Bidirectional Data Exchange Onboarding Overview

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Hello and welcome to our webinar, a Bidirectional Data Exchange Onboarding Overview.

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Let's get started by reviewing the webinar's agenda.

In today's webinar we will be providing an overview of bidirectional data exchange onboarding, the registration process, how to prepare for bidirectional onboarding, testing requirements or needs, go live or production impacts and provide data exchange resources to help you be successful in bidirectional.

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Through the webinar, we will be using the following terms.

- Syntropi, refers to the website known as the Texas DSHS Immunization Program Portal
- B-i-D-X or "bidex", refers to bidirectional data exchange via web services or sending data in real-time, the term Bidirectional and BiDX will be used interchangeably throughout this presentation.
- Orgs refers to organizations with an emphasis on parent or standalone sites in ImmTrac2
- Org POC refers to the organization's point of contact with the Texas Immunization Registry
- ORG PRC refers to the organization's primary registry contact in ImmTrac2
- VXU is an Unsolicited Vaccine Update Message
- QBP is a Query by Parameter Message

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The following are the key objectives:

- Navigate to the "DX" Bidirectional data exchange module in Syntropi.
- Complete and submit an electronic bidirectional registration of intent.
- Perform pre-testing.
- Establish a bidirectional interface with the training ImmTrac2 environment.
- Pass testing with a 90% or greater success rate.

- Promote to bidirectional data exchange in the production ImmTrac2 environment.

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Let's get things started with an overview.

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At the registry, we often receive inquiries about the benefits of BiDX onboarding. BiDX onboarding allows parent or standalone orgs to:

- Onboard with the registry using a streamlined process,
- Use the existing Syntropi registration process (i.e., those used for COVID-19 or TVFC/ASN) to indicate interest for BiDX onboarding,
- Submit your organization's registration of intent for BiDX electronically via Syntropi,
- Submit hl7 messages to validate that they meet the national and state standards for BiDX,
- Download your organization's BiDX account information for both test and production environments, which are used to connect to the registry, and
- Receive data quality metrics and reports automatically via Syntropi.

An additional benefit, more for Electronic Health Records (or EHR) vendors, is that they are now able to track the status of their providers for BiDX onboarding.

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DSHS modified the Syntropi application to allow for parent or standalone orgs to be able to indicate interest in electronic data exchange, specifically BiDX. The ImmTrac2 registration via Syntropi must reflect that the org plans to report immunization data via web services. Once the registration is approved by registry staff as an Org seeking to onboard for BiDX, then the Org POC is able to login to the HHS Enterprise Portal. Under the applications listed, the Org POC will select the Syntropi – CRC option. At the Syntropi Home page, the Bidirectional Data Exchange menu or widget option is available (as shown in this screenshot). If the Org POC does not see the Bidirectional Data Exchange widget listed, this may be an indication that the user is not correctly associated to a parent or standalone org that indicated their interest in BiDX OR an issue with the org's registration indicating interest in BiDX. For support, you can contact the registry's Interoperability Team at ImmTracMU@dshs.texas.gov.

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Once the BiDX widget is accessible, a parent or standalone org must complete six steps to establish a BiDX connection with the registry. The six steps for BiDX onboarding are:

1. Registration
2. Preparation, Message Pre-Testing
3. Preparation, Connectivity & Transport
4. Pre-Production Testing, Message Validation
5. Pre-Production Testing, Data Quality Review
6. Go-Live, Connectivity & Transport

These steps are explained further in this webinar.

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The first step of BiDX onboarding is Registration.

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Let's begin by reviewing what must be completed in this first step. First, the consent mode must be filled out and the Registration of Intent (or ROI) for BiDX must be filled out and signed. Next, indicate the organization's status as it relates to the site being a standalone or a part of a parent/child relationship. Review the accuracy of the listed org point of contact. Lastly, indicate under consent mode how the org will submit registry consent. Reporting registry consent is strongly recommended to assist with patient and immunization reporting.

The POC and PRC from the organization will have exclusive access to the bidirectional module.

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The first question poised in the registration of intent will be your organizations relationship standing, that is, "is your organization a standalone site" or "is your organization a part of a parent/child relationship"

Next, your organization point of contact is displayed and reviewed for accuracy.

