names. In order to match patients with those already in the immunization registry, the EHR or other clinical software should have the ability to record the mother's maiden name, whether the patient was part of a multiple birth, and if so, the order of birth (when such information is available). The provider should be aware of how often the protection indicator information must be updated based on local rules.

Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry "on demand," or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother's maiden name, a multiple birth indicator, and



the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software system stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient’s newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service, but should reference the most recent recommendations.

Review Patient Immunization History: The EHR or other clinical software system displays vaccine history by vaccine series.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

7.2.1 Step 1: Select the Set of Patients to be Seen in the Vaccination Clinic

The EHR allows the provider to select the patients that will be seen in the clinic for the day.

Description

The EHR allows the provider to select the patients that will be seen in the clinic for the day. Anita Francesca Marina is selected as the patient from this list and her record is opened in the EHR.

Comments

No Comments

Pre-Condition

Anita Francesca Marina and Juan Marcel Marina Initial Data Load completed.

Post-Condition

The set of patients that will be seen in the clinic for the day are selected and available for additional actions (e.g. query the registry). Anita Francesca Marina is selected as the active working patient in the EHR.



Test Objectives

Select One or More Patients: The EHR or other clinical software system must allow a provider to specify one or more patients in real time or those scheduled for appointment(s) in the future (e.g., the next day, week, month, etc.) so that a request can be sent to the public health immunization registry for each patient’s complete immunization history.

Evaluation Criteria

Anita Francesca Marina and Juan Marcel Marina are scheduled to be seen in the clinic on the selected day (day of test).

The EHR is able to select the list of patients scheduled to be seen on the day of the test. This list includes Anita Francesca Marina and Juan Marcel Marina. Anita Francesca Marina is selected from this list to proceed with the request for her vaccine history and recommendations.

Notes

The list of patients requested to be scheduled for this test must include Anita Francesca Marina and Juan Marcel Marina, but if other patients are scheduled for the day they should also be listed.

The co-located practices for Anita’s PCP and Juan Marcel’s pediatrician use the same system.

7.2.2 Step 2: Query Registry for vaccination history and recommendations for Anita Francesca Marina

Vendor SHALL be able to Generate a Z44 Query correctly and without omission according to supplied test data.

Description

The provider uses the EHR to query the Immunization Registry for an Evaluated History and Vaccine Recommendations for an adult patient based on information known to the Immunization Registry.

Comments

No Comments

Pre-Condition

Anita Francesca Marina Initial Data Load is completed.

Anita Francesca Marina is the active working patient in the EHR.

Post-Condition

The Immunization Registry responds with Evaluated Vaccine History and Forecast for adult patient, Anita Francesca Marina.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Test Objectives

Request/Receipt of Patient Immunization History: The EHR or other clinical software system sends a request to the public health immunization registry “on demand,” or in advance for those with scheduled appointments. The request includes the identifying information the immunization registry needs to match each patient with those in the registry including, if present, the mother’s maiden name, a multiple birth indicator, and the birth order. The request also is sent in a pre-determined format the registry can read and interpret (Request Evaluated Immunization History and Forecast (Z44) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).

Note: Adult Patient

Evaluation Criteria

Tester shall verify that the vendor can produce a valid Z44 query in accordance with the test data correctly and without omission for the adult patient Anita Francesca Marina.

Tester shall verify that the data in the message corresponds to the data in the EHR and contains all test data attributes supplied.

Notes

The list of patients requested to be scheduled for this test must include Anita Francesca Marina and Juan Marcel Marina, but if other patients are scheduled for the day they should also be listed.

HL7 Encoded Message



Anita Francesca
Marina z44.txt

7.2.3 Step 3: View and import response to request for vaccination history for adult patient Anita Francesca Marina

The EHR displays the Immunization History results (Z42) returned in response to the Z44 Query and import them into the EHR for adult patient Anita Francesca Marina.

Description

The physician accesses the record for adult patient Anita Francesca Marina and:

- Accepts the vaccines provided by the registry as the complete vaccination history for this patient had not yet been recorded in the EHR.

