

# Quick Test Case Reference Guide

## Pilot Isolated Test Plan

### Test Case Group: Initial Data Load

The initial Data load will consist of the vendor entering data during live interactive testing for 4 patients with various scenarios. The data entry will include demographic data, Immunization histories and specific conditions for each patient.

Test Case	Juana Mariana Gonzales Initial Data Load
<p><b>Description:</b></p> <p>The practice site for the scenario is Shoreline Pediatrics. The EHR vendor loads demographic data and clinical history for Juana Mariana Gonzales. The data includes immunizations provided by the practice.</p> <p>The vendor also enters:</p> <ul style="list-style-type: none"><li>• Two vaccines administered at other sites<ul style="list-style-type: none"><li>o an influenza vaccine given at a local pharmacy</li><li>o 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</li></ul></li><li>• Adverse reaction to inactivated polio vaccine (febrile seizure) and the date and source of information</li><li>• Allergy to egg albumin administered at this site (the registry has different CVX date and lot number information for this vaccine)</li></ul> <p>NOTE: the historical vaccines will be imported during the Registry query (e.g. from another practice)</p>	
Test Steps	
Enter Initial Demographic Data for New Patient Juana Mariana Gonzales, 6-year old	<p><b>Description:</b></p> <p>The EHR vendor loads demographic data for Juana Mariana Gonzales.</p> <p><b>Test Objectives:</b></p> <p><i>Register New Patients:</i> The 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. EHRs or other clinical software must be able to store information to successfully match with patients in immunization registries, if the information is available. The information includes the mother's maiden name, whether the patient was part of a multiple birth, and the order of the multiple birth. This information allows the provider to correctly identify the</p>

	<p>patient and also helps assure a match when the EHR send the patient's information to external systems such as an immunization registry.</p>
<p><b>Enter Initial Immunization Data for Juana Mariana Gonzales: Immunizations from practice</b></p>	<p><b>Description:</b></p> <p>The EHR vendor loads immunization history data from the local practice for Juana Mariana Gonzales.</p> <p><b>Test Objectives:</b></p> <p><i>Record Past Immunizations:</i> 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.</p>
<p><b>Enter Initial Immunization Data for Juana Mariana Gonzales from Another Practice</b></p>	<p><b>Description:</b></p> <p>The EHR vendor loads immunization history data from another practice into the record for Juana Mariana Gonzales.</p> <p><b>Test Objectives:</b></p> <p><i>Record Past Immunizations:</i> 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.</p>
<p><b>Enter Initial Immunization Data for Juana Mariana Gonzales Reported by Parent</b></p>	<p><b>Description:</b></p> <p>The provider enters immunization data from a pharmacy as reported by the parent for Juana Mariana Gonzales.</p> <p><b>Test Objectives:</b></p> <p><i>Record Past Immunizations:</i> 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.</p>
<p><b>Enter Adverse Reaction to the Polio Vaccine</b></p>	<p><b>Description:</b></p> <p>The provider documents in the EMR the clinical history of an adverse reaction to the polio vaccine.</p> <p><b>Test Objectives:</b></p> <p><i>Identify Adverse Event:</i> The EHR or other clinical software system enables capture of structured data regarding adverse events.</p>

Enter allergy to egg albumin	<p><b>Description:</b></p> <p>The provider documents in the EMR the clinical history of an allergy to egg albumin.</p> <p><b>Test Objectives:</b></p> <p>Supporting data for: <i>Modify Antigen Recommendations Based on Allergy History:</i> The system notifies the provider of any conflicts between recommended vaccines in the updated forecast and the patient’s active allergies.</p>
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## Test Case Group: Query and Display Response