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You will then be asked to designate three contacts for data exchange. For each of the following contacts, list the first name, last name, a title, phone number and an email address:

- Primary Data Exchange Contact
- Secondary Data Exchange Contact
- Information Technology Contact

Note that each contact should be unique and contain a unique email address.

The next portion of the Registration of Intent will review readiness and your EHR vendor.

You will be asked to confirm whether your organization is currently exchanging data with the registry, as well as if your EHR and your facility is capable and ready to perform bidirectional data exchange. If your EHR or your facility is not ready, this will be a barrier to onboarding for your organization.

Next you will select the EHR vendor you are working with from the drop-down list. If your EHR vendor is not listed, you can select "Other." Then select your EHR vendor product specific to your organization. Indicate whether the EHR you are working with can send HL7 formatted messages in the current 2.5.1 standard. If your EHR is not capable of submitting HL7 data formatted in current 2.5.1 standard this will be a barrier to onboarding your organization.

It is standard practice for Data Exchange Credentials to be released only to the organization Point of Contact (POC). If you wish to have the registry provide your chosen EHR vendor BiDX credentials you must choose "Yes, I authorize the registry to release the BiDX credentials to the EHR vendor". If you choose "No I DO NOT authorize the registry to release the BiDX credentials to the EHR vendor", it will be the responsibility of the organization POC to provide the EHR vendor with BiDX credentials.

The next prompt includes only organizations that participate in Integrated Delivery System Networks (IDN's) or Health Information Exchanges (HIE's). If this does not apply to your organization, please continue to the next section of the registration.

If this applies to you, please contact the registry at ImmTracMU@dshs.texas.gov for further assistance.

Choosing the data exchange method needed by the organization is the next step in the registration.

There are three options to choose from:

- Update Only – Only sending Immunization files
- Query Only – Only querying the registry
- Bidirectional – Update and Query the registry

Your registration will then be presented to you in its entirety for review. If any edits need to be made, they can be done here. If not select "sign and submit", click the check box to indicate you have read and agree to the terms and conditions as well as the confidentiality statement above and click submit.

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This concludes the Registration of Intent. You will be greeted with a message detailing that your registration of intent has been successfully submitted. Click continue.

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Next, we will review the consent options, select continue to begin.

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The second part of the first step indicates the org's consent mode. This allows the org to indicate how they will submit or report consent to the registry. There are three options available for reporting registry consent:

- Flat file – this is a data exchange method using a text width formatted file. This option can be reported via unidirectional or BiDX via web services. If an org chooses to submit via flat file while unidirectional, they are not recommended for BiDX onboarding.
- HL7 submission – this is a data exchange method using HL7 standard, specifically via PD1-12 and the registry's unique values for reporting registry consent for an adult, minor or disaster related consent.
- Manually – this is not a data exchange method but requires reporting registry consent via the ImmTrac2 online application. If an org chose chooses to submit manually, it is not recommended for BiDX onboarding.
    - If either Flat File or Manual methods of consent are chosen, the interoperability team will reach out to your organization to conduct a meeting

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To expound on consent, Texas is an Opt-In state. It is required by law that for patient data to be stored into ImmTrac2, a valid DSHS consent form must be filled out and signed by the patient or the patient's legal guardian. The only exception is during declared disaster events. Additionally, if consent is indicated previously as being sent via HL7 submission, note that Texas requires specific consent codes to be sent:

- TXY for minor consent under the age of 18
- TXA for adult consent above the age of 18
- TXD for disaster consent

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The signed patient consent form must be filed on site at the facility where the consent was collected. The signed consent form should not be sent to ImmTrac2.

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The second step of BiDX onboarding is Preparation, Message Pre-Testing.

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In this step of the onboarding, orgs can manually upload HL7 messages, both QBP and VXU, taken from their EHR system to validate. The HL7 messages are validated to ensure compliance with HL7 2.5.1 that aligns with the CDC and Texas' HL7 standards.

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During this step, data is not submitted to ImmTrac2, meaning you will not find any of the patients and immunizations you report in ImmTrac2.

To pass this step of the onboarding, orgs must submit error free messages. One historical VXU, one new VXU and one QBP.