Comments

All historical vaccinations will be imported from the Z42 response.

Pre-Condition



A Z44 query has been submitted to the Immunization Registry and a Z42 response is provided back to the EHR and the response is available in the EHR for reconciliation and import. The provider has reviewed the patient-provided influenza vaccination and incorporated the vaccination information in the patient record.

Post-Condition

Evaluated Immunization History returned from the registry is reconciled and imported into the patient record (adult patient Anita Francesca Marina).

Test Objectives

Request/Receive Patient Immunization Data and Identify Source: The EHR or other clinical software system stores immunization history accepted electronically from other sources (such as a public health immunization registry consistent with HL7 version 2.5.1, Implementation Guide for Immunization Messaging Release 1.5) or communicated by the patient and manually entered by the clinician. When viewing such information, the provider can determine which immunizations were administered by the practice, which were entered historically as patient-reported, and which were accepted electronically from the public health registry.

Review Patient Immunization History: The EHR or other clinical software system displays vaccine history by vaccine series.

Note: Adult Patient

Evaluation Criteria

1. The EHR displays the information returned from the Immunization Registry according to the Juror Document.
2. The user imports all the vaccination given and the date administered returned from the immunization registry.

Vaccinations Imported for adult patient:

measles, mumps, rubella, and varicella virus vaccine (MMRV) (CVX 94) administered 6/1/2017.

tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine, adsorbed (Adacel) (Tdap) (CVX 115) administered 6/1/2017.

influenza, recombinant, quadrivalent, injectable, preservative free (CVX 185) administered 9/1/2020

Note: Not available from the registry (available only to the EHR):

influenza, recombinant, quadrivalent, injectable, preservative free (CVX 185) administered 9/1/2021

Evidence of immunity to Hepatitis A is available from the EHR

Evidence of non-immunity to Hepatitis B is available from the EHR

Notes

No Note

HL7 Encoded Message



Anita Francesca
Marina z42.txt

Juror Document



Anita Francesca
Juror Document.pdf

7.2.4 Step 4: View the vaccination recommendations for Anita Francesca Marina

The EHR displays the vaccine recommendations for adult patient Anita Francesca Marina.

Description

The physician accesses the record for Anita Francesca Marina and:

- Views the vaccine recommendations (as determined through EHR defined methods with consideration for both the IIS vaccine history and forecast and the information available through the EHR).

As a healthcare worker:

1. The EHR or other clinical software system indicates that given her immunity status of negative for Hepatitis B, that she should receive the Hepatitis B vaccination.
2. Anita has been identified to receive a new vaccine as a campaign for healthcare workers.

Comments

All historical vaccinations will be imported from the Z42 response.

Pre-Condition

EHR Vaccine History is imported from the Immunization History returned from the Immunization Registry (previous step 'View and import response to request for vaccination history for adult patient Anita Francesca Marina').

Post-Condition

Adult vaccine recommendations based upon the imported vaccine history and information already available to the provider is available to the user.

Test Objectives



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



View Reconciled Immunization Forecast: The EHR or other clinical software system has the ability to re-evaluate and update the immunization forecast using a patient’s newly updated immunization history. Forecasts are updated following reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast can be internal to the EHR or it can use an external forecasting service, but should reference the most recent recommendations.

Note: Recommendation for new vaccine; Vaccine Recommendation for Adult Patient

Evaluation Criteria

1. Tester verifies that the vendor can display the immunization recommendations based upon the adult patient’s vaccination history, and risk factors of potential future pregnancy and as a healthcare worker.
2. Verify that the EHR includes in the vaccine recommendations:

New Coronavirus vaccine	per campaign targeting Healthcare Workers
Hepatitis B	Recommended for Healthcare Workers from EHR
Tdap booster June 1, 2022	Per Immunization Registry recommendations
influenza, unspecified formulation due on Sept 1, 2022, or later	Per post-reconciled immunization recommendations

Notes

Healthcare worker-related vaccine recommendations are not returned from the registry since the registry does not maintain employment information.