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

Test Case	Patient Juana Mariana Gonzales
<p><b>Description:</b></p> <p>Query the Registry for Juana Mariana Gonzales</p>	
Test Steps	
Select Patient Juana Mariana Gonzales	<p><b>Description:</b></p> <p>Juana Mariana Gonzales is selected as the patient and her record is opened in the EMR.</p> <p><b>Test Objectives:</b></p> <p><i>Select New Patient:</i> The 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. EHRs or other clinical software must be able to store information to successfully match with patients in immunization registries, if the information is available. The information includes the mother’s maiden name, whether the patient was part of a multiple birth, and the order of the multiple birth. This information allows the provider to correctly identify the patient and also helps assure a match when the EHR send the patient’s information to external systems such as an immunization registry.</p>
Query Registry for	<p><b>Description:</b></p> <p>The provider uses the EMR to query the Immunization Registry for an Evaluated History and Forecast based on information known to the Immunization Registry.</p>

vaccination history and forecast for Juana Mariana Gonzales	<p><b>Test Objectives:</b></p> <p><b><i>Real Time Request/Receive Patient Immunization History:</i></b> The system sends a request to the public health immunization registry “on demand” (e.g., those without 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 (Query Response Grammar (RSP) – HL7 version 2.5.1 Implementation Guide for Immunization Messaging Release 1.5).</p>
View and Compare response to request for vaccination history for Juana Mariana Gonzales	<p><b>Description:</b></p> <p>The Immunization Registry returns an Evaluated History and Forecast (Z42) to the EMR in response to the query for patient (Juana Mariana Gonzales). The provider reviews the immunization history from the registry and compares to the immunization history in the EMR. The provider reconciles the information from these sources, importing information known only to the registry, retaining information that is more accurately reflected in the local EMR:</p> <p>The physician accesses the record for Juana Mariana Gonzales and:</p> <ul style="list-style-type: none"> <li>• Reconciles the EHR vaccine history with the history retrieved from the registry: <ul style="list-style-type: none"> <li>o Accepts new vaccines from the registry data</li> <li>o If the EHR does not already flag the first MMRV as invalid, the provider updates the first MMRV to indicate it is “invalid” as it was given too early (as notified by the registry)</li> <li>o Retains the local history for influenza and polio vaccines that are not included in the registry report.</li> </ul> </li> </ul> <p><b>Test Objectives:</b></p> <p><b><i>Compare Public Health Immunization Registry (IIS) Immunization History to EHR Immunization History:</i></b> The public health immunization registry has returned the requested immunization history for a patient. The EHR is able to display the 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 he or she chooses 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.</p> <p><b><i>Review Patient Immunization History:</i></b> To assist with the ordering process, the EHR or other clinical software system allows a user to specify standard views of patient immunization information for each vaccine dose administration, including patient-specific data (e.g., age on dates of administration, etc.).</p>
Mark first MMRV Dose as Invalid	<p><b>Description:</b></p> <p>If the EHR does not already flag the first MMRV as invalid, the provider updates the first MMRV to indicate it is “invalid” as it was given too early (as notified by the registry)</p> <p><b>Test Objectives:</b></p>

	<p><b>dose validity is an important aspect of:</b></p> <p><i>Record Past Immunizations:</i> 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.</p>
<p><b>View the vaccination forecast for Juana Mariana Gonzales</b></p>	<p><b>Description:</b></p> <p>The physician accesses the record for Juana Mariana Gonzales and:</p> <ul style="list-style-type: none"> <li>• Displays the registry forecast which includes the need for a second, valid MMRV vaccine and also the need for influenza and polio vaccines (since the registry has no information about them)</li> </ul> <p><b>Test Objectives:</b></p> <p><i>View Immunization Forecast:</i> The system provides a view of the immunization forecast provided by the public health immunization registry (IIS). The display includes the forecast from the registry and includes recommended vaccination dates, minimum (earliest) date, ideal date, and maximum (latest) date for each vaccine included in the forecast.</p>
<p><b>Reconcile and import vaccinations from Evaluated History and Forecast for Juana Mariana Gonzales</b></p>	<p><b>Description:</b></p> <p>No Description</p> <p><b>Test Objectives:</b></p> <p><i>Request/Receive Patient Immunization Data and Identify Source:</i> The EHR or other clinical software is able to store 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 manually as patient-reported, and which were accepted electronically from the public health registry.</p>
<p><b>View the updated vaccination forecast for Juana Mariana Gonzales</b></p>	<p><b>Description:</b></p> <p>Once the vaccine history is reconciled in the EMR, the vaccine forecast is updated.</p> <p><b>Test Objectives:</b></p> <p><i>View Reconciled Immunization Forecast:</i> 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, where the updated forecast results from the reconciliation of immunization data contained in the public health immunization registry with immunization data contained in the EHR. Processing the new forecast</p>

