WyIR Interoperability Project Stages

This document describes in detail the various stages involved when developing an interface with the WyIR. The following terms are given to the parties involved in this project:

WIP Team – The Department of Health's Wyoming Immunization Program (WIP) staff.

Facility – The clinic that is the point of administration of vaccines that is wishing to connect to the WyIR via HL7.

Facility Contact – The person responsible for the Facility; as defined in the WyIR Provider Enrollment Agreement.

EHR Vendor – Refers to the Electronic Health Record (EHR) vendor utilized by the Facility.

THR Team – The Wyoming Department of Health's Total Health Record (THR) staff.

1. **DISCOVERY** –Initial information about the Facility is gathered to assess readiness in moving forward with the interface project.

   1.1. The WIP Team will:

   - Contact the Facility Contact to discuss moving the project forward to the Planning stage, which includes planning a kick-off call and EHR demonstration.
   - Verify that the Facility completes and submits an updated WyIR Provider Enrollment Agreement

2. **PLANNING** – Information is gathered to understand the interface's individual configuration needs and any modifications required in the EHR, in the Facility's business practice, or in the Facility's staff workflow or training. Steps 2.1 and 2.2 may be combined if it is more convenient for all parties involved. The EHR Vendor is typically not involved at this stage, but may be included at the request of the Facility.

   2.1. A kick-off call is held between the WIP Team, the THR Team and at least the Facility Contact. During the call:

   - The Facility Contact completes the WyIR HL7 Facility Profile, used by the WIP Team to track details such as the Facility's interface configuration, training needs, or issues/opportunities identified during the kick-off call. Facility staff should begin filling out the profile prior to the kick-off call, which will assist Facility staff in understanding of the type of information discussed on the call and will help ensure the correct Facility staff members are present for the call.
   - The WIP Team provides WyIR-related education to the Facility staff present.
   - The WIP Team reviews the WyIR Data Reporting Guidelines with the Facility Contact.

   2.2. At least one Facility staff member familiar with the day-to-day use of the EHR (multiple if different EHR modules are handled by different staff) demonstrates to the WIP Team how it is utilized on a daily basis using a remote meeting tool such as GoToMeeting. In order to clarify any ambiguities documented in the WyIR HL7 Facility Profile, the WIP Team will request to see the following:

   - Both demographic and vaccination data entry workflows, and any alternative workflow methods, including how:
     - A patient is added or updated;

- A next of kin and next of kin's relationship to the patient is added or updated;
- An administered vaccine is documented;
- A historical vaccine is documented;
- A contraindication is documented; and
- A vaccine refusal is documented.

- A comparison between the functionality present in the Facility's EHR and the WyIR for the following functionalities:
  - Forecasting recommended vaccinations for patients;
  - Contacting patients that are due recommended vaccinations; and
  - Managing vaccine inventory.

2.3. The Facility and WIP Team ensure that all remaining questions or concerns documented in the WyIR HL7 Facility Profile are researched and documented.

2.4. The THR Team takes over in assisting with the technical connectivity process after Stage 2.3 is completed and before Stage 3 can begin.

3. **DEVELOPMENT** – Initial interface configuration is completed for both the WyIR and the Facility EHR based on information gathered during the Planning stage, and is modified as needed until the Go Live stage. Exact steps during the Development stage may vary depending on what was found during previous stages.

3.1. The WIP Team provides the Facility ID to the Facility Contact, which is needed to ensure the proper mapping of the messages in the WyIR.

3.2 IF applicable, the WIP Team coordinates the copying of the inventory from the WyIR Production environment to the WyIR Test environment through the creation of a Help Desk ticket in STC's JIRA system.

3.3. The Facility modifies the interface, facility business processes, and/or staff training.

3.4. The EHR Vendor offers support as changes are made. The scope of changes involving the EHR Vendor can affect the project timeline. For example, if the Facility's current EHR version is not able to collect data according to the WyIR HL7 V251 Specification Guide, the facility may need to upgrade to a version that does collect the required data elements.

3.5. All parties ensure that all known interface deficits, concerns, and issues are resolved.

3.6. Connectivity testing ensures the interface's ability to securely send HL7 messages to the WyIR.

- The Facility staff or the EHR Vendor should inform the THR Team if the EHR can create but cannot securely send HL7 messages so the THR Team can provide tools to assist.

4. **TESTING** – Connectivity testing is completed to ensure a functioning interface, and data is submitted through the Total Health Record (THR) Gateway to the Public Health Connection (PHC) Hub, the data quality tool used in the WyIR import process, and reviewed by the WIP Team to ensure quality standards are being met.