Influenza does not have an overdue date.

The due date must be in range for the date shown. Vaccine recommendation dates may vary and should accommodate differences in date handling.

Further variation should be documented in the notable exceptions, but minimally each forecast recommendation must be present.

HL7 Encoded Message



Anita Francesca
Marina z42.txt

Juror Document



JurorDocumentPDF.html



7.3 Anita Francesca Marina, Enter Orders and Immunizations

Orders and Immunization events, non-administrations, and alerts presented for current visit.

Description

This test will consist of ordering vaccines for the test patients, reviewing any alerts caused by specific scenarios, and documenting vaccinations administered to the patients.

Comments

No Comments

Pre-Condition

Anita Francesca Marina is entered as a patient in the EHR with complete Demographic data, Immunization History Data, and Clinical Data according to the steps in the 'Anita Francesca Marina Initial Data Load'.

Post-Condition

Visit orders are entered in Anita Francesca Marina's record.

Test Objectives

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g. intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid "oral" route for IM vaccines, and assure dose is appropriate for the vaccine).

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration: The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Note: New vaccine, adult

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.

Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2100: Indicates that any date field is in the future. Specific errors for date transmitted in an OBX are also provided.

- 2102: Indicates that a VIS given date messaged in OBX-5 is in the future

- 2103: Indicates that a VIS publication date messaged in OBX-5 is in the future
- 2013: Indicates that the funding source code in an OBX segment conflicts with other data in the message (eligibility, age, etc.)
- 2017: Indicates that the administration site is inconsistent with the vaccine administered

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

7.3.1 Step 1: Vaccine Administration Data Quality Checks

The provider attempts to document vaccine administration information for Anita Francesca Marina in the EHR. Vaccination data quality checks are verified during data entry.

Description

The provider attempts to document vaccine administration information for the immunization for Anita Francesca Marina. These data quality checks primarily relate to improving vaccine administration information and associated observations that will be included when submitting data to the immunization registry.

Comments

Evaluates EHR functions for verifying data quality of vaccination data and associated observations used for reporting vaccinations to the immunization registry. There is no transaction associated with this test step.

Pre-Condition

Order is placed for the Hepatitis B vaccine.

Post-Condition

The EHR has alerted the provider for each of the data quality checks verified for Anita Francesca Marina.

Test Objectives

Data Quality Checks: The EHR or other clinical software system integrates additional data quality checks into IIP Testing and Recognition to improve data quality and reduce rejections.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS




Note: The EHR or other clinical software system prevents specific data issues which would potentially result in IIS errors as defined by the AIRA Error Codes. This supports reducing data quality issues that could trigger the following AIRA-defined Error Codes:

- 2100: Indicates that any date field is in the future. Specific errors for date transmitted in an OBX are also provided.
- 2102: Indicates that a VIS given date messaged in OBX-5 is in the future
- 2103: Indicates that a VIS publication date messaged in OBX-5 is in the future
- 2013: Indicates that the funding source code in an OBX segment conflicts with other data in the message (eligibility, age, etc.)
- 2017: Indicates that the administration site is inconsistent with the vaccine administered

Evaluation Criteria

Evaluation Criteria: During the course of data entry for information below, the EHR triggers the following data quality issues:

- Triggers Error that date is in the future (2100)
- Triggers Error a VIS given date is in the future (2102)
- Triggers Error that a VIS Publication date is in the future (2103)
- Triggers Error that the funding source code conflicts with other data (2013)
- Triggers Error that the administration site is inconsistent with the vaccine administered (2017)

Entered By	Jessica Mason	
Ordering Provider	Shannon Price	
Entering Organization	Metro Primary Care	
Vaccine Event information source	New immunization record (NIP001 00)	
Date/Time of Start of Administration	Current Date+1 day	Triggers Error that date is in the future (2100) Will be corrected to current date
Vaccine Administered	hepatitis B vaccine, adult dosage (CVX 43) ENERGIX-B (58160-0821-05)	
2D Barcode		
GTIN	10358160821056	
Administered Amount (of Vaccine)	1	
Administered Units (of Measure)	mL	
Administration Notes		
Administering Provider	Jessica Mason	
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901	
Lot Number	6942FL12	