can be internal to the EHR or it can use an external forecasting service.

## Test Case Group: Order and Immunize patient

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. NOTE: There are no orders or immunizations in this test plan for Juana Maria Gonzales.

Test Case	Juana Mariana Gonzales, Enter Orders and Immunizations
<b>Description:</b> No Description	
Test Steps	
<b>Order IPV and view prior reaction</b>	<b>Description:</b>  The physician accesses the record for Juana Mariana Gonzales and: <ul style="list-style-type: none"><li>• Selects order for IPV and views information about the prior febrile seizure post-IPV vaccine</li></ul> <b>Test Objectives:</b>  Notify of Previous Adverse Event: EHRs and other clinical software systems alert providers to previous adverse events for a specific patient, in order to inform clinical decision-making when providers view an existing immunization record.
<b>IPV Parental Refusal</b>	<b>Description:</b>  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 makes it permanent.  <b>Test Objectives:</b>  <i>Record Vaccine Administration Deferral:</i> 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.
<b>Record</b>	<b>Description:</b>  The nurse administers the the MMRV vaccine <ul style="list-style-type: none"><li>• Documents all required information for each vaccine</li></ul>

MMRV Vaccine administration	<b>Test Objectives:</b> <i>Record Vaccine Administration:</i> 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, site of administration (e.g., left arm), immunization type, product, lot number, manufacturer, Vaccine Information Statement date, and quantity of vaccine/dose size.
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## Test Case Group: Transmit Immunization Report

This test will consist of generating a Vaccine Update (VXU-Z22) report to the registry for three of the test patients, including updates for vaccines not given. NOTE: There is no Immunization Report in this test plan for Juana Maria Gonzales.

Test Case	Juana Mariana Gonzales Transmit Immunization Report
<b>Description:</b> Following the vaccinations given during the visit, the EMR 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 EMR imported from the IIS.	
Test Steps	
<b>Transmit the immunization report to the Immunization Registry</b>	<b>Description:</b> Following the vaccinations given during the visit, the EMR 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 EMR imported from the IIS.  <b>Test Objectives:</b> <i>Transmit Standard Patient Immunization History Report:</i> The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's immunization history to public health immunization registries.
<b>Receive Acknowledgement</b>	<b>Description:</b> No Description  <b>Test Objectives:</b> No Test Objectives
	<b>Description:</b> Following the vaccine administration, the patient's mother reports that the

<p><b>Record an adverse reaction</b></p>	<p>patient that evening had persistent, inconsolable crying lasting &gt; 3 hours.</p> <p><b>Test Objectives:</b></p> <p><i>Identify Adverse Event:</i> The EHR or other clinical software system enables capture of structured data regarding adverse events.</p>
<p><b>Transmit the updated vaccination report with adverse reaction to the registry</b></p>	<p><b>Description:</b></p> <p>The adverse reaction to the MMRV of persistent, inconsolable crying lasting &gt; 3 hours within 48 hours of dose is reported to the Immunization Registry using a Z22/VXU message.</p> <p><b>Test Objectives:</b></p> <p><i>Transmit Standard Patient Immunization History Report:</i> The EHR or other clinical software system directly or indirectly through an intermediary creates and transmits a report of a patient's immunization history to public health immunization registries.</p>
<p><b>Receive Acknowledgement</b></p>	<p><b>Description:</b></p> <p>No Description</p> <p><b>Test Objectives:</b></p> <p>No Test Objectives</p>