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For an org to be successful in this step, Orgs need to coordinate with their EHR vendor on how to obtain or extract test messages to upload. Once extracted from the EHR system, the messages are uploaded online to be validated.

A new immunization as well as a HX immunization are required to be sent for VXU pretesting.

Select "Upload New File" to continue.

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Next, from the drop-down list for "HL7 Message Type", you will select the type of message that will be sent, and the EHR product version that your organization is using.

Select "Choose File" to locate the message that will be used for VXU pretesting. Note only .hl7 and .txt file extensions are acceptable.

Once files are uploaded, they are validated and identified with an overall status of pass or fail. The file is further broken down to display what areas in the hl7 message need to be corrected.

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Once "Run Validation" is selected the message will be categorized as either "Passed" or "Failed", as indicated by a red icon or a green check mark.

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Focusing on the message that failed validation, you can select "View" under "View Detail", which will display two additional view options: an option to view the Details page, and an option to view the Summary page.

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Looking at the View Details page first, as seen in this screenshot, all segments are displayed regardless of if they have passed or failed validation. To further investigate segments that failed validation a detailed explanation is provided on what is expected, as well as a "See Value" hyperlink that will display the value provided in the message.

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The data provided in this view can be exported by utilizing the export data option.

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Looking next at the Summary View, only segments that failed validation are presented. This is further broken down to include warnings (yellow triangles) and errors (Red circles). The validation field details what is expected in the provided segment.

Select "Close" to navigate back to upload more messages.

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Once VXU pretesting is completed, the same practice will need to be executed for QBP messages.

Select "Upload New File" to initiate this process.

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On the following view, to initiate QBP pre-testing, select from the drop-down list the HL7 message type of "QBP – Requesting Information Immunization history HL7 2.5.1". Next, generate a sample HL7 QBP message from the Electronic Health Record Solution.

The options to view details or view summary information about the validation will work the same way as for VXU messages.

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Once a successful new VXU and HX VXU message, as well as a QBP message have been uploaded, message pre- testing will be complete.

The message validation option allows your organization to continue testing once the message pre-testing is complete if further testing is desired. As can be seen in the bottom screenshot.

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The third step of BiDX onboarding is Preparation, Connectivity & Transport.

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To begin Connectivity and Transport, select Begin.

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This step will be simplified if you connect through a 3rd party aggregation system like an IDN or HIE. You will not need to download the wsdl file or establish the test interface.

For all other orgs in this step of the onboarding process, download the test wsdl which is the method to connect to the registry's test environment. Orgs will need to work with their EHR vendor or IT Support to establish the connection to the test environment using the wsdl.

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The wsdl includes the org's username (also known as the ImmTrac2 import code), facility ID (also known as the ImmTrac2 Org Code) and the password. The credentials allow orgs to connect to the registry via

web services. These credentials are auto-populated in the provided wsdl. These credentials cannot be used to connect via FTP.

The system will monitor messages received and mark this step as passed upon the first successful message that is received, indicating connectivity has been established between ImmTrac2 Test and your EHR.

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The fourth step of the BiDX onboarding process is Pre-Production Testing, Message Validation.

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In this step of the bidirectional onboarding process, Organizations begin formal data exchange testing by establishing a web service connection to the registry's test environment. First, Orgs are required to download the provided test plan for VXU and QBP messages.

This Includes testing via web services using provided scenarios in the document.

Review the needed corrections for messages sent. Once messages have been validated as error free, complete the test cases form.

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As test messages are submitted, the application identifies if the messages pass or fail, which is based on the acknowledgement (ACK) response received for each message.

There are the following possible acknowledgement responses:

- AA is for Application Accept indicating the message was accepted without error.
- AE-W is for Application Error indicating the message was processed and warnings are being reported
- AE-E is for Application Error indicating the message was processed and errors are being reported
- AR is for Application Reject indicating the message was rejected.

The Message validation summary provides a summary of overall testing.

Then, the application analyzes the test messages received to provide a percentage and overall summary of the Org's testing results. For an Org to pass this step of the message validation process, Orgs must achieve a 90% success rate, which can be seen under the "Min Req to Pass %" heading, as well as your organization's current pass rate indicated in the "Current Rate".