Substance Expiration Date	12/31/2022	
Substance Manufacturer Name	GlaxoSmithKline Biologicals SA (MVX SKB)	
Completion Status	Completed (CP)	
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)	
Administration Site	Left Gluteus Medius (HL70163: LG)	Triggers Error that the administration site is inconsistent with the vaccine administered (2017) Will be corrected to Left Deltoid (HL70163 LD)
VFC Eligibility	No	
Funding Source	VFC	Triggers Error that the funding source code conflicts with other data (2013) Will be corrected to 'Private'
Dose	1 of 2	
VIS Publication Date	12/01/2022	Triggers Error that a VIS Publication date is in the future (2103) Will be corrected to 10/15/2021
VIS Given Date	12/01/2022	Triggers Error a VIS given date is in the future (2102) Will be corrected to Current Date
VIS	253088698300005911211015	

Notes

The full vaccination details are provided here to facilitate the documentation constraints and/or screens that may be required by the vendor in order to attempt to document the data of interest, but these are not verified until the next step. Only those attributes specified that are anticipated to result in data quality alerts are required for this step.

If a system does not allow the entry of a future date for the date/time of administration, VIS Publication Date or the VIS Given Date this is acceptable for the purposes of data quality.

7.3.2 Step 2: Record Vaccine Administration for Hepatitis B

The EHR is able to document all attributes associated with the administration of Hepatitis B for an adult patient.

Description

Since Anita is a healthcare worker with no evidence of immunity to Hepatitis B, the nurse administers a Hepatitis B vaccination to adult patient, Anita Francesca Marina:
- Documents all required information for the Hepatitis B vaccine

Comments

No Comments



Pre-Condition

Order is placed for the Hepatitis B vaccine.

Post-Condition

The administration of the Hepatitis B vaccine is recorded in the EHR.

Test Objectives

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g. intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid "oral" route for IM vaccines, and assure dose is appropriate for the vaccine).

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration: The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Note: Adult Patient

Evaluation Criteria

The EHR or other clinical software system records the following vaccine administration information. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

The EHR records the following vaccine administration information, and using the 2D Barcode found on the Unit-of-Use for vaccine administration, automatically populates the Vaccine Type/product administered, the expiration date and the lot number:

Entered By	Jessica Mason
Ordering Provider	Shannon Price
Entering Organization	Metro Primary Care
Vaccine Event information source	New immunization record (NIP001 00)
Date/Time of Start of Administration	Current Date
Vaccine Administered	hepatitis B vaccine, adult dosage (CVX 43)
	ENERGIX-B (58160-0821-05)




AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



2D Barcode	
GTIN	10358160821056
Administered Amount (of Vaccine)	1
Administered Units (of Measure)	mL
Administration Notes	
Administering Provider	Jessica Mason
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901
Lot Number	6942FL12
Substance Expiration Date	12/31/2022
Substance Manufacturer Name	GlaxoSmithKline Biologicals SA (MVX SKB)
Completion Status	Completed (CP)
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)
Administration Site	Left Deltoid (HL70163: LD)
VFC Eligibility	No
Funding Source	Private
Dose	1 of 2
VIS Publication Date	8/15/2019
VIS Given Date	Current Date
VIS Fully Encoded Text-String	253088698300005911211015

Notes

The EHR does not need to specify a 'new immunization', as long as there is a way to indicate that it is a new immunization within the EHR, this is acceptable (e.g. the default interpretation of the data entry is that it is a new immunization and not historical).

7.3.3 Step 3: Record Vaccine Administration for New Vaccine

The EHR is able to document all attributes associated with the administration of a new vaccine for an adult patient.

