

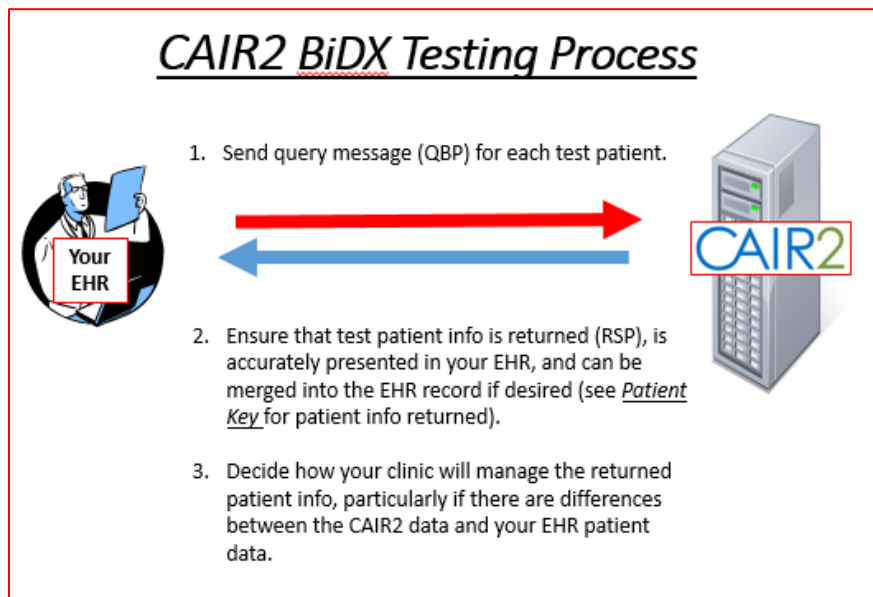


CAIR2 Bi-directional Data Exchange (BiDX) Test Plan

Introduction

CAIR2 allows patient information to be returned to your EHR system through a process called bi-directional data exchange (BiDX). If your EHR has bi-directional messaging capability, it can send an HL7 QBP ('query by parameter') patient query to CAIR2 and receive in return an HL7 RSP ('response by parameter') message containing either the matching patient's immunization history or an evaluated patient history and forecast.

This document describes the testing process your site will need to complete in order to be allowed to send BiDX messages to CAIR2. The main aspects of the BiDX testing process are illustrated below.



In order to maintain the integrity of the test patient records for all users, **do not at any time send vaccine update (VXU) messages for these test patients to CAIR2. Only query (QBP) messages should be sent during this testing phase. Consult your vendor before entering the patients into you EHR – you may have to turn off any process that**

automatically sends new patients/vaccines to CAIR2 when entering test patients into your EHR system.

HL7 QBP messages must comply with the [CAIR2 Bi-directional \(QBP/RSP\) Data Exchange Implementation Guide](#) and must be sent to the CAIR2 Test environment. Sites using an integrated EHR or cloud-based EHR systems will be allowed to complete the test plan using sentinel sites rather than each site individually but will be responsible for ensuring that member sites engaging in BiDX messaging be properly trained in how to moderate the returned patient information.

Testing Process

1. Enter the 10 test patients listed on page 3 into your EHR system. Patients can be added one at a time or altogether.
2. Initiate queries for each to the CAIR2 Test Environment for each test patient using the [CAIR2 Test WSDL](#). Please send Z34 queries (request patient history) for the first 8 patients and Z44 queries (request evaluated patient history) for the remaining 2 patients. **Note: if your EHR is set to return just one patient match, skip Patients #2 and #7 in the test plan.**
3. Receive patient info and ensure that it is fully and accurately displayed by your EHR system. See the *Patient Key* section of this document (pg. 5-7) for the information being returned for each test patient. Record the 'Responsible Person' and 'Relationship' for each test patient into the *Patient Key* section of this document since you will need to enter this info into the online *CAIR2 Post-Testing Survey* (see link below).
4. Upon completion of the test plan queries and review of the returned data, complete the [CAIR2 BiDX Post-Testing Survey](#) to confirm that you have completed the test plan.

Each test case is designed to test a different scenario. Clinic and /or vendor staff will be responsible for completing all testing steps outlined in this test plan. Review of the different test case scenarios will allow staff to confirm that all the matching patient information returned by CAIR2 is accurately displayed in their EHR and have the opportunity to think about how they will deal with differences between the patient data in their EHR and patient data returned by CAIR2.

Configuring Query Messages for Your Clinic

Once the BiDX testing process is completed, CAIR DX staff will discuss messaging options and then turn on your Site's ability to send QBP messages and receive RSP messages in return. What patient information is returned by CAIR is determined by how your QBP message is formatted. For instance, depending upon which QBP message type is indicated in QPD-1, a 'Z34' message would return a patient history, whereas the 'Z44' message would returns an evaluated history, meaning a patient history along with vaccines recommended based on the history. It is suggested that BiDX sites choose the most appropriate QBP message type messages for their clinical situation. The Table below is provided to assist sites in choosing a QBP message type to send to CAIR2.