4.1. Data quality assurance testing reviews messages for completeness, accuracy and timeliness, and may reveal previously unknown interface, EHR, workflow, data entry, or other issues needing additional attention. The data quality assurance testing process will appear as follows:

- The Facility begins sending real patient data generated by the Facility's EHR through the THR gateway to the PHC Hub. (Test data does not accurately assess readiness to move to the Go Live stage.)
- After acknowledgement that the data is being received by the PHC Hub, the WIP Team will send the **Provider Detail Error Report** (PDER) securely via [gsecure], the Agency's encrypted email. The PDER includes the following information:
    - Scope Type: Facility;
    - Display: Warnings and Errors; and
    - Report Time Period: Results will include data for the last 1 day.
- As live data is not yet being submitted to the WyIR, the Facility may need to manually enter immunization information into the WyIR during this period in accordance with the WyIR Provider Enrollment Agreement and the Immunization Program Rules and Regulations (i.e. double entry in the Facility's EHR and in the WyIR is required until the GO LIVE stage).
        - The same applies to providers who were Direct Connect prior to the starting the HL7 Interface Project Stages.

4.2. The WIP Team reviews the accumulated messages and provides feedback to the Facility regarding data quality. The WIP Team will ensure that the interface meets all WyIR requirements in accordance with the WyIR HL7 V2.5.1 Specification Guide. The Facility may share the feedback with their EHR Vendor at their discretion.

- Within one week of receiving the first Provider Detail Error Report, the WIP Team will hold a call with the Facility Contact to discuss how to interpret the report, and to discuss projected steps the Facility must take to correct errors identified and to improve data quality.
- One week after the initial call, the WIP Team will discuss corrections already made and continuing data quality issues, typically via email with the Facility Contact.
- For the next two weeks, the Facility will continue to submit data and make corrections as necessary. The Facility may reach out to the WIP Team as necessary, but no regular calls are scheduled at this time.

4.3. At the end of the total four week testing period, the WIP Team will contact the Facility Contact to communicate that either:

- The Facility has achieved an error rate of 5% or below (calculated by comparing the total messages sent with the number of errors showing during the final two weeks of step 4.2) or below and is certified to move on to the next stage of the project. Typically, the due diligence of the previous stages equates to a quick pass through.
- The Facility has an error rate greater than 5% and is not yet ready to move on to the following steps of the project. The Facility will research any issues and make necessary corrections while continuing to send data. The Provider Detail Error Report will be sent for an additional two weeks. At the end of the two week period, the WyIR will contact the Facility to ensure that an error rate of 5% or less has been established. This process may need to be repeated for several cycles until the data quality standard is achieved.

5. **PREP FOR GO LIVE –** Final preparations are completed prior to the interface going live to begin submitting real time data in the WyIR.

   5.1. The WIP Team provides WyIR-related training to the Facility staff. This training includes, but is not limited to:

   - Any general WyIR training required to meet the needs of the Facility; and
   - Specialized training related to HL7 messaging, the interface, etc., including but not limited to **Correct Lot Decrementation** training.

   5.2. The WIP Team will ensure that the Facility Contact has all contact information needed to address any issues or concerns as they arise post-Go Live.

   5.3. If the Facility is using the WyIR to manage their vaccine inventory, the Facility's inventory in the WyIR will be reconciled by the Facility staff.

   - This includes all Facilities receiving state supplied vaccines, but can also include those using only private vaccine stock if the Facility uses the WyIR to manage their private vaccine inventory.

   5.4. Any deficiencies in the interface and any resulting required interventions or additional responsibilities of the Facility are discussed and agreed upon by the WIP Team and the Facility Contact.

6. **GO LIVE** – Final changes are made to allow live data to pass to WyIR Production.

   6.1. Settings and configurations are checked and any changes needed are completed.

   6.2. The process is monitored closely for 2 weeks by all parties.

   6.3 Following the initial two week period, the facility will receive the PDER monthly the IWeb's Patient Detail Report that should be used to monitor the quality of their data submissions.

7. **ON-GOING SUPPORT AND COMMUNICATION** – Data continues to pass live through the interface. Data quality assurance measures and any necessary follow-up steps are taken for the lifetime of the interface.

   7.1 Data quality is continuously monitored and reported back to the WyIR Facility Contact from the WIP Team via [gsecure] emailed attachments of the PHC Hub's PDER and the IWeb's Patient Detail Report.

   - If the Facility has an error rate greater than 5%, the Facility will research any issues and make necessary corrections while continuing to send data. The Provider Detail Error Report and the Patient Detail Report will be sent for the next two weeks. At the end of the two week period, the WyIR will contact the Facility to ensure that an error rate of 5% or less has been established. This process may need to be repeated for several cycles until quality data is achieved.
   - Once the facility has an error rate less than 5%, they will once again be placed into the "Go Live" phase, and will be monitored continuously according to the established process.