Description

The nurse administers the new vaccine to adult patient, Anita Francesca Marina:
- Documents all required information for the vaccine using the new vaccine information entered in the Manage Configuration test steps.

Comments

No Comments



Pre-Condition

Order is placed for the newly available vaccine.

Post-Condition

The administration of the newly available vaccine is recorded in the EHR.

Test Objectives

Record Vaccine Administration: The EHR or other clinical software system records information about each vaccine administered. The EHR records this information as structured data elements, including, at a minimum: date administered, administering clinician, route of administration (e.g. intramuscular), site of administration (e.g., left arm), immunization type, lot number, manufacturer, Vaccine Information Statement date, quantity of vaccine/dose size and ordering clinician. The system also assures data quality, i.e., data entered are appropriate (e.g., avoid "oral" route for IM vaccines, and assure dose is appropriate for the vaccine).

Record Vaccine Information by Scanning 2D Barcode Found on Unit-of-Use for Vaccine Administration: The EHR or other clinical software system allows users to record vaccination information from 2D barcodes (GS1 DataMatrix) found on unit-of-use (vial or prefilled syringe) for each vaccine administered. This 2D barcode contains: the Global Trade Item Number (GTIN), expiration date and lot number. The GTIN contains the National Drug Code (NDC) and manufacturer data elements. Implementers can use mapping tables to determine the manufacturer from this NDC. The software system records these elements as structured data elements so the immunization administration message can use them to include the NDC and manufacturer in the message to the IIS.

Note: Adult Patient

Evaluation Criteria

The EHR or other clinical software system records the following vaccine administration information. The coded values are not expected to be displayed to the user, but it is expected that the value selected has the identified meaning, and it is expected that the system will use the coded value when the attribute is conveyed in later transactions:

The EHR records the following vaccine administration information, and using the 2D Barcode found on the Unit-of-Use for vaccine administration, automatically populates the Vaccine Type/product administered, the expiration date and the lot number:

Entered By	Jessica Mason
Ordering Provider	Shannon Price
Entering Organization	Metro Primary Care
Vaccine Event information source	New immunization record (NIP001 00)
Date/Time of Start of Administration	Current Date
Vaccine Administered	Pfizer, Inc Covid-19 Vaccine (CVX 208) (NDC 59267-1000-01)




AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



2D Barcode	
GTIN	00359267100016
Administered Amount (of Vaccine)	0.5
Administered Units (of Measure)	mL
Administration Notes	
Administering Provider	Jessica Mason
Administered-at Location	400 Shoreline Drive, Stamford Connecticut 06901
Lot Number	8L7B3418
Substance Expiration Date	12/31/2022
Substance Manufacturer Name	Pfizer, Inc (MVX PFR)
Completion Status	Completed (CP)
Route of Administration	Intramuscular (NCIT: C28161, HL70162: IM)
Administration Site	Right Deltoid (HL70163: RD)
VFC Eligibility	No
Funding Source	Public
Dose	1 of 2
VIS Publication Date	1/3/2022
VIS Given Date	Current Date
VIS Fully Encoded Text-String	253088698300033211210501

Notes

The EHR does not need to specify a 'new immunization', as long as there is a way to indicate that it is a new immunization within the EHR, this is acceptable (e.g., the default interpretation of the data entry is that it is a new immunization and not historical).

The VIS Publication Date is not yet formalized for this vaccine, so may differ in tested product.



7.4 Anita Francesca Marina Transmit Immunization Report

Send the Immunization Report to the Immunization Registry (VXU/Z22) for Anita Francesca Marina.

Description

Following the vaccinations given during the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The Vaccination report includes all newly administered vaccines. The report should include vaccines incorrectly recorded in the IIS. The report MAY send the immunizations that the EHR imported from the IIS.

Comments

No Comments

Pre-Condition

The vaccines for the visit have been administered.

Post-Condition

The IIS has received the vaccine information (Z22 message).