While conducting testing, orgs must review the ACK responses in their EHR interface to identify which messages require attention and correction. Once an area or segment of the message is identified as needing correction, orgs will work with their EHR vendor or IT support to make the necessary

corrections and submit a new test message. This same process will continue until the requirements to pass are met.

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The fifth step of BiDX onboarding process is Pre-Production Testing, Data Quality Review.

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In this step, the Org will continue to submit test messages via the web service interface, but the messages will be validated for the data quality metrics of:

- Patient completeness
- Immunization completeness
- Immunization accuracy

You'll select the "Review Data quality corrections needed" button.

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In the tabs of the "Data Quality Review", you can see the following information:

The first tab is for sent messages.

The names of the columns under this tab are:

- MSH-10 Control ID (unique message identifier),
- Message Type (HX or Non-HX),
- Received (date/time received by Syntropi), and
- Validation Summary (message validity and the hyperlink to view message sent).

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The second tab is the Immunization Report

• Here, the "Completeness" row gives a breakdown of the immunization information contained in the message in the ORC, RXA, RXR, and OBX segments.

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• The "Accuracy" row provides a second check on the data present to assess accuracy.
For example; If the flu vaccine administration site is included but is not accurate, the completeness would pass but the accuracy for that segment would fail.

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The third tab is the Patient Report

The "Completeness" information includes a breakdown of patient information data, patient name, phone number, etc.

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The fourth tab is the "VFC Report".

The report includes a breakdown of demographics of those served for the TVFC program, what has been reported, and the percentage of TVFC messages submitted (OBX -5 field included).

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The fifth and final tab in the data quality review is the Quality Summary.

This includes the:

- Total number of patients,
- Total number of errors,
- Total number of administered shots reported,
- Total number of historical shots reported,
- Total number of rejections,
- Total number of queries submitted (QBP's), and
- Timeliness.

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The Data Quality Summary ensures that orgs are reporting accurate and complete data. Orgs must:

- Submit test messages,
- Review the provided results on areas of messages that are lacking completeness and accuracy,
- Address the error gaps identified,
- Correct the errors on their messages, and,

- Resubmit test messages.

Orgs must achieve a 90% data quality rate to pass this step of the onboarding.

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The sixth and final step of BiDX onboarding process is Go Live, Connectivity and Transport.

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In go live, Orgs are allowed to connect to the registry's Interoperability Team in a Go-Live Meeting, download the production wsdl, and connect to the registry's production environment using web services.

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The Go Live Meeting gives the org, their EHR vendor, their IT support and the registry's Interoperability Team the opportunity to have a formal meeting where key items are discussed to help the Org and their EHR vendor prepare to move into production. This includes:

- The Org's anticipated go live date,
- Impacts to the existing unidirectional data exchange reporting and FTP account (if applicable),
- And any additional questions or concerns from the Org.

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To establish an interface with the registry's production environment, Orgs must download the production wsdl and share it with the EHR Vendor and their IT support staff. Once connected to the registry's production environment, Orgs will begin the formal submission of patient and immunization data.

Please note: When using this production interface, only real patient data is submitted. Test data will no longer be submitted once this step has been reached.

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For Orgs to be successful with BiDX onboarding, we have provided various data exchange resources that are available to you.

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For live support, you can reach out to the Interoperability Team by phone at 800-348-9158, then pressing Option 3. You can also email the team at ImmTracMU@dshs.texas.gov. The Interoperability Team is available Monday through Friday from 8 a.m. to 4:30 p.m.

Please note that our staff can only provide support related to DSHS systems and applications. They cannot provide support related to your EHR Vendor or internal systems and applications used.

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Also available on our DSHS Forms and Documents website, we have data exchange guides such as:

- The Texas Immunization Registry HL7 2.5.1 Implementation Guide, which provides the HL7 standards for reporting immunizations specific to Texas.
- The Texas Immunization Registry HL7 2.5.1 Error Guide, which provides a breakdown on the various HL7 errors that ImmTrac2 generates and steps on how to fix them.
- Affirmation of Registry Consent via Health Level Seven, which provides the policy and guidance on how to report Texas' unique registry consent in the PD1-12 segment of the HL7 message.

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This concludes our webinar on bidirectional data exchange onboarding via the Texas DSHS Immunization Program Portal.

We will now have time for a Q&A with members of our interoperability teams answering any questions you might have.