Clinic Profile	Recommended QBP Type	
	Z34 (history only)	Z44 (history & forecast)
Your EHR <u>has forecaster</u> , and <u>full patient histories have been sent</u>	✓	
Your EHR <u>has forecaster</u> , and <u>full patient histories have not been sent</u>	✓	
Your EHR <u>has no forecaster</u> , and <u>full patient histories have been sent</u>		✓
Your EHR <u>has no forecaster</u> , and <u>full patient histories have not been sent</u>	✓	✓ *
		*Note that vaccine recommendations returned may be inaccurate.

Another setting which influences the data returned to your EHR is the RCP-2 field of the QBP message. Placing a numeric value in this field sets the upper limit for matching patients returned in the RSP message. For example, setting the RCP-2 value to '1' will return only a single match. Whereas setting the RCP-2 value to a higher number like '3' or '5' or '10' will increase the probability that your patient is matched, particularly if the patient data in your EHR is incomplete.

Test Patients (Consult with your vendor before entering these test patients into you EHR – you may have to turn off any process that would automatically sends new patients/vaccines to CAIR2. Enter all patient vaccinations as historical.)

Patient	Note: Send “Z34” queries for Test Patients 1-8, “Z44” queries for Patients 9-10.	
1.	Name	Rose Bush
	Date of Birth	09/09/1990
	Mother	Mable Oak
	Address	6071 Jagged Pond Inlet, Blue Lake CA 95525
	Immunizations	Gardasil 11/11/2014
		Flumist 11/11/2014
2.	Name	David R. Daniels
	Date of Birth	05/05/2005
	Mother	Susanne Stephens
	Address	9208 Emerald Forest, Diamond Bar CA 91765
	Immunizations	Hep B 05/05/2005
		This test will only work if your QBP is set to receive multiple patients returned.
3.	Name	Herbert Harriman
	Date of Birth	10/11/2009
	Mother	Harriette Humphrey
	Responsible Person	
	Address	2849 Golden Cideracres, Apple Valley CA 92307
	Immunizations	Pediarix 12/12/2014
		MMRV 12/12/2014
4.	Name	Jennifer Jessica Jameson
	Date of Birth	05/06/2007
	Mother	Jocelyn Jones
	Address	9721 Easy Heath, Grass Valley CA 95945
	Immunizations	Pediarix 8/08/2007
5.	Name	Lancelot Knight
	Date of Birth	08/07/2009
	Mother	Sky Kingsly
	Address	499 Warwick Avenue, Live Oak CA 95953
	Immunizations	HepA 10/07/2010
		Pediarix 09/22/2009
6.	Name	Sarah Somebody
	Date of Birth	04/04/2012
	Mother	Sally Sadd
	Address	9296 Rustic Elk Road, Elk Grove CA 95624
	Immunizations	Pentacel 06/8/2012
		MMR 07/11/2013
7.	Name	Fiona Watson
	Date of Birth	02/05/2011
	Mother	Mary Cooper
	Address	9953 Lazy Autumn Mews, Garden Grove CA 92840
	Immunizations	
		Until further notice, ignore this patient.

Patient	Note: Send "Z34" queries for Test Patients 1-8, "Z44" queries for Patients 9-10.	
8	Name	Ginger Freida Rogers
	Date of Birth	12/20/2016
	Mother	Dale Evans
	Address	45 Hidden Meadow, Paradise CA 95967
	Immunizations	Hep B 02/08/2017
		Pentacel 02/08/2017
9	Name	Janis Joplin
	Date of Birth	03/01/2016
	Mother	Julie Joplin
	Address	16 Moonbeam, Half Moon Bay CA 94019
	Immunizations	
10	Name	Buddy Holly
	Date of Birth	07/13/2006
	Mother	Betty Boop
	Address	123 Stargazer Ln, Rocklin CA 95765
	Immunizations	Influenza 10/23/2017
		Tdap 10/23/2017
		Mening 10/23/2017

Patient Key [Use this key to check the accuracy of the patient info returned by CAIR2 to your EHR. Also, record the 'Responsible Person' (NK1-2 value) and their 'Relationship' (NK1-3 value) for each test patient in the box provided below]

Patient	Returned Patient Data	Test Scenario
1.	Name	Rose Petal Bush
	Date of Birth	09/09/1990
	Mother	Mable Oak
	Responsible Person	
	Address	6071 Jagged Pond Inlet, Blue Lake CA 95525
	Immunizations	Gardasil 11/11/2014
		Flumist 11/11/2014
2.	Name	David Randel Daniels
	Date of Birth	05/05/2005
	Mother	Susanne Stephens
	Responsible Person	
	Address	9208 Emerald Forest, Diamond Bar CA 91765
	Immunizations	Hep B 05/05/2005
3.	Name	Herbert Harriman
	Date of Birth	10/11/2009
	Mother	Harriette Humphrey
	Responsible Person	
	Address	2849 Golden Cideracres, Apple Valley CA 92307
	Immunizations	Pediarix 12/12/2014
		MMRV 12/12/2014
4.	Name	Jennifer Jessica Jameson
	Date of Birth	05/06/2007
	Mother	Jocelyn Jones
	Responsible Person	
	Address	9721 Easy Heath, Grass Valley CA 95945
	Immunizations	Pediarix 8/08/2007
		HepB 05/06/2007
	Proquad 07/07/2008	
5.	Name	Lancelot Arthur Knight
	Date of Birth	08/07/2009
	Mother	Sky Kingsly
	Responsible Person	
	Address	9267 Cotton Rise Farm, Trowbridge CA 95659
	Immunizations	HepA 10/07/2010
		Pediarix 09/22/2009