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Note: Adult Patient

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

7.4.1 Step 1: Transmit the Immunization Report for Anita Francesca Marina

The EHR sends the Immunization Report to the Immunization Registry (VXU/Z22) for updated vaccination information from the visit. This includes all newly administered vaccines and may include historical information updated in the EHR during the visit. This also includes notification that Hepatitis B is not administered due to serological evidence of immunity.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Description

Following the vaccinations given during the visit, the EHR transmits an Immunization report to the Immunization Registry using the VXU/Z22. The Vaccination report includes all newly administered vaccines, and an indication that Varicella was not administered due to a history of the disease as evidence of immunity. The Vaccination report also includes an indication that Hepatitis A was not administered due to serological evidence of immunity. The report MAY send the immunizations that the EHR imported from the IIS.

Comments

The Report must include all newly administered vaccines in any order. The report may include the information imported from the IIS.

Pre-Condition

The vaccines for the visit have been administered. The clinical information has been documented for Anita Francesca Marina in the Initial Data Load.

Post-Condition

The Immunization Report has been transmitted to the IIS using a valid Z22 VXU in accordance with the test data correctly and without omission.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Note: Adult Patient

Link Standard Codes to Immunization Data: The EHR or other clinical software system links standard codes (i.e., LOINC for lab tests or evaluation tools, SNOMED CT for conditions or observations, NDC codes for current immunizations, CVX for historical immunizations, appropriate codes for administration site, route, method, etc.) to discrete data elements associated with an immunization.

Note: Testing for NDC codes, CVX for immunizations

Evaluation Criteria

The VXU/Z22 message passes validation using the NIST Immunization VXU Validation Tool (Z22) (context-free). The content of the message correctly reflects the test data (context-based) in accordance with the Test Data Specification and the Message Content.

This includes indication that Hepatitis A was not administered due to serological evidence of immunity.

Notes

All NDC coded values are required to use the 11-Character format that includes dashes ('-').

HL7 Encoded Message



Anita Francesca
Marina z22.txt

7.4.2 Step 2: Receive ACK Z23 from Immunization Registry

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Description

The Immunization Registry returns a positive acknowledgement message indicating that no errors were found during the course of filing the message.

Comments

No Comments

Pre-Condition

A VXU message is generated by the EHR.

Post-Condition

The ACK Z23 is received by the EHR.

Test Objectives

Transmit Standard Patient Immunization History Report: The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's newly administered or newly identified immunization history to public health immunization registries.

Evaluation Criteria

The acknowledgement message is consumed by the system responsible for the content of the administration message without error.

Notes

Important note regarding the MSH-10 and MSA-2: The NIST acknowledgment message is predefined and is based on the VXU message. Most systems will automatically create the message control Identifier and may require it for importing, linking, and processing the ACK message. The NIST ACK test message can be modified such that MSA-2 matches MSH-10 of the VXU message generated by the system-under test.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



HL7 Encoded Message



Message.txt



8 Review Inventory

Demonstrates the ability to view inventory supply, including deprecated inventory used.

8.1 View Inventory

Demonstrates the ability to view updated inventory supply.

Description

The provider reviews the available inventory following vaccine administrations used during the day.

Comments

No Comments

Pre-Condition

Vaccine inventory entered.

Vaccines administered for Juana Mariana Vazquez, Juan Marcel Marina, Juana Maria Gonzales, and Anita Francesca Marina.

Post-Condition

Available vaccine inventory displayed.

Test Objectives

Update Vaccine Inventory from Patient Dosage Administration: The EHR or other clinical software system updates the vaccine inventory to ensure the correct count of remaining available vaccine inventory.

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

8.1.1 Step 1: View updated vaccine inventory

Demonstrates the ability to view updated inventory supply.

Description

[Empty description box]



The provider reviews the available inventory following vaccine administrations used during the day.

Comments

No Comments

Pre-Condition

Vaccine inventory entered.

Vaccines administered for Juana Mariana Vazquez, Juan Marcel Marina, Juana Maria Gonzales, and Anita Francesca Marina.

Post-Condition

Available vaccine inventory displayed.