Patient	Returned Patient Data	Test Scenario	
6.	Name	<i>Sarah Susan Somebody</i>	Single patient match, but returned vaccination dates differ from those in the EHR. Practice should decide how they will manage such vaccination date discrepancies.
	Date of Birth	<i>04/04/2012</i>	
	Mother	<i>Sally Sadd</i>	
	Responsible Person		
	Address	<i>9296 Rustic Elk Road, Elk Grove CA 95624</i>	
	Immunizations	<i>Pentacel 06/18/2012</i>	
		<i>MMR 07/01/2013</i>	
7.	Name	<i>Fiona Watson</i>	Since there are two patients that match, return will depend on settings in RCP-2. Determine how your EHR is configured. If set to single return, duplicate patients will not be returned. If set to '2' or more, more than one patient may be returned. If more than one patient is returned, how will clinic resolve who is the correct patient?
	Date of Birth	<i>02/05/2011</i>	
	Mother	<i>Mary Cooper</i>	
	Responsible Person		
	Address	<i>9953 Lazy Autumn Mews, Garden Grove CA 96096</i>	
	Immunizations	<i>Pediarix 04/05/2011, 06/05/2011</i>	
		<i>MMR 03/05/2012</i>	
8.	Name	<i>Ginger Freida Rogers</i>	Single matched patient and vaccines, but the returned CAIR2 vaccinations have more information, such as lot number and tradename. Will/can your clinic import this additional information into your EHR system?
	Date of Birth	<i>12/20/2016</i>	
	Mother	<i>Dale Evans</i>	
	Responsible Person		
	Address	<i>45 Hidden Meadow, Paradise CA 95842</i>	
	Immunizations	<i>Recombivax Peds 02/08/2017 Lot# BA123456 MVX code - MSD</i>	
		<i>Pentacel 02/08/2017, Lot# C54321 MVX Code - PMC</i>	

Patient	Returned Patient Data			Test Scenario	
9.	Name	<i>Janis Joplin</i>		Single patient match. Many doses sent back for import as well as vaccine recommendations based on the patient vaccination history.	
	Date of Birth	<i>03/01/2016</i>			
	Mother	<i>Julie Joplin</i>			
	Responsible Person				
	Address	<i>16 Moonbeam, Half Moon Bay CA 94019</i>			
	Immunizations Returned	<i>Pediarix 05/01/2016, 07/01/2016</i>			
		<i>Prevnar 13 05/01/2016, 07/01/2016</i>			
		<i>ActHib 05/01/2016 , 07/01/2016</i>			
	Recommendations Returned	Vaccine Group	Vacc. Date		
		<i>DTP/aP</i>	<i>09/01/2016</i>		
		<i>Hep A</i>	<i>03/01/2017</i>		
		<i>Hep B</i>	<i>09/01/2016</i>		
		<i>Hib</i>	<i>03/01/2017</i>		
		<i>Influenza-seasnI</i>	<i>09/01/2016</i>		
		<i>MMR</i>	<i>03/01/2017</i>		
		<i>PneumoConjugate</i>	<i>03/01/2017</i>		
	<i>Polio</i>	<i>09/01/2016</i>			
	<i>Varicella</i>	<i>03/01/2017</i>			
10.	Name	<i>Buddy Holly</i>		In this scenario, Tdap and Mening doses are recommended but they have already been given as they already exist in your EHR record. This scenario illustrates that recommendations may not be accurate if all your EHR doses have not been sent to CAIR2. Note: This test patient must not be updated. Do not under any circumstance send doses to CAIR2.	
	Date of Birth	<i>7/13/2006</i>			
	Mother	<i>Betty Boop</i>			
	Responsible Person				
	Address	<i>123 Stargazer Ln, Rocklin CA 95765</i>			
	Immunizations Returned	<i>Pediarix 09/13/2016, 11/13/2006, 01/13/2007</i>			
		<i>ActHib 09/13/2006, 11/13/2006, 01/13/2006</i>			
		<i>Prevnar7 09/13/2006, 11/13/2006, 01/13/2007</i>			
		<i>Kinrix 07/13/2010</i>			
		<i>Proquad 07/13/2007, 07/13/2010</i>			
		<i>Hep A 07/13/2007, 03/13/2008</i>			
		<i>Influenza 11/21/2016</i>			
	Recommendations Returned	Vaccine Group	Vacc. Date		
		<i>Td/Tdap</i>	<i>07/13/2017</i>		
		<i>Meningo</i>	<i>07/13/2017</i>		
		<i>HPV</i>	<i>07/13/2017</i>		
		<i>Influenza-seasnI</i>	<i>11/21/2017</i>		