Test Objectives

Update Vaccine Inventory from Patient Dosage Administration: The EHR or other clinical software system updates the vaccine inventory to ensure the correct count of remaining available vaccine inventory.

Evaluation Criteria

The EHR inventory shows (minimally):

1.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	8L4B3521
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC
Quantity:	11 Vials

2.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8422
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC
Quantity:	15 Vials

3.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8855
Expiration Date:	12/31/2022



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



GTIN:	00349281521003
Vaccine source:	Non-VFC
Quantity:	11 Vials

4.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK18
Expiration Date:	6/15/2021
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	18 Syringes (or doses)

5.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK26
Expiration Date:	12/31/2022
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	19 Syringes (or doses)

6.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0811-43
Product Name:	PEDIARIX
Lot#:	6559FK32
Expiration Date:	12/31/2022
GTIN:	10358160811439
Vaccine source:	Non-VFC
Quantity:	15 Syringes (or doses)

7.

Manufacturer:	Pfizer, Inc
NDC:	59267-1000-01
Product Name:	Pfizer-BioNTech Covid-19 Vaccine
Lot#:	8L7B3418
Expiration Date:	12/31/2022
GTIN:	00359267100016
Vaccine source:	Non-VFC
Quantity:	75 vials (449 doses)

8.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0821-05
Product Name:	ENERGIX-B
Lot#:	6942FL12
Expiration Date:	12/31/2022
GTIN:	10358160821056
Vaccine source:	Non-VFC
Quantity:	15 Syringes (or doses)

Notes

A Unit of Use GTIN for FLUZONE QUADRIVALENT (NDC: 49281-0521-00) had not yet been assigned at the time this test plan was generated. A GTIN was generated for the purpose of this test according to GS1



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



standards and may be updated in the future should this be changed in IIS: NDC Lookup Crosswalk published by CDC.

Because the Flu season may not align with the test plan execution, the most current Flu vaccine may not be present.



8.2 Produce Inventory Report of Remaining Stock

Demonstrates the ability to generate a stock report that lists all vaccines in stock, sorted by expiration date and another sorted by source (private vs VFC stock).

Description

The provider periodically uses the EHR to review inventory of remaining stock. The report may be sorted by expiration date or funding source.

Comments

No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Vaccines administered in previous test steps have been deprecated from stock record.

Post-Condition

The Cohort report for all inventory stock is available to the provider through the EHR, sorted by funding source and expiration date.

Test Objectives

Produce Vaccine History Report: The EHR or other clinical software system generates inventory reports of remaining stock. The reports can be sorted by expiration date and source (e.g., private or guarantee program).

Evaluation Criteria

Evaluation criteria is defined within each test step.

Notes

No Note

8.2.1 Step 1: Produce Stock Inventory Report - Expiration Date Sort

The provider uses the EHR to create a report for vaccine stock inventory sorted by expiration date.

Description

The provider periodically uses the EHR to review the stock inventory sorted by the expiration date to inform orders for new vaccine stock.

Comments



No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Vaccines administered in previous test steps have been deprecated from stock record.

Post-Condition

The Cohort report for all inventory stock is available to the provider through the EHR, sorted by expiration date.

Test Objectives

Produce Vaccine History Report: The EHR or other clinical software system generates inventory reports of remaining stock. The reports can be sorted by expiration date and source (e.g., private or guarantee program).

Evaluation Criteria

The following information is (minimally) provided on the inventory report, sorted by expiration date

1.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK18
Expiration Date:	6/15/2021
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	18 Syringes (or doses)

2.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	8L4B3521
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC
Quantity:	11 Vials

3.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8422
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC
Quantity:	15 Vials

4.



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8855
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	Non-VFC
Quantity:	11 Vials

5.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK26
Expiration Date:	12/31/2022
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	19 Syringes (or doses)

6.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0811-43
Product Name:	PEDIARIX
Lot#:	6559FK32
Expiration Date:	12/31/2022
GTIN:	10358160811439
Vaccine source:	Non-VFC
Quantity:	15 Syringes (or doses)

7.

Manufacturer:	Pfizer, Inc
NDC:	59267-1000-01
Product Name:	Pfizer-BioNTech Covid-19 Vaccine
Lot#:	8L7B3418
Expiration Date:	12/31/2022
GTIN:	00359267100016
Vaccine source:	Non-VFC
Quantity:	75 vials (449 doses)

8.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0821-05
Product Name:	ENERGIX-B
Lot#:	6942FL12
Expiration Date:	12/31/2022
GTIN:	10358160821056
Vaccine source:	Non-VFC
Quantity:	15 Syringes (or doses)

Notes

A GTIN for FLUZONE QUADRIVALENT (NDC: 49281-0521-00) had not yet been assigned at the time this test plan was generated. A GTIN was generated for the purpose of this test according to GS1 standards and may be updated in the future should this be changed in IIS: NDC Lookup Crosswalk published by CDC.



Because the Flu season may not align with the test plan execution, the most current Flu vaccine may not be present.

8.2.2 Step 2: Produce Stock Inventory Report - Funding Source Sort

The provider uses the EHR to create a report for vaccine stock inventory sorted by funding source.

Description

The provider periodically uses the EHR to review the stock inventory sorted by funding source to inform orders for new vaccine stock.

Comments

No Comments

Pre-Condition

Initial Data Load completed with demographic data, vaccination history, and clinical history. Vaccines administered in previous test steps have been deprecated from stock record.

Post-Condition

The Cohort report for all inventory stock is available to the provider through the EHR, sorted by funding source.

Test Objectives

Produce Vaccine History Report: The EHR or other clinical software system generates inventory reports of remaining stock. The reports can be sorted by expiration date and source (e.g., private or guarantee program).

Evaluation Criteria

The following information is (minimally) provided on the inventory report, sorted by funding source:

1.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	8L4B3521
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC
Quantity:	11 Vials

2.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8422



AIRA
AMERICAN IMMUNIZATION
REGISTRY ASSOCIATION



HIMSS



Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	VFC
Quantity:	15 Vials

3.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK18
Expiration Date:	6/15/2021
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	18 Syringes (or doses)

4.

Manufacturer:	Sanofi Pasteur Inc.
NDC:	49281-0521-00
Product Name:	FLUZONE QUADRIVALENT
Lot#:	D8043IN8855
Expiration Date:	12/31/2022
GTIN:	00349281521003
Vaccine source:	Non-VFC
Quantity:	11 Vials

5.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0820-43
Product Name:	ENGERIX-B
Lot#:	6332FK26
Expiration Date:	12/31/2022
GTIN:	10358160820431
Vaccine source:	Non-VFC
Quantity:	19 Syringes (or doses)

6.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0811-43
Product Name:	PEDIARIX
Lot#:	6559FK32
Expiration Date:	12/31/2022
GTIN:	10358160811439
Vaccine source:	Non-VFC
Quantity:	15 Syringes (or doses)

7.

Manufacturer:	Pfizer, Inc
NDC:	59267-1000-01
Product Name:	Pfizer-BioNTech Covid-19 Vaccine
Lot#:	8L7B3418
Expiration Date:	12/31/2022
GTIN:	00359267100016
Vaccine source:	Non-VFC
Quantity:	75 vials (449 doses)

8.

Manufacturer:	GlaxoSmithKline Biologicals SA
NDC:	58160-0821-05
Product Name:	ENERGIX-B



Lot#:	6942FL12
Expiration Date:	12/31/2022
GTIN:	10358160821056
Vaccine source:	Non-VFC
Quantity:	15 Syringes (or doses)

Notes

A GTIN for FLUZONE QUADRIVALENT (NDC: 49281-0521-00) had not yet been assigned at the time this test plan was generated. A GTIN was generated for the purpose of this test according to GS1 standards and may be updated in the future should this be changed in IIS: NDC Lookup Crosswalk published by CDC.

Because the Flu season may not align with the test plan execution, the most current Flu vaccine may